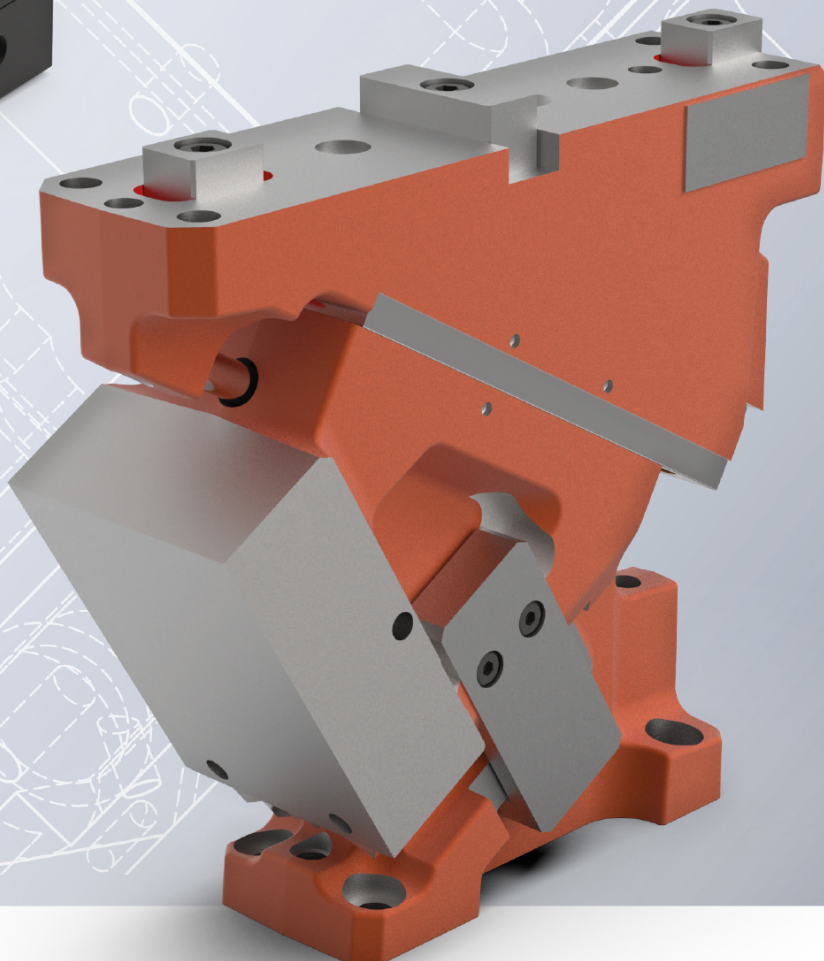
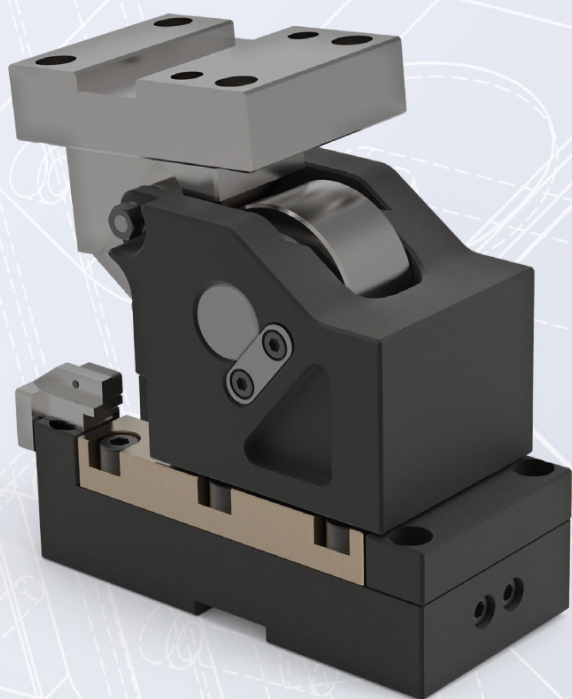


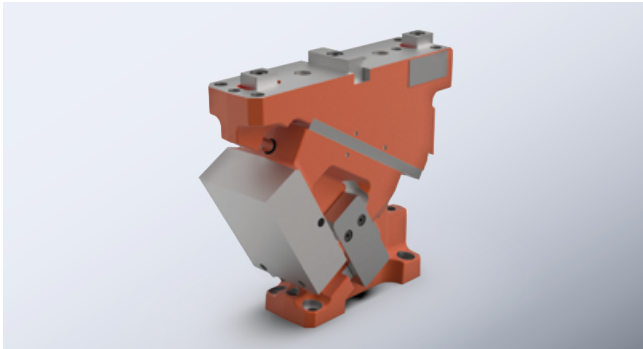
# NEW PRODUCT INNOVATIONS 2022

## **CAM UNITS**





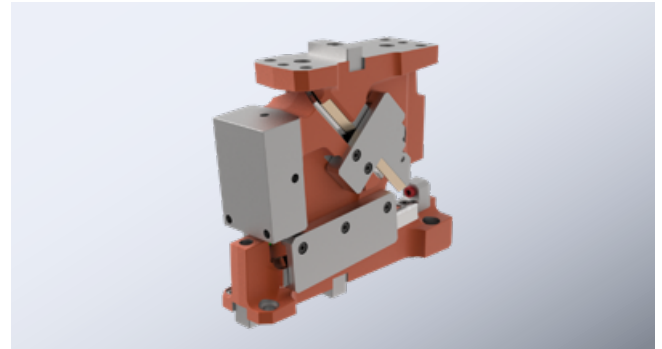
# NEW PRODUCT INNOVATIONS **OVERVIEW**



## **SERIES FCC-AE-LV 2016.26**

Aerial Cam Units for Low Volume Applications

**S. 17**



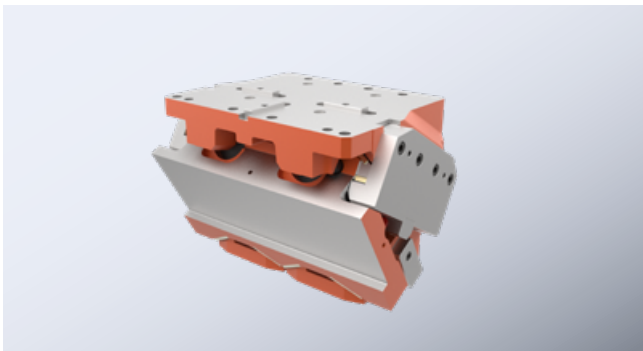
## **SERIES FCC-DM-HV 2016.15**

Die Mounted Cam Units for High Volume Applications

Expanded range

Mounting plate purchase option

**S. 85**



## **SERIES FCC-AE-HV 2016.24**

Aerial Cam Units for High Volume Applications

Product update

Assembly options

**S. 145**



## **SERIES FRC 2017.43**

Roller slide units

Expanded range,

Processing status,

optional sensor query

**S. 153**



## INTRODUCTION AND PRODUCT OVERVIEW

**2016.26. AERIAL CAM UNIT FCC-LV**

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**2016.15. DIE MOUNT CAM FCC-HV**

BMW, DAIMLER,  
VOLKSWAGEN GROUP

---

**2016.24. AERIAL CAM UNIT FCC-HV**

BMW, DAIMLER, VOLVO,  
VOLKSWAGEN GROUP

---

**2017.43. ROLLER SLIDE UNITS FRC**

DAIMLER, PSA

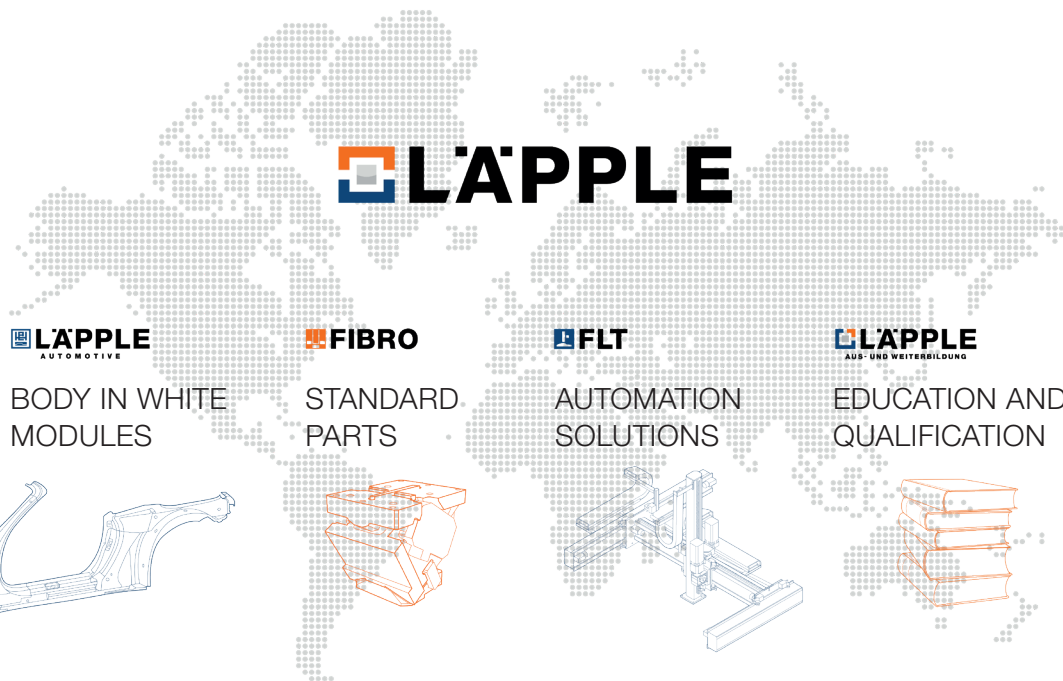
---

**CUSTOMER-SPECIFIC SERVICES**

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**EMERGENCY SITUATION / CONTACTS**

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# VERTRETUNGEN · REPRESENTATIVES · REPRESENTATIONS · RAPPRESENTANTES

## Germany

---

### PLZ 10000-19000

**Außendienst Andreas Otto**  
Immenweg 3  
16356 Ahrensfelde OT Eiche  
M +49 170 739 00 64  
a.otto@fibro.de

### PLZ 20000-29000, 49000

**Walter Ruff GmbH**  
Heerenholz 9  
28307 Bremen  
T +49 421 438 78-0  
F +49 421 438 78-22  
mail@praeziruff.de  
www.praeziruff.de

### PLZ 30000-31000, 37000-39000

**Außendienst Stephan Hoffmann**  
Unter den Linden 22  
38667 Bad Harzburg  
M +49 171 971 90 05  
s.hoffmann@fibro.de

### PLZ 32000-34000, 48000-49000

**Außendienst Daniel Kolakowski**  
Auf der Strotheide 50  
32051 Herford  
M +49 170 576 00 09  
d.kolakowski@fibro.de

### PLZ 35000-36000, 57000, 60000- 61000, 65000

**Außendienst Ralf Feldmann**  
Wiesenstraße 23b  
58339 Breckerfeld  
M +49 151 12 59 01 59  
r.feldmann@fibro.de

### PLZ 42000, 44000-46000, 58000- 59000

**Außendienst Lars Jahncke**  
Flockertsberg 17  
42653 Solingen  
M +49 170 7637125  
l.jahncke@fibro.de

### PLZ 40000-42000, 47000, 50000- 53000,

**Außendienst Hartwig Hennemann**  
Staubenthaler Höhe 79  
42369 Wuppertal  
M +49 175 29 659 30  
h.hennemann@fibro.de

### PLZ 54000-56000, 66000

**Außendienst Oliver Koop**  
Felsenbrunnerstr. 57  
66333 Völklingen  
M +49 175 438 53 81  
o.koop@fibro.de

### PLZ 63000-64000, 67000-69000, 76000-77000

**Außendienst Markus Rössl**  
Johann-Strauß-Straße 16/1  
74906 Bad Rappenau  
M +49 160 97 25 23 93  
m.roessler@fibro.de

### PLZ 70000-73000, 88000-89000

**Außendienst Meric Üven**  
Esslinger Straße 76  
70736 Fellbach  
M +49 170 5411416  
m.ueven@fibro.de

### PLZ 71000, 74000-75000, 97000

**Außendienst Matthias Ehrenfried**  
Steigerwaldstraße 25  
74172 Neckarsulm  
M +49 171 864 95 52  
m.ehrenfried@fibro.de

### PLZ 72000, 77000-79000, 88000

**Außendienst Matthias Jörg**  
In der Krautbündt 44  
77656 Offenburg-Zunsweier  
M +49 151 21 28 25 00  
m.joerg@fibro.de

### PLZ 80000-89000

**Jugard + Künstler GmbH**  
Beta-Straße 10e  
85774 Unterföhring  
T +49 89 546 15 60  
F +49 89 580 27 96  
nbg@jk.de  
www.jugard-kuenstner.de

### PLZ 90000-97000

**Jugard + Künstler GmbH**  
Weidentalstraße 45  
90518 Altdorf bei Nürnberg  
T +49 9187 936 69-0  
F +49 9187 936 69-90  
nbg@jk.de  
www.jugard-kuenstner.de

### PLZ 01000-09000, 98000-99000

**Held Werkzeugmaschinen und  
Präzisionswerkzeug GmbH &  
Co.KG**  
Fasaneninsel 1  
07548 Gera  
T +49 365 824 91 0  
F +49 365 824 91 11  
info@held-wzm.de  
www.held-wzm.de



# REPRESENTACIONES · PRZEDSTAWICIELSTWA · ZASTOUPENÍ · MÜMESSILLER · 代表处

## International

---

**AR ARCINCO Industrial Ltda.**

Rua Oneda, 935 - Planalto  
CEP 09895-280 - São Bernardo do  
Campo - SP  
T +55-11-3463.8855  
F +55-11-4390.9155  
joyce@arcinco.com.br  
www.arcinco.com.br

**AT Rath & Co. Ges. m.b.H.**

Teiritzstrasse 3  
2100 Korneuburg  
T +43 2262 608 0  
F +43 2262 608 60  
office@rath-co.at  
www.rath-co.at

**AU Bruderer Presses Australia Pty. Ltd.**

Unit 4, 7 Dowling Place  
South Windsor NSW 2756  
Australia  
T +61 417681800  
brudsyd@optusnet.com.au

**BA WML Robert Bednjanec**

Vlaska 76  
10000 Zagreb  
T +385 984 16005  
robert.bednjanec@net.hr

**BE Schiltz s.a.**

Rue Nestor Martin 315  
1082 Bruxelles  
T +32 2 464 4830  
F +32 2 464 4839  
info@schiltz.be  
www.schiltz-norms.be

**BG Bavaria 2002 EOOD**

Patriarh Evtimii 10  
5100 Gorna Orjachoviza  
T +359 618 64158  
F +359 618 64960  
bavaria2002@gorna.net  
www.bavaria2002.hit.bg

**BR ARCINCO Industrial Ltda.**

Rua Oneda, 935 - Planalto  
CEP 09895-280 - São Bernardo do  
Campo - SP  
T +55-11-3463.8855  
F +55-11-4390.9155  
joyce@arcinco.com.br  
www.arcinco.com.br

**CA FIBRO Inc.**

139 Harrison Ave.  
Rockford, IL 61104  
T +1 815 229 1300  
F +1 815 229 1303  
info@fibroinc.com  
www.fibro.com

**CH Außendienst Reinhard Schreiner**

Hasenbergstrasse 40  
6312 Steinhausen  
M +41 76 568 59 06  
r.schreiner@fibro.de

**CL Bermat S.A.**

Coyancura 2283, Of. 601  
9781 Casilla · Santiago  
T +56 2 231 88 77  
F +56 2 231 42 94  
bermat@bermat.cl  
www.bermat.cl

**CN 联系LÄPPLE (Taicang) Industrial  
Technology Co., Ltd.**

Building No. 15 · Industrial Park No.  
103 Chenmenjing road · Chengxiang  
Town 215400 Taicang · Jiangsu  
Province  
P.R. China  
T +86 512 8060 7979  
info@fibro.cn  
www.fibro.com

**CY Militos Trading Ltd.**

P.O.B. 27297  
1643 Nicosia  
T +357 22 75 12 56  
F +357 22 75 22 11  
militos@cytanet.com.cy

**CZ Technicky konzultant**

**Vladimir Tanecká**  
Snezienkova 10228/12  
960 01 Zvolen  
M +421 905 32 94 56  
v.tanecka@fibro.de  
www.fibro.com  
**Technicky konzultant**  
**Menousek Jaromir**  
M +420 777 39 99 66  
j.menousek@fibro.de  
www.fibro.com

**DK EBI A/S**

Sylvestervej 7  
DK-2610 Roedovre  
T +45 4497 8111  
F +45 4468 0626  
salg@ebi.dk  
www.ebi.dk

**DZ Pneumacoupe Blida Boufarik**

86 Bld. Menad Mohamed  
Boufarik, 09400 Blida  
T +213 347 5655  
F +213 347 5655  
pneumacoupe@yahoo.fr

**EE CLE Baltic Oü**

Sära street 10 · Peetri village Rae  
county 75312 Estonia  
T +372 780 3530  
F +372 668 8679  
eesti@waldecgroup.com  
www.clebaltic.com

**EG Smeco**

68, Abdel Rahman El Raffei St.  
11351-Heliopolis West, Cairo  
T +20 2 620 06 71  
F +20 2 620 06 74  
r.metwally@tedata.net.eg

**ES Consultor Técnico Comercial  
Jaume Estela**

Zona Central-Levante  
Aragón-Cataluña  
M +34 668 121 167  
j.estela@fibro.de

**Consultor Técnico Erik Brok**

Zona Noroeste · País Vasco  
M +34 668 137 676  
e.brok@fibro.de

**FI CLE Finland Oy**

Trollbergintie 10  
10650 Tammissaari  
T +358 207 519 600  
F +358 207 519 619  
info@cle.fi  
www.cle.fi

# VERTRETUNGEN · REPRESENTATIVES · REPRESENTATIONS · RAPPRESENTANTES

## International

---

**FR FIBRO France Sarl**

26, avenue de l'Europe  
67300 Schiltigheim  
T +33 3 90 20 40 40  
F +33 3 88 81 08 29  
info@fibro.fr  
www.fibro.com

**GB Bruderer UK Ltd.**

Unit H, Cradock Road  
LU4 OJF Luton, Bedfordshire  
T +44 1582 563 400  
F +44 1582 493 993  
mail@bruderer.co.uk  
www.bruderer-presses.com

**GR Konstantinos Koutseris & Co. -  
MEK**

Pyloy 100  
10441 Athen  
T +30 210 5220557  
F +30 210 5221208  
info@mek.com.gr  
www.mek.com.gr

**HK 联系LÄPPLE (Taicang) Industrial**

Technology Co., Ltd.  
Building No. 15 · Industrial Park No.  
103 Chenmenjing road · Chengxiang  
Town 215400 Taicang · Jiangsu  
Province  
P.R. China  
T +86 512 8060 7979  
info@fibro.cn  
www.fibro.com

**HR WML Robert Bednjanec**

Vlaska 76  
10000 Zagreb  
T +385 984 16005  
robert.bednjanec@net.hr

**HU Rath & Co. Ges. m.b.H.**

Teiritzstraße 3  
AT-2100 Korneuburg  
T +43 2 262 608 0  
F +43 2 262 608 60  
office@rath-co.at  
www.rath-co.at

**ID FIBRO Asia Pte. Ltd.**

9, Changi South Street 3, #07-04  
Singapore 486361  
T +65 65 43 99 63  
F +65 65 43 99 62  
info@fibro-asia.com  
www.fibro.com

**IE Bruderer UK Ltd.**

Unit H, Cradock Road  
LU4 OJF Luton, Bedfordshire  
T +44 1582 563 400  
F +44 1582 493 993  
mail@bruderer.co.uk  
www.bruderer-presses.com

**IL A. J. Englander 1980 Ltd.**

13 Harechev Street  
Tel Aviv 67771  
T +972 3 537 36 36  
F +972 3 537 33 25  
info@englander.co.il  
www.englander.co.il

**IN FIBRO INDIA**

PRECISION PRODUCTS PVT. LTD.  
Plot No: A-55, Phase II, Chakan MIDC  
Taluka Khed, Pune - 410 501  
T +91-2135 67 09 03  
M +91-98810 00273  
info@fibro-india.com  
www.fibro.com

**IT Millutensil S.R.L.**

Corso Buenos Aires, 92  
20124 Milano  
T +39 02 2940 4390  
F +39 02 204 6677  
info@millutensil.com  
https://fibro.millutensil.com

**KR FIBRO Korea Co. Ltd.**

203-603, Bucheon Technopark  
Ssangyong 3 · 397, Seokcheon-ro,  
Ojeong-gu, Bucheon-si,  
Gyeonggi-do  
T +82 32 624 0630  
F +82 32 624 0631  
fibro\_korea@fibro.kr  
www.fibro.com

**LI Außendienst Reinhard Schreiner**

Hasenbergstrasse 40  
6312 Steinhausen  
M +41 76 568 59 06  
r.schreiner@fibro.de

**LT CLE Baltic Oū**

Pramones gatve 94-7  
11115 Vilnius, Lithuania  
T +370 663 56309  
F +370 520 40914  
latvia@waldecgroup.com  
www.clebaltic.com

**LV Waldec Latvia SIA**

Peldu 7, Jelgava  
LV-3002, Latvia  
T +371 27027956  
latvia@waldecgroup.com  
www.waldecgroup.com

**MA Chiba Industrie**

Bd. Mohamed Bouziane Lot 103,  
Hay My Rachid  
20670 Casablanc  
T +212 523 31 40 16/17/19  
F +212 523 30 39 85  
h.hind@chibaindustrie.com

**MX FIBRO Inc.**

139 Harrison Ave.  
Rockford, IL 61104  
T +1 815 229 1300  
F +1 815 229 1303  
info@fibroinc.com  
www.fibro.com

**MY FIBRO Asia Pte. Ltd.**

9, Changi South Street 3, #07-04  
Singapore 486361  
T +65 65 43 99 63  
F +65 65 43 99 62  
info@fibro-asia.com  
www.fibro.com

**NL Jeveka B.V.**

Platinaweg 4  
1362 JL Almere Poort  
T +31 36 303 2000  
info@jeveka.com  
www.jeveka.com

# REPRESENTACIONES · PRZEDSTAWICIELSTWA · ZASTOUPENÍ · MÜMESSILLER · 代表处

## International

---

**NZ APS Tooling Ltd.**

17A Spring Street  
Onehunga, Auckland, 1061  
T +64 9 579 2208  
F +64 9 579 2207  
info@apstools.co.nz

**PE Ing. E. Brammertz S.c.r.l.**

Apartado Postal 0173  
Av. José Pardo 182-905  
18 Miraflores-Lima  
T +51 1 208 4600  
F +51 1 445 1931  
import@brammertz.com  
www.brammertz.com

**PL FIBRO Polska Sp. z o.o.**

Aleja Armii Krajowej 220  
Pawilon AG piętro 3  
43-316 Bielsko-Biała  
T +48 6980 57720  
info@fibro.pl

**PT FERROMETAL, UNIPESSOAL, LDA.**

Estrada Manuel Correia Lopes  
Parque Empresarial Progresso-  
Armazém 1  
Polima  
2785-718 S. Domingos de Rana  
T +351 214 447 160  
F +351 214 447 169  
ferrometal@ferrometal.pt

**RO Reprezentant Vânzari**

Daniel Andrei Sibisan  
Str. Zizinului nr. 8, ap. 21  
Brasov, 500414  
T +40 744 44 05 83  
F +40 368 78 00 08  
d.sibisan@fibro.de  
www.fibro.com

**RS Tesic**

Partisanska 12/a-II  
11090 Beograd  
T +381 11 2338 362  
F +381 11 2338 362  
atesic@verat.net

**RU CL Engineering & Co. Ltd.**

ul. Sofyiskaya 66  
192289 S. Petersburg  
T +7 812 575 1592  
F +7 812 324 7388  
info@cleru.ru  
www.cleru.ru

**RU OOO VTF Instrumsnab**

ul. Topolinaya 9A  
445047 Togliatti  
T +7 8482681424  
F +7 8482681452  
office@instrumsnab.com  
www.instrumsnab.ru

**SA Abdul Rahman I. Fallatah Br. Est.**

Old Makkah Road - Kilo 01 - Bab  
Makkah  
Jeddah 21497  
T +966 12 681 13 91  
F +966 12 645 85 39  
fibro.sa@gmail.com  
www.al-rasha.com

**SE Lideco AB**

Verkstadsvägen 4  
51463 Dalstorp  
T +46 321 53 03 50  
F +46 321 603 77  
info@lideco.se  
www.lideco.se

**SG FIBRO Asia Pte. Ltd.**

9, Changi South Street 3, #07-04  
Singapore 486361  
T +65 65 43 99 63  
F +65 65 43 99 62  
info@fibro-asia.com  
www.fibro.com

**SI Tehnični svetovalec Jozef Majcen**

Poslovni prostor št. 1 v  
Poslovnem Centru Mops  
Mariborska c. 83 · 2312 Orehova vas.  
T +386 820 52740  
M + 386 41 387 889  
j.majcen@fibro.de  
www.fibro.com

**SK Technicky konzultant Vladimir Tanecká**

Snezienkova 10228/12  
960 01 Zvolen  
M +421 905 32 94 56  
v.tanecka@fibro.de  
www.fibro.com

**TH FIBRO Asia Pte. Ltd.**

9, Changi South Street 3, #07-04  
Singapore 486361  
T +65 65 43 99 63  
F +65 65 43 99 62  
info@fibro-asia.com  
www.fibro.com

**TR Ender Kesici ve Teknik Takımlar**

Sanayi Ticaret A.Ş.  
Eğitim Mh. Kasap İsmail Sok.  
Sadıkoğlu Plaza 5 No: 12/3  
Kadıköy 34722, İstanbul  
T +90 216 330 6005  
F +90 216 330 6006  
info@enderltd.com  
www.enderltd.com

**TW SunNan Enterprises Co. Ltd.**

2F, No. 7, Alley 6, Lane 235  
Pao-Chiao Road  
Hsin-Tien City · Taipei  
T +886 22917 6454  
F +886 22911 0398  
sun-ss@umail.hinet.net

**US FIBRO Inc.**

139 Harrison Ave.  
Rockford, IL 61104  
T +1 (815) 229-1300  
F +1 (815) 229-1303  
info@fibroinc.com  
www.fibro.com

**ZA Herrmann & Herrmann Pty. Ltd.**

9, Mpande Street · Sebenza  
Edenvale 1609  
T +27 11 828 01 00  
F +27 11 828 60 21  
hermstools@mweb.co.za  
www.hermstools.com



# CONTENTS

## OEM DESIGN SPECIFICATIONS

OEM	Order No	Width [mm]	Aerial/die mounted cam
<b>BMW</b>			
	2016.15	65 - 400	UT
	2016.24	60 - 600	OT
	2016.25	700 - 1050	OT
<b>Daimler</b>			
	2016.15	65 - 400	UT
	2016.24.	60 - 600	OT
	2016.25.	700 - 1050	OT
	2017.43.	78-170	UT
<b>Renault</b>			
	2016.14.	52 - 300	UT
<b>Volvo</b>			
	2016.24.	60 - 600	OT
	2016.25.	700 - 1050	OT
<b>VOLKSWAGEN GROUP (all brands)</b>			
	2016.15	65 - 400	UT
	2016.24.	60 - 600	OT
	2016.25.	700 - 1050	OT

Processing status: 21.12.2021

Are you missing an OEM in this listing?

Ask us for the latest release list or check our website

<https://www.fibro.de/en/camslideunit/>

### Additional documents

Current OEM release,  
cam units



Main cam unit catalog  
2.2914







Cam units on our  
website



# OVERVIEW

## SPECIFICATIONS

	Glide pairing	Features	Guaranteed stroke rate / lifetime	Working angle	Gradation (Increment)	Width [mm]
2016.24. AERIAL CAM UNIT FCC High Volume <b>Ask for catalogue 2.2914.!</b>						
	Sliding planes: Hardened steel / bronze with solid lubricant	Fully equipped, shouldered guiding rails Sliding guide version as double prism; Gas spring; Fulfills the BAK specifications	1.000.000	0° – 75°	5°	60 - 600
2016.25. AERIAL CAM UNIT FCC High Volume <b>Ask for catalogue 2.2914.!</b>						
	Sliding planes: Hardened steel / bronze with solid lubricant	Fully equipped, shouldered guiding rails; Gas spring; Fulfills the BAK specifications	1.000.000	0° – 75°	5°	700 - 1050
2016.15. DIE MOUNT CAM FCC High Volume						
	Sliding planes: Hardened steel / bronze with solid lubricant	Fully equipped, shouldered guiding rails; Sliding guide version as double prism; Gas spring; Fulfills the BAK specifications	1.000.000	0° - 25°	5°	65 - 400
<b>EXPANDED RANGE</b>						
2016.26. AERIAL CAM UNIT FCC Low Volume						
	Sliding planes: Cast / bronze with solid lubricant or sinter	partially equipped, shouldered guiding rails; Gas spring	750.000	0° - 75°	5°	65 - 400
<b>NEW SERIES</b>						

# OVERVIEW SPECIFICATIONS

	<b>Glide pairing</b>	<b>Features</b>	<b>Guaranteed stroke rate / lifetime</b>	<b>Working angle</b>	<b>Gradation (Increment)</b>	<b>Width [mm]</b>
<b>2016.207. AERIAL CAM UNIT ECO LINE <span style="float: right;">Ask for catalogue 2.2914.!</span></b>						
	Sliding planes Hardened steel / bronze with solid lubricant	fully equipped guiding rails; Gas spring	1.000.000	0° - 60°	5°	70 - 400
<b>2016.208. AERIAL CAM UNIT ECO LINE <span style="float: right;">Ask for catalogue 2.2914.!</span></b>						
	Sliding planes: Hardened steel / bronze with solid lubricant	fully equipped guiding rails; Gas spring	1.000.000	0° - 60°	5°	500 - 1000
<b>2016.11. DIE MOUNT CAM FEAC <span style="float: right;">Ask for catalogue 2.2914.!</span></b>						
	Sliding planes: Cast / cast with solid lubricant	unequipped with compression spring	300.000	0°	--	52 - 300
<b>2016.14. DIE MOUNT CAM FSAC <span style="float: right;">Ask for catalogue 2.2914.!</span></b>						
	Sliding planes: Hardened steel / bronze with solid lubricant	partially equipped with screw compression spring	600.000	0°	--	52 - 300
<b>2017.43 ROLLER SLIDE UNITS FRC</b>						
	Sliding planes: Hardened steel / bronze with solid lubricant	fully equipped guiding rails; Gas spring	1.000.000	-20° - 50°	variable	78-170
<b>EXPANDED RANGE</b>						

Main cam unit catalog 2.2914



# TOOL DESIGN

## TOLERANCES

For increasingly streamlined toolmaking processes, we ensure sufficiently narrow tolerances (EFP tolerance) for our cam units thanks to appropriate manufacturing processes. These tolerances make it possible to install our cam slide units in the tool, without conventional adjustment measures of the active elements\*. This makes it possible to shorten the timeline from the start of the tool assembly process to the first off-tool part in the tryout.

Our cam unit series shown below currently meet the EFP tolerance standards:

### Aerial cam unit

- 2016.24
- 2016.26
- 2016.25

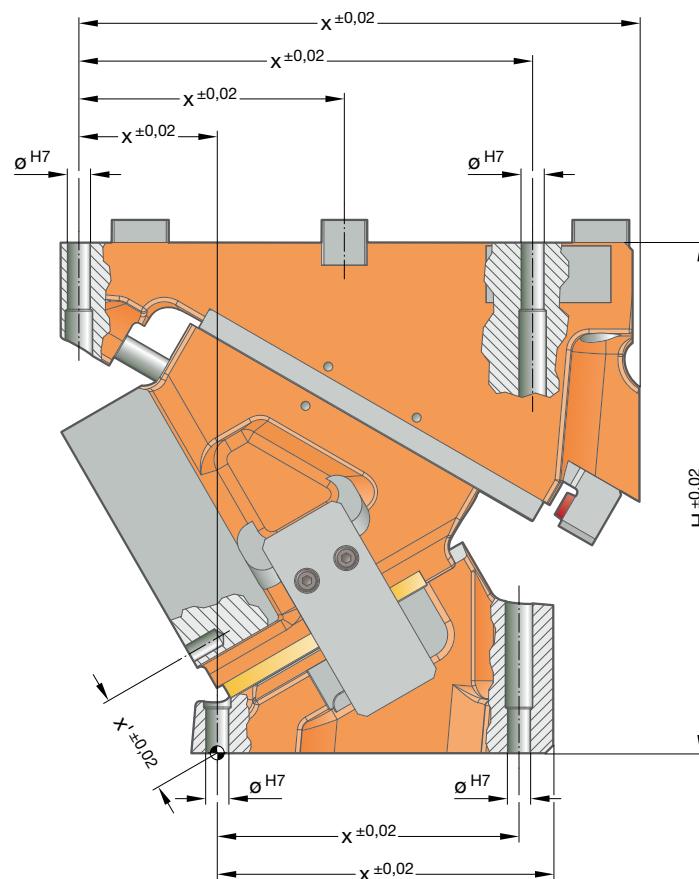


Image 1: Tolerances of aerial cam units with EFP equipment

\*EFP = equipped for press

\*\* The tolerances of all tooling components around the cam unit must also be executed with sufficient precision for the successful implementation of this assembly strategy, and the cam slide unit assembly sequence in the tool must be adapted accordingly!



## Die mount cam

- 2016.15

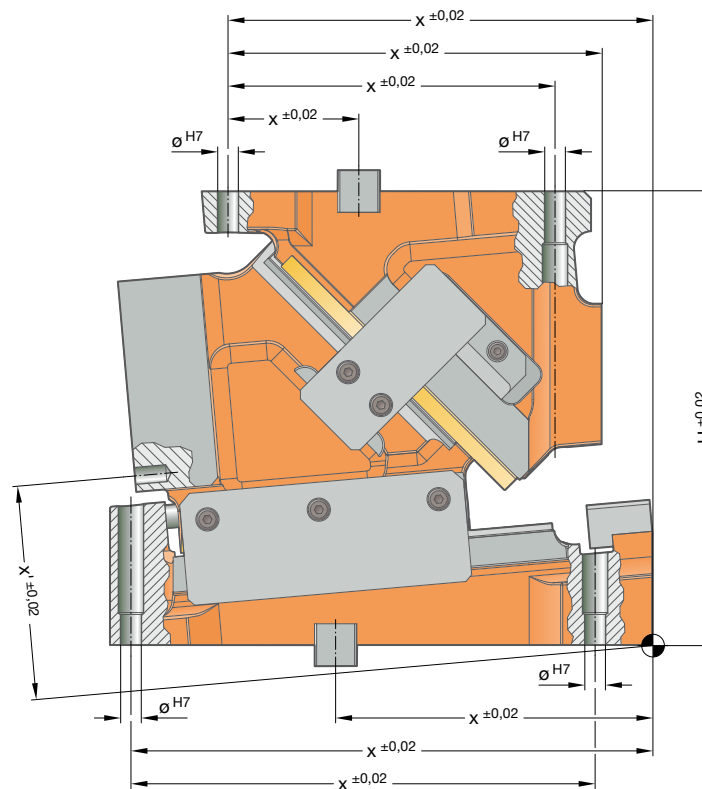


Image 2: Tolerances of lower cam units with EFP equipment

\* The tolerances of all tooling components around the cam unit must also be executed with sufficient precision for the successful implementation of this assembly strategy, and the cam slide unit assembly sequence in the tool must be adapted accordingly!



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## INTRODUCTION AND PRODUCT OVERVIEW

**2016.26. AERIAL CAM UNIT FCC-LV**

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**2016.15. DIE MOUNT CAM FCC-HV**

BMW, DAIMLER,  
VOLKSWAGEN GROUP

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**2016.24. AERIAL CAM UNIT FCC-HV**

BMW, DAIMLER, VOLVO,  
VOLKSWAGEN GROUP

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**2017.43. ROLLER SLIDE UNITS FRC**

DAIMLER, PSA

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## CUSTOMER-SPECIFIC SERVICES

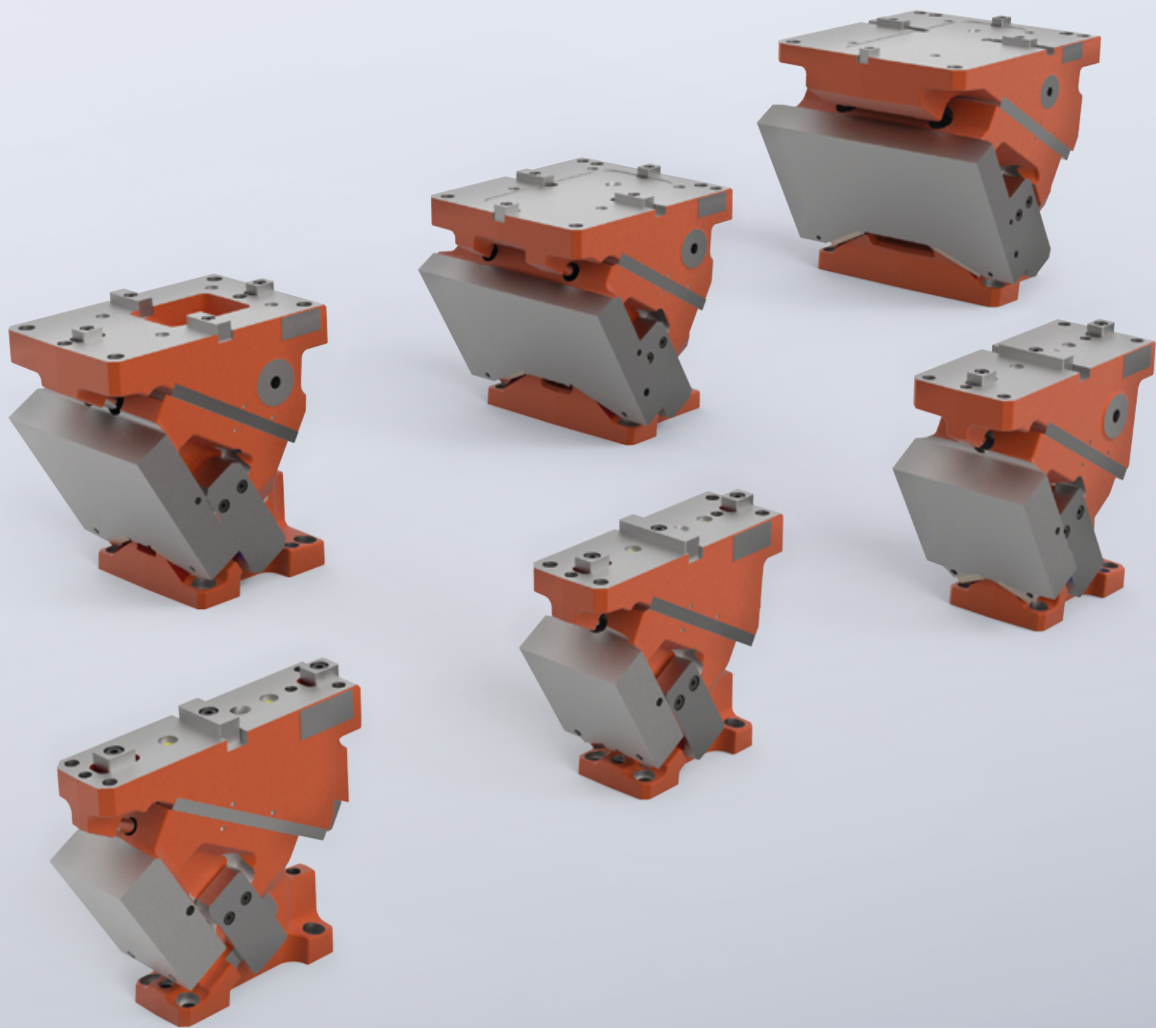
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**EMERGENCY SITUATION / CONTACTS**

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AERIAL CAM UNIT FCC-LV  
**2016.26.**



# AERIAL CAM UNIT FCC-LV 2016.26.

We have developed our FCC OT-LV 2016.26. series aerial cam units specifically for the requirements of small and medium-sized press tools. They are true winners in their class thanks to market-leading working and retraction forces combined with compact dimensions. The glide pairing of this cam unit series is performed in sintered/bronze sliding elements against a non-hardened cast surface. The wear elements of the guides are catalog items from our Standard Parts product range and offer excellent availability.

The gas springs are accessible from the rear of the cam unit in all cam slide units in this series and can be disassembled within the tool. These gas springs with the advanced safety features used in our cam units, provide the best possible safety standards according to the Pressure Equipment Directive.

The cam slide units in this series meet the requirements of the BAK specifications, and are available from stock in the event of a crash. These cam units can be ordered ex works with a machined work surface according to your data set upon request. This machining meets the highest requirements of modern toolmaking processes.

## Design features:

- Prism guide against driver / box guide against base
- Cast sliding surfaces (unhardened) / bronze with solid lubricant or sinter
- Gas spring with safety features
- The gas spring can be removed within the tool (without disassembling the cam unit).
- Mechanical retraction
- Structural damper
- Cam unit in the tool can be removed towards the rear

Aerial cam units in the FCC OT-LV 2016.26 series are available in twelve widths as standard from 65mm to 400mm, each in angle variants from 0-75° in 5° increments. Beginning from a width of 185mm, the cam slide units in this series are equipped with plate pre-acceleration to improve the dynamic response.

Further widths and angles, as well as further customer-specific designs are available on request.

Order No	Width [mm]	Performance class [kN]	Page
2016.26.006.□□.1000.00	65	120	21
2016.26.008.□□.1000.00	85	120	21
2016.26.009.□□.1000.00	90	200	31
2016.26.011.□□.1000.00	115	200	31
2016.26.012.□□.1000.00	125	280	41
2016.26.016.□□.1000.00	160	280	41
2016.26.018.□□.1000.00	185	450	51
2016.26.022.□□.1000.00	220	450	51
2016.26.026.□□.1000.00	260	580	61
2016.26.031.□□.1000.00	310	580	61
2016.26.034.□□.1000.00	340	780	71
2016.26.040.□□.1000.00	400	780	71
assembly instructions			81

## Ordering Code (example):

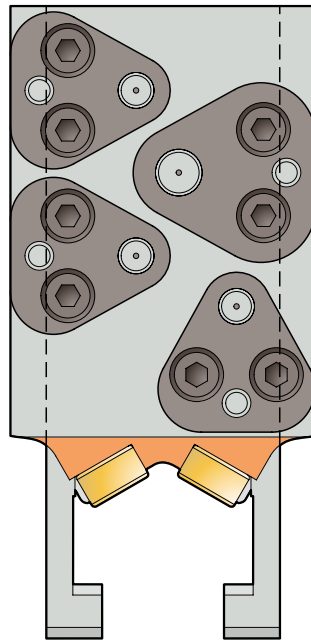
FIBRO Low-Volume Aerial Cam Units, Width 65mm	=	2016.26.006.	□□.1000.00
Slide angle $\varepsilon = 30^\circ$	=		30.
Order number	=	2016.26.006.	30.1000.00

# AERIAL CAM UNIT FCC-LV

## DOUBLE WIDTHS

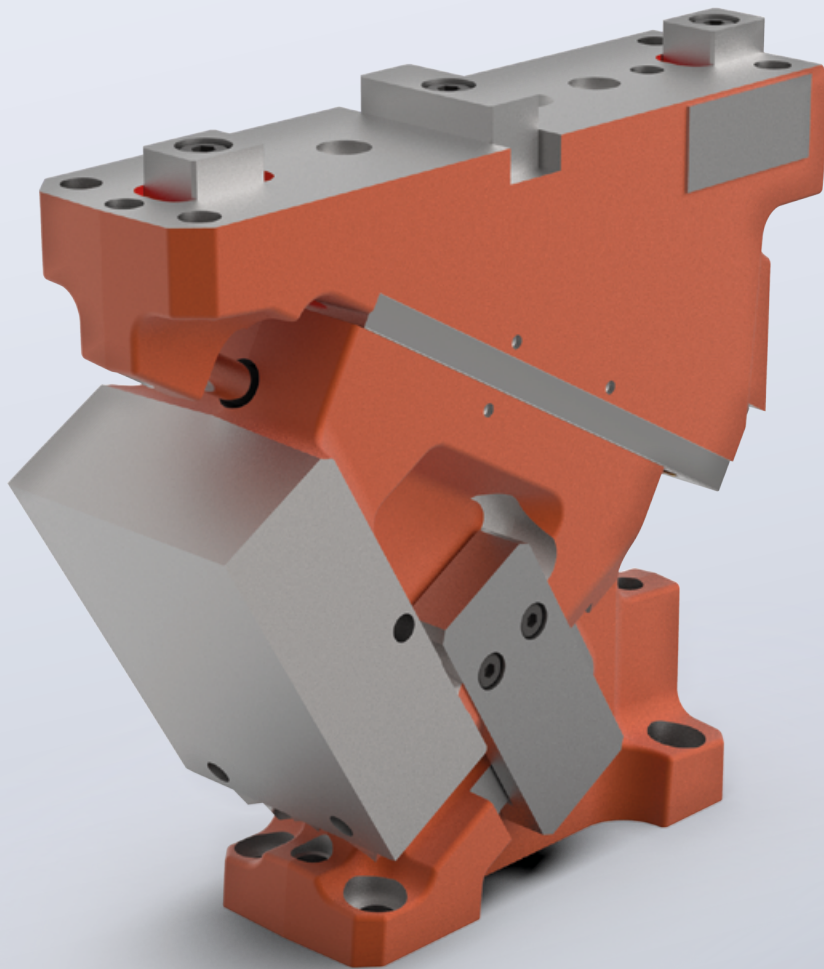
The width grading of the cam slide unit series 2016.15 + .26 is divided into 6x2 double widths, and thus available for each base width in a narrow design, as well as in a narrow design with a widened working surface. The narrow variants impress with their compact dimensions along the entire cam slide unit length, as well as high working forces on all segments of the cam slide unit working surface. With identical cam sliders, the widened designs offers more mounting space for low-force active components (e.g. punch retainers, scraper components) or for large active components with a homogeneous arrangement over the entire working surface.

The figure shows a version with a widened working area. Attached to this working surface are multiple punches with standard, polygon-shaped retainer plates. The force-free screw positions have been rotated into the outer area of the working surface. Multiple punches, through which the force vector is passed, are concentrated in the centre of the cam slide unit working surface.



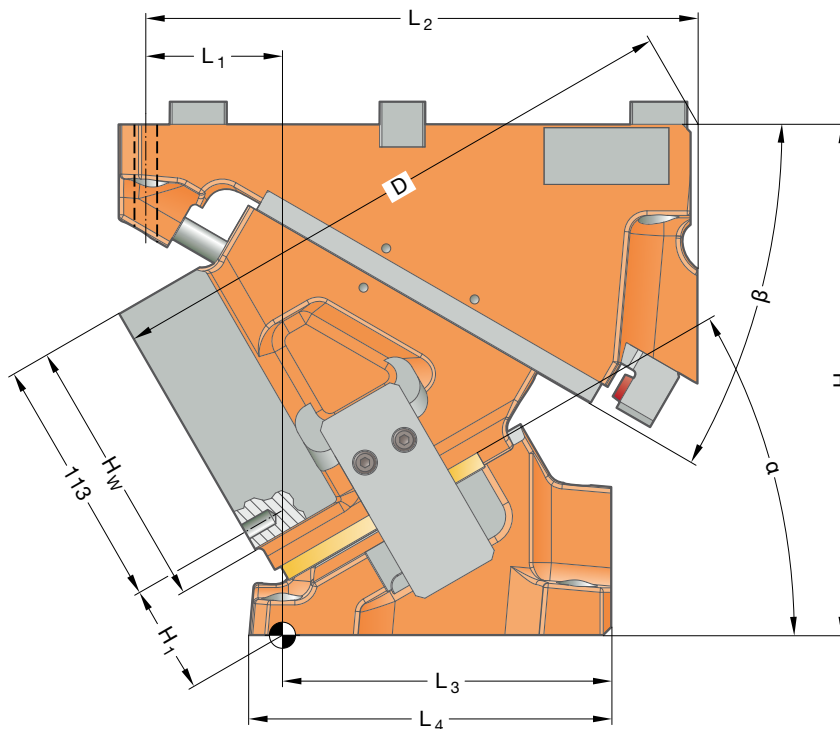
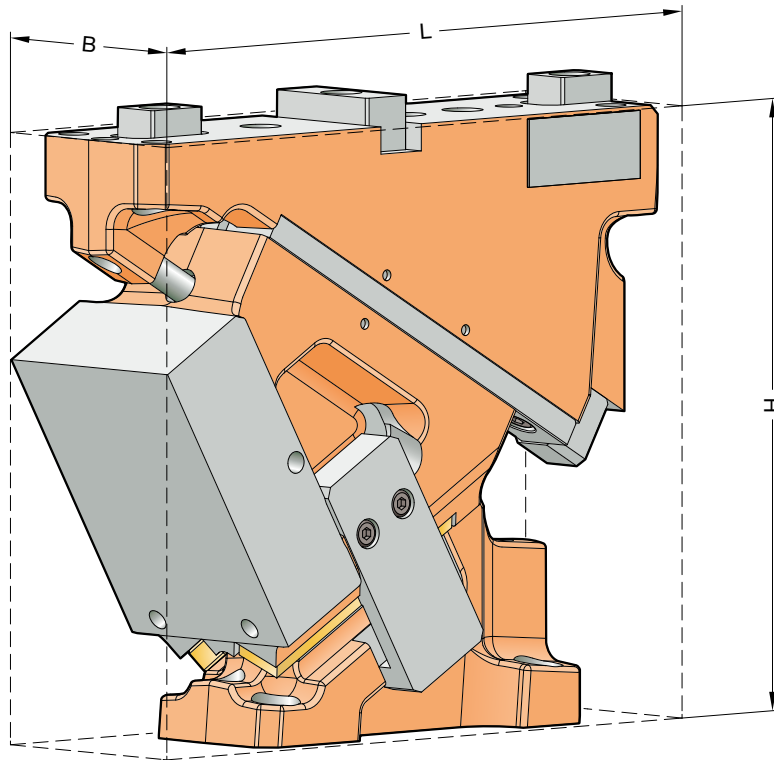
AERIAL CAM UNIT FCC-LV  
**2016.26.006./008.**

**Working width:** 65/85 mm  
**Performance class:** 120 kN



# AERIAL CAM UNIT FCC-LV 2016.26.006./008.

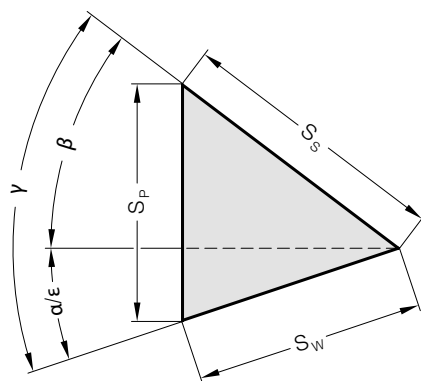
## SIZE TABLE





# AERIAL CAM UNIT FCC-LV 2016.26.006./008.

## SIZE TABLE



Order No	L [mm]	B [mm]	H [mm]	H <sub>1</sub> [mm]	H <sub>w</sub> [mm]	L <sub>1</sub> [mm]	L <sub>2</sub> [mm]	L <sub>3</sub> [mm]	L <sub>4</sub> [mm]	D [mm]	α [°]	β [°]	S <sub>w</sub> [mm]	S <sub>s</sub> [mm]	S <sub>p</sub> [mm]
2016.26.006.00.1000.00	242	65	225	65	120	11	217	178	192	227	0	50	32,1	50	38,3
2016.26.008.00.1000.00		85													
2016.26.006.05.1000.00	235	65	225	59,6	120	1	222	178	188	235,85	5	45	35,5	50	38,4
2016.26.008.05.1000.00		85													
2016.26.006.10.1000.00	241	65	225	53,06	120	8	227	188	202	247,85	10	40	38,9	50	38,9
2016.26.008.10.1000.00		85													
2016.26.006.15.1000.00	250	65	225	46,59	120	21	237	188	198	257,92	15	35	42,4	50	39,7
2016.26.008.15.1000.00		85													
2016.26.006.20.1000.00	245	65	225	48,03	120	32	227	158	171	254,79	20	40	40,8	50	46,1
2016.26.008.20.1000.00		85													
2016.26.006.25.1000.00	252	65	225	43,23	120	45	237	158	167	261,99	25	35	45,2	50	47,8
2016.26.008.25.1000.00		85													
2016.26.006.30.1000.00	256	65	225	43,94	120	61	247	148	159	262,39	30	30	45,0	45	45,0
2016.26.008.30.1000.00		85													
2016.26.006.35.1000.00	262	65	225	43,25	120	73	247	148	158	259,3	35	25	49,8	45	47,6
2016.26.008.35.1000.00		85													
2016.26.006.40.1000.00	264	65	225	107,02	120	176	247	35	139	266,87	40	30	50,9	45	55,2
2016.26.008.40.1000.00		85													
2016.26.006.45.1000.00	262	65	225	114,25	120	189	247	35	139	260,94	45	25	57,7	45	59,8
2016.26.008.45.1000.00		85													
2016.26.006.50.1000.00	249	65	225	117,6	120	196	237	35	140	248,23	50	20	48,2	33	48,2
2016.26.008.50.1000.00		85													
2016.26.006.55.1000.00	259	65	225	119,89	120	207	237	35	138	245,07	55	15	55,6	33	54,1
2016.26.008.55.1000.00		85													
2016.26.006.60.1000.00	246	65	225	99,33	120	192	237	35	120	231,59	60	20	54,5	29	57,1
2016.26.008.60.1000.00		85													
2016.26.006.65.1000.00	254	65	225	99,48	120	202	237	35	117	226,56	65	15	66,3	29	67,6
2016.26.008.65.1000.00		85													
2016.26.006.70.1000.00	264	65	225	95,74	120	214	237	35	120	208,24	70	10	63,3	22	63,3
2016.26.008.70.1000.00		85													
2016.26.006.75.1000.00	278	65	225	91,36	120	226	237	35	113	201,18	75	5	69,3	18	68,5
2016.26.008.75.1000.00		85													

### Fastening

Hexagon socket head cap screws DIN EN ISO 4762 / Strength class min. 8.8  
Dowel pins DIN EN ISO 8735

### Cam base:

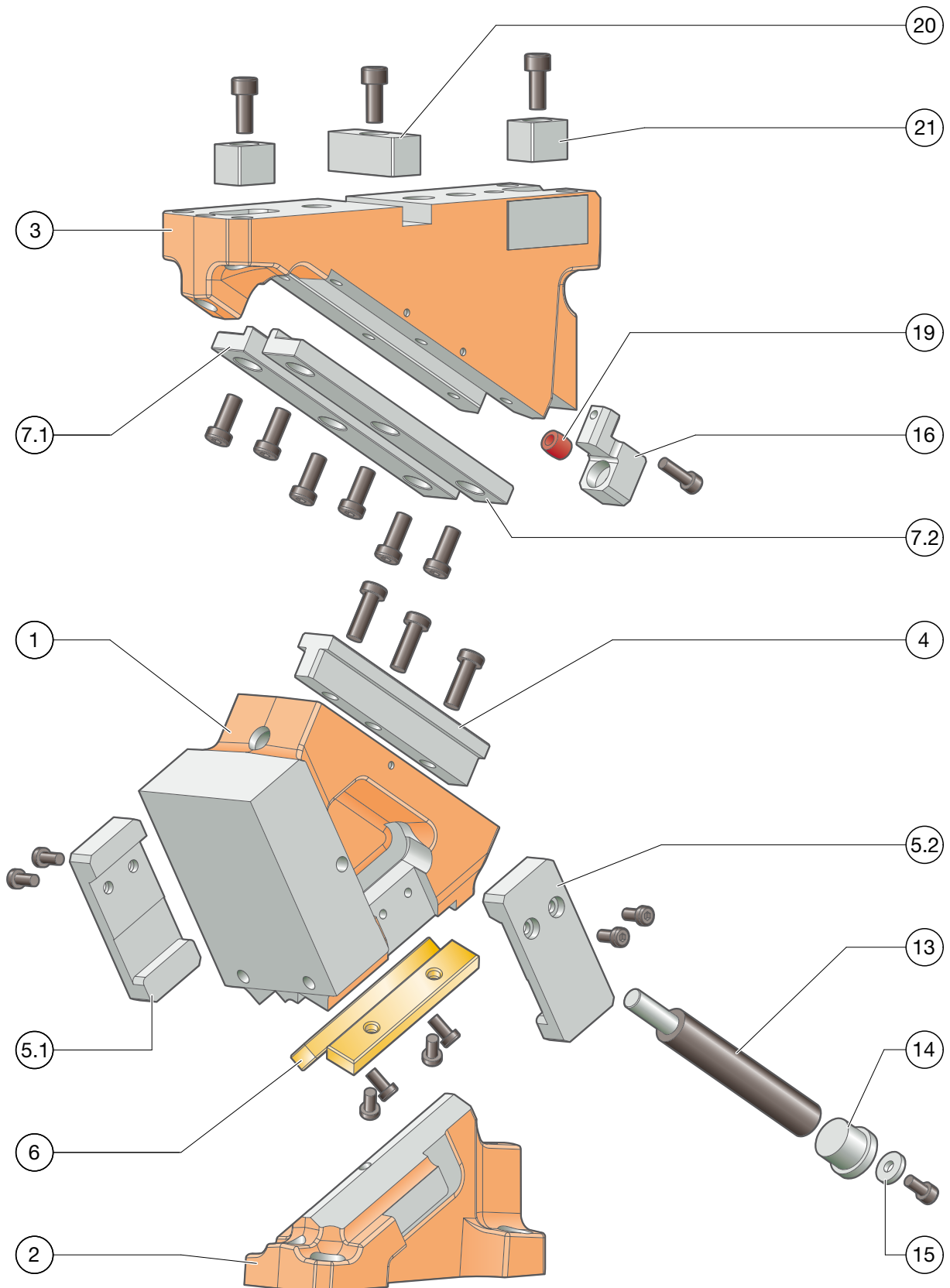
4 × M10  
2 × ø10

### Driver:

4 × M10  
2 × ø10

# AERIAL CAM UNIT FCC-LV 2016.26.006./008.

## EXPLODED VIEW



# AERIAL CAM UNIT FCC-LV 2016.26.006./008.

## PARTS LIST

Item No.	Pcs.	Designation	Material	tuned	Spare part
1	1	Cam slider	EN-JS-1060	--	--
2	1	Driver	EN-JS-1060	--	--
3	1	Cam base	EN-JS-1060	--	--
4	1	Centre guide	1.2379	--	x
5.1	1	mechanical retraction, left	1.1191 with sinter layer	x	x
5.2	1	mechanical retraction, right	1.1191 with sinter layer	x	x
6	2	Sliding plate	Bronze with solid lubricant	--	x
7.1	1	L-guide, left	1.1191 with sinter layer	x	x
7.2	1	L-guide, right	1.1191 with sinter layer	x	x
8					
9					
10					
11					
12					
13	1	Gas spring	2487.12.00.170.□□□	--	x
14	1	Locking tappet	1.7131	--	x
15	1	Locking tappet pin		--	x
16	1	Slide stop	1.1191	--	x
17 (not shown)	1	Spacer		--	x
18 (not shown)	1	Lockout system	1.1191	--	x
19	1	Damper	Elastomer	--	x
20	1	Feather key (T-nut)	1.1191	--	x
21	2	Feather key (T-nut)	1.1191	--	x
22					
23					
24* (not shown)	1	Spacer	1.1191	--	x

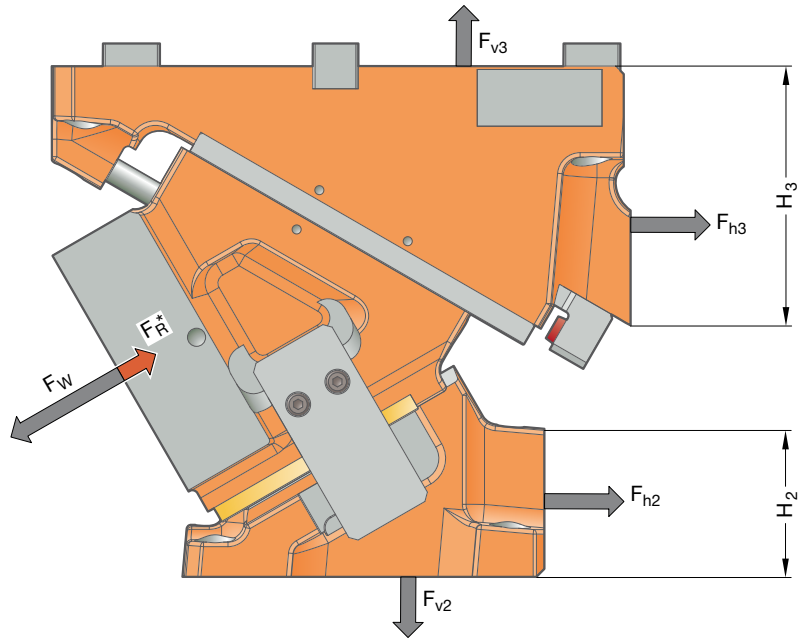
\* not installed at all angles

For inquiries or when ordering spare parts (x), we require the following data:

- Cam unit order no.
- Cam unit serial number
- Item No. / Designation / Spare part

# AERIAL CAM UNIT FCC-LV 2016.26.006./008.

## SYSTEM AND SURROUNDING FORCES



All force specifications in this catalogue of the Series 2016.26 are pre-assigned values that provide a higher safety factor.

Order No	$\alpha$ [°]	$F_w$ [kN]	$F_R^*$ [kN]	$F_{h2}$ [kN]	$F_{v2}$ [kN]	$F_{h3}$ [kN]	$F_{v3}$ [kN]	$H_2$ [mm]	$H_3$ [mm]
2016.26.00□.00.1000.00	0	120	12	-9	124	129	124	33	155
2016.26.00□.05.1000.00	5	123	12	2	128	120	138	43	137
2016.26.00□.10.1000.00	10	126	12	14	130	110	152	42	125
2016.26.00□.15.1000.00	15	129	12	26	131	99	165	52	115
2016.26.00□.20.1000.00	20	128	12	25	87	95	131	49	125
2016.26.00□.25.1000.00	25	126	12	32	83	82	137	59	115
2016.26.00□.30.1000.00	30	125	12	39	80	69	142	65	95
2016.26.00□.35.1000.00	35	124	12	45	75	56	147	77	80
2016.26.00□.40.1000.00	40	123	12	33	46	61	125	69	95
2016.26.00□.45.1000.00	45	122	12	37	42	49	129	82	80
2016.26.00□.50.1000.00	50	123	12	41	39	38	134	88	60
2016.26.00□.55.1000.00	55	125	12	45	36	27	139	97	50
2016.26.00□.60.1000.00	60	127	12	27	18	37	128	104	60
2016.26.00□.65.1000.00	65	127	12	28	16	25	131	112	50
2016.26.00□.70.1000.00	70	128	12	30	13	14	134	98	33
2016.26.00□.75.1000.00	75	129	12	31	11	2	135	107	25

\* Retraction force values correspond to the spring-generated retraction force at the working point

The forces  $F_{h2}$ ,  $F_{v2}$  as well as  $F_{h3}$ ,  $F_{v3}$  act on the tool environment at maximum working force  $F_w$ .

# AERIAL CAM UNIT FCC-LV 2016.26.006./008.

## FORCE DIAGRAM

Support via cast shoulder

		Width 85 mm					
		10	22,5	20	22,5	10	
Height 120 mm	0°	24	34	43	64	43	34
	24	38	54	82	54	38	
	24	40	67	110	67	40	
	24	40	68	120	68	40	
	24	32	55	91	55	32	

Support via feather key

		Width 85 mm					
		10	22,5	20	22,5	10	
Height 120 mm	0°	24	31	32	33	32	31
	24	34	34	36	34	34	
	24	33	33	33	33	33	
	24	31	31	32	31	31	
	24	30	30	31	30	30	

Support via cast shoulder

		Width 85 mm					
		10	22,5	20	22,5	10	
Height 120 mm	5°	24	34	42	64	42	34
	24	39	54	81	54	39	
	24	41	67	110	67	41	
	24	41	68	123	68	41	
	24	33	55	91	55	33	

Support via feather key

		Width 85 mm					
		10	22,5	20	22,5	10	
Height 120 mm	5°	24	34	40	42	40	34
	24	39	45	46	45	39	
	24	41	43	44	43	41	
	24	41	41	42	41	41	
	24	33	40	41	40	33	

Support via cast shoulder

		Width 85 mm					
		10	22,5	20	22,5	10	
Height 120 mm	10°	24	34	42	63	42	34
	24	40	54	81	54	40	
	24	41	68	110	68	41	
	24	41	67	126	67	41	
	24	34	55	92	55	34	

Support via feather key

		Width 85 mm					
		10	22,5	20	22,5	10	
Height 120 mm	10°	24	34	42	51	42	34
	24	40	54	56	54	40	
	24	41	54	55	54	41	
	24	41	51	52	51	41	
	24	34	50	51	50	34	

Support via cast shoulder

		Width 85 mm					
		10	22,5	20	22,5	10	
Height 120 mm	15°	24	34	42	63	42	34
	24	40	54	81	54	40	
	24	42	69	110	69	42	
	24	41	67	129	67	41	
	24	34	55	92	55	34	

Support via feather key

		Width 85 mm					
		10	22,5	20	22,5	10	
Height 120 mm	15°	24	34	42	60	42	34
	24	40	54	67	54	40	
	24	42	64	66	64	42	
	24	41	61	63	61	41	
	24	34	55	60	55	34	

Support via cast shoulder

		Width 85 mm					
		10	22,5	20	22,5	10	
Height 120 mm	20°	24	32	40	62	40	32
	24	38	53	81	53	38	
	24	40	68	111	68	40	
	24	40	66	128	66	40	
	24	34	55	91	55	34	

Support via feather key

		Width 85 mm					
		10	22,5	20	22,5	10	
Height 120 mm	20°	24	32	40	62	40	32
	24	38	53	71	53	38	
	24	40	68	70	68	40	
	24	40	65	67	65	40	
	24	34	55	64	55	34	

Support via cast shoulder

		Width 85 mm					
		10	22,5	20	22,5	10	
Height 120 mm	25°	24	30	38	61	38	30
	24	36	52	81	52	36	
	24	38	67	113	67	38	
	24	39	66	126	66	39	
	24	34	54	90	54	34	

Support via feather key

		Width 85 mm					
		10	22,5	20	22,5	10	
Height 120 mm	25°	24	30	38	61	38	30
	24	36	52	75	52	36	
	24	38	67	74	67	38	
	24	39	66	71	66	39	
	24	34	54	68	54	34	

# AERIAL CAM UNIT FCC-LV 2016.26.006./008.

## FORCE DIAGRAM

		Support via cast shoulder				
		Width 85 mm				
30°		10	22,5	20	22,5	10
Height 120 mm	24	32	42	60	42	32
	24	39	58	82	58	39
	24	42	76	115	76	42
	24	43	75	125	75	43
	24	39	61	89	61	39

		Support via feather key				
		Width 85 mm				
30°		10	22,5	20	22,5	10
Height 120 mm	24	32	42	60	42	32
	24	39	58	80	58	39
	24	42	75	78	75	42
	24	43	73	75	73	43
	24	39	61	72	61	39

		Width 85 mm				
		10	22,5	20	22,5	10
35°		10	22,5	20	22,5	10
Height 120 mm	24	32	43	59	43	32
	24	40	61	82	61	40
	24	43	80	117	80	43
	24	44	80	124	80	44
	24	40	64	87	64	40

		Width 85 mm				
		10	22,5	20	22,5	10
35°		10	22,5	20	22,5	10
Height 120 mm	24	32	43	59	43	32
	24	40	61	82	61	40
	24	43	80	85	80	43
	24	44	79	83	79	44
	24	40	64	79	64	40

		Width 85 mm				
		10	22,5	20	22,5	10
40°		10	22,5	20	22,5	10
Height 120 mm	24	32	44	58	44	32
	24	39	63	82	63	39
	24	43	84	119	84	43
	24	46	84	123	84	46
	24	41	68	86	68	41

		Width 85 mm				
		10	22,5	20	22,5	10
40°		10	22,5	20	22,5	10
Height 120 mm	20	32	44	58	44	32
	20	39	63	82	63	39
	20	43	84	93	84	43
	20	46	84	92	84	46
	20	41	68	86	68	41

		Width 85 mm				
		10	22,5	20	22,5	10
45°		10	22,5	20	22,5	10
Height 120 mm	24	32	45	57	45	32
	24	39	66	83	66	39
	24	44	88	121	88	44
	24	46	89	122	89	46
	24	42	71	85	71	42

		Width 85 mm				
		10	22,5	20	22,5	10
45°		10	22,5	20	22,5	10
Height 120 mm	24	32	45	57	45	32
	24	39	65	83	65	39
	24	44	88	100	88	44
	24	46	89	101	89	46
	24	42	71	85	71	42

		Width 85 mm				
		10	22,5	20	22,5	10
50°		10	22,5	20	22,5	10
Height 120 mm	24	30	45	56	45	30
	24	38	68	83	68	38
	24	44	92	123	92	44
	24	47	92	120	92	47
	24	42	74	84	74	42

		Width 85 mm				
		10	22,5	20	22,5	10
50°		10	22,5	20	22,5	10
Height 120 mm	24	30	43	56	43	30
	24	37	61	83	61	37
	24	44	92	116	92	44
	24	47	92	115	92	47
	24	42	74	84	74	42

		Width 85 mm				
		10	22,5	20	22,5	10
55°		10	22,5	20	22,5	10
Height 120 mm	24	30	43	55	43	30
	24	35	66	83	66	35
	24	41	90	125	90	41
	24	45	93	119	93	45
	24	39	73	82	73	39

		Width 85 mm				
		10	22,5	20	22,5	10
55°		10	22,5	20	22,5	10
Height 120 mm	24	26	39	55	39	26
	24	33	57	83	57	33
	24	36	90	120	90	36
	24	42	93	119	93	42
	24	34	73	82	73	34

# AERIAL CAM UNIT FCC-LV 2016.26.006./008.

## FORCE DIAGRAM

		Support via cast shoulder				
		Width 85 mm				
60°		10	22,5	20	22,5	10
Height 120 mm	24	28	40	54	40	28
	24	32	65	84	65	32
	24	39	89	127	89	39
	24	43	92	118	92	43
	24	36	72	81	72	36

		Support via feather key				
		Width 85 mm				
60°		10	22,5	20	22,5	10
Height 120 mm	24	22	34	54	34	22
	24	29	53	84	53	29
	24	28	89	120	89	28
	24	36	92	118	92	36
	24	27	72	81	72	27

		Width 85 mm				
		10	22,5	20	22,5	10
65°		10	22,5	20	22,5	10
Height 120 mm	24	26	40	54	40	26
	24	33	65	84	65	33
	24	39	89	127	89	39
	24	44	93	119	93	44
	24	36	72	80	72	36

		Width 85 mm				
		10	22,5	20	22,5	10
65°		10	22,5	20	22,5	10
Height 120 mm	24	22	34	54	34	22
	24	29	54	84	54	29
	24	28	89	120	89	28
	24	37	93	119	93	37
	24	28	72	80	72	28

		Width 85 mm				
		10	22,5	20	22,5	10
70°		10	22,5	20	22,5	10
Height 120 mm	24	26	40	55	40	26
	24	33	65	84	65	33
	24	39	90	128	90	39
	24	44	94	120	94	44
	24	37	72	79	72	37

		Width 85 mm				
		10	22,5	20	22,5	10
70°		10	22,5	20	22,5	10
Height 120 mm	24	23	34	55	34	23
	24	29	54	84	54	29
	24	29	90	120	90	29
	24	38	94	120	94	38
	24	29	72	79	72	29

		Width 85 mm				
		10	22,5	20	22,5	10
75°		10	22,5	20	22,5	10
Height 120 mm	24	26	40	55	40	26
	24	33	65	84	65	33
	24	39	90	129	90	39
	24	44	95	121	95	44
	24	38	72	78	72	38

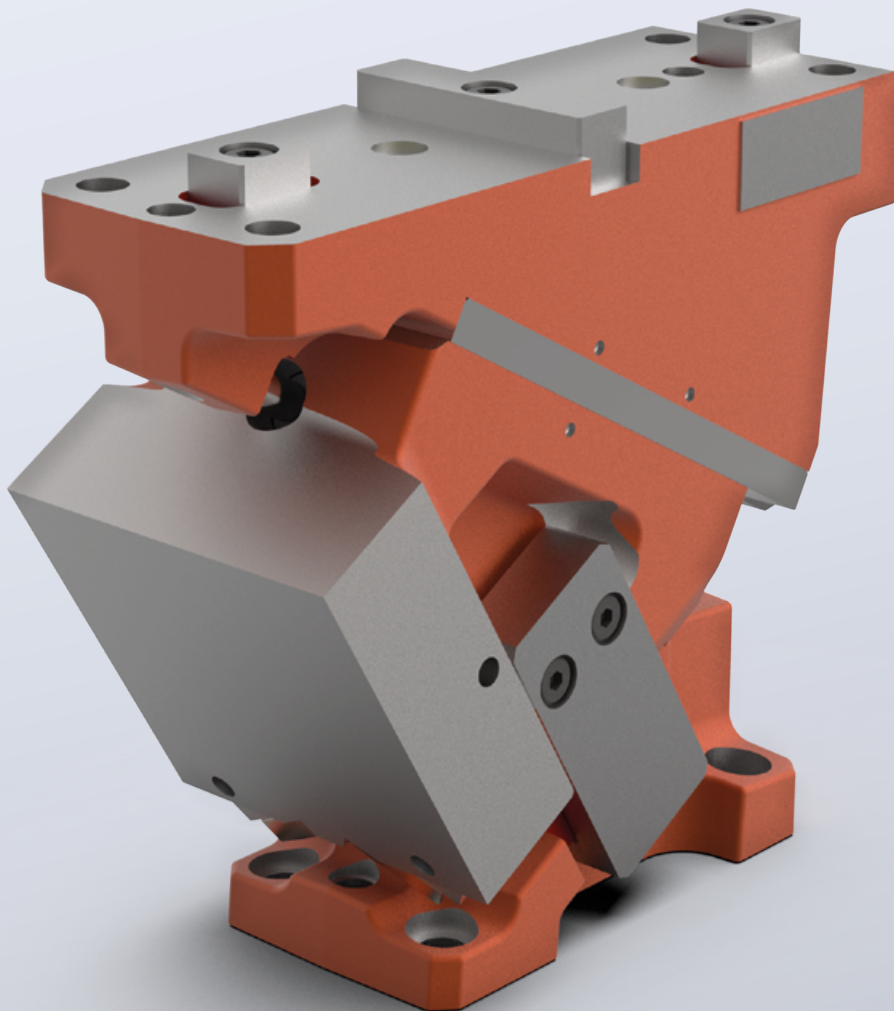
		Width 85 mm				
		10	22,5	20	22,5	10
75°		10	22,5	20	22,5	10
Height 120 mm	24	23	34	55	34	23
	24	29	54	84	54	29
	24	29	90	120	90	29
	24	39	95	120	95	39
	24	29	72	78	72	29



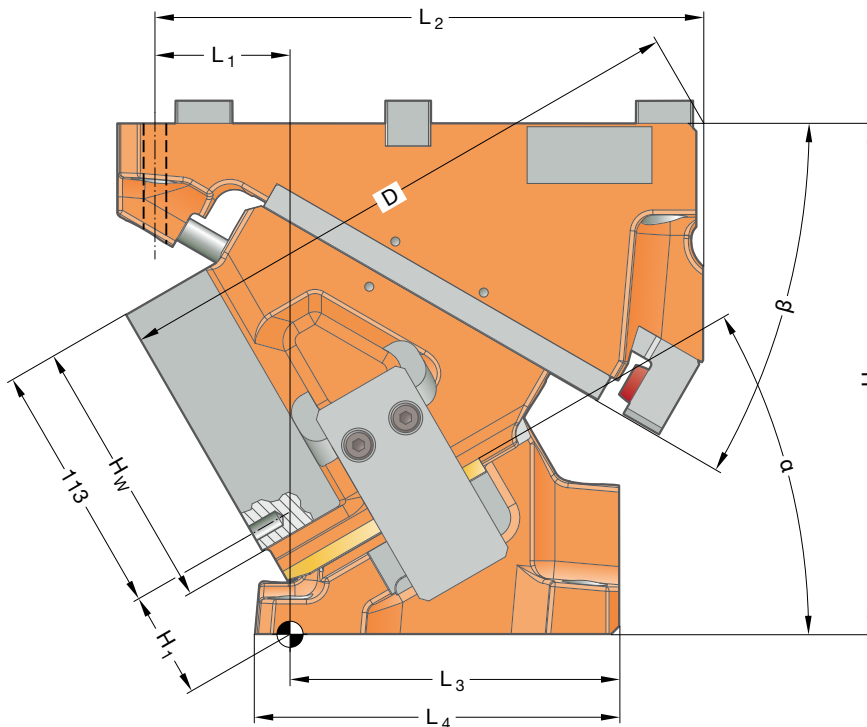
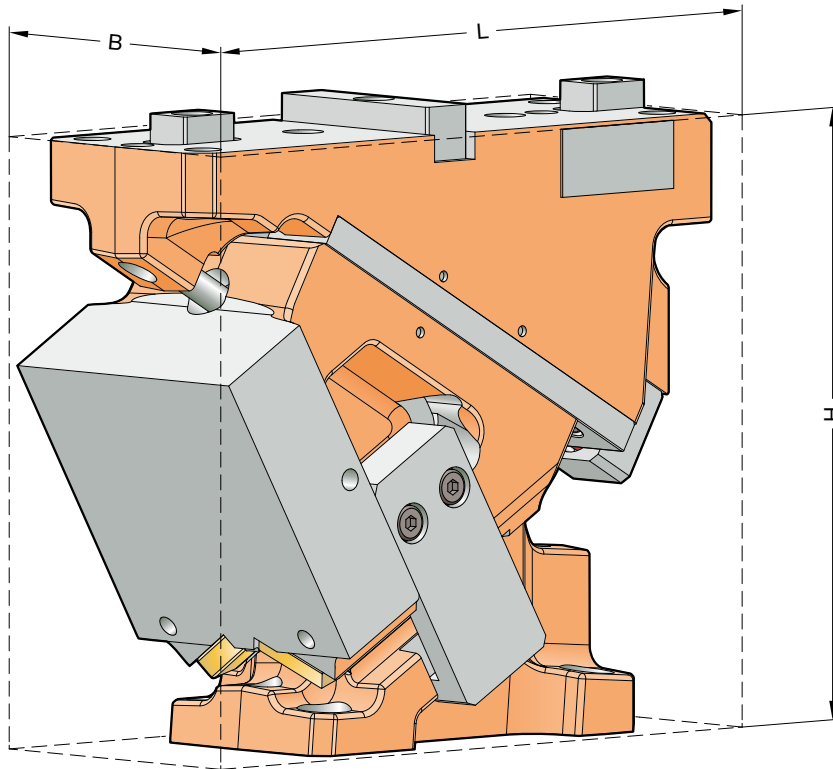


AERIAL CAM UNIT FCC-LV  
**2016.26.009./011.**

**Working width:** 90/115 mm  
**Performance class:** 200 kN

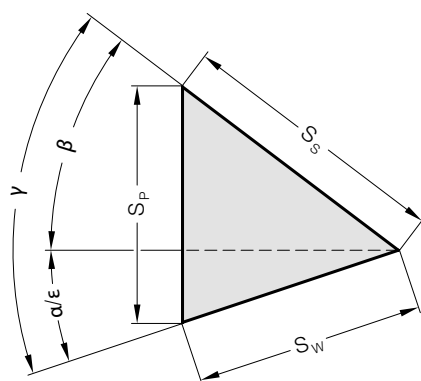


AERIAL CAM UNIT FCC-LV 2016.26.009./011.  
**SIZE TABLE**



# AERIAL CAM UNIT FCC-LV 2016.26.009./011.

## SIZE TABLE



Order No	L [mm]	B [mm]	H [mm]	H <sub>1</sub> [mm]	H <sub>w</sub> [mm]	L <sub>1</sub> [mm]	L <sub>2</sub> [mm]	L <sub>3</sub> [mm]	L <sub>4</sub> [mm]	D [mm]	α [°]	β [°]	S <sub>w</sub> [mm]	S <sub>s</sub> [mm]	S <sub>p</sub> [mm]
2016.26.009.00.1000.00	254	90	225	65	120	18	222	188	202	240	0	50	32,1	50	38,3
2016.26.011.00.1000.00		115													
2016.26.009.05.1000.00	248	90	225	58,82	120	3	232	188	199	251,83	5	45	35,5	50	38,4
2016.26.011.05.1000.00		115													
2016.26.009.10.1000.00	257	90	225	53,18	120	3	232	188	202	263,6	10	40	38,9	50	38,9
2016.26.011.10.1000.00		115													
2016.26.009.15.1000.00	262	90	225	48,45	120	14	237	188	199	271,04	15	35	42,4	50	39,7
2016.26.011.15.1000.00		115													
2016.26.009.20.1000.00	250	90	225	47,97	120	32	232	158	171	259,15	20	40	40,8	50	46,1
2016.26.011.20.1000.00		115													
2016.26.009.25.1000.00	254	90	225	45,79	120	44	237	158	169	263,44	25	35	45,2	50	47,8
2016.26.011.25.1000.00		115													
2016.26.009.30.1000.00	258	90	225	43,44	120	62	247	148	161	262,39	30	30	45,0	45	45,0
2016.26.011.30.1000.00		115													
2016.26.009.35.1000.00	265	90	225	42,82	120	74	247	148	159	259,3	35	25	49,8	45	47,6
2016.26.011.35.1000.00		115													
2016.26.009.40.1000.00	268	90	225	107,66	120	177	247	35	140	270,87	40	30	50,9	45	55,2
2016.26.011.40.1000.00		115													
2016.26.009.45.1000.00	265	90	225	114,25	120	189	247	35	139	264,94	45	25	57,7	45	59,8
2016.26.011.45.1000.00		115													
2016.26.009.50.1000.00	252	90	225	118,24	120	196	237	35	141	251,47	50	20	48,2	33	48,2
2016.26.011.50.1000.00		115													
2016.26.009.55.1000.00	260	90	225	120,46	120	207	237	35	139	248,25	55	15	55,6	33	54,1
2016.26.011.55.1000.00		115													
2016.26.009.60.1000.00	248	90	225	100,03	120	198	237	35	122	230,73	60	20	54,5	29	57,1
2016.26.011.60.1000.00		115													
2016.26.009.65.1000.00	257	90	225	96,71	120	204	237	35	115	225,65	65	15	66,3	29	67,6
2016.26.011.65.1000.00		115													
2016.26.009.70.1000.00	267	90	225	90,91	120	216	237	35	116	212,94	70	10	63,3	22	63,3
2016.26.011.70.1000.00		115													
2016.26.009.75.1000.00	281	90	225	87	120	228	237	35	110	206,01	75	5	69,3	18	68,5
2016.26.011.75.1000.00		115													

### Fastening

Hexagon socket head cap screws DIN EN ISO 4762 / Strength class min. 8.8  
Dowel pins DIN EN ISO 8735

### Cam base:

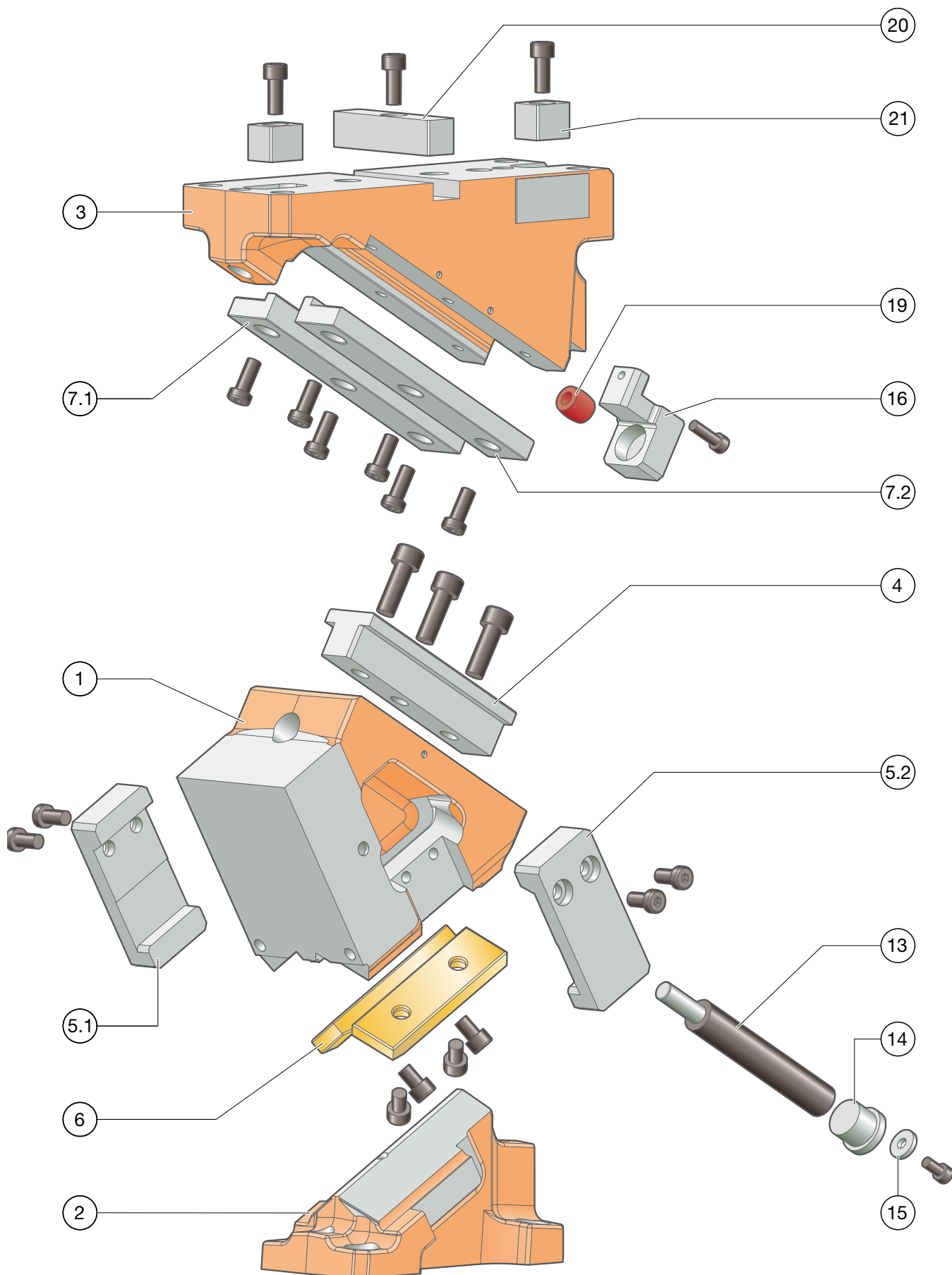
4 × M12  
2 × ø12

### Driver:

4 × M12  
2 × ø12

# AERIAL CAM UNIT FCC-LV 2016.26.009./011.

## EXPLODED VIEW



# AERIAL CAM UNIT FCC-LV 2016.26.009./011.

## PARTS LIST

Item No.	Pcs.	Designation	Material	tuned	Spare part
1	1	Cam slider	EN-JS-1060	--	--
2	1	Driver	EN-JS-1060	--	--
3	1	Cam base	EN-JS-1060	--	--
4	1	Centre guide	1.2379	--	x
5.1	1	mechanical retraction, left	1.1191 with sinter layer	x	x
5.2	1	mechanical retraction, right	1.1191 with sinter layer	x	x
6	2	Sliding plate	Bronze with solid lubricant	--	x
7.1	1	L-guide, left	1.1191 with sinter layer	x	x
7.2	1	L-guide, right	1.1191 with sinter layer	x	x
8					
9					
10					
11					
12					
13	1	Gas spring	2487.12.00.170.□□□	--	x
14	1	Locking tappet	1.7131	--	x
15	1	Locking tappet pin		--	x
16	1	Slide stop	1.1191	--	x
17 (not shown)	1	Spacer		--	x
18 (not shown)	1	Lockout system	1.1191	--	x
19	1	Damper	Elastomer	--	x
20	1	Feather key (T-nut)	1.1191	--	x
21	2	Feather key (T-nut)	1.1191	--	x
22					
23					
24* (not shown)	1	Spacer	1.1191	--	x

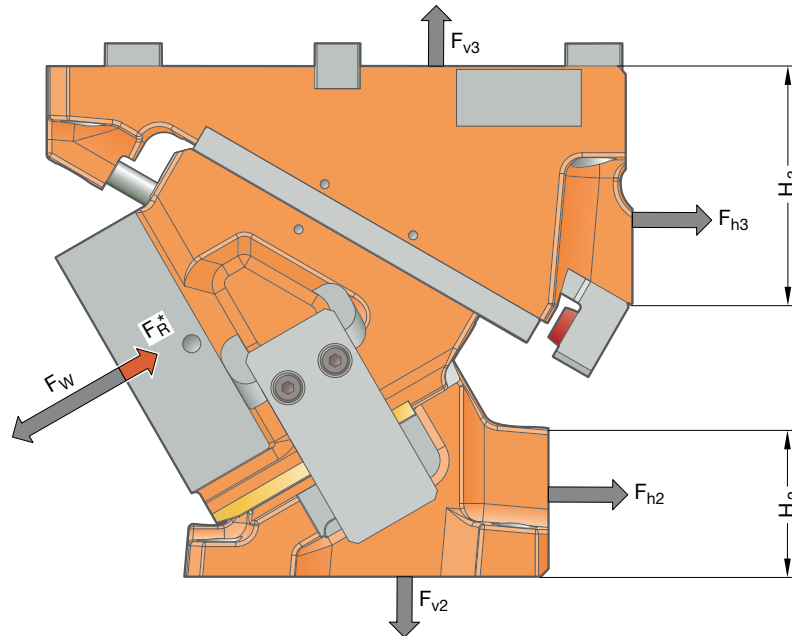
\* not installed at all angles

For inquiries or when ordering spare parts (x), we require the following data:

- Cam unit order no.
- Cam unit serial number
- Item No. / Designation / Spare part

# AERIAL CAM UNIT FCC-LV 2016.26.009./011.

## SYSTEM AND SURROUNDING FORCES



All force specifications in this catalogue of the Series 2016.26 are pre-assigned values that provide a higher safety factor.

Order No	$\alpha$ [°]	$F_w$ [kN]	$F_R^*$ [kN]	$F_{h2}$ [kN]	$F_{v2}$ [kN]	$F_{h3}$ [kN]	$F_{v3}$ [kN]	$H_2$ [mm]	$H_3$ [mm]
2016.26.0□□.00.1000.00	0	196	18	-14	203	210	203	33	168
2016.26.0□□.05.1000.00	5	205	18	4	213	201	231	43	152
2016.26.0□□.10.1000.00	10	214	18	23	221	188	258	43	138
2016.26.0□□.15.1000.00	15	224	18	44	228	172	286	55	123
2016.26.0□□.20.1000.00	20	221	18	43	151	164	226	50	138
2016.26.0□□.25.1000.00	25	218	18	55	144	142	237	62	123
2016.26.0□□.30.1000.00	30	215	18	67	137	119	245	64	105
2016.26.0□□.35.1000.00	35	221	18	81	134	100	261	77	88
2016.26.0□□.40.1000.00	40	226	18	61	84	112	230	69	105
2016.26.0□□.45.1000.00	45	232	18	70	81	94	245	82	88
2016.26.0□□.50.1000.00	50	212	18	70	68	66	230	89	68
2016.26.0□□.55.1000.00	55	206	18	74	60	44	228	98	58
2016.26.0□□.60.1000.00	60	228	18	48	32	66	230	104	68
2016.26.0□□.65.1000.00	65	225	18	50	28	45	232	113	58
2016.26.0□□.70.1000.00	70	223	18	52	23	24	233	92	46
2016.26.0□□.75.1000.00	75	220	18	53	18	4	231	102	38

\* Retraction force values correspond to the spring-generated retraction force at the working point

The forces  $F_{h2}$ ,  $F_{v2}$  as well as  $F_{h3}$ ,  $F_{v3}$  act on the tool environment at maximum working force  $F_w$ .

# AERIAL CAM UNIT FCC-LV 2016.26.009./011.

## FORCE DIAGRAM

Support via cast shoulder

		Width 115 mm							
		12.5	17.5	17.5	20	17.5	17.5	12.5	
Height 120 mm	0°	24	45	54	72	92	72	54	45
		24	55	68	90	119	90	68	55
		24	68	95	110	156	110	95	68
		24	60	99	126	196	126	99	60
		24	58	72	113	175	113	72	58

Support via feather key

		Width 115 mm							
		12.5	17.5	17.5	20	17.5	17.5	12.5	
Height 120 mm	0°	24	45	47	47	59	47	47	45
		24	48	50	51	61	51	50	48
		24	47	48	47	57	47	48	47
		24	44	45	44	55	44	45	44
		24	42	42	43	53	43	42	42

Support via cast shoulder

		Width 115 mm							
		12.5	17.5	17.5	20	17.5	17.5	12.5	
Height 120 mm	5°	24	44	54	70	92	70	54	44
		24	55	67	88	119	88	67	55
		24	66	92	109	156	109	92	66
		24	61	94	126	205	126	94	61
		24	58	75	116	182	116	75	58

Support via feather key

		Width 115 mm							
		12.5	17.5	17.5	20	17.5	17.5	12.5	
Height 120 mm	5°	24	44	54	58	66	58	54	44
		24	55	64	64	71	64	64	55
		24	59	61	61	68	61	61	59
		24	56	57	58	65	58	57	56
		24	53	54	55	63	55	54	53

Support via cast shoulder

		Width 115 mm							
		12.5	17.5	17.5	20	17.5	17.5	12.5	
Height 120 mm	10°	24	44	53	69	92	69	53	44
		24	54	66	87	119	87	66	54
		24	64	88	108	157	108	88	64
		24	63	88	126	214	126	88	63
		24	58	79	119	188	119	79	58

Support via feather key

		Width 115 mm							
		12.5	17.5	17.5	20	17.5	17.5	12.5	
Height 120 mm	10°	24	44	53	69	73	69	53	44
		24	54	66	78	82	78	66	54
		24	64	74	75	79	75	74	64
		24	63	70	71	75	71	70	63
		24	58	66	68	72	68	66	58

Support via cast shoulder

		Width 115 mm							
		12.5	17.5	17.5	20	17.5	17.5	12.5	
Height 120 mm	15°	24	43	52	68	92	68	52	43
		24	54	65	85	119	85	65	54
		24	62	85	107	158	107	85	62
		24	65	83	126	224	126	83	65
		24	59	83	123	195	123	83	59

Support via feather key

		Width 115 mm							
		12.5	17.5	17.5	20	17.5	17.5	12.5	
Height 120 mm	15°	24	43	52	68	81	68	52	43
		24	54	65	85	93	85	65	54
		24	62	85	89	90	89	85	62
		24	65	83	84	85	84	83	65
		24	59	78	81	81	81	78	59

Support via cast shoulder

		Width 115 mm							
		12.5	17.5	17.5	20	17.5	17.5	12.5	
Height 120 mm	20°	24	41	51	67	91	67	51	41
		24	52	64	85	120	85	64	52
		24	62	88	110	164	110	88	62
		24	64	88	127	221	127	88	64
		24	58	82	125	198	125	82	58

Support via feather key

		Width 115 mm							
		17.5	40	40	25	40	40	17.5	
Height 120 mm	20°	24	41	51	67	86	67	51	41
		24	52	64	85	100	85	64	52
		24	62	88	95	97	95	88	62
		24	64	87	91	91	91	87	64
		24	58	82	86	87	86	82	58

Support via cast shoulder

		Width 115 mm							
		12.5	17.5	17.5	20	17.5	17.5	12.5	
Height 120 mm	25°	24	39	49	66	91	66	49	39
		24	50	63	86	121	86	63	50
		24	61	92	113	169	113	92	61
		24	62	92	129	218	129	92	62
		24	58	82	128	200	128	82	58

Support via feather key

		Width 115 mm							
		12.5	17.5	17.5	20	17.5	17.5	12.5	
Height 120 mm	25°	24	39	49	66	90	66	49	39
		24	50	63	86	107	86	63	50
		24	61	92	102	103	102	92	61
		24	62	92	98	98	98	92	62
		24	58	82	92	92	92	82	58

# AERIAL CAM UNIT FCC-LV 2016.26.009./011.

## FORCE DIAGRAM

		Support via cast shoulder						
		Width 115 mm						
30°		12.5	17.5	17.5	20	17.5	17.5	12.5
Height 120 mm	24	36	48	65	90	65	48	36
	24	49	62	86	122	86	62	49
	24	61	95	116	175	116	95	61
	24	61	97	130	215	130	97	61
	24	58	82	130	202	130	82	58

		Support via feather key						
		Width 115 mm						
30°		12.5	17.5	17.5	20	17.5	17.5	12.5
Height 120 mm	24	36	48	65	90	65	48	36
	24	49	62	86	115	86	62	49
	24	61	95	109	110	109	95	61
	24	61	97	104	105	104	97	61
	24	58	82	98	98	98	82	58

		Width 115 mm						
		17.5	40	40	25	40	40	17.5
Height 120 mm	24	35	46	63	86	63	46	35
	24	47	61	86	120	86	61	47
	24	58	87	112	171	112	87	58
	24	61	93	132	221	132	93	61
	24	57	83	134	209	134	83	57

		Width 115 mm						
		12.5	17.5	17.5	20	17.5	17.5	12.5
Height 120 mm	24	35	46	63	86	63	46	35
	24	47	61	86	120	86	61	47
	24	58	87	112	123	112	87	58
	24	61	93	112	116	112	93	61
	24	57	83	103	108	103	83	57

		Width 115 mm						
		12.5	17.5	17.5	20	17.5	17.5	12.5
Height 120 mm	24	33	44	61	82	61	44	33
	24	45	60	86	117	86	60	45
	24	55	79	109	167	109	79	55
	24	61	88	134	226	134	88	61
	24	57	84	139	215	139	84	57

		Width 115 mm						
		12.5	17.5	17.5	20	17.5	17.5	12.5
Height 120 mm	24	33	44	61	82	61	44	33
	24	45	60	86	117	86	60	45
	24	55	79	109	136	109	79	55
	24	61	88	120	128	120	88	61
	24	57	84	108	118	108	84	57

		Width 115 mm						
		12.5	17.5	17.5	20	17.5	17.5	12.5
Height 120 mm	24	32	42	59	78	59	42	32
	24	43	60	86	114	86	60	43
	24	51	71	105	164	105	71	51
	24	62	84	136	232	136	84	62
	24	57	85	143	222	143	85	57

		Width 115 mm						
		12.5	17.5	17.5	20	17.5	17.5	12.5
Height 120 mm	24	32	42	59	78	59	42	32
	24	43	60	86	114	86	60	43
	24	51	71	105	149	105	71	51
	24	62	84	127	139	127	84	62
	24	57	85	113	128	113	85	57

		Width 115 mm						
		12.5	17.5	17.5	20	17.5	17.5	12.5
Height 120 mm	24	31	43	60	82	60	43	31
	24	40	59	86	121	86	59	40
	24	48	73	112	185	112	73	48
	24	56	79	131	212	131	79	56
	24	52	77	124	188	124	77	52

		Width 115 mm						
		12.5	17.5	17.5	20	17.5	17.5	12.5
Height 120 mm	24	31	43	60	82	60	43	31
	24	40	59	86	121	86	59	40
	24	48	73	112	162	112	73	48
	24	56	79	131	151	131	79	56
	24	52	77	118	137	118	77	52

		Width 115 mm						
		12.5	17.5	17.5	20	17.5	17.5	12.5
Height 120 mm	24	31	43	60	86	60	43	31
	24	37	59	87	129	87	59	37
	24	44	75	120	206	120	75	44
	24	50	75	127	191	127	75	50
	24	47	68	105	153	105	68	47

		Width 115 mm						
		12.5	17.5	17.5	20	17.5	17.5	12.5
Height 120 mm	24	31	43	60	86	60	43	31
	24	37	59	87	129	87	59	37
	24	44	75	120	175	120	75	44
	24	50	75	127	162	127	75	50
	24	47	68	105	147	105	68	47



# AERIAL CAM UNIT FCC-LV 2016.26.009./011.

## FORCE DIAGRAM

		Support via cast shoulder						
		Width 115 mm						
60°		12.5	17.5	17.5	20	17.5	17.5	12.5
Height 120 mm	24	30	43	61	91	61	43	30
	24	34	58	87	136	87	58	34
	24	41	77	127	228	127	77	41
	24	45	71	123	171	123	71	45
	24	41	59	86	119	86	59	41

		Support via feather key						
		Width 115 mm						
60°		12.5	17.5	17.5	20	17.5	17.5	12.5
Height 120 mm	24	30	43	61	91	61	43	30
	24	34	58	87	136	87	58	34
	24	41	77	127	188	127	77	41
	24	45	71	123	171	123	71	45
	24	41	59	86	119	86	59	41

		Width 115 mm						
		12.5	17.5	17.5	20	17.5	17.5	12.5
Height 120 mm	24	30	43	64	95	64	43	30
	24	34	58	87	137	87	58	34
	24	41	78	128	225	128	78	41
	24	45	71	122	170	122	71	45
	24	41	59	86	123	86	59	41

		Width 115 mm						
		12.5	17.5	17.5	20	17.5	17.5	12.5
Height 120 mm	24	30	43	64	95	64	43	30
	24	34	58	87	137	87	58	34
	24	41	78	128	200	128	78	41
	24	45	71	122	170	122	71	45
	24	41	59	86	123	86	59	41

		Width 115 mm						
		12.5	17.5	17.5	20	17.5	17.5	12.5
Height 120 mm	24	30	44	66	99	66	44	30
	24	34	58	88	138	88	58	34
	24	41	79	130	223	130	79	41
	24	45	70	121	168	121	70	45
	24	40	58	85	127	85	58	40

		Width 115 mm						
		12.5	17.5	17.5	20	17.5	17.5	12.5
Height 120 mm	24	30	44	66	99	66	44	30
	24	34	58	88	138	88	58	34
	24	41	79	130	200	130	79	41
	24	45	70	121	168	121	70	45
	24	40	58	85	127	85	58	40

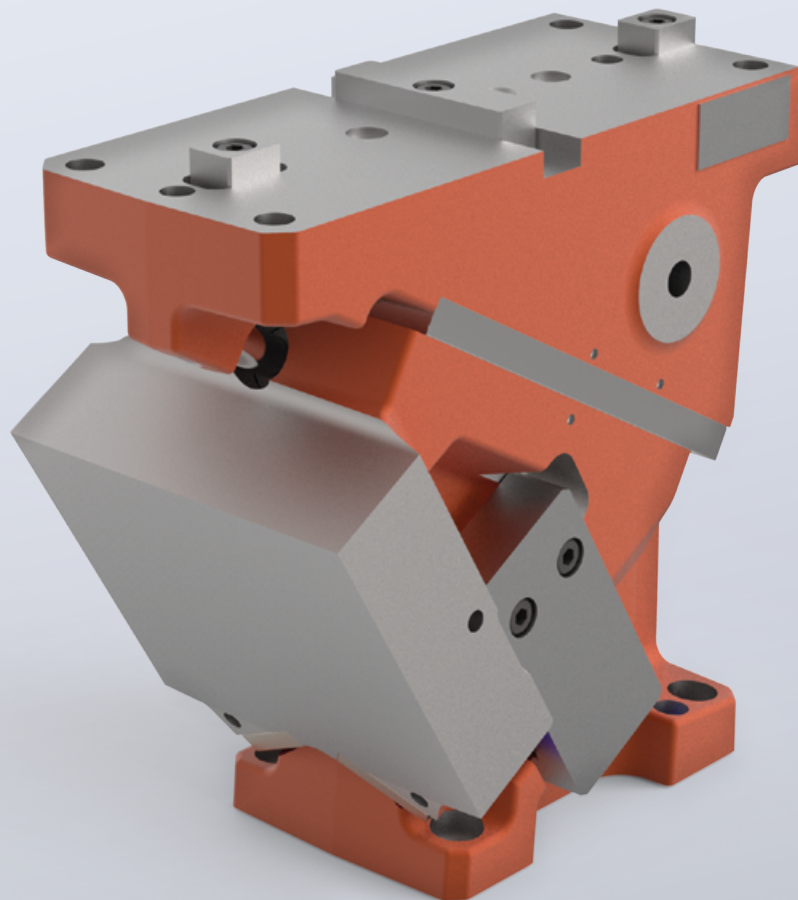
		Width 115 mm						
		12.5	17.5	17.5	20	17.5	17.5	12.5
Height 120 mm	24	30	44	68	103	68	44	30
	24	34	58	88	139	88	58	34
	24	42	79	131	220	131	79	42
	24	46	70	120	167	120	70	46
	24	39	58	85	130	85	58	39

		Width 115 mm						
		12.5	17.5	17.5	20	17.5	17.5	12.5
Height 120 mm	24	30	44	68	103	68	44	30
	24	34	58	88	139	88	58	34
	24	42	79	131	200	131	79	42
	24	46	70	120	167	120	70	46
	24	39	58	85	130	85	58	39



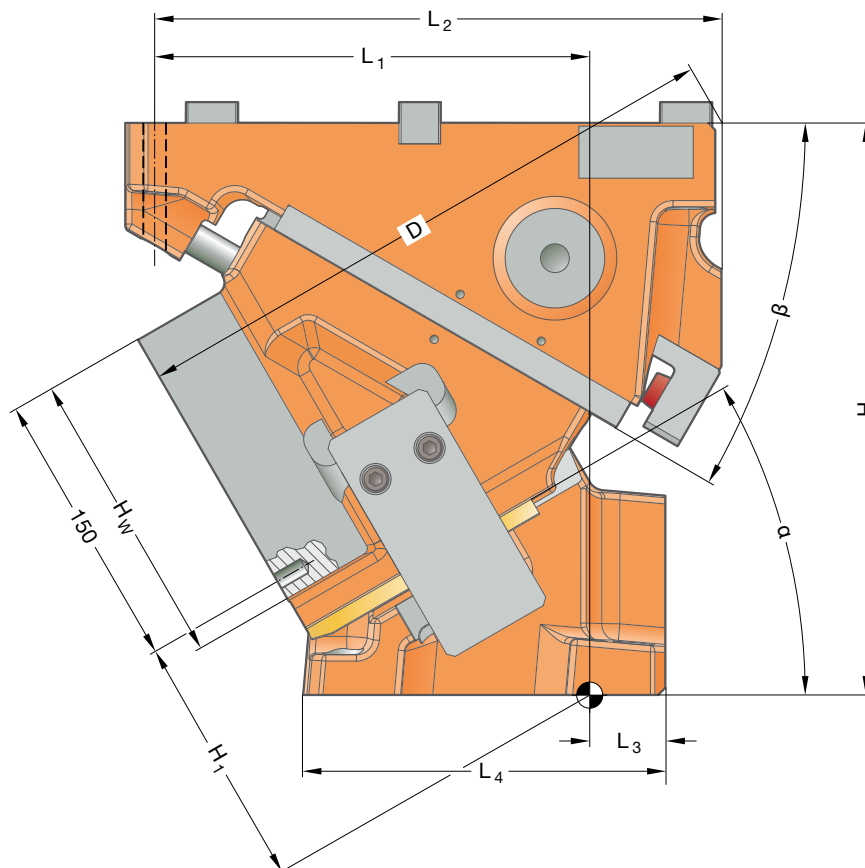
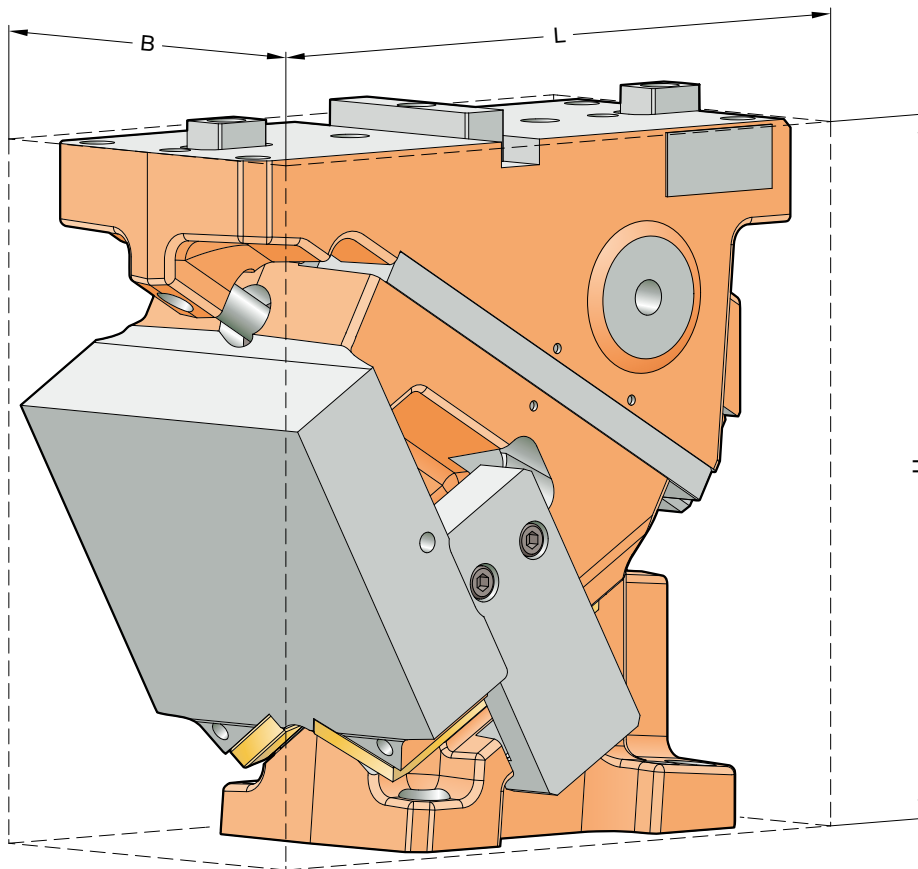
AERIAL CAM UNIT FCC-LV  
**2016.26.012./016.**

**Working width:** 125/160 mm  
**Performance class:** 280 kN



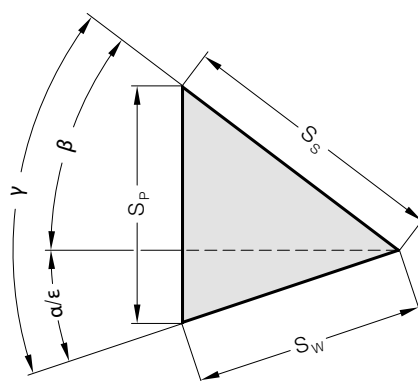
# AERIAL CAM UNIT FCC-LV 2016.26.012./016.

## SIZE TABLE



# AERIAL CAM UNIT FCC-LV 2016.26.012./016.

## SIZE TABLE



Order No	L [mm]	B [mm]	H [mm]	H <sub>1</sub> [mm]	H <sub>w</sub> [mm]	L <sub>1</sub> [mm]	L <sub>2</sub> [mm]	L <sub>3</sub> [mm]	L <sub>4</sub> [mm]	D [mm]	α [°]	β [°]	S <sub>w</sub> [mm]	S <sub>s</sub> [mm]	S <sub>p</sub> [mm]
2016.26.012.00.1000.00	273	125	275	60	145	161	247	35	224	272,5	0	50	32,1	50	38,3
2016.26.016.00.1000.00		160													
2016.26.012.05.1000.00	283	125	275	70,14	145	175	257	35	220	288,43	5	45	35,5	50	38,4
2016.26.016.05.1000.00		160													
2016.26.012.10.1000.00	291	125	275	84,54	145	178	257	35	224	299,92	10	40	38,9	50	38,9
2016.26.016.10.1000.00		160													
2016.26.012.15.1000.00	298	125	275	94,31	145	196	267	35	221	309,25	15	35	42,4	50	39,7
2016.26.016.15.1000.00		160													
2016.26.012.20.1000.00	279	125	275	90,35	145	180	257	35	185	294,17	20	40	40,8	50	46,1
2016.26.016.20.1000.00		160													
2016.26.012.25.1000.00	285	125	275	99,29	145	198	267	35	182	299,95	25	35	45,2	50	47,8
2016.26.016.25.1000.00		160													
2016.26.012.30.1000.00	287	125	275	107,03	145	208	272	35	174	296,83	30	30	45,0	45	45,0
2016.26.016.30.1000.00		160													
2016.26.012.35.1000.00	297	125	275	115,59	145	224	277	35	171	296,1	35	25	49,8	45	47,6
2016.26.016.35.1000.00		160													
2016.26.012.40.1000.00	304	125	275	120,73	145	211	272	35	172	313,57	40	30	50,9	45	55,2
2016.26.016.40.1000.00		160													
2016.26.012.45.1000.00	303	125	275	128,51	145	228	277	35	170	309,41	45	25	57,7	45	59,8
2016.26.016.45.1000.00		160													
2016.26.012.50.1000.00	296	125	275	134,86	145	239	267	35	173	294,51	50	20	48,2	33	48,2
2016.26.016.50.1000.00		160													
2016.26.012.55.1000.00	305	125	275	132,31	145	251	272	35	162	288,28	55	15	55,6	33	54,1
2016.26.016.55.1000.00		160													
2016.26.012.60.1000.00	288	125	275	107,66	145	235	267	35	136	293,61	60	20	54,5	29	57,1
2016.26.016.60.1000.00		160													
2016.26.012.65.1000.00	305	125	275	106,03	145	251	272	35	129	285,35	65	15	66,3	29	67,6
2016.26.016.65.1000.00		160													
2016.26.012.70.1000.00	315	125	275	100,99	145	261	267	35	123	271,13	70	10	63,3	22	63,3
2016.26.016.70.1000.00		160													
2016.26.012.75.1000.00	327	125	275	91,32	145	272	267	35	110	263,01	75	5	69,3	18	68,5
2016.26.016.75.1000.00		160													

### Fastening

Hexagon socket head cap screws DIN EN ISO 4762 / Strength class min. 8.8  
Dowel pins DIN EN ISO 8735

### Cam base:

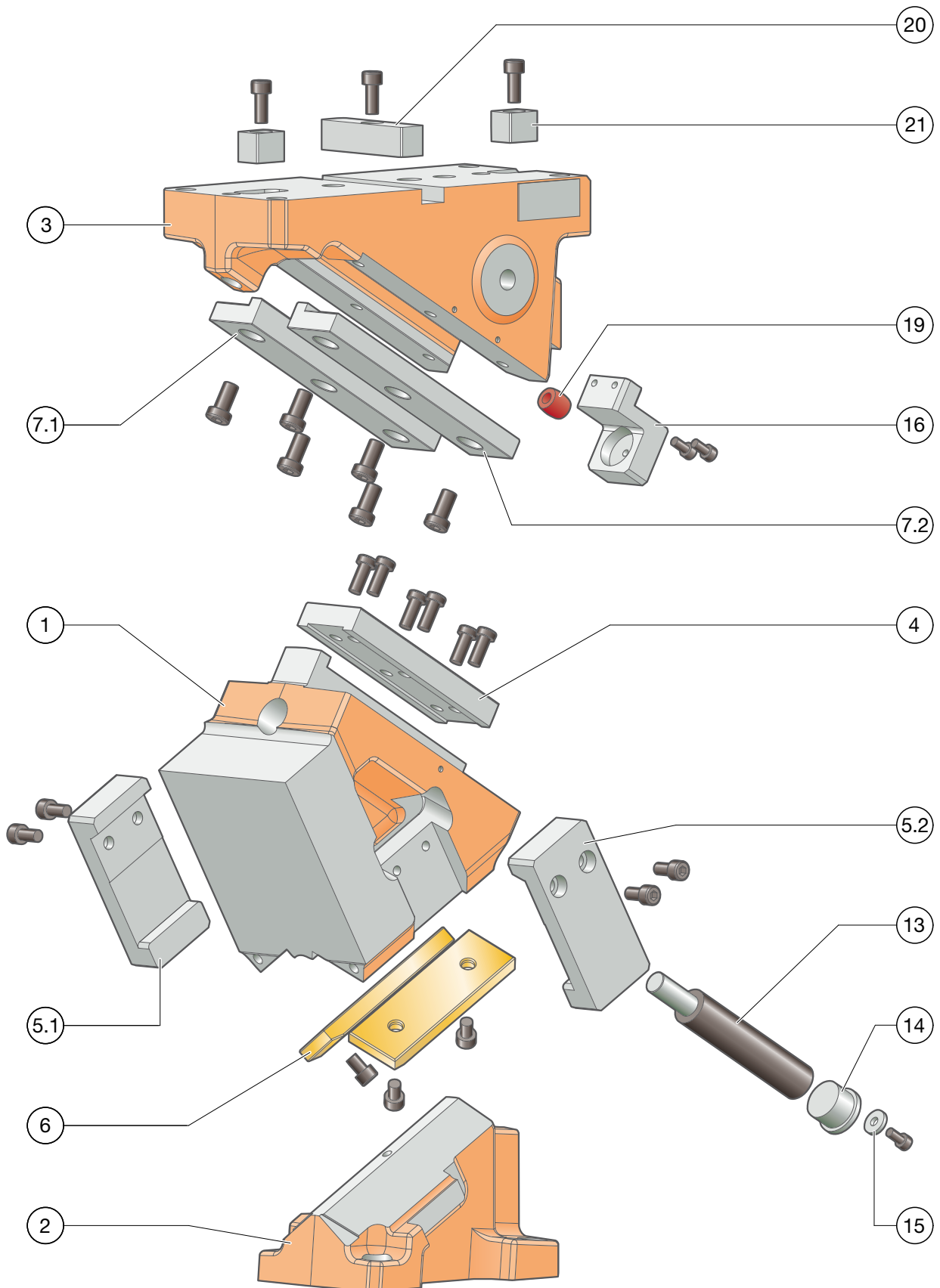
4 × M12  
2 × ø12

### Driver:

4 × M12  
2 × ø12

# AERIAL CAM UNIT FCC-LV 2016.26.012./016.

## EXPLODED VIEW



# AERIAL CAM UNIT FCC-LV 2016.26.012./016.

## PARTS LIST

Item No.	Pcs.	Designation	Material	tuned	Spare part
1	1	Cam slider	EN-JS-1060	--	--
2	1	Driver	EN-JS-1060	--	--
3	1	Cam base	EN-JS-1060	--	--
4	1	Centre guide	1.2379	--	x
5.1	1	mechanical retraction, left	1.1191 with sinter layer	x	x
5.2	1	mechanical retraction, right	1.1191 with sinter layer	x	x
6	2	Sliding plate	Bronze with solid lubricant	--	x
7.1	1	L-guide, left	1.1191 with sinter layer	x	x
7.2	1	L-guide, right	1.1191 with sinter layer	x	x
8					
9					
10					
11					
12					
13	1	Gas spring	2487.12.00.320.□□□	--	x
14	1	Locking tappet	1.7131	--	x
15	1	Locking tappet pin		--	x
16	1	Slide stop	1.1191	--	x
17 (not shown)	1	Spacer		--	x
18 (not shown)	1	Lockout system	1.1191	--	x
19	1	Damper	Elastomer	--	x
20	1	Feather key (T-nut)	1.1191	--	x
21	2	Feather key (T-nut)	1.1191	--	x
22					
23					
24* (not shown)	1	Spacer	1.1191	--	x

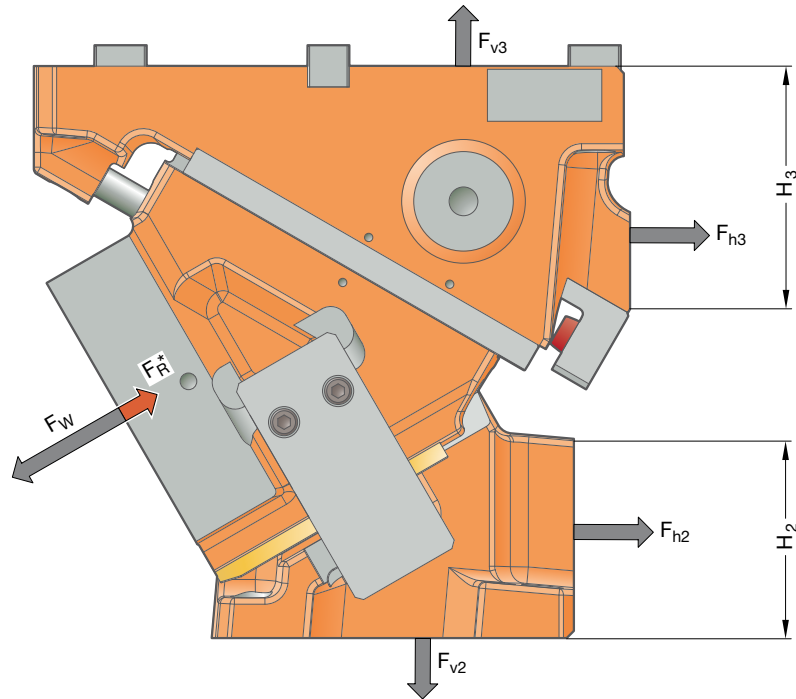
\* not installed at all angles

For inquiries or when ordering spare parts (x), we require the following data:

- Cam unit order no.
- Cam unit serial number
- Item No. / Designation / Spare part

# AERIAL CAM UNIT FCC-LV 2016.26.012./016.

## SYSTEM AND SURROUNDING FORCES



All force specifications in this catalogue of the Series 2016.26 are pre-assigned values that provide a higher safety factor.

Order No	$\alpha$ [°]	$F_w$ [kN]	$F_R^*$ [kN]	$F_{h2}$ [kN]	$F_{v2}$ [kN]	$F_{h3}$ [kN]	$F_{v3}$ [kN]	$H_2$ [mm]	$H_3$ [mm]
2016.26.0□□.00.1000.00	0	281	28	-20	291	301	291	35	200
2016.26.0□□.05.1000.00	5	287	28	5	298	281	323	49	182
2016.26.0□□.10.1000.00	10	293	28	32	303	257	353	57	160
2016.26.0□□.15.1000.00	15	299	28	59	305	230	382	70	142
2016.26.0□□.20.1000.00	20	292	28	57	199	217	299	71	160
2016.26.0□□.25.1000.00	25	285	28	72	189	186	309	85	142
2016.26.0□□.30.1000.00	30	289	28	90	184	160	329	96	119
2016.26.0□□.35.1000.00	35	302	28	110	184	137	357	111	102
2016.26.0□□.40.1000.00	40	309	28	84	115	153	314	87	119
2016.26.0□□.45.1000.00	45	310	28	94	108	126	327	103	102
2016.26.0□□.50.1000.00	50	317	28	105	101	99	344	114	79
2016.26.0□□.55.1000.00	55	316	28	113	92	68	350	128	68
2016.26.0□□.60.1000.00	60	322	28	68	46	93	325	113	79
2016.26.0□□.65.1000.00	65	316	28	70	39	63	325	126	68
2016.26.0□□.70.1000.00	70	314	28	73	33	34	328	125	52
2016.26.0□□.75.1000.00	75	304	28	73	25	6	319	137	43

\* Retraction force values correspond to the spring-generated retraction force at the working point

The forces  $F_{h2}$ ,  $F_{v2}$  as well as  $F_{h3}$ ,  $F_{v3}$  act on the tool environment at maximum working force  $F_w$ .



# AERIAL CAM UNIT FCC-LV 2016.26.012./016.

## FORCE DIAGRAM

Support via cast shoulder

		Width 160 mm						
0°		17.5	25	25	25	25	25	17.5
Height 145 mm	24	62	74	94	129	94	74	62
	24	75	91	113	166	113	91	75
	24	94	113	153	214	153	113	94
	24	127	150	203	281	203	150	127
	24	121	143	179	273	179	143	121

Support via feather key

		Width 160 mm						
0°		17.5	25	25	25	25	25	17.5
Height 145 mm	24	48	53	63	75	63	53	48
	24	51	57	66	77	66	57	51
	24	49	54	62	73	62	54	49
	24	47	52	59	70	59	52	47
	24	46	49	57	68	57	49	46

Support via cast shoulder

		Width 160 mm						
5°		17.5	25	25	25	25	25	17.5
Height 145 mm	24	62	74	94	129	94	74	62
	24	75	91	113	166	113	91	75
	24	95	114	151	214	151	114	95
	24	129	151	203	287	203	151	129
	24	123	143	186	280	186	143	123

Support via feather key

		Width 160 mm						
5°		17.5	25	25	25	25	25	17.5
Height 145 mm	24	50	58	70	80	70	58	50
	24	54	61	73	82	73	61	54
	24	53	60	69	78	69	60	53
	24	52	58	67	75	67	58	52
	24	50	56	65	73	65	56	50

Support via cast shoulder

		Width 160 mm						
10°		17.5	25	25	25	25	25	17.5
Height 145 mm	24	62	74	94	129	94	74	62
	24	74	92	112	166	112	92	74
	24	95	115	148	215	148	115	95
	24	130	151	204	293	204	151	130
	24	125	142	192	287	192	142	125

Support via feather key

		Width 160 mm						
10°		17.5	25	25	25	25	25	17.5
Height 145 mm	24	53	62	77	86	77	62	53
	24	56	66	80	87	80	66	56
	24	57	65	77	84	77	65	57
	24	56	64	75	81	75	64	56
	24	55	62	73	79	73	62	55

Support via cast shoulder

		Width 160 mm						
15°		17.5	25	25	25	25	25	17.5
Height 145 mm	24	62	74	94	129	94	74	62
	24	74	92	112	166	112	92	74
	24	95	115	145	216	145	115	95
	24	132	151	204	299	204	151	132
	24	127	142	199	294	199	142	127

Support via feather key

		Width 160 mm						
15°		17.5	25	25	25	25	25	17.5
Height 145 mm	24	56	67	84	91	84	67	56
	24	59	71	87	92	87	71	59
	24	60	71	84	89	84	71	60
	24	60	70	83	87	83	70	60
	24	60	69	81	84	81	69	60

Support via cast shoulder

		Width 160 mm						
20°		17.5	25	25	25	25	25	17.5
Height 145 mm	24	59	71	94	129	94	71	59
	24	72	89	113	168	113	89	72
	24	93	114	144	223	144	114	93
	24	127	148	200	292	200	148	127
	24	121	139	191	286	191	139	121

Support via feather key

		Width 160 mm						
20°		17.5	25	25	25	25	25	17.5
Height 145 mm	24	58	72	91	96	91	72	58
	24	62	76	94	98	94	76	62
	24	64	76	91	95	91	76	64
	24	65	76	90	94	90	76	65
	24	64	75	88	92	88	75	64

Support via cast shoulder

		Width 160 mm						
25°		18	25	25	25	25	25	18
Height 145 mm	24	56	69	93	129	93	69	56
	24	70	86	113	169	113	86	70
	24	91	112	143	229	143	112	91
	24	121	144	196	285	196	144	121
	24	115	136	184	279	184	136	115

Support via feather key

		Width 160 mm						
25°		18	25	25	25	25	25	18
Height 145 mm	24	60	74	98	101	98	74	60
	24	65	81	101	105	101	81	65
	24	67	82	98	101	98	82	67
	24	69	82	98	101	98	82	69
	24	68	81	96	99	96	81	68

# AERIAL CAM UNIT FCC-LV 2016.26.012./016.

## FORCE DIAGRAM

		Support via cast shoulder						
		Width 160 mm						
30°		18	25	25	25	25	25	18
Height 145 mm	24	55	69	96	134	96	69	55
	24	70	86	118	177	118	86	70
	24	92	114	147	245	147	114	92
	24	120	146	200	289	200	146	120
	24	113	138	183	282	183	138	113

		Support via feather key						
		Width 160 mm						
30°		18	25	25	25	25	25	18
Height 145 mm	24	64	81	105	107	105	81	64
	24	68	85	109	111	109	85	68
	24	71	87	106	108	106	87	71
	24	73	88	106	108	106	88	73
	24	72	87	104	106	104	87	72

		Width 160 mm						
		Width 160 mm						
35°		18	25	25	25	25	25	18
Height 145 mm	24	56	71	102	144	102	71	56
	24	72	89	127	192	127	89	72
	24	96	120	157	270	157	120	96
	24	123	152	210	302	210	152	123
	24	114	144	188	294	188	144	114

		Width 160 mm						
		Width 160 mm						
35°		18	25	25	25	25	25	18
Height 145 mm	24	61	78	105	109	105	78	61
	24	69	89	109	113	109	89	69
	24	74	92	109	112	109	92	74
	24	79	95	111	114	111	95	79
	24	77	93	109	112	109	93	77

		Width 160 mm						
		Width 160 mm						
40°		18	25	25	25	25	25	18
Height 145 mm	24	55	72	107	151	107	72	55
	24	73	91	134	204	134	91	73
	24	98	125	164	291	164	125	98
	24	123	156	216	309	216	156	123
	24	113	148	189	300	189	148	113

		Width 160 mm						
		Width 160 mm						
40°		18	25	25	25	25	25	18
Height 145 mm	24	61	79	105	111	105	79	61
	24	71	93	110	116	110	93	71
	24	78	98	112	117	112	98	78
	24	84	101	115	120	115	101	84
	24	83	100	114	118	114	100	83

		Width 160 mm						
		Width 160 mm						
45°		18	25	25	25	25	25	18
Height 145 mm	24	53	71	110	156	110	71	53
	24	73	90	139	212	139	90	73
	24	99	126	168	309	168	126	99
	24	120	156	218	310	218	156	120
	24	109	149	186	301	186	149	109

		Width 160 mm						
		Width 160 mm						
45°		18	25	25	25	25	25	18
Height 145 mm	28	58	76	105	113	105	76	58
	28	72	96	110	118	110	96	72
	28	81	103	115	122	115	103	81
	28	89	107	120	126	120	107	89
	28	88	106	118	124	118	106	88

		Width 160 mm						
		Width 160 mm						
50°		18	25	25	25	25	25	18
Height 145 mm	28	52	68	108	152	108	68	52
	28	71	90	141	213	141	90	71
	28	97	126	169	313	169	126	97
	28	114	147	206	317	206	147	114
	28	101	133	170	295	170	133	101

		Width 160 mm						
		Width 160 mm						
50°		18	25	25	25	25	25	18
Height 145 mm	24	58	71	106	123	106	71	58
	24	75	94	129	132	129	94	75
	24	88	114	136	145	136	114	88
	24	96	117	139	152	139	117	96
	24	92	112	129	137	129	112	92

		Width 160 mm						
		Width 160 mm						
55°		18	25	25	25	25	25	18
Height 145 mm	24	51	65	105	148	105	65	51
	24	69	89	142	213	142	89	69
	24	95	125	171	316	171	125	95
	24	107	137	192	322	192	137	107
	24	91	115	153	295	153	115	91

		Width 160 mm						
		Width 160 mm						
55°		18	25	25	25	25	25	18
Height 145 mm	24	55	65	105	133	105	65	55
	24	69	89	142	146	142	89	69
	24	95	125	158	169	158	125	95
	24	104	127	158	178	158	127	104
	24	91	115	139	149	139	115	91

# AERIAL CAM UNIT FCC-LV 2016.26.012./016.

## FORCE DIAGRAM

		Support via cast shoulder						
		Width 160 mm						
60°		18	25	25	25	25	25	18
Height 145 mm	24	50	61	103	145	103	61	50
	24	67	90	145	215	145	90	67
	24	93	125	174	314	174	125	93
	24	100	127	179	322	179	127	100
	24	81	96	135	291	135	96	81

		Support via feather key						
		Width 160 mm						
60°		18	25	25	25	25	25	18
Height 145 mm	24	50	60	100	141	100	60	50
	24	65	87	141	161	141	87	65
	24	91	122	169	192	169	122	91
	24	97	123	174	203	174	123	97
	24	79	94	131	162	131	94	79

		Width 160 mm						
65°		18	25	25	25	25	25	18
Height 145 mm	24	50	61	97	137	97	61	50
	24	68	90	142	209	142	90	68
	24	94	128	179	316	179	128	94
	24	102	128	181	314	181	128	102
	24	83	101	137	268	137	101	83

		Width 160 mm						
65°		18	25	25	25	25	25	18
Height 145 mm	24	50	61	97	137	97	61	50
	24	68	90	142	191	142	90	68
	24	94	128	179	258	179	128	94
	24	102	128	181	252	181	128	102
	24	83	101	137	195	137	101	83

		Width 160 mm						
70°		18	25	25	25	25	25	18
Height 145 mm	24	51	62	93	131	93	62	51
	24	70	92	140	206	140	92	70
	24	97	132	186	314	186	132	97
	24	105	131	185	299	185	131	105
	24	85	108	140	235	140	108	85

		Width 160 mm						
70°		18	25	25	25	25	25	18
Height 145 mm	24	53	65	96	136	96	65	53
	24	72	96	146	214	146	96	72
	24	100	137	193	280	193	137	100
	24	109	137	193	280	193	137	109
	24	88	112	146	228	146	112	88

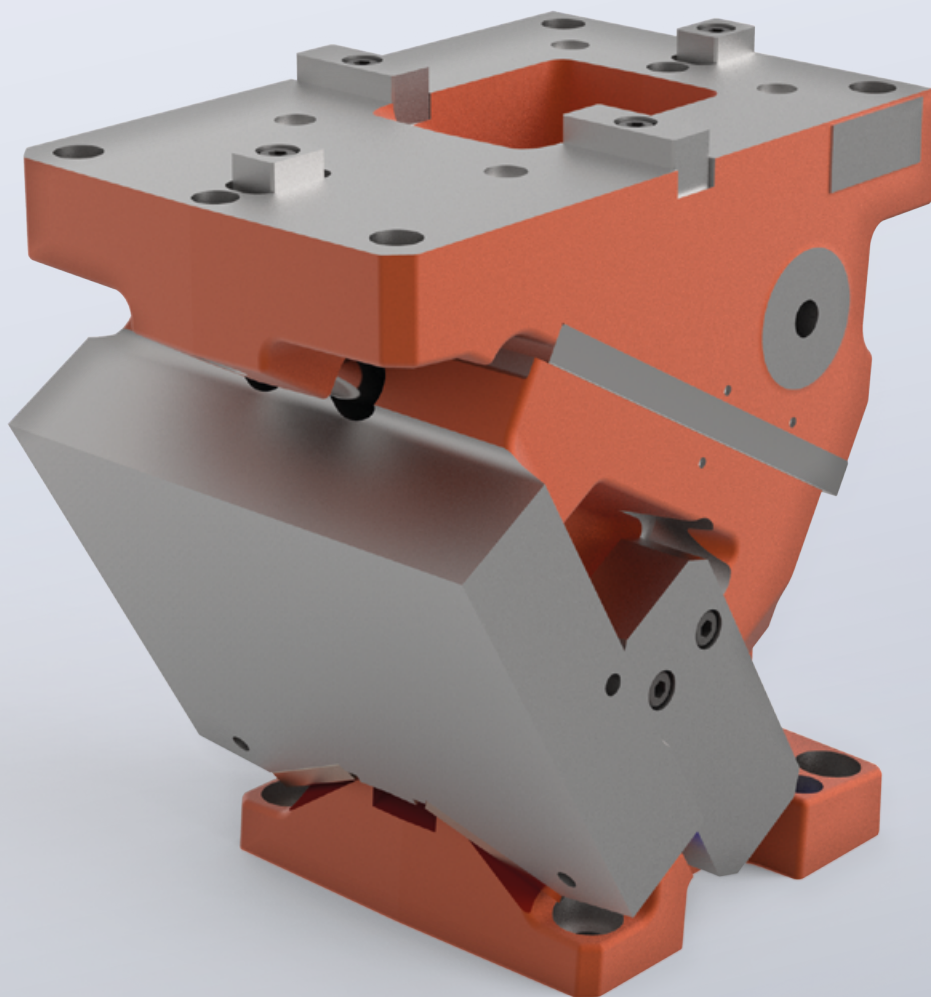
		Width 160 mm						
75°		18	25	25	25	25	25	18
Height 145 mm	24	51	62	86	121	86	62	51
	24	70	92	135	197	135	92	70
	24	96	132	189	304	189	132	96
	24	105	131	185	276	185	131	105
	24	85	112	140	202	140	112	85

		Width 160 mm						
75°		18	25	25	25	25	25	18
Height 145 mm	24	53	68	94	133	94	68	53
	24	77	101	149	217	149	101	77
	24	106	146	209	280	209	146	106
	24	116	145	204	280	204	145	116
	24	94	123	155	223	155	123	94



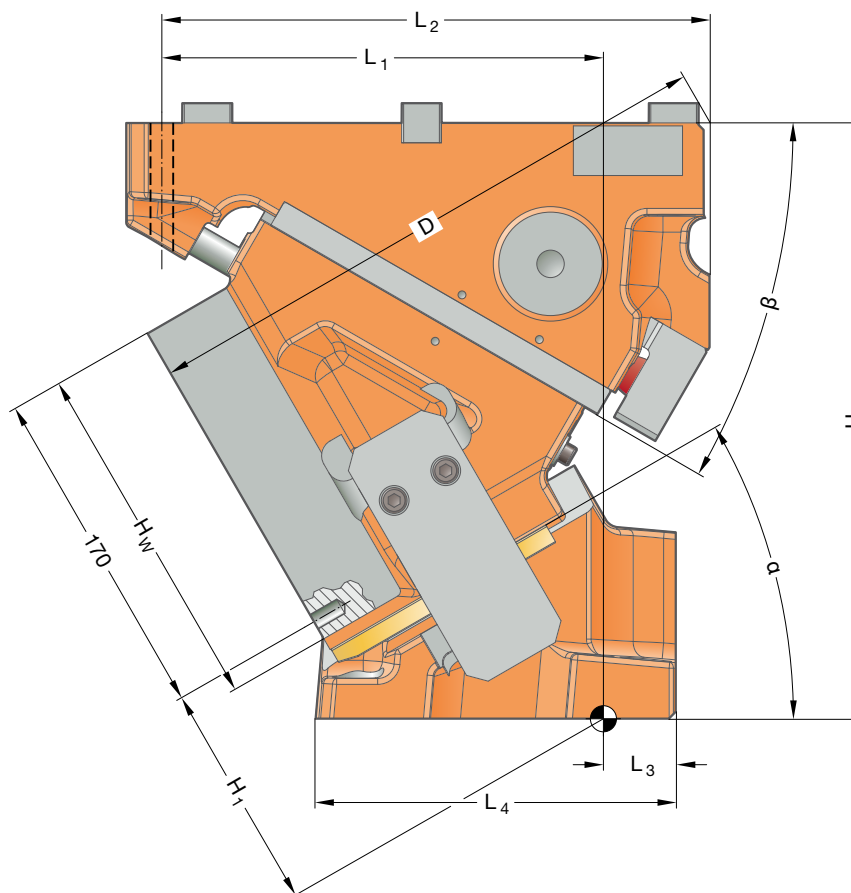
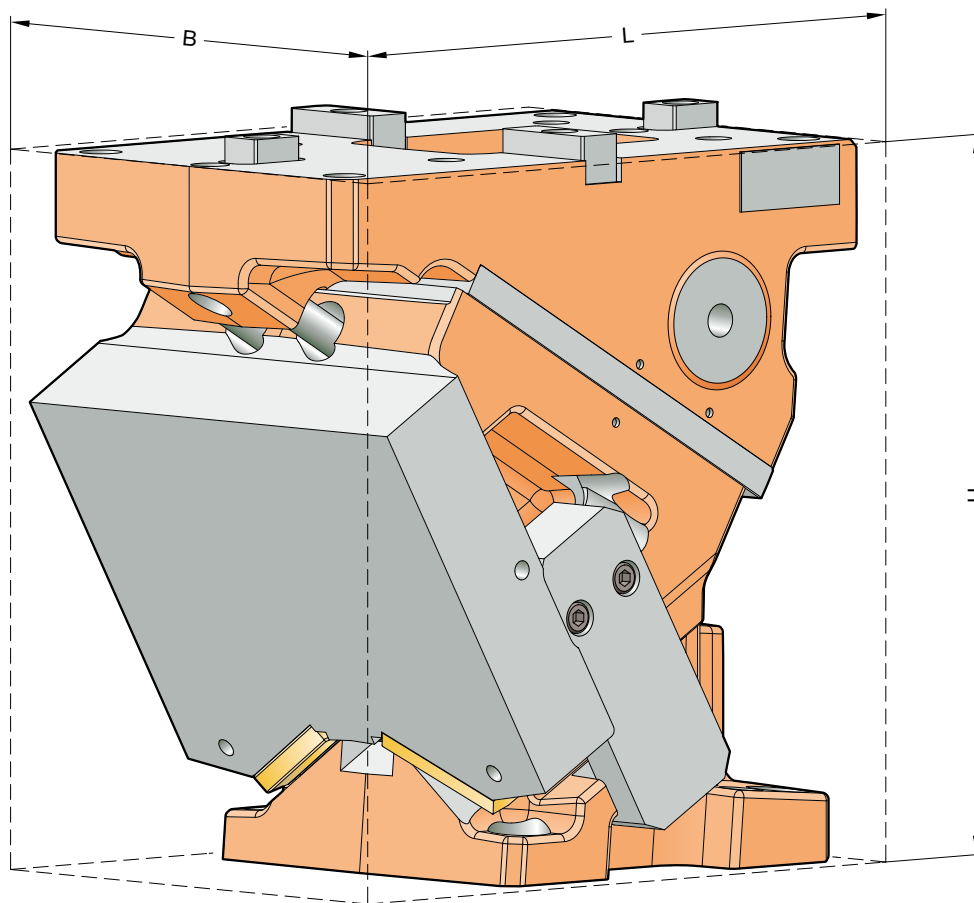
AERIAL CAM UNIT FCC-LV  
**2016.26.018./022.**

**Working width:** 185/220 mm  
**Performance class:** 450 kN



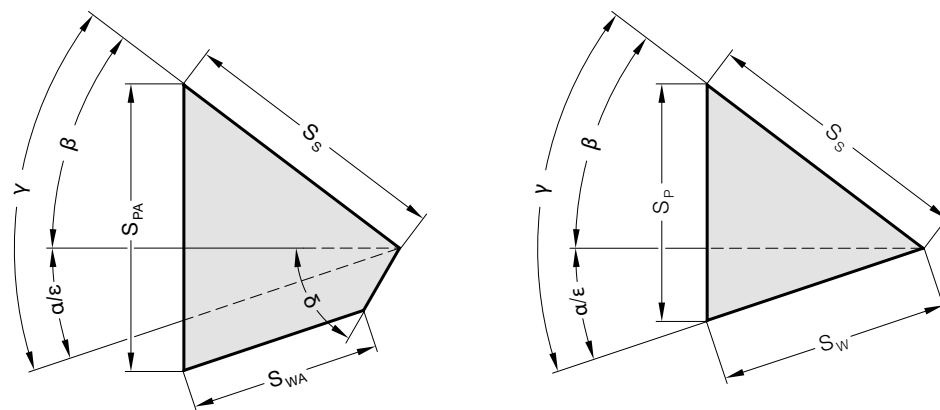
# AERIAL CAM UNIT FCC-LV 2016.26.018./022.

## SIZE TABLE



# AERIAL CAM UNIT FCC-LV 2016.26.018./022.

## SIZE TABLE



Order No	L [mm]	B [mm]	H [mm]	H <sub>1</sub> [mm]	H <sub>W</sub> [mm]	L <sub>1</sub> [mm]	L <sub>2</sub> [mm]	L <sub>3</sub> [mm]	L <sub>4</sub> [mm]	D [mm]	α [°]	β [°]	δ [°]	S <sub>W</sub> * [mm]	S <sub>WA</sub> * [mm]	S <sub>S</sub> [mm]	S <sub>P</sub> * [mm]	S <sub>PA</sub> * [mm]
2026.26.018.00.1000.00	282	185	300	70	160	161	257	40	217	275,5	0	50	50	(32)	25,7	50	(38)	46,0
2026.26.022.00.1000.00	282	220	300	70	160	161	257	40	217	275,5	0	50	50	(32)	25,7	50	(38)	46,0
2026.26.018.05.1000.00	285	185	300	79,61	160	179	267	40	223	289,43	5	45	55	(35)	29,7	50	(38)	46,1
2026.26.022.05.1000.00	285	220	300	79,61	160	179	267	40	223	289,43	5	45	55	(35)	29,7	50	(38)	46,1
2026.26.018.10.1000.00	292	185	300	90,39	160	198	267	40	232	300,62	10	40	60	(39)	33,8	50	(39)	46,7
2026.26.022.10.1000.00	292	220	300	90,39	160	198	267	40	232	300,62	10	40	60	(39)	33,8	50	(39)	46,7
2026.26.018.15.1000.00	298	185	300	100,12	160	209	277	40	228	309,32	15	35	65	(42)	38,0	50	(40)	47,6
2026.26.022.15.1000.00	298	220	300	100,12	160	209	277	40	228	309,32	15	35	65	(42)	38,0	50	(40)	47,6
2026.26.018.20.1000.00	282	185	300	100,21	160	205	267	40	201	295,54	20	40	50	(41)	33,9	50	(46)	51,4
2026.26.022.20.1000.00	282	220	300	100,21	160	205	267	40	201	295,54	20	40	50	(41)	33,9	50	(46)	51,4
2026.26.018.25.1000.00	295	185	300	110,5	160	226	277	40	199	300,74	25	35	55	(45)	38,9	50	(48)	53,3
2026.26.022.25.1000.00	295	220	300	110,5	160	226	277	40	199	300,74	25	35	55	(45)	38,9	50	(48)	53,3
2026.26.018.30.1000.00	294	185	300	110,99	160	225	282	40	181	298,1	30	30	60	(45)	39,2	45	(45)	50,8
2026.26.022.30.1000.00	294	220	300	110,99	160	225	282	40	181	298,1	30	30	60	(45)	39,2	45	(45)	50,8
2026.26.018.35.1000.00	304	185	300	118,78	160	243	287	40	178	297,65	35	25	65	(50)	44,6	45	(48)	53,7
2026.26.022.35.1000.00	304	220	300	118,78	160	243	287	40	178	297,65	35	25	65	(50)	44,6	45	(48)	53,7
2026.26.018.40.1000.00	307	185	300	120,36	160	220	282	40	170	316,9	40	30	60	(51)	44,3	45	(55)	59,7
2026.26.022.40.1000.00	307	220	300	120,36	160	220	282	40	170	316,9	40	30	60	(51)	44,3	45	(55)	59,7
2026.26.018.45.1000.00	305	185	300	120,46	160	230	287	40	159	313,24	45	25	65	(58)	51,7	45	(60)	64,6
2026.26.022.45.1000.00	305	220	300	120,46	160	230	287	40	159	313,24	45	25	65	(58)	51,7	45	(60)	64,6
2026.26.018.50.1000.00	309	185	300	129,85	160	256	282	40	165	299,19	50	20	-	48,2	-	33	48,2	-
2026.26.022.50.1000.00	309	220	300	129,85	160	256	282	40	165	299,19	50	20	-	48,2	-	33	48,2	-
2026.26.018.55.1000.00	324	185	300	127,42	160	265	282	40	153	292,39	55	15	-	55,6	-	33	54,1	-
2026.26.022.55.1000.00	324	220	300	127,42	160	265	282	40	153	292,39	55	15	-	55,6	-	33	54,1	-
2026.26.018.60.1000.00	318	185	300	111,32	160	265	282	40	135	298,9	60	20	-	54,5	-	29	57,1	-
2026.26.022.60.1000.00	318	220	300	111,32	160	265	282	40	135	298,9	60	20	-	54,5	-	29	57,1	-
2026.26.018.65.1000.00	338	185	300	111,09	160	279	282	40	129	290,06	65	15	-	66,3	-	29	67,6	-
2026.26.022.65.1000.00	338	220	300	111,09	160	279	282	40	129	290,06	65	15	-	66,3	-	29	67,6	-
2026.26.018.70.1000.00	341	185	300	101,58	160	286	277	40	125	278,47	70	10	-	63,3	-	22	63,3	-
2026.26.022.70.1000.00	341	220	300	101,58	160	286	277	40	125	278,47	70	10	-	63,3	-	22	63,3	-
2026.26.018.75.1000.00	361	185	300	96,88	160	300	272	40	118	273,76	75	5	-	69,3	-	18	68,5	-
2026.26.022.75.1000.00	361	220	300	96,88	160	300	272	40	118	273,76	75	5	-	69,3	-	18	68,5	-

### Fastening

Hexagon socket head cap screws DIN EN ISO 4762 / Strength class min. 8.8  
Dowel pins DIN EN ISO 8735

### Cam base:

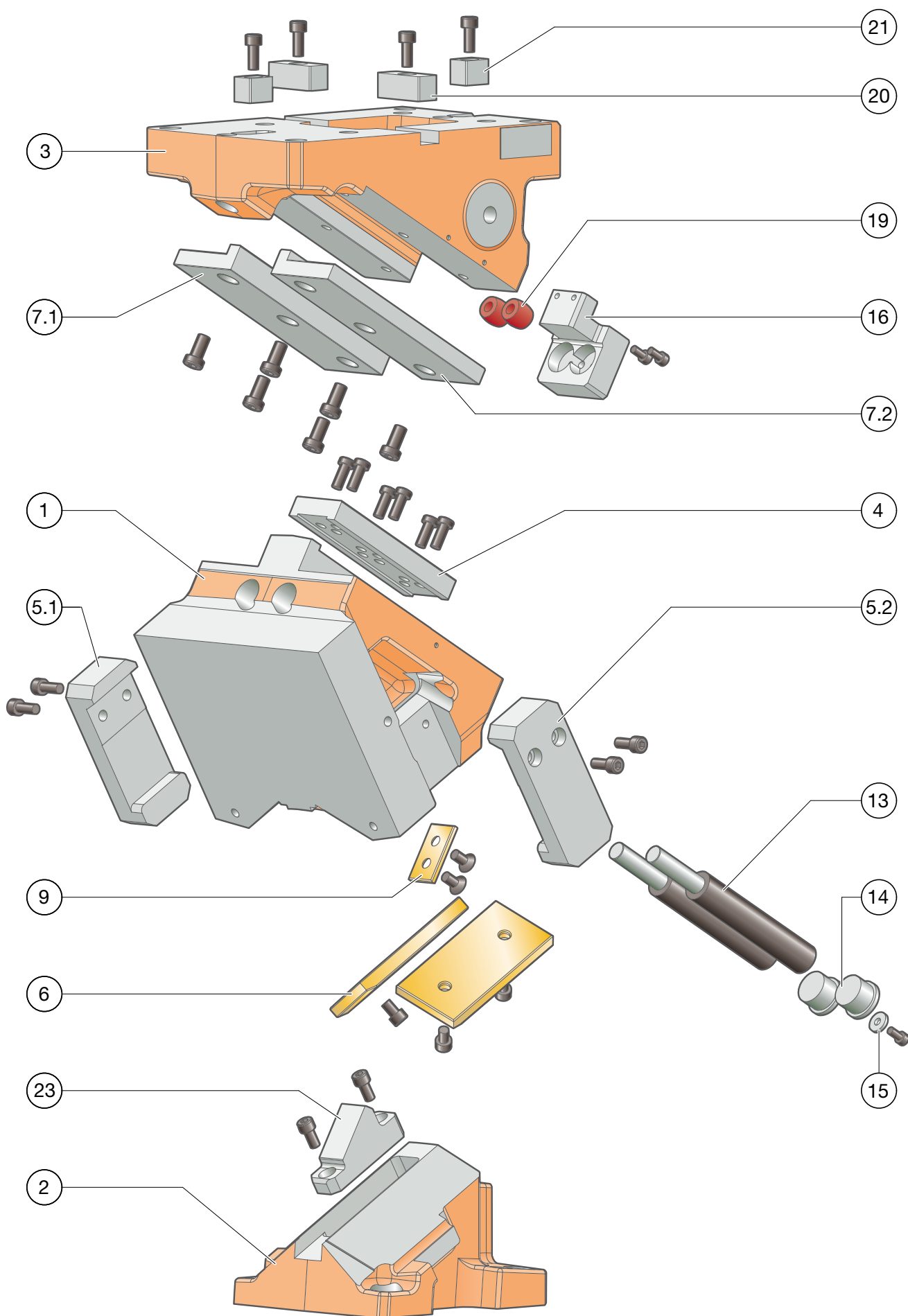
4xM16  
2x ø16

### Driver:

4xM16  
2x ø16

# AERIAL CAM UNIT FCC-LV 2016.26.018./022.

## EXPLODED VIEW





# AERIAL CAM UNIT FCC-LV 2016.26.018./022.

## PARTS LIST

Item No.	Pcs.	Designation	Material	tuned	Spare part
1	1	Cam slider	EN-JS-1060	--	--
2	1	Driver	EN-JS-1060	--	--
3	1	Cam base	EN-JS-1060	--	--
4	1	Centre guide	1.2379	--	x
5.1	1	mechanical retraction, left	1.1191 with sinter layer	x	x
5.2	1	mechanical retraction, right	1.1191 with sinter layer	x	x
6	2	Sliding plate	Bronze with solid lubricant	--	x
7.1	1	L-guide, left	1.1191 with sinter layer	x	x
7.2	1	L-guide, right	1.1191 with sinter layer	x	x
8					
9	1	Sliding plate	Bronze with solid lubricant	--	x
10					
11					
12					
13	2	Gas spring	2487.12.00.320.□□□	--	x
14	2	Locking tappet	1.7131	--	x
15	1	Locking tappet pin			x
16	1	Slide stop	1.1191	--	x
17 (not shown)	1	Spacer			x
18 (not shown)	1	Lockout system	1.1191	--	x
19	2	Damper	Elastomer	--	x
20	2	Feather key (T-nut)	1.1191	--	x
21	2	Feather key (T-nut)	1.1191	--	x
22					
23	1	pre-acceleration	1.2379	--	x
24* (not shown)	2	Spacer	1.1191	--	x

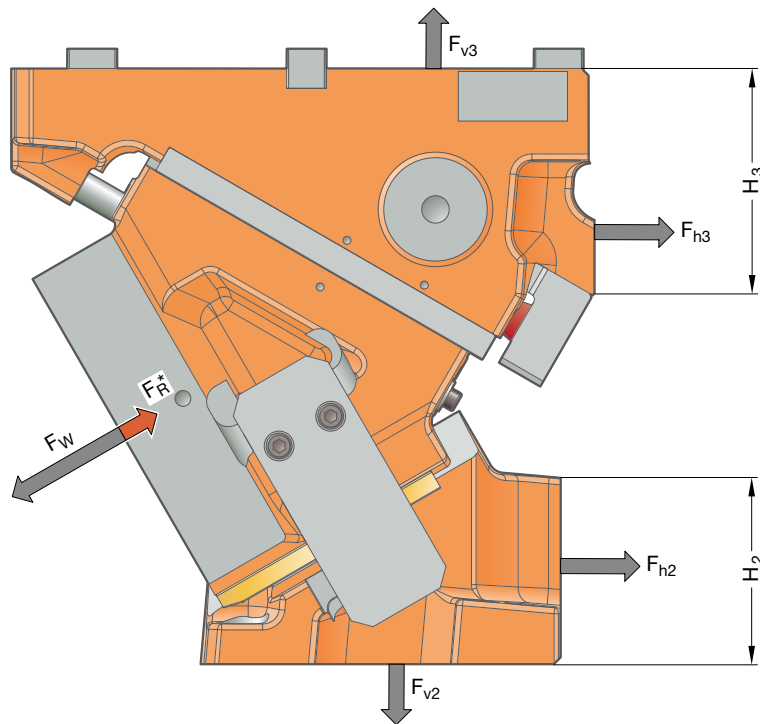
\* not installed at all angles

For inquiries or when ordering spare parts (x), we require the following data:

- Cam unit order no.
- Cam unit serial number
- Item No. / Designation / Spare part

# AERIAL CAM UNIT FCC-LV 2016.26.018./022.

## SYSTEM AND SURROUNDING FORCES



All force specifications in this catalogue of the Series 2016.26 are pre-assigned values that provide a higher safety factor.

Order No	$\alpha$ [°]	$F_W$ [kN]	$F_R^*$ [kN]	$F_{h2}$ [kN]	$F_{v2}$ [kN]	$F_{h3}$ [kN]	$F_{v3}$ [kN]	$H_2$ [mm]	$H_3$ [mm]
2016.26.0□□.00.1000.00	0	449	40	-33	465	482	465	40	187
2016.26.0□□.05.1000.00	5	458	40	8	476	448	515	53	170
2016.26.0□□.10.1000.00	10	467	40	51	482	409	563	62	152
2016.26.0□□.15.1000.00	15	476	40	94	485	366	608	76	134
2016.26.0□□.20.1000.00	20	510	40	100	348	379	522	70	152
2016.26.0□□.25.1000.00	25	515	40	131	341	336	559	80	134
2016.26.0□□.30.1000.00	30	513	40	160	327	285	584	94	113
2016.26.0□□.35.1000.00	35	522	40	191	318	237	617	104	96
2016.26.0□□.40.1000.00	40	519	40	141	193	257	527	107	113
2016.26.0□□.45.1000.00	45	479	40	145	167	194	505	120	96
2016.26.0□□.50.1000.00	50	525	40	174	168	163	570	125	75
2016.26.0□□.55.1000.00	55	528	40	189	153	114	586	137	63
2016.26.0□□.60.1000.00	60	530	40	112	75	153	534	114	75
2016.26.0□□.65.1000.00	65	532	40	118	66	106	548	130	63
2016.26.0□□.70.1000.00	70	533	40	124	55	58	556	126	52
2016.26.0□□.75.1000.00	75	527	40	127	44	10	553	136	46

\* Retraction force values correspond to the spring-generated retraction force at the working point

The forces  $F_{h2}$ ,  $F_{v2}$  as well as  $F_{h3}$ ,  $F_{v3}$  act on the tool environment at maximum working force  $F_W$ .

# AERIAL CAM UNIT FCC-LV 2016.26.018./022.

## FORCE DIAGRAM

Support via cast shoulder

		Width 220 mm						
0°		17.5	40	40	25	40	40	17.5
Height 160 mm	32	93	114	157	210	157	114	93
	32	116	137	192	270	192	137	116
	32	149	176	253	360	253	176	149
	32	210	248	314	449	314	248	210
	32	196	231	286	382	286	231	196

Support via feather key

		Width 220 mm						
0°		17.5	40	40	25	40	40	17.5
Height 160 mm	32	50	59	78	91	78	59	50
	32	53	63	81	94	81	63	53
	32	52	61	77	89	77	61	52
	32	51	59	74	85	74	59	51
	32	50	56	71	82	71	56	50

Support via cast shoulder

		Width 220 mm						
5°		17.5	40	40	25	40	40	17.5
Height 160 mm	32	93	114	156	210	156	114	93
	32	116	137	193	271	193	137	116
	32	149	176	253	361	253	176	149
	32	209	246	316	458	316	246	209
	32	187	220	283	381	283	220	187

Support via feather key

		Width 220 mm						
5°		17.5	40	40	25	40	40	17.5
Height 160 mm	32	55	66	88	98	88	66	55
	32	58	69	91	100	91	69	58
	32	57	68	88	96	88	68	57
	32	56	66	85	93	85	66	56
	32	55	63	82	90	82	63	55

Support via cast shoulder

		Width 220 mm						
10°		17.5	40	40	25	40	40	17.5
Height 160 mm	32	94	114	155	211	155	114	94
	32	116	137	194	272	194	137	116
	32	150	177	254	363	254	177	150
	32	207	244	318	467	318	244	207
	32	178	210	279	380	279	210	178

Support via feather key

		Width 220 mm						
10°		17.5	40	40	25	40	40	17.5
Height 160 mm	32	60	73	98	104	98	73	60
	32	62	76	102	107	102	76	62
	32	62	74	98	103	98	74	62
	32	62	73	96	101	96	73	62
	32	61	70	92	98	92	70	61

Support via cast shoulder

		Width 220 mm						
15°		17.5	40	40	25	40	40	17.5
Height 160 mm	32	94	114	154	211	154	114	94
	32	116	137	195	273	195	137	116
	32	150	177	254	364	254	177	150
	32	206	243	320	476	320	243	206
	32	169	199	276	380	276	199	169

Support via feather key

		Width 220 mm						
15°		17.5	40	40	25	40	40	17.5
Height 160 mm	32	65	81	107	111	107	81	65
	32	67	82	112	113	112	82	67
	32	67	81	108	110	108	81	67
	32	67	80	107	109	107	80	67
	32	66	78	103	106	103	78	66

Support via cast shoulder

		Width 220 mm						
20°		17.5	40	40	25	40	40	17.5
Height 160 mm	32	93	114	157	220	157	114	93
	32	115	140	204	300	204	140	115
	32	149	186	277	385	277	186	149
	32	190	235	335	510	335	235	190
	32	153	184	263	380	263	184	153

Support via feather key

		Width 220 mm						
20°		17.5	40	40	25	40	40	17.5
Height 160 mm	32	69	87	122	128	122	87	69
	32	71	90	127	134	127	90	71
	32	72	89	123	129	123	89	72
	32	72	87	121	125	121	87	72
	32	70	84	115	121	115	84	70

Support via cast shoulder

		Width 220 mm						
25°		17.5	40	40	25	40	40	17.5
Height 160 mm	32	91	114	160	220	160	114	91
	32	114	143	213	306	213	143	114
	32	148	194	300	378	300	194	148
	32	174	227	350	515	350	227	174
	32	137	169	249	354	249	169	137

Support via feather key

		Width 220 mm						
25°		17.5	40	40	25	40	40	17.5
Height 160 mm	32	74	94	137	145	137	94	74
	32	76	97	143	154	143	97	76
	32	77	97	138	148	138	97	77
	32	76	95	135	142	135	95	76
	32	73	90	127	135	127	90	73

# AERIAL CAM UNIT FCC-LV 2016.26.018./022.

## FORCE DIAGRAM

Support via cast shoulder

		Width 220 mm						
30°		17.5	40	40	25	40	40	17.5
Height 160 mm	32	90	113	164	217	164	113	90
	32	113	145	222	313	222	145	113
	32	146	202	322	376	322	202	146
	32	158	218	365	513	365	218	158
	32	122	154	236	331	236	154	122

Support via feather key

		Width 220 mm						
30°		17.5	40	40	25	40	40	17.5
Height 160 mm	32	78	101	151	162	151	101	78
	32	81	105	158	174	158	105	81
	32	82	105	153	166	153	105	82
	32	80	102	149	159	149	102	80
	32	77	96	139	149	139	96	77

Support via cast shoulder

		Width 220 mm						
35°		17.5	40	40	25	40	40	17.5
Height 160 mm	32	85	106	153	215	153	106	85
	32	108	138	213	316	213	138	108
	32	141	193	305	406	305	193	141
	32	150	210	345	522	345	210	150
	32	121	153	234	348	234	153	121

Support via feather key

		Width 220 mm						
35°		17.5	40	40	25	40	40	17.5
Height 160 mm	32	85	106	153	172	153	106	85
	32	90	117	172	185	172	117	90
	32	92	121	167	178	167	121	92
	32	92	120	165	174	165	120	92
	32	90	114	156	165	156	114	90

Support via cast shoulder

		Width 220 mm						
40°		17.5	40	40	25	40	40	17.5
Height 160 mm	32	79	99	142	208	142	99	79
	32	103	131	203	311	203	131	103
	32	135	184	288	432	288	184	135
	32	142	202	324	519	324	202	142
	32	120	152	231	358	231	152	120

Support via feather key

		Width 220 mm						
40°		17.5	40	40	25	40	40	17.5
Height 160 mm	32	79	99	142	181	142	99	79
	32	99	130	185	195	185	130	99
	32	103	137	182	191	182	137	103
	32	104	138	181	188	181	138	104
	32	102	132	173	181	173	132	102

Support via cast shoulder

		Width 220 mm						
45°		17.5	40	40	25	40	40	17.5
Height 160 mm	32	73	92	132	185	132	92	73
	32	98	123	194	284	194	123	98
	32	130	175	271	426	271	175	130
	32	134	194	304	479	304	194	134
	32	120	151	229	341	229	151	120

Support via feather key

		Width 220 mm						
45°		17.5	40	40	25	40	40	17.5
Height 160 mm	32	73	92	132	185	132	92	73
	32	98	123	194	205	194	123	98
	32	113	153	196	203	196	153	113
	32	115	156	197	203	197	156	115
	32	115	150	190	197	190	150	115

Support via cast shoulder

		Width 220 mm						
50°		17.5	40	40	25	40	40	17.5
Height 160 mm	32	70	91	131	223	131	91	70
	32	95	124	195	343	195	124	95
	32	123	174	270	509	270	174	123
	32	126	177	281	525	281	177	126
	32	110	137	208	375	208	137	110

Support via feather key

		Width 220 mm						
50°		17.5	40	40	25	40	40	17.5
Height 160 mm	32	70	91	131	214	131	91	70
	32	95	124	195	223	195	124	95
	32	123	174	217	225	217	174	123
	32	124	175	217	227	217	175	124
	32	110	137	208	218	208	137	110

Support via cast shoulder

		Width 220 mm						
55°		17.5	40	40	25	40	40	17.5
Height 160 mm	32	67	90	131	232	131	90	67
	32	92	125	195	360	195	125	92
	32	116	173	269	528	269	173	116
	32	119	161	257	494	257	161	119
	32	100	122	186	354	186	122	100

Support via feather key

		Width 220 mm						
55°		17.5	40	40	25	40	40	17.5
Height 160 mm	32	67	90	131	232	131	90	67
	32	92	125	195	241	195	125	92
	32	116	173	238	247	238	173	116
	32	119	161	238	250	238	161	119
	32	100	122	186	239	186	122	100

# AERIAL CAM UNIT FCC-LV 2016.26.018./022.

## FORCE DIAGRAM

		Support via cast shoulder						
		Width 220 mm						
60°		18	25	25	25	25	25	18
Height 160 mm	32	64	89	130	234	130	89	64
	32	89	126	196	366	196	126	89
	32	109	173	268	530	268	173	109
	32	111	145	234	444	234	145	111
	32	90	107	164	320	164	107	90

		Support via feather key						
		Width 220 mm						
60°		17.5	40	40	25	40	40	17.5
Height 160 mm	32	64	89	130	234	130	89	64
	32	89	126	196	259	196	126	89
	32	109	173	259	269	259	173	109
	32	111	145	234	274	234	145	111
	32	90	107	164	260	164	107	90

		Width 220 mm						
65°		17.5	40	40	25	40	40	17.5
Height 160 mm	32	65	91	135	249	135	91	65
	32	90	129	202	384	202	129	90
	32	111	177	277	532	277	177	111
	32	113	146	236	452	236	146	113
	32	91	109	166	326	166	109	91

		Width 220 mm						
65°		17.5	40	40	25	40	40	17.5
Height 160 mm	32	65	91	135	249	135	91	65
	32	90	129	202	284	202	129	90
	32	111	177	277	342	277	177	111
	32	113	146	236	326	236	146	113
	32	91	109	166	296	166	109	91

		Width 220 mm						
70°		17.5	40	40	25	40	40	17.5
Height 160 mm	32	66	93	139	263	139	93	66
	32	92	132	208	402	208	132	92
	32	113	181	287	533	287	181	113
	32	115	147	238	460	238	147	115
	32	92	110	167	332	167	110	92

		Width 220 mm						
70°		17.5	40	40	25	40	40	17.5
Height 160 mm	32	66	93	139	263	139	93	66
	32	92	132	208	308	208	132	92
	32	113	181	287	350	287	181	113
	32	115	147	238	350	238	147	115
	32	92	110	167	332	167	110	92

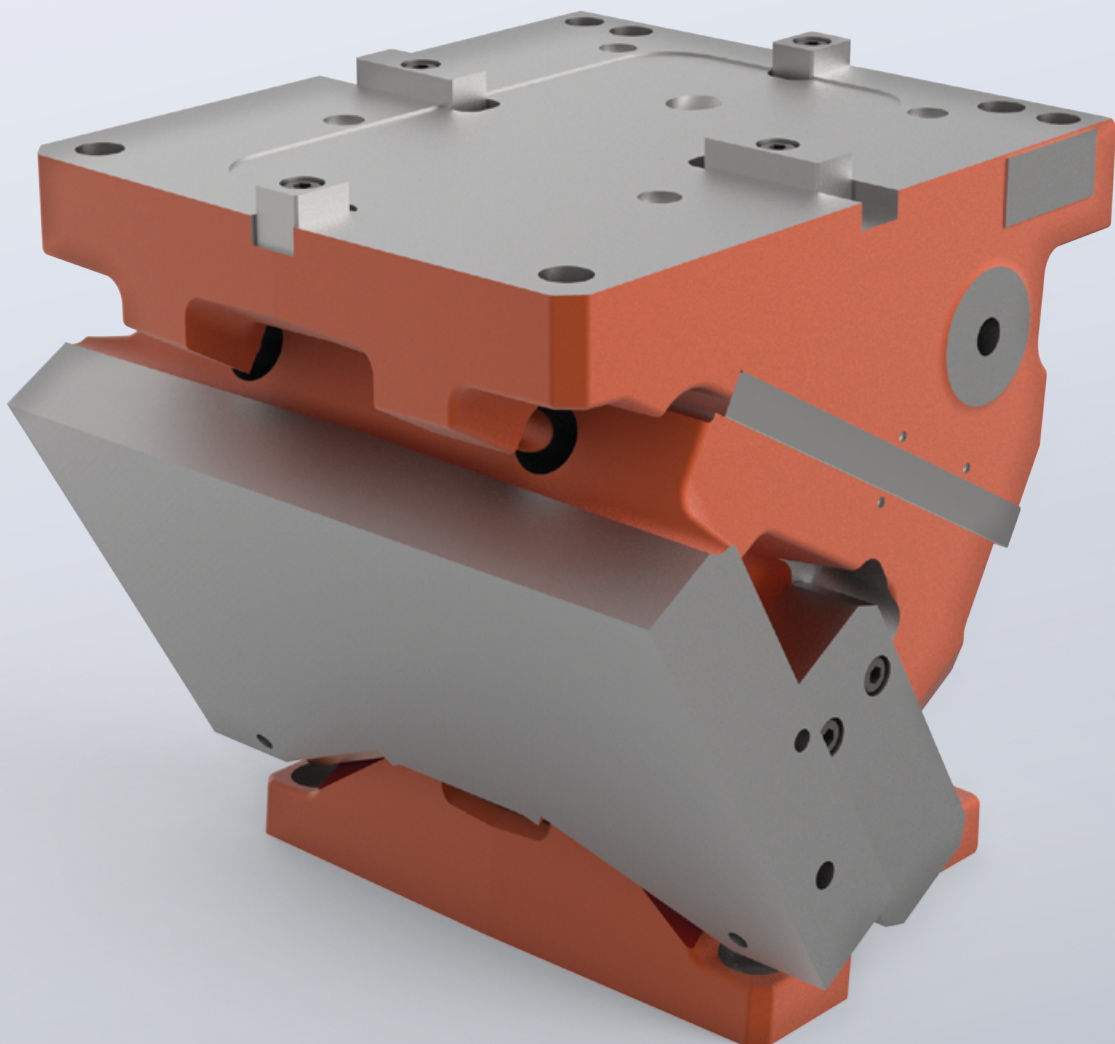
		Width 220 mm						
75°		17.5	40	40	25	40	40	17.5
Height 160 mm	32	67	94	144	274	144	94	67
	32	93	135	214	414	214	135	93
	32	115	185	296	527	296	185	115
	32	116	149	239	461	239	149	116
	32	94	111	169	333	169	111	94

		Width 220 mm						
75°		17.5	40	40	25	40	40	17.5
Height 160 mm	32	67	94	144	274	144	94	67
	32	93	135	214	332	214	135	93
	32	115	185	296	350	296	185	115
	32	116	149	239	350	239	149	116
	32	94	111	169	333	169	111	94



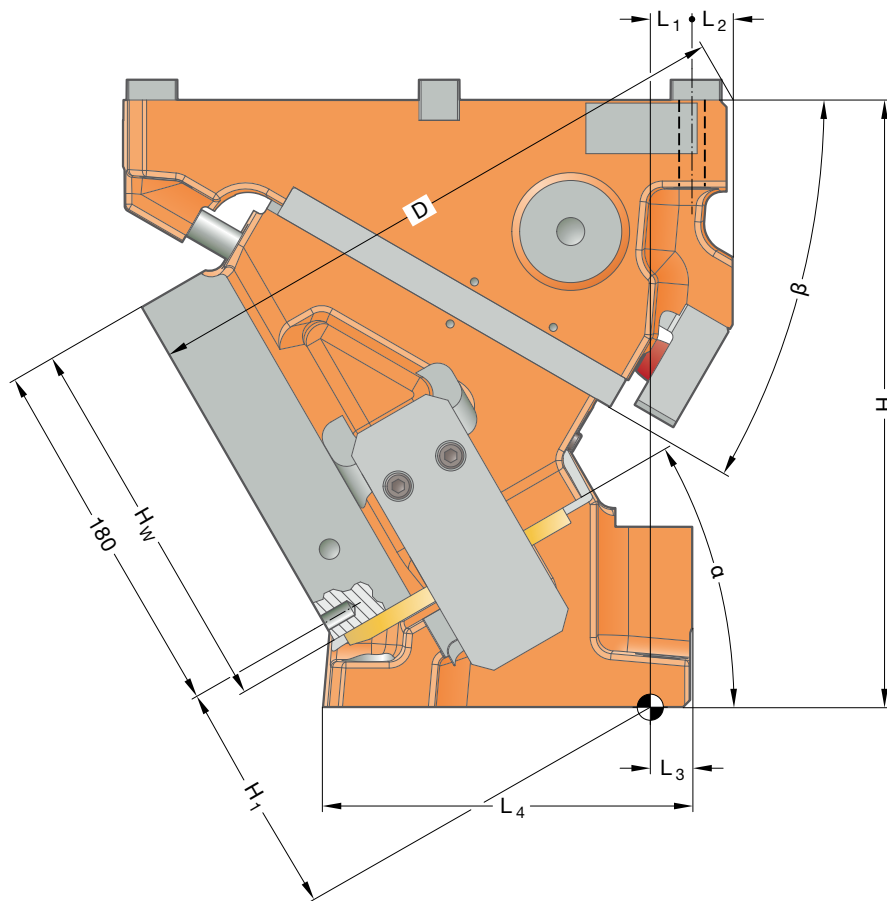
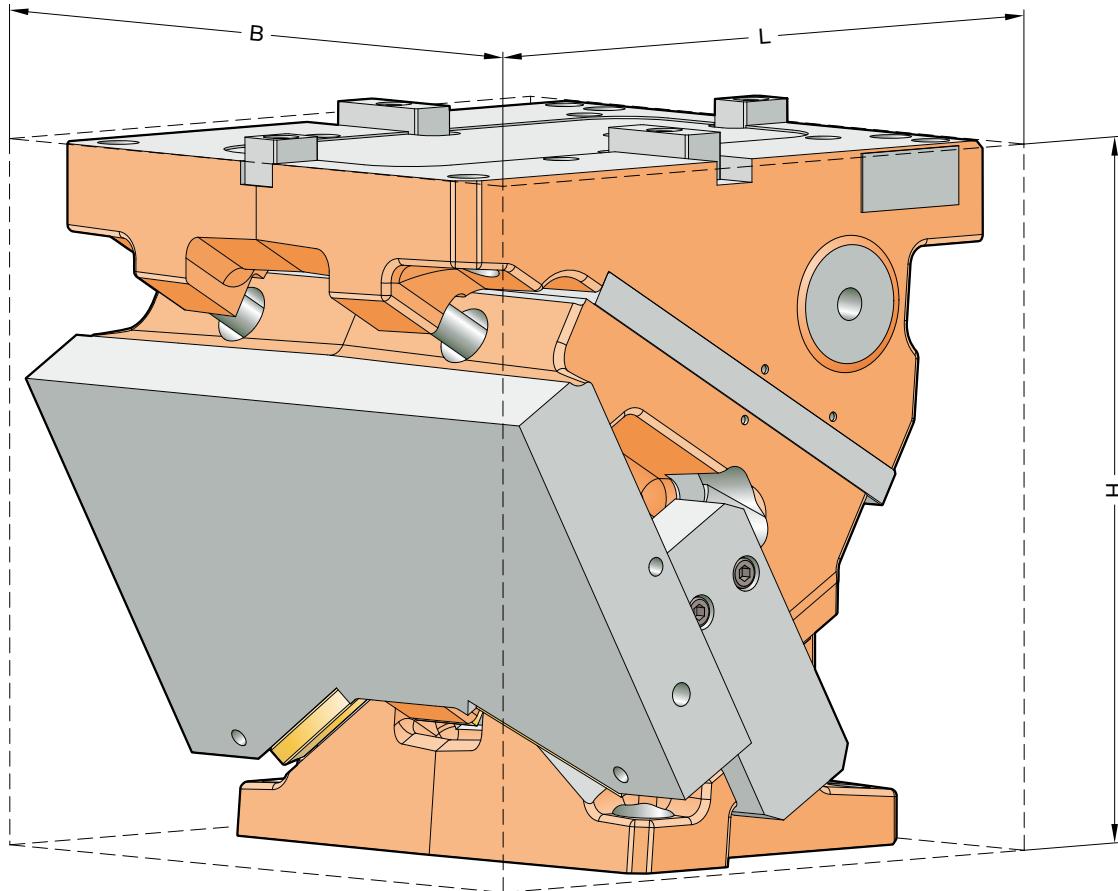
AERIAL CAM UNIT FCC-LV  
**2016.26.026./031.**

**Working width:** 260/310 mm  
**Performance class:** 580 kN



# AERIAL CAM UNIT FCC-LV 2016.26.026./031.

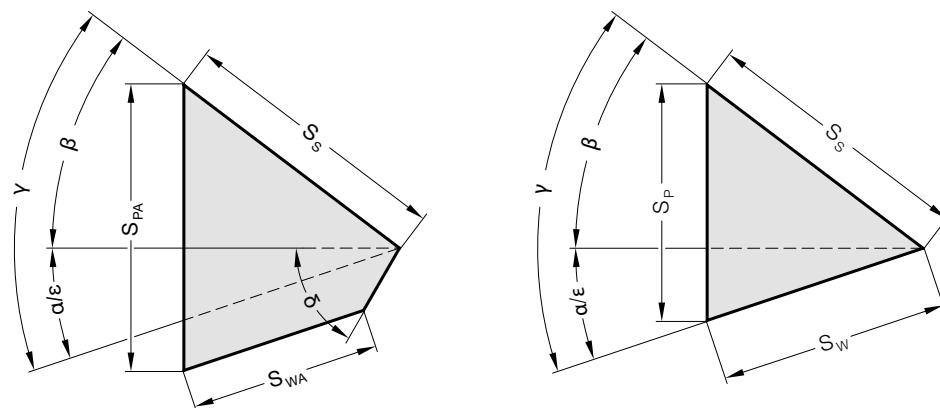
## SIZE TABLE





# AERIAL CAM UNIT FCC-LV 2016.26.026./031.

## SIZE TABLE



Order No	L [mm]	B [mm]	H [mm]	H <sub>1</sub> [mm]	H <sub>W</sub> [mm]	L <sub>1</sub> [mm]	L <sub>2</sub> [mm]	L <sub>3</sub> [mm]	L <sub>4</sub> [mm]	D [mm]	α [°]	β [°]	δ [°]	S <sub>W</sub> * [mm]	S <sub>WA</sub> * [mm]	S <sub>S</sub> [mm]	S <sub>P</sub> * [mm]	S <sub>PA</sub> * [mm]
2026.26.026.00.1000.00	276	260	300	65	153	60	20	15	217	275,5	0	50	50	(32)	25,7	50	(38)	46,0
2026.26.031.00.1000.00		310																
2026.26.026.05.1000.00	286	260	300	75,53	153	51	20	15	214	289,49	5	45	55	(35)	29,7	50	(38)	46,1
2026.26.031.05.1000.00		310																
2026.26.026.10.1000.00	293	260	300	87,48	153	34	20	15	227	301,06	10	40	60	(39)	33,8	50	(39)	46,7
2026.26.031.10.1000.00		310																
2026.26.026.15.1000.00	303	260	300	98,05	153	22	20	15	224	309,48	15	35	65	(42)	38,0	50	(40)	47,6
2026.26.031.15.1000.00		310																
2026.26.026.20.1000.00	290	260	300	103,2	153	30	20	15	192	301,26	20	40	50	(41)	33,9	50	(46)	51,4
2026.26.031.20.1000.00		310																
2026.26.026.25.1000.00	303	260	300	113,16	153	18	20	15	189	306,47	25	35	55	(45)	38,9	50	(48)	53,3
2026.26.031.25.1000.00		310																
2026.26.026.30.1000.00	301	260	300	119,66	153	15	20	15	182	304,06	30	30	60	(45)	39,2	45	(45)	50,8
2026.26.031.30.1000.00		310																
2026.26.026.35.1000.00	311	260	300	130,17	153	0	20	15	180	302,98	35	25	65	(50)	44,6	45	(48)	53,7
2026.26.031.35.1000.00		310																
2026.26.026.40.1000.00	316	260	300	132,53	153	18	20	15	171	323,18	40	30	60	(51)	44,3	45	(55)	59,7
2026.26.031.40.1000.00		310																
2026.26.026.45.1000.00	314	260	300	134,02	153	13	20	15	159	318,89	45	25	65	(58)	51,7	45	(60)	64,6
2026.26.031.45.1000.00		310																
2026.26.026.50.1000.00	302	260	300	138,94	153	269	280	15	157	302,77	50	20	-	48,2	-	33	48,2	-
2026.26.031.50.1000.00		310																
2026.26.026.55.1000.00	319	260	300	140,9	153	282	280	15	149	295,99	55	15	-	55,6	-	33	54,1	-
2026.26.031.55.1000.00		310																
2026.26.026.60.1000.00	312	260	300	123,01	153	282	280	15	131	302,5	60	20	-	54,5	-	29	57,1	-
2026.26.031.60.1000.00		310																
2026.26.026.65.1000.00	337	260	300	127,48	153	300	280	15	129	293,63	65	15	-	66,3	-	29	67,6	-
2026.26.031.65.1000.00		310																
2026.26.026.70.1000.00	341	260	300	120,07	153	309	275	15	125	278,47	70	10	-	63,3	-	22	63,3	-
2026.26.031.70.1000.00		310																
2026.26.026.75.1000.00	361	260	300	116,02	153	327	275	15	118	274,02	75	5	-	69,3	-	18	68,5	-
2026.26.031.75.1000.00		310																

### Fastening

Hexagon socket head cap screws DIN EN ISO 4762 / Strength class min. 8.8  
Dowel pins DIN EN ISO 8735

### Cam base:

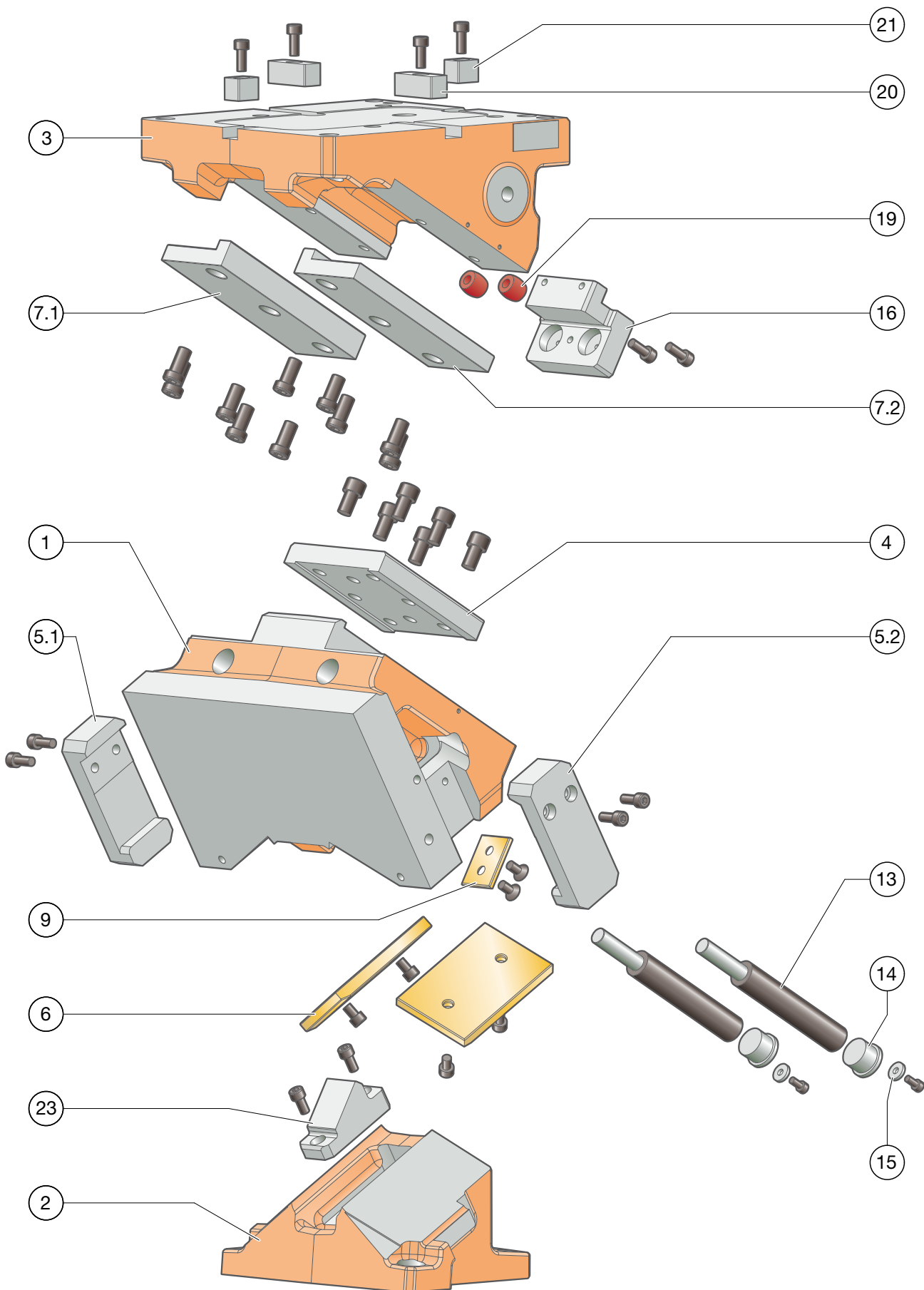
4 × M16  
2 × ø16

### Driver:

4 × M16  
2 × ø16

# AERIAL CAM UNIT FCC-LV 2016.26.026./031.

## EXPLODED VIEW



# AERIAL CAM UNIT FCC-LV 2016.26.026./031.

## PARTS LIST

Item No.	Pcs.	Designation	Material	tuned	Spare part
1	1	Cam slider	EN-JS-1060	--	--
2	1	Driver	EN-JS-1060	--	--
3	1	Cam base	EN-JS-1060	--	--
4	1	Centre guide	1.2379	--	x
5.1	1	mechanical retraction, left	1.1191 with sinter layer	x	x
5.2	1	mechanical retraction, right	1.1191 with sinter layer	x	x
6	2	Sliding plate	Bronze with solid lubricant	--	x
7.1	1	L-guide, left	1.1191 with sinter layer	x	x
7.2	1	L-guide, right	1.1191 with sinter layer	x	x
8					
9	1	Sliding plate	Bronze with solid lubricant	--	x
10					
11					
12					
13	2	Gas spring	2487.12.00.320.□□□	--	x
14	2	Locking tappet	1.7131	--	x
15	2	Locking tappet pin		--	x
16	1	Slide stop	1.1191	--	x
17 (not shown)	1	Spacer		--	x
18 (not shown)	1	Lockout system	1.1191	--	x
19	2	Damper	Elastomer	--	x
20	2	Feather key (T-nut)	1.1191	--	x
21	2	Feather key (T-nut)	1.1191	--	x
22					
23	1	pre-acceleration	1.2379	--	x
24* (not shown)	2	Spacer	1.1191	--	x

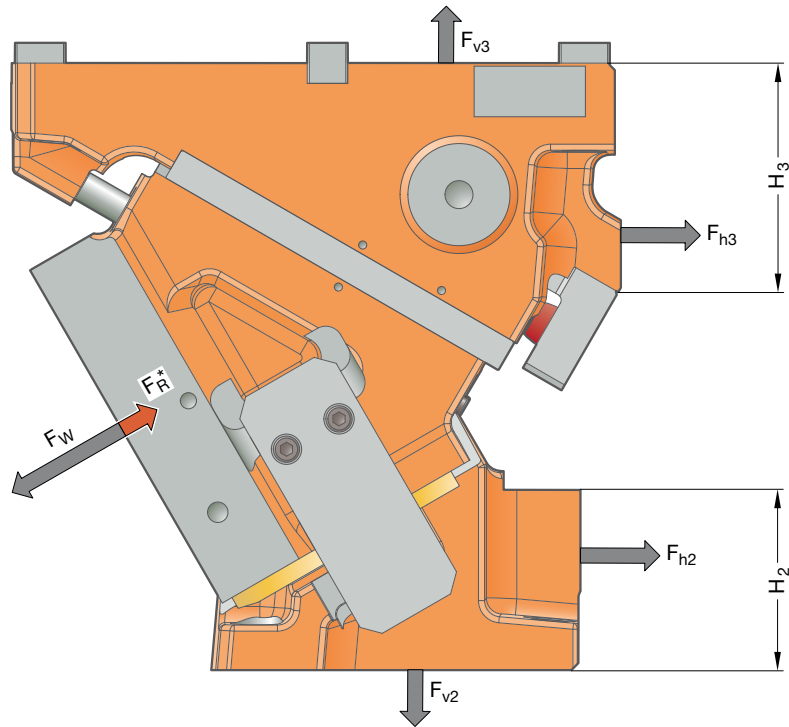
\* not installed at all angles

For inquiries or when ordering spare parts (x), we require the following data:

- Cam unit order no.
- Cam unit serial number
- Item No. / Designation / Spare part

# AERIAL CAM UNIT FCC-LV 2016.26.026./031.

## SYSTEM AND SURROUNDING FORCES



All force specifications in this catalogue of the Series 2016.26 are pre-assigned values that provide a higher safety factor.

Order No	$\alpha$ [°]	$F_w$ [kN]	$F_R^*$ [kN]	$F_{h2}$ [kN]	$F_{v2}$ [kN]	$F_{h3}$ [kN]	$F_{v3}$ [kN]	$H_2$ [mm]	$H_3$ [mm]
2016.26.0□□.00.1000.00	0	576	45	-42	597	618	597	43	183
2016.26.0□□.05.1000.00	5	590	45	11	613	577	664	55	166
2016.26.0□□.10.1000.00	10	605	45	66	625	530	730	61	149
2016.26.0□□.15.1000.00	15	619	45	123	631	475	791	74	134
2016.26.0□□.20.1000.00	20	617	45	121	421	459	632	68	149
2016.26.0□□.25.1000.00	25	616	45	157	408	402	669	81	134
2016.26.0□□.30.1000.00	30	614	45	191	392	341	699	89	111
2016.26.0□□.35.1000.00	35	612	45	224	372	278	723	104	95
2016.26.0□□.40.1000.00	40	611	45	165	228	303	621	103	111
2016.26.0□□.45.1000.00	45	609	45	184	212	247	642	117	95
2016.26.0□□.50.1000.00	50	602	45	200	193	187	654	118	72
2016.26.0□□.55.1000.00	55	594	45	213	172	128	659	132	58
2016.26.0□□.60.1000.00	60	586	45	124	83	169	591	119	72
2016.26.0□□.65.1000.00	65	569	45	127	70	114	586	134	58
2016.26.0□□.70.1000.00	70	552	45	128	57	60	576	129	45
2016.26.0□□.75.1000.00	75	586	45	141	49	11	615	139	39

\* Retraction force values correspond to the spring-generated retraction force at the working point

The forces  $F_{h2}$ ,  $F_{v2}$  as well as  $F_{h3}$ ,  $F_{v3}$  act on the tool environment at maximum working force  $F_w$ .

# AERIAL CAM UNIT FCC-LV 2016.26.026./031.

## FORCE DIAGRAM

		Support via cast shoulder								
		Width 310 mm								
0°		25	35	40	40	30	40	40	35	25
Height 150 mm	30	122	135	170	216	276	216	170	135	122
	30	153	165	209	267	340	267	209	165	153
	30	212	210	257	335	439	335	257	210	212
	30	269	266	325	418	576	418	325	266	269
	30	330	327	399	476	565	476	399	327	330

		Support via feather key								
		Width 310 mm								
0°		25	35	40	40	30	40	40	35	25
Height 150 mm	30	57	63	77	95	120	95	77	63	57
	30	61	66	80	99	124	99	80	66	61
	30	58	63	77	94	118	94	77	63	58
	30	56	61	73	90	113	90	73	61	56
	30	54	59	69	86	109	86	69	59	54

		Support via cast shoulder								
		Width 310 mm								
5°		25	35	40	40	30	40	40	35	25
Height 150 mm	30	123	136	170	217	276	217	170	136	123
	30	152	165	210	270	342	270	210	165	152
	30	211	212	261	339	444	339	261	212	211
	30	277	279	344	433	590	433	344	279	277
	30	312	314	388	465	574	465	388	314	312

		Support via feather key								
		Width 310 mm								
5°		25	35	40	40	30	40	40	35	25
Height 150 mm	30	65	72	87	107	133	107	87	72	65
	30	69	75	92	113	138	113	92	75	69
	30	67	72	88	107	132	107	88	72	67
	30	65	70	82	102	126	102	82	70	65
	30	62	67	78	96	121	96	78	67	62

		Support via cast shoulder								
		Width 310 mm								
10°		25	35	40	40	30	40	40	35	25
Height 150 mm	30	123	138	171	217	276	217	171	138	123
	30	151	165	212	272	344	272	212	165	151
	30	209	214	265	343	449	343	265	214	209
	30	285	293	363	448	605	448	363	293	285
	30	294	300	377	454	583	454	377	300	294

		Support via feather key								
		Width 310 mm								
10°		25	35	40	40	30	40	40	35	25
Height 150 mm	30	74	80	98	120	146	120	98	80	74
	30	78	84	103	127	152	127	103	84	78
	30	76	81	99	120	146	120	99	81	76
	30	73	78	92	113	138	113	92	78	73
	30	70	75	86	106	132	106	86	75	70

		Support via cast shoulder								
		Width 310 mm								
15°		25	35	40	40	30	40	40	35	25
Height 150 mm	30	123	139	171	218	276	218	171	139	123
	30	150	166	213	275	345	275	213	166	150
	30	207	217	270	347	453	347	270	217	207
	30	294	306	382	463	619	463	382	306	294
	30	275	287	365	443	592	443	365	287	275

		Support via feather key								
		Width 310 mm								
15°		25	35	40	40	30	40	40	35	25
Height 150 mm	30	82	89	108	133	159	133	108	89	82
	30	87	93	114	140	165	140	114	93	87
	30	85	90	110	133	159	133	110	90	85
	30	81	86	102	125	151	125	102	86	81
	30	77	83	95	117	144	117	95	83	77

		Support via cast shoulder								
		Width 310 mm								
20°		25	35	40	40	30	40	40	35	25
Height 150 mm	30	119	136	171	218	276	218	171	136	119
	30	144	166	215	276	353	276	215	166	144
	30	195	221	278	365	479	365	278	221	195
	30	269	304	382	462	617	462	382	304	269
	30	246	260	344	435	581	435	344	260	246

		Support via feather key								
		Width 310 mm								
20°		25	35	40	40	30	40	40	35	25
Height 150 mm	30	91	102	125	154	188	154	125	102	91
	30	95	106	131	162	196	162	131	106	95
	30	92	101	124	153	186	153	124	101	92
	30	88	95	114	142	174	142	114	95	88
	30	83	90	105	131	164	131	105	90	83

		Support via cast shoulder								
		Width 310 mm								
25°		25	35	40	40	30	40	40	35	25
Height 150 mm	30	115	134	171	217	276	217	171	134	115
	30	138	167	217	278	362	278	217	167	138
	30	182	226	287	384	504	384	287	226	182
	30	245	302	383	461	616	461	383	302	245
	30	217	233	323	427	570	427	323	233	217

		Support via feather key								
		Width 310 mm								
25°		25	35	40	40	30	40	40	35	25
Height 150 mm	30	100	114	141	176	216	176	141	114	100
	30	104	118	147	184	227	184	147	118	104
	30	99	112	138	173	212	173	138	112	99
	30	94	105	126	159	197	159	126	105	94
	30	88	98	114	146	184	146	114	98	88

# AERIAL CAM UNIT FCC-LV 2016.26.026./031.

## FORCE DIAGRAM

Support via cast shoulder

		Width 310 mm									
		25	35	40	40	30	40	40	35	25	
Height 150 mm	30°	30	114	132	170	217	277	217	170	132	114
		30	136	168	220	280	370	280	220	168	136
		30	176	231	296	402	529	402	296	231	176
		30	228	300	384	461	614	461	384	300	228
		30	195	205	302	419	559	419	302	205	195

Support via feather key

		Width 310 mm									
		25	35	40	40	30	40	40	35	25	
Height 150 mm	30°	30	109	127	157	198	245	198	157	127	109
		30	112	131	164	206	257	206	164	131	112
		30	107	123	152	193	238	193	152	123	107
		30	101	114	137	176	220	176	137	114	101
		30	94	105	124	160	205	160	124	105	94

Support via cast shoulder

		Width 310 mm									
		25	35	40	40	30	40	40	35	25	
Height 150 mm	35°	30	113	124	156	194	244	194	156	124	113
		30	136	161	206	256	329	256	206	161	136
		30	177	220	281	372	480	372	281	220	177
		30	220	285	385	460	612	460	385	285	220
		30	190	203	297	421	534	421	297	203	190

Support via feather key

		Width 310 mm									
		25	35	40	40	30	40	40	35	25	
Height 150 mm	35°	30	113	124	156	194	244	194	156	124	113
		30	121	149	187	240	309	240	187	149	121
		30	118	143	177	226	287	226	177	143	118
		30	113	134	164	209	264	209	164	134	113
		30	106	125	151	193	248	193	151	125	106

Support via cast shoulder

		Width 310 mm									
		25	35	40	40	30	40	40	35	25	
Height 150 mm	40°	30	114	135	165	171	212	171	165	135	114
		30	140	179	225	233	288	233	225	179	140
		30	183	244	310	343	431	343	310	244	183
		30	217	316	450	459	611	459	450	316	217
		30	189	234	340	423	510	423	340	234	189

Support via feather key

		Width 310 mm									
		25	35	40	40	30	40	40	35	25	
Height 150 mm	40°	30	114	135	165	171	212	171	165	135	114
		30	130	167	211	233	288	233	211	167	130
		30	129	163	203	259	335	259	203	163	129
		30	125	154	192	241	308	241	192	154	125
		30	119	144	178	225	291	225	178	144	119

Support via cast shoulder

		Width 310 mm									
		25	35	40	40	30	40	40	35	25	
Height 150 mm	45°	30	114	135	148	173	220	173	148	135	114
		30	143	182	209	245	300	245	209	182	143
		30	189	231	293	366	381	366	293	231	189
		30	212	299	451	535	609	535	451	299	212
		30	186	231	334	495	500	495	334	231	186

Support via feather key

		Width 310 mm									
		25	35	40	40	30	40	40	35	25	
Height 150 mm	45°	30	114	135	148	173	220	173	148	135	114
		30	140	182	209	245	300	245	209	182	140
		30	140	182	229	292	381	292	229	182	140
		30	137	174	219	273	352	273	219	174	137
		30	131	164	206	258	334	258	206	164	131

Support via cast shoulder

		Width 310 mm									
		25	35	40	40	30	40	40	35	25	
Height 150 mm	50°	30	109	132	161	197	242	197	161	132	109
		30	138	180	232	285	350	285	232	180	138
		30	179	246	329	427	437	427	329	246	179
		30	199	294	438	544	602	544	438	294	199
		30	176	227	326	477	454	477	326	227	176

Support via feather key

		Width 310 mm									
		25	35	40	40	30	40	40	35	25	
Height 150 mm	50°	30	109	132	161	197	242	197	161	132	109
		30	138	180	232	285	350	285	232	180	138
		30	175	235	297	364	437	364	297	235	175
		30	173	233	300	369	448	369	300	233	173
		30	168	223	282	357	432	357	282	223	168

Support via cast shoulder

		Width 310 mm									
		25	35	40	40	30	40	40	35	25	
Height 150 mm	55°	30	104	129	163	208	260	208	163	129	104
		30	132	178	241	307	400	307	241	178	132
		30	169	245	344	461	493	461	344	245	169
		30	186	268	392	516	594	516	392	268	186
		30	165	206	294	423	423	294	206	165	

Support via feather key

		Width 310 mm									
		25	35	40	40	30	40	40	35	25	
Height 150 mm	55°	30	104	129	163	208	260	208	163	129	104
		30	132	178	241	307	400	307	241	178	132
		30	169	245	344	436	493	436	344	245	169
		30	186	268	382	465	543	465	382	268	186
		30	165	206	294	423	423	294	206	165	

# AERIAL CAM UNIT FCC-LV 2016.26.026./031.

## FORCE DIAGRAM

Support via cast shoulder

		Width 310 mm								
60°		25	35	40	40	30	40	40	35	25
Height 150 mm	30	100	126	166	219	278	219	166	126	100
	30	126	176	249	329	446	329	249	176	126
	30	160	243	359	495	548	495	359	243	160
	30	174	242	346	487	586	487	346	242	174
	30	155	186	261	369	392	369	261	186	155

Support via feather key

		Width 310 mm								
60°		25	35	40	40	30	40	40	35	25
Height 150 mm	30	100	126	166	219	278	219	166	126	100
	30	126	176	249	329	446	329	249	176	126
	30	160	243	359	495	548	495	359	243	160
	30	174	242	346	487	550	487	346	242	174
	30	155	186	261	369	392	369	261	186	155

Support via cast shoulder

		Width 310 mm								
65°		25	35	40	40	30	40	40	35	25
Height 150 mm	30	100	130	171	229	288	229	171	130	100
	30	129	179	253	353	461	353	253	179	129
	30	162	248	364	513	561	513	364	248	162
	30	177	244	351	486	569	486	351	244	177
	30	156	186	261	362	389	362	261	186	156

Support via feather key

		Width 310 mm								
65°		25	35	40	40	30	40	40	35	25
Height 150 mm	30	100	130	171	229	288	229	171	130	100
	30	129	179	253	353	461	353	253	179	129
	30	162	248	364	513	550	513	364	248	162
	30	177	244	351	486	550	486	351	244	177
	30	156	186	261	362	389	362	261	186	156

Support via cast shoulder

		Width 310 mm								
70°		25	35	40	40	30	40	40	35	25
Height 150 mm	30	101	133	177	239	298	239	177	133	101
	30	132	182	256	377	476	377	256	182	132
	30	164	253	368	531	573	531	368	253	164
	30	180	246	355	485	552	485	355	246	180
	30	157	186	260	356	385	356	260	186	157

Support via feather key

		Width 310 mm								
70°		25	35	40	40	30	40	40	35	25
Height 150 mm	30	101	133	177	239	298	239	177	133	101
	30	132	182	256	377	476	377	256	182	132
	30	164	253	368	531	550	531	368	253	164
	30	180	246	355	485	550	485	355	246	180
	30	157	186	260	356	385	356	260	186	157

Support via cast shoulder

		Width 310 mm								
75°		25	35	40	40	30	40	40	35	25
Height 150 mm	30	102	137	182	249	308	249	182	137	102
	30	135	186	260	401	490	401	260	186	135
	30	166	257	373	549	586	549	373	257	166
	30	184	248	359	483	535	483	359	248	184
	30	157	186	260	350	382	350	260	186	157

Support via feather key

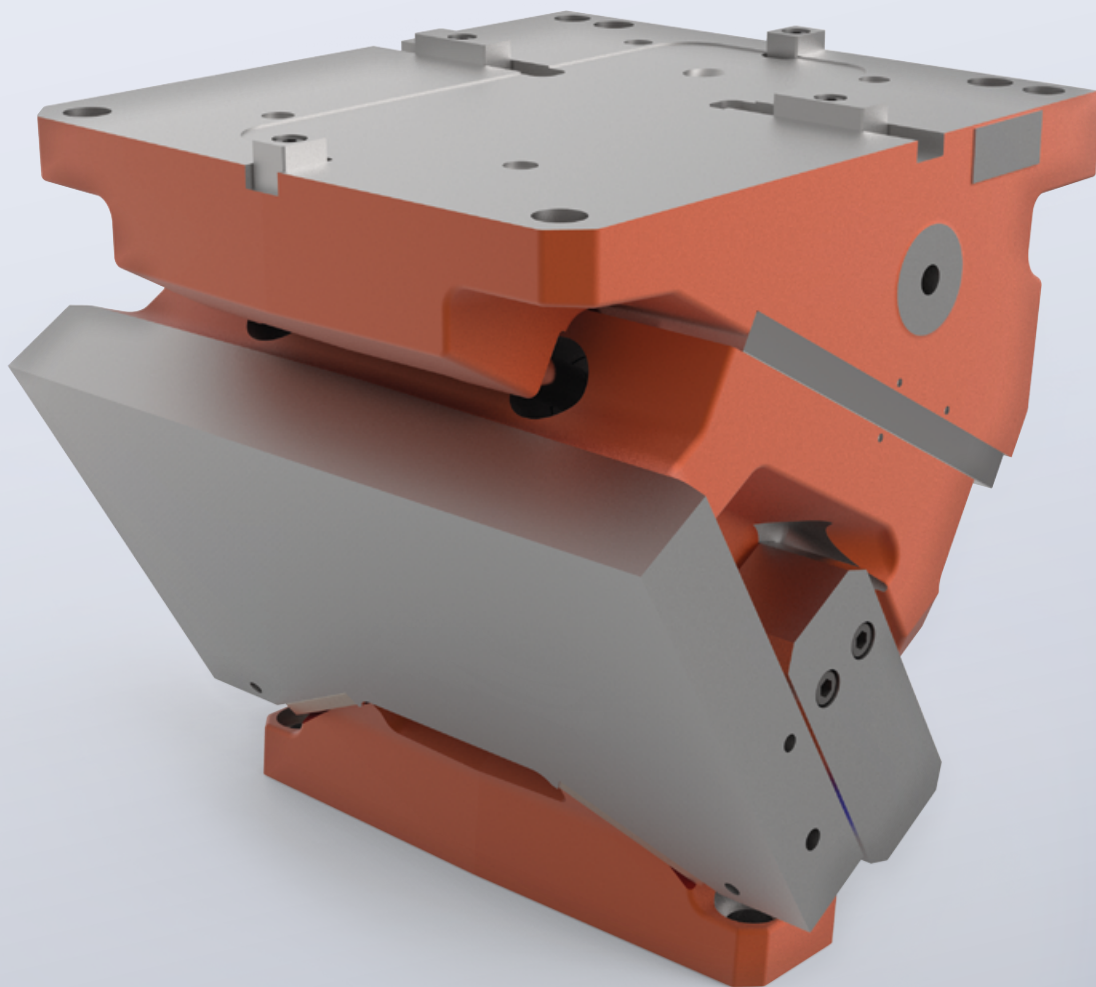
		Width 310 mm								
75°		25	35	40	40	30	40	40	35	25
Height 150 mm	30	102	137	182	249	308	249	182	137	102
	30	135	186	260	401	490	401	260	186	135
	30	166	257	373	549	550	549	373	257	166
	30	184	248	359	483	535	483	359	248	184
	30	157	186	260	350	382	350	260	186	157



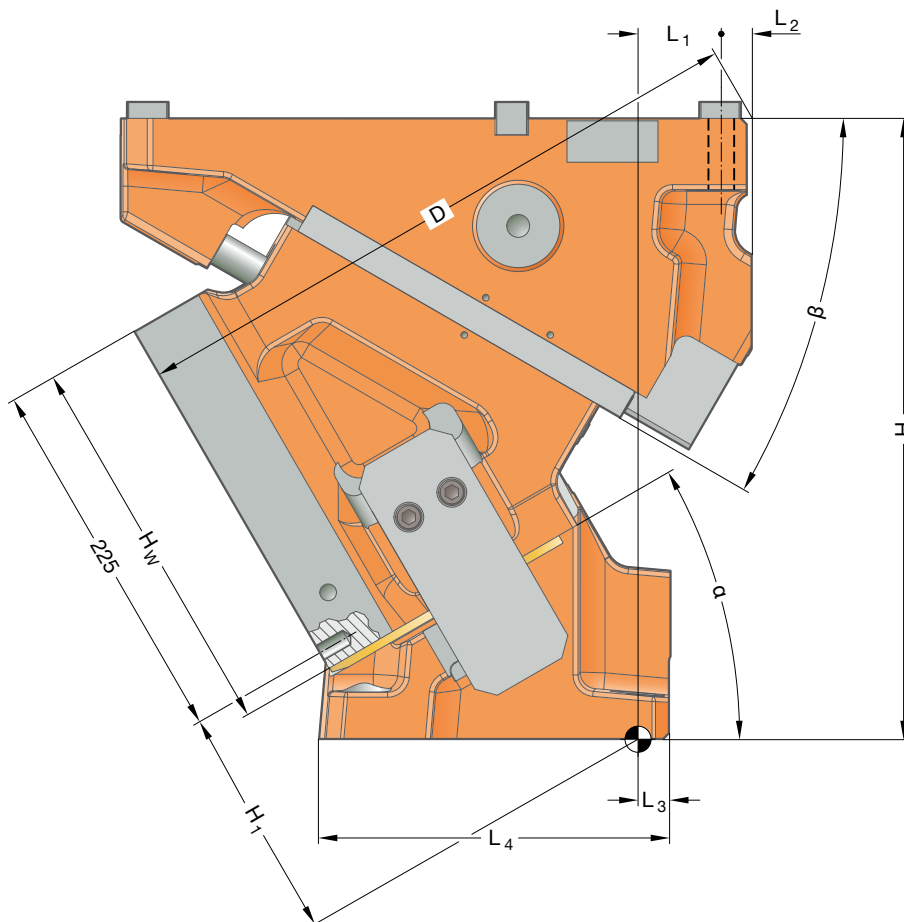
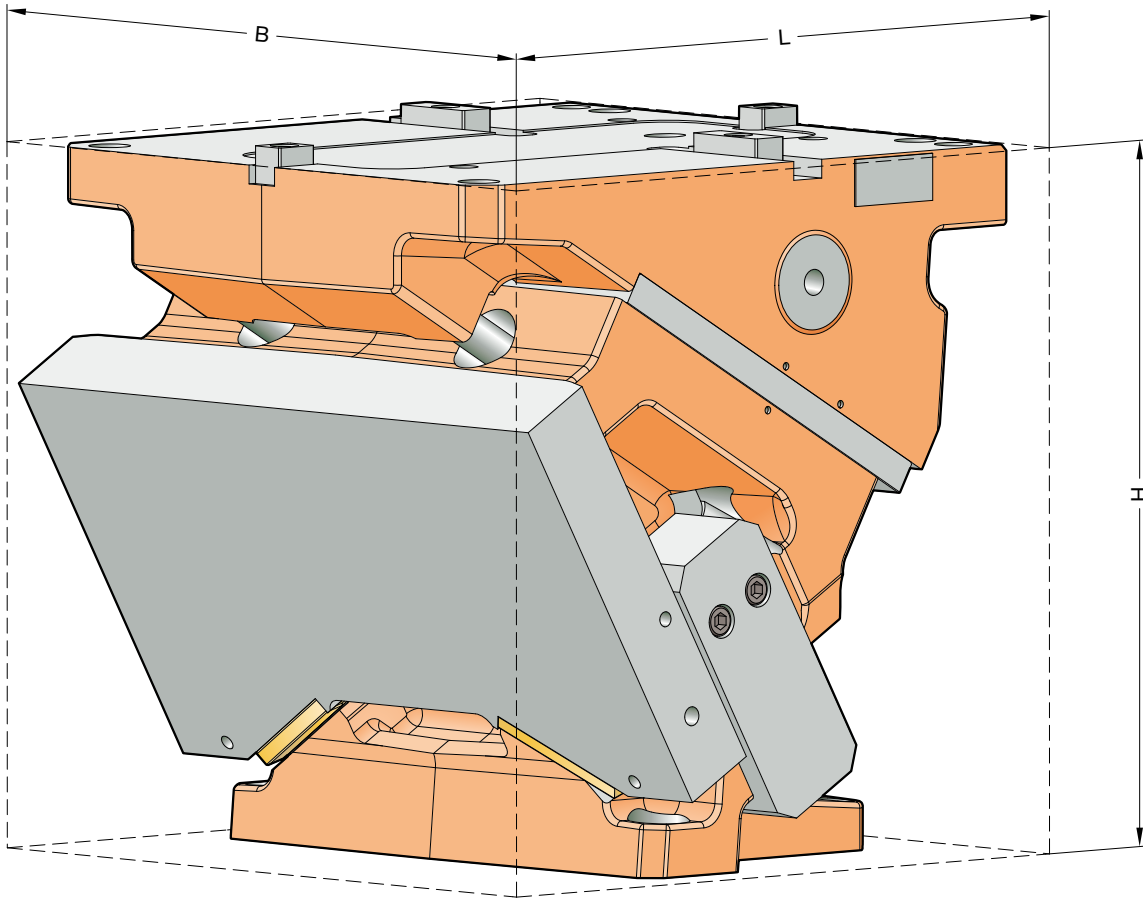


AERIAL CAM UNIT FCC-LV  
**2016.26.034./040.**

**Working width: 340/400 mm**  
**Performance class: 780 kN**

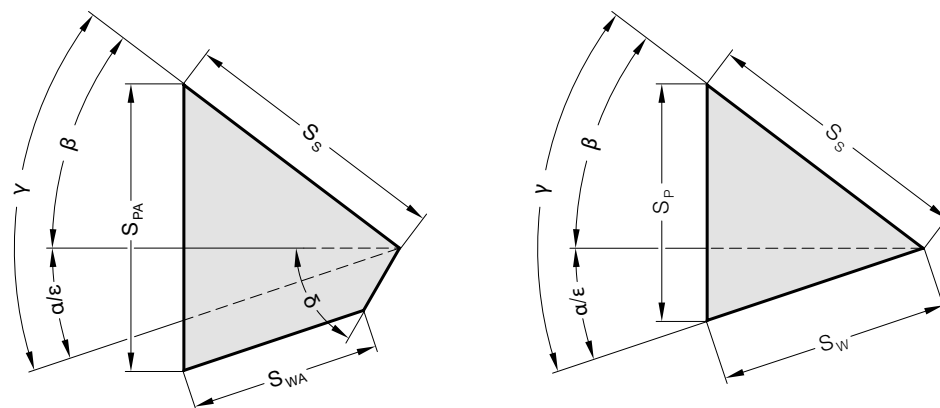


AERIAL CAM UNIT FCC-LV 2016.26.034./040.  
**SIZE TABLE**



# AERIAL CAM UNIT FCC-LV 2016.26.034./040.

## SIZE TABLE



Order No	L [mm]	B [mm]	H [mm]	H <sub>1</sub> [mm]	H <sub>w</sub> [mm]	L <sub>1</sub> [mm]	L <sub>2</sub> [mm]	L <sub>3</sub> [mm]	L <sub>4</sub> [mm]	D [mm]	α [°]	β [°]	δ [°]	S <sub>w</sub> * [mm]	S <sub>wa</sub> * [mm]	S <sub>s</sub> [mm]	S <sub>p</sub> * [mm]	S <sub>pa</sub> * [mm]
2026.26.040.00.1000.00	354	340	375	78	190	87	23	20	264	352,5	0	50	50	(32)	25,7	50	(38)	46,0
2026.26.034.00.1000.00		400																
2026.26.040.05.1000.00	370	340	375	88,98	190	81	23	20	256	369,88	5	45	55	(35)	29,7	50	(38)	46,1
2026.26.034.05.1000.00		400																
2026.26.040.10.1000.00	379	340	375	101,78	190	64	23	20	274	383,63	10	40	60	(39)	33,8	50	(39)	46,7
2026.26.034.10.1000.00		400																
2026.26.040.15.1000.00	393	340	375	113,87	190	50	23	20	269	392,83	15	35	65	(42)	38,0	50	(40)	47,6
2026.26.034.15.1000.00		400																
2026.26.040.20.1000.00	379	340	375	117,22	190	78	23	20	213	386,95	20	40	50	(41)	33,9	50	(46)	51,4
2026.26.034.20.1000.00		400																
2026.26.040.25.1000.00	393	340	375	127,53	190	62	23	20	210	392,03	25	35	55	(45)	38,9	50	(48)	53,3
2026.26.034.25.1000.00		400																
2026.26.040.30.1000.00	382	340	375	140,08	190	46	23	20	212	387,39	30	30	60	(45)	39,2	45	(45)	50,8
2026.26.034.30.1000.00		400																
2026.26.040.35.1000.00	392	340	375	148,52	190	31	23	20	205	384,86	35	25	65	(50)	44,6	45	(48)	53,7
2026.26.034.35.1000.00		400																
2026.26.040.40.1000.00	382	340	375	152,01	190	35	23	20	197	389,97	40	30	60	(51)	44,3	45	(55)	59,7
2026.26.034.40.1000.00		400																
2026.26.040.45.1000.00	392	340	375	158,49	190	20	23	20	190	383,57	45	25	65	(58)	51,7	45	(60)	64,6
2026.26.034.45.1000.00		400																
2026.26.040.50.1000.00	372	340	375	160,81	190	329	353	20	183	370,93	50	20	-	48,2	-	33	48,2	-
2026.26.034.50.1000.00		400																
2026.26.040.55.1000.00	393	340	375	161,98	190	350	353	20	176	363,6	55	15	-	55,6	-	33	54,1	-
2026.26.034.55.1000.00		400																
2026.26.040.60.1000.00	390	340	375	160,54	190	351	353	20	180	372,86	60	20	-	54,5	-	29	57,1	-
2026.26.034.60.1000.00		400																
2026.26.040.65.1000.00	416	340	375	160,23	190	372	353	20	173	363,7	65	15	-	66,3	-	29	67,6	-
2026.26.034.65.1000.00		400																
2026.26.040.70.1000.00	415	340	375	155,92	190	375	348	20	167	345,54	70	10	-	63,3	-	22	63,3	-
2026.26.034.70.1000.00		400																
2026.26.040.75.1000.00	440	340	375	151,97	190	398	348	20	158	336,95	75	5	-	69,3	-	18	68,5	-
2026.26.034.75.1000.00		400																

### Fastening

Hexagon socket head cap screws DIN EN ISO 4762 / Strength class min. 8.8  
Dowel pins DIN EN ISO 8735

### Cam base:

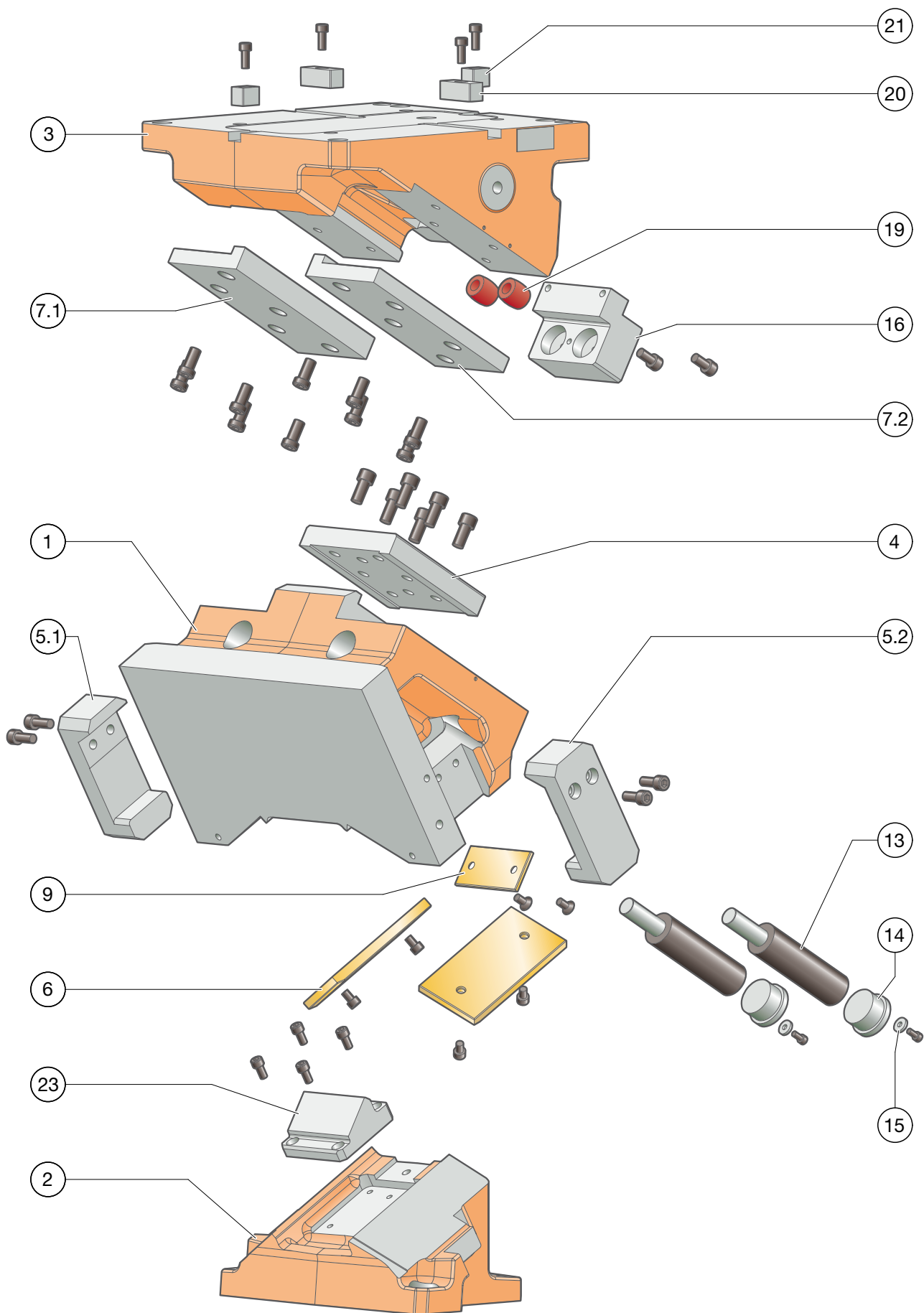
4 × M20  
2 × ø20

### Driver:

4 × M20  
2 × ø20

# AERIAL CAM UNIT FCC-LV 2016.26.034./040.

## EXPLODED VIEW



# AERIAL CAM UNIT FCC-LV 2016.26.034./040.

## PARTS LIST

Item No.	Pcs.	Designation	Material	tuned	Spare part
1	1	Cam slider	EN-JS-1060	--	--
2	1	Driver	EN-JS-1060	--	--
3	1	Cam base	EN-JS-1060	--	--
4	1	Centre guide	1.2379	--	x
5.1	1	mechanical retraction, left	1.1191 with sinter layer	x	x
5.2	1	mechanical retraction, right	1.1191 with sinter layer	x	x
6	2	Sliding plate	Bronze with solid lubricant	--	x
7.1	1	L-guide, left	1.1191 with sinter layer	x	x
7.2	1	L-guide, right	1.1191 with sinter layer	x	x
8					
9	1	Sliding plate	Bronze with solid lubricant	--	x
10					
11					
12					
13	2	Gas spring	2487.12.00.500.□□□	--	x
14	2	Locking tappet	1.7131	--	x
15	2	Locking tappet pin			x
16	1	Slide stop	1.1191	--	x
17 (not shown)	1	Spacer			x
18 (not shown)	1	Lockout system	1.1191	--	x
19	2	Damper	Elastomer	--	x
20	2	Feather key (T-nut)	1.1191	--	x
21	2	Feather key (T-nut)	1.1191	--	x
22					
23	1	pre-acceleration	1.2379	--	x
24* (not shown)	2	Spacer	1.1191	--	x

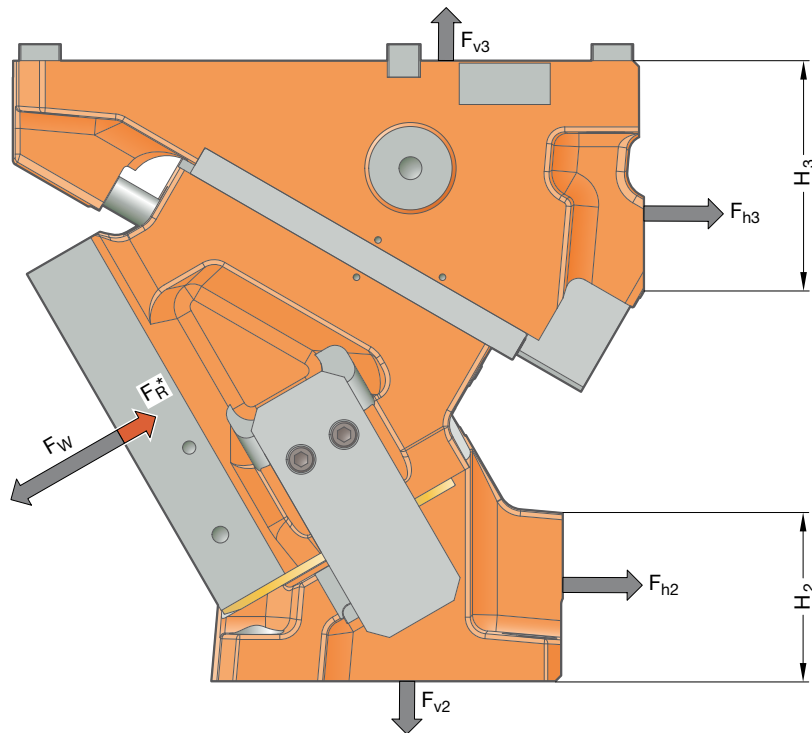
\* not installed at all angles

For inquiries or when ordering spare parts (x), we require the following data:

- Cam unit order no.
- Cam unit serial number
- Item No. / Designation / Spare part

# AERIAL CAM UNIT FCC-LV 2016.26.034./040.

## SYSTEM AND SURROUNDING FORCES



All force specifications in this catalogue of the Series 2016.26 are pre-assigned values that provide a higher safety factor.

Order No	$\alpha$ [°]	$F_w$ [kN]	$F_R^*$ [kN]	$F_{h2}$ [kN]	$F_{v2}$ [kN]	$F_{h3}$ [kN]	$F_{v3}$ [kN]	$H_2$ [mm]	$H_3$ [mm]
2016.26.0□□.00.1000.00	0	777	50	-56	805	833	805	53	227
2016.26.0□□.05.1000.00	5	777	50	14	807	760	874	66	207
2016.26.0□□.10.1000.00	10	777	50	84	802	681	937	67	186
2016.26.0□□.15.1000.00	15	777	50	154	792	597	993	82	168
2016.26.0□□.20.1000.00	20	790	50	155	539	588	809	82	186
2016.26.0□□.25.1000.00	25	800	50	203	530	522	868	96	168
2016.26.0□□.30.1000.00	30	777	50	242	496	431	884	102	139
2016.26.0□□.35.1000.00	35	790	50	289	481	358	934	118	122
2016.26.0□□.40.1000.00	40	786	50	213	293	389	798	104	139
2016.26.0□□.45.1000.00	45	782	50	236	272	317	825	122	122
2016.26.0□□.50.1000.00	50	791	50	262	253	246	859	120	94
2016.26.0□□.55.1000.00	55	800	50	286	232	172	887	134	91
2016.26.0□□.60.1000.00	60	825	50	174	117	238	832	115	94
2016.26.0□□.65.1000.00	65	800	50	178	99	160	824	129	91
2016.26.0□□.70.1000.00	70	792	50	184	82	87	826	138	72
2016.26.0□□.75.1000.00	75	784	50	189	65	14	822	152	62

\* Retraction force values correspond to the spring-generated retraction force at the working point

The forces  $F_{h2}$ ,  $F_{v2}$  as well as  $F_{h3}$ ,  $F_{v3}$  act on the tool environment at maximum working force  $F_w$ .

# AERIAL CAM UNIT FCC-LV 2016.26.034./040.

## FORCE DIAGRAM

Support via cast shoulder

		Width 400 mm								
0°		30	50	50	50	40	50	50	50	30
Height 190 mm	38	155	178	227	285	352	285	227	178	155
	38	191	221	282	362	456	362	282	221	191
	38	244	293	360	462	602	462	360	293	244
	38	271	338	450	628	777	628	450	338	271
	38	227	277	367	494	619	494	367	277	227

Support via feather key

		Width 400 mm								
0°		30	50	50	50	40	50	50	50	30
Height 190 mm	38	52	57	73	91	117	91	73	57	52
	38	55	60	75	93	119	93	75	60	55
	38	52	57	70	86	109	86	70	57	52
	38	50	54	66	83	104	83	66	54	50
	38	47	52	61	78	100	78	61	52	47

Support via cast shoulder

		Width 400 mm								
5°		30	50	50	50	40	50	50	50	30
Height 190 mm	38	155	179	227	286	352	286	227	179	155
	38	191	222	283	363	457	363	283	222	191
	38	242	293	363	465	605	465	363	293	242
	38	266	336	448	629	777	629	448	336	266
	38	225	274	366	490	627	490	366	274	225

Support via feather key

		Width 400 mm								
5°		30	50	50	50	40	50	50	50	30
Height 190 mm	38	60	66	84	105	133	105	84	66	60
	38	63	70	87	109	137	109	87	70	63
	38	59	65	81	99	126	99	81	65	59
	38	56	62	75	94	119	94	75	62	56
	38	54	58	69	88	113	88	69	58	54

Support via cast shoulder

		Width 400 mm								
10°		30	50	50	50	40	50	50	50	30
Height 190 mm	38	155	179	228	287	353	287	228	179	155
	38	190	223	284	365	459	365	284	223	190
	38	241	294	366	468	608	468	366	294	241
	38	261	334	446	630	777	630	446	334	261
	38	222	271	365	485	634	485	365	271	222

Support via feather key

		Width 400 mm								
10°		30	50	50	50	40	50	50	50	30
Height 190 mm	38	67	76	95	119	149	119	95	76	67
	38	70	79	99	124	155	124	99	79	70
	38	66	74	91	113	143	113	91	74	66
	38	62	69	84	105	133	105	84	69	62
	38	60	65	77	98	127	98	77	65	60

Support via cast shoulder

		Width 400 mm								
15°		30	50	50	50	40	50	50	50	30
Height 190 mm	38	155	180	228	289	353	289	228	180	155
	38	190	224	286	366	460	366	286	224	190
	38	240	294	369	470	611	470	369	294	240
	38	255	332	444	630	777	630	444	332	255
	38	220	268	364	481	642	481	364	268	220

Support via feather key

		Width 400 mm								
15°		30	50	50	50	40	50	50	50	30
Height 190 mm	38	75	85	106	133	166	133	106	85	75
	38	78	89	111	139	174	139	111	89	78
	38	73	82	101	127	160	127	101	82	73
	38	69	77	93	116	148	116	93	77	69
	38	66	71	85	108	140	108	85	71	66

Support via cast shoulder

		Width 400 mm								
20°		30	50	50	50	40	50	50	50	30
Height 190 mm	38	153	182	232	292	360	292	232	182	153
	38	189	229	295	380	478	380	295	229	189
	38	237	304	388	508	658	508	388	304	237
	38	253	343	457	632	790	632	457	343	253
	38	224	275	379	500	666	500	379	275	224

Support via feather key

		Width 400 mm								
20°		30	50	50	50	40	50	50	50	30
Height 190 mm	38	83	94	117	147	182	147	117	94	83
	38	86	98	123	154	192	154	123	98	86
	38	80	91	111	140	178	140	111	91	80
	38	75	84	102	128	163	128	102	84	75
	38	72	78	93	119	154	119	93	78	72

Support via cast shoulder

		Width 400 mm								
25°		30	50	50	50	40	50	50	50	30
Height 190 mm	38	150	184	234	294	367	294	234	184	150
	38	188	234	305	393	496	393	305	234	188
	38	234	314	408	546	706	546	408	314	234
	38	250	354	470	631	800	631	470	354	250
	38	227	280	393	518	689	518	393	280	227

Support via feather key

		Width 400 mm								
25°		30	50	50	50	40	50	50	50	30
Height 190 mm	38	90	103	129	161	198	161	129	103	90
	38	93	108	134	170	210	170	134	108	93
	38	88	100	122	154	195	154	122	100	88
	38	82	92	111	139	177	139	111	92	82
	38	78	85	101	129	167	129	101	85	78

# AERIAL CAM UNIT FCC-LV 2016.26.034./040.

## FORCE DIAGRAM

Support via cast shoulder

		Width 400 mm									
		30	50	50	50	40	50	50	50	30	
Height 190 mm	30°	38	141	177	227	284	359	284	227	177	141
		38	178	229	301	391	494	391	301	229	178
		38	220	311	411	564	727	564	411	311	220
		38	236	350	463	603	777	603	463	350	236
		38	222	274	391	515	684	515	391	274	222

Support via feather key

		Width 400 mm									
		30	50	50	50	40	50	50	50	30	
Height 190 mm	30°	38	98	113	140	175	214	175	140	113	98
		38	101	117	146	185	228	185	146	117	101
		38	95	108	132	168	212	168	132	108	95
		38	88	99	120	150	192	150	120	99	88
		38	84	91	109	139	180	139	109	91	84

Width 400 mm

		Width 400 mm									
		30	50	50	50	40	50	50	50	30	
Height 190 mm	35°	38	135	169	216	271	341	271	216	169	135
		38	172	224	299	390	493	390	299	224	172
		38	214	308	416	576	776	576	416	308	214
		38	229	344	466	613	790	613	466	344	229
		38	213	270	390	512	678	512	390	270	213

Width 400 mm

		Width 400 mm									
		30	50	50	50	40	50	50	50	30	
Height 190 mm	35°	38	107	121	150	185	224	185	150	121	107
		38	109	126	154	193	238	193	154	126	109
		38	102	116	140	177	223	177	140	116	102
		38	94	107	129	161	205	161	129	107	94
		38	91	98	117	149	194	149	117	98	91

Width 400 mm

		Width 400 mm									
		30	50	50	50	40	50	50	50	30	
Height 190 mm	40°	38	127	158	200	253	317	253	200	158	127
		38	163	215	291	381	481	381	291	215	163
		38	203	298	412	577	744	577	412	298	203
		38	217	332	459	610	786	610	459	332	217
		38	200	260	381	498	659	498	381	260	200

Width 400 mm

		Width 400 mm									
		30	50	50	50	40	50	50	50	30	
Height 190 mm	40°	38	116	130	160	194	235	194	160	130	116
		38	117	135	162	200	248	200	162	135	117
		38	109	124	149	187	234	187	149	124	109
		38	101	114	137	171	218	171	137	114	101
		38	97	104	125	159	208	159	125	104	97

Width 400 mm

		Width 400 mm									
		30	50	50	50	40	50	50	50	30	
Height 190 mm	45°	38	118	146	185	236	294	236	185	146	118
		38	154	207	283	373	470	373	283	207	154
		38	193	289	408	577	744	577	408	289	193
		38	205	320	452	606	782	606	452	320	205
		38	187	251	372	484	641	484	372	251	187

Width 400 mm

		Width 400 mm									
		30	50	50	50	40	50	50	50	30	
Height 190 mm	45°	38	118	139	170	204	245	204	170	139	118
		38	125	144	171	208	257	208	171	144	125
		38	116	132	157	196	245	196	157	132	116
		38	107	121	146	182	230	182	146	121	107
		38	104	110	133	170	222	170	133	110	104

Width 400 mm

		Width 400 mm									
		30	50	50	50	40	50	50	50	30	
Height 190 mm	50°	38	114	138	176	223	278	223	176	138	114
		38	146	200	279	373	471	373	279	200	146
		38	183	279	408	563	721	563	408	279	183
		38	195	304	473	619	791	619	473	304	195
		38	179	240	355	467	635	467	355	240	179

Width 400 mm

		Width 400 mm									
		30	50	50	50	40	50	50	50	30	
Height 190 mm	50°	38	114	138	176	223	278	223	176	138	114
		38	140	177	220	263	314	263	220	177	140
		38	134	172	218	264	317	264	218	172	134
		38	128	168	225	272	327	272	225	168	128
		38	136	158	203	248	303	248	203	158	136

Width 400 mm

		Width 400 mm									
		30	50	50	50	40	50	50	50	30	
Height 190 mm	55°	38	110	130	166	211	262	211	166	130	110
		38	138	193	274	374	471	374	274	193	138
		38	173	270	408	550	699	550	408	270	173
		38	185	287	492	630	800	630	492	287	185
		38	170	230	339	451	629	451	339	230	170

Width 400 mm

		Width 400 mm									
		30	50	50	50	40	50	50	50	30	
Height 190 mm	55°	38	110	130	166	211	262	211	166	130	110
		38	138	193	269	318	371	318	269	193	138
		38	153	212	278	332	388	332	278	212	153
		38	148	215	304	362	423	362	304	215	148
		38	167	207	273	326	384	326	273	207	167



# AERIAL CAM UNIT FCC-LV 2016.26.034./040.

## FORCE DIAGRAM

		Support via cast shoulder								
		Width 400 mm								
60°		30	50	50	50	40	50	50	50	30
Height 190 mm	38	108	125	161	204	253	204	161	125	108
	38	134	191	275	382	482	382	275	191	134
	38	167	267	417	549	693	549	417	267	167
	38	179	278	522	654	825	654	522	278	179
	38	166	224	331	444	637	444	331	224	166

		Support via feather key								
		Width 400 mm								
60°		30	50	50	50	40	50	50	50	30
Height 190 mm	38	108	125	161	204	253	204	161	125	108
	38	134	191	275	373	428	373	275	191	134
	38	167	252	338	400	459	400	338	252	167
	38	169	262	384	452	520	452	384	262	169
	38	166	224	331	404	465	404	331	224	166

		Width 400 mm								
65°		30	50	50	50	40	50	50	50	30
Height 190 mm	38	108	124	161	204	252	204	161	124	108
	38	133	191	276	382	483	382	276	191	133
	38	166	267	421	554	701	554	421	267	166
	38	176	276	507	632	800	632	507	276	176
	38	164	223	324	440	623	440	324	223	164

		Width 400 mm								
65°		30	50	50	50	40	50	50	50	30
Height 190 mm	38	108	124	161	204	252	204	161	124	108
	38	133	191	276	382	483	382	276	191	133
	38	166	267	421	554	700	554	421	267	166
	38	176	276	507	632	700	632	507	276	176
	38	164	223	324	440	623	440	324	223	164

		Width 400 mm								
70°		30	50	50	50	40	50	50	50	30
Height 190 mm	38	111	126	164	208	257	208	164	126	111
	38	136	195	283	390	495	390	283	195	136
	38	168	273	436	570	724	570	436	273	168
	38	178	280	502	624	792	624	502	280	178
	38	166	226	324	446	623	446	324	226	166

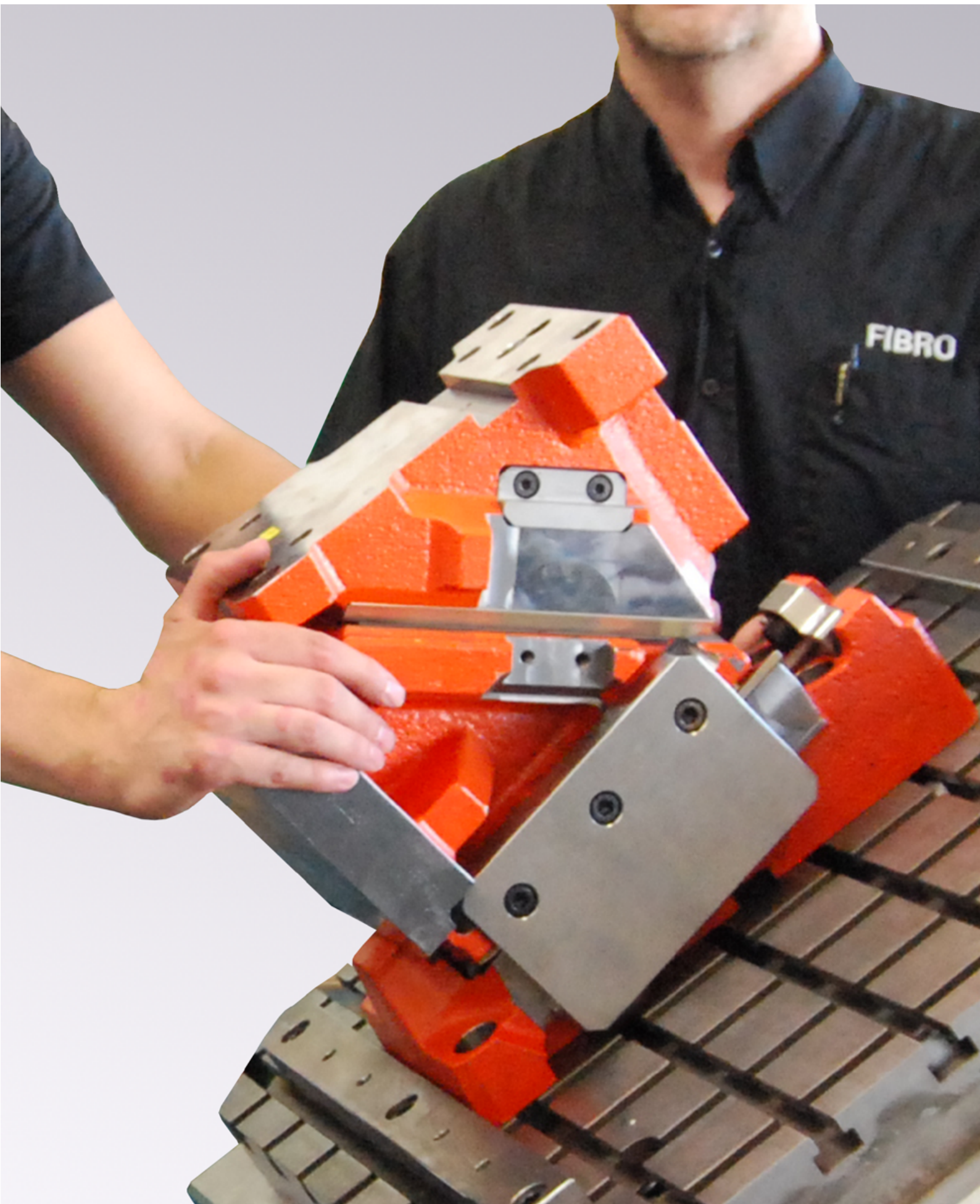
		Width 400 mm								
70°		30	50	50	50	40	50	50	50	30
Height 190 mm	38	111	126	164	208	257	208	164	126	111
	38	136	195	283	390	495	390	283	195	136
	38	168	273	436	570	700	570	436	273	168
	38	178	280	502	624	700	624	502	280	178
	38	166	226	324	446	623	446	324	226	166

		Width 400 mm								
75°		30	50	50	50	40	50	50	50	30
Height 190 mm	38	113	128	168	212	261	212	168	128	113
	38	138	199	290	398	508	398	290	199	138
	38	170	280	450	587	749	587	450	280	170
	38	179	283	496	615	784	615	496	283	179
	38	168	229	324	452	622	452	324	229	168

		Width 400 mm								
75°		30	50	50	50	40	50	50	50	30
Height 190 mm	38	113	128	168	212	261	212	168	128	113
	38	138	199	290	398	508	398	290	199	138
	38	170	280	450	587	700	587	450	280	170
	38	179	283	496	615	700	615	496	283	179
	38	168	229	324	452	622	452	324	229	168

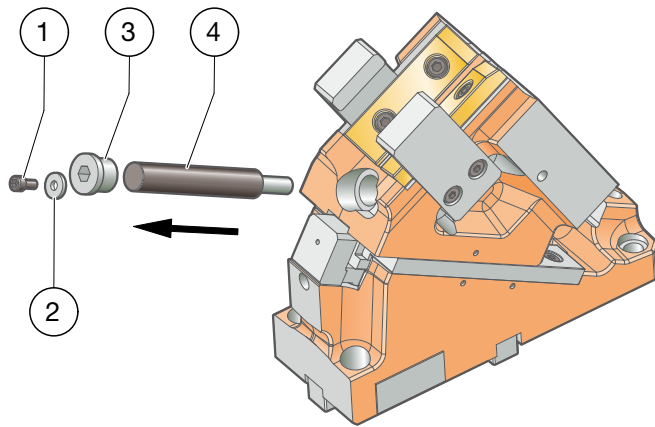


# ASSEMBLY INSTRUCTIONS



# AERIAL CAM UNIT FCC-LV 2016.26.

## ASSEMBLY INSTRUCTIONS

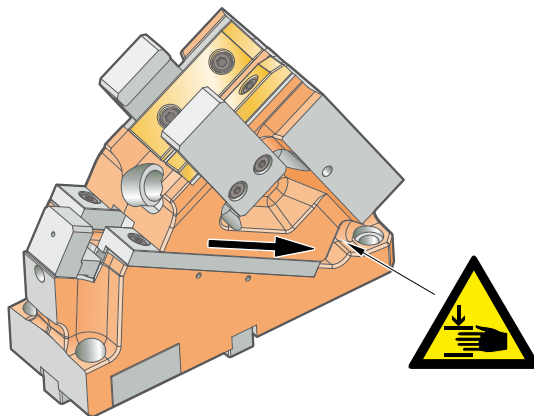


### STEP 1

- Remove screw **(1)** and lock washer **(2)**.
- Unfasten locking screw **(3)** and remove gas spring **(4)** from the mount.

#### Caution

The gas spring may only be removed if the spring itself is released. After removing the locking screw for the gas spring, note that there is a risk of crushing between the cam slide unit body and the cam slide unit bed due to independent movement of the cam slide unit body.

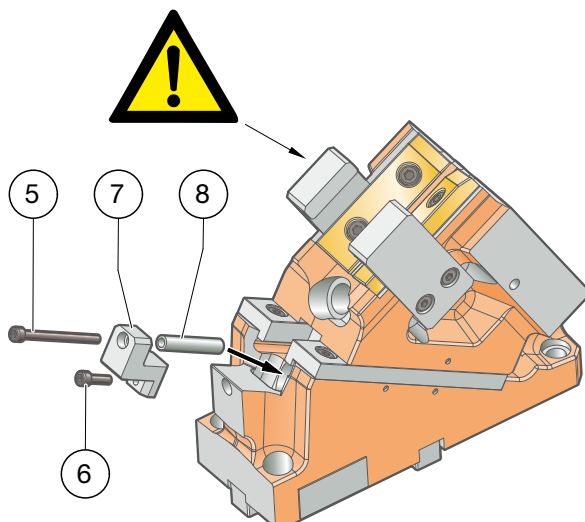


### STEP 2

- Slide the cam unit driver into the front position

#### Caution

Risk of crushing between the cam unit driver and the cam unit base by movement of the cam unit driver.



### STEP 3

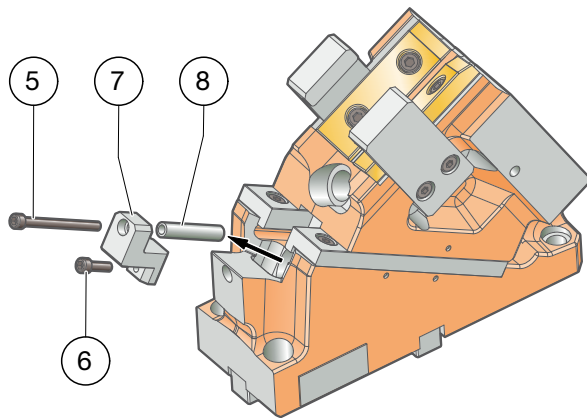
- Unfasten screw **(6)** and remove the cam stop
- Insert lockout system **(7)** and fix with the screw **(6)**.
- Insert lockout sleeve **(8)** and fix cam slider with the screw **(5)**.

#### Caution

In the classic tool setup process (pressing the cam driver in the die), the positive return left and right must additionally be removed in order to avoid damaging the cam unit, cam driver and die.

# AERIAL CAM UNIT FCC-LV 2016.26.

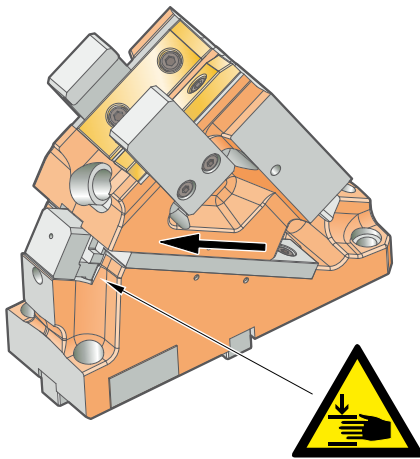
## ASSEMBLY INSTRUCTIONS



### STEP 4

Restore the cam unit function after completion of the work (setup, work surface machining).

- Remove screw **(5)**
- Remove lockout sleeve **(8)**
- Remove the screw **(6)** and disassemble the Lock-Out System **(7)**
- Insert the cam slide stop and fix with the screw **(6)**

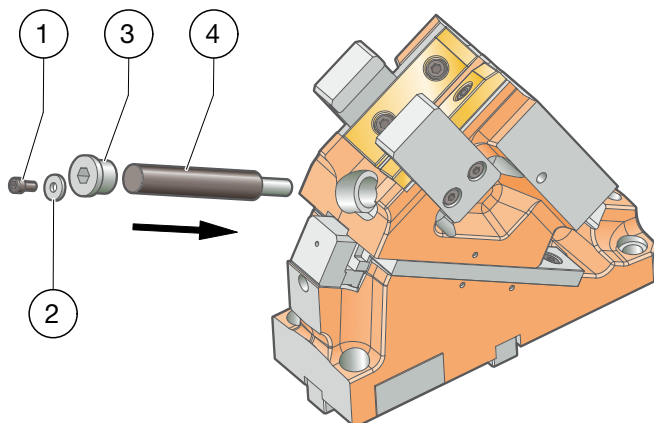


### STEP 5

- Slide the cam unit Driver backwards

#### Caution

Risk of crushing between the cam slider and the cam stop due to movement of the cam slider.



### STEP 6

- Insert gas spring **(4)** and secure by using the locking screw **(3)**.
- Secure the locking screw with lock washer **(2)** and screw **(1)**.

Screws must be secured against loosening by means of adhesive or suitable lock washers.

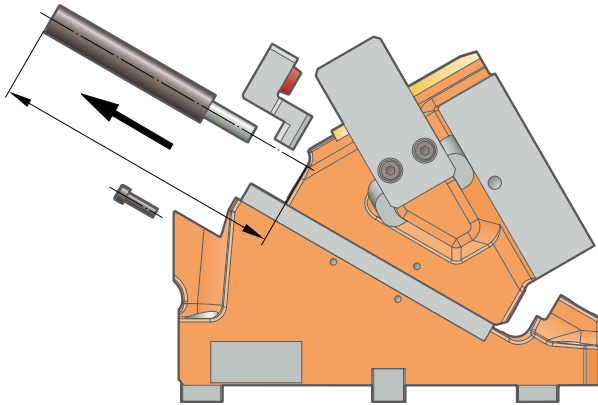
# AERIAL CAM UNIT FCC-LV 2016.26.

## ASSEMBLY IN THE TOOL

Series 2016.26. cam slide units are designed in a way, that the screws and pins for positioning and securing the cam slide unit components in the tool, are accessible in the open position of the cam unit (after removing the cam stop, where applicable).

This access can be restricted or completely prevented by constructions on the cam slide unit working surface.

In such cases, it is possible to disassemble / assemble the populated cam slide unit:



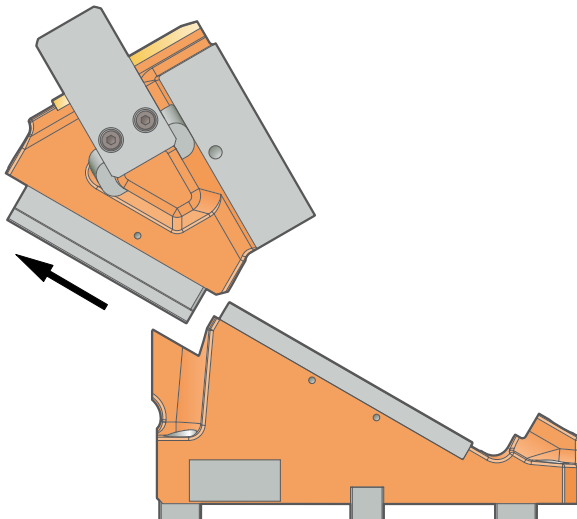
### STEP 1

---

- Remove the gas spring and the cam stop before disassembling the cam slide unit.

### Caution

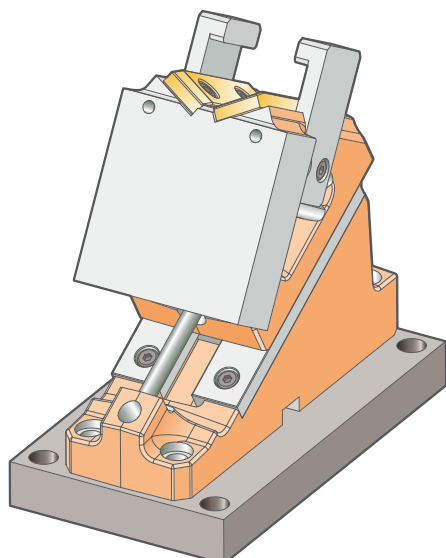
The gas spring may only be removed if the spring itself is released. After removing the locking tappet for the gas spring, note that there is a risk of crushing between the cam slider and the cam unit base due to independent movement of the cam slider.



### STEP 2

---

- Remove the populated cam slide unit towards the back. The cam unit base can remain in the upper die.



In the event of installation space problems in the tool, an additional mounting board can be used as an alternative. The cam unit is positioned and fixed on this mounting plate, the options for positioning and fastening to the tool are located outside the compact cam slide unit structure, and are therefore easily accessible from above for the necessary fitting aids.

Mounting plates are to be provided by the tool shop if necessary, as they are not included as standard with FIBRO cam units.

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## INTRODUCTION AND PRODUCT OVERVIEW

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**2016.26. AERIAL CAM UNIT FCC-LV**

**2016.15. DIE MOUNT CAM FCC-HV**

BMW, DAIMLER,  
VOLKSWAGEN GROUP

**2016.24. AERIAL CAM UNIT FCC-HV**

BMW, DAIMLER, VOLVO,  
VOLKSWAGEN GROUP

**2017.43. ROLLER SLIDE UNITS FRC**

DAIMLER, PSA

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## CUSTOMER-SPECIFIC SERVICES

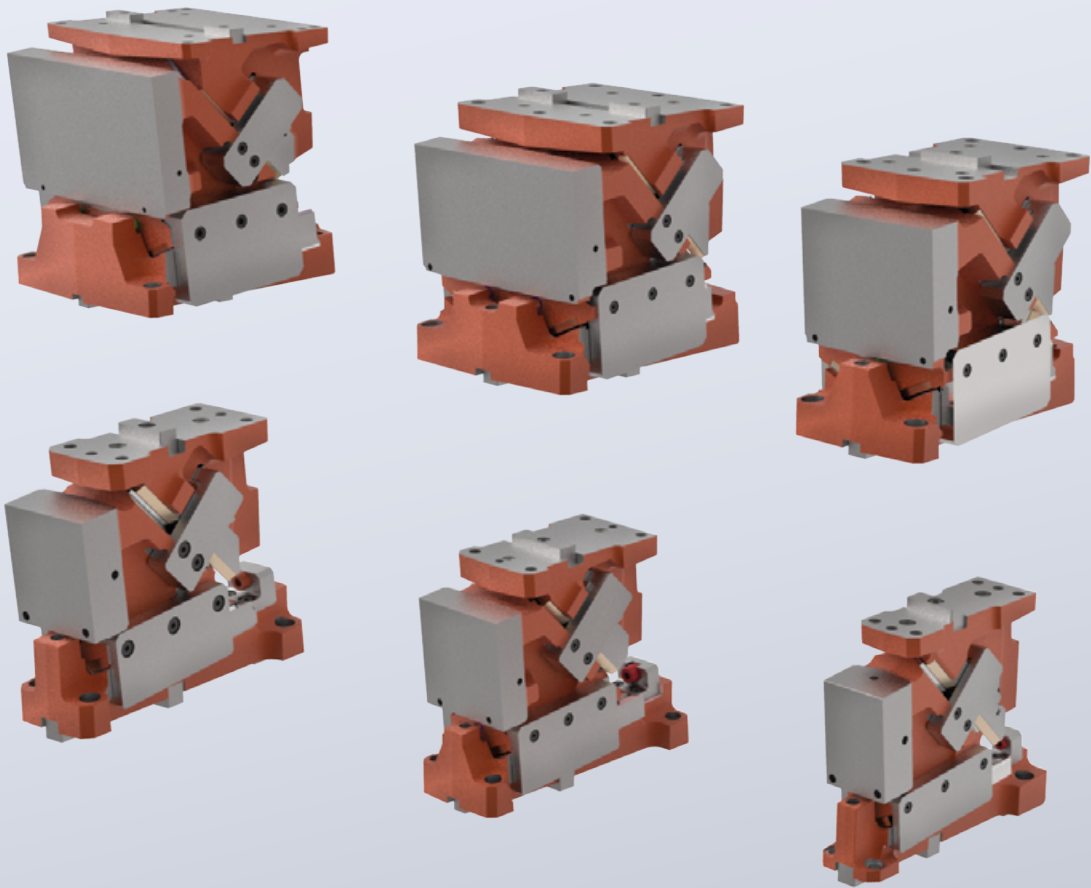
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EMERGENCY SITUATION / CONTACTS

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DIE MOUNT CAM FCC-HV  
**2016.15.**





# DIE MOUNT CAM FCC-HV 2016.15.

Our FIBRO die mounted FCC 2016.15 series cam units impress with a balanced adjustment of compact dimensions, high working forces and extremely high retraction forces. Thanks to the proven and trusted guide concept, these units offer excellent precision and deliver excellent performance, even with the highest demands on service life.

The sliding surfaces of the cam slide units of this series are double-populated across all available sizes. All gliding rails are shouldered against any occurring shear forces. The wear elements of the guides are catalogue items from our Standard Parts product range and offer excellent availability.

With adequate provided free space, the gas springs of all cam units in this series can be accessed and disassembled within the tool from the rear. The gas springs are equipped with our renowned safety features. The cam units in this series meet the requirements of the BAK specifications and are available from stock in the event of a crash.

We can also deliver these cam units ex works with an upwards removable mounting plate if requested. A special feature is, that cam units with or without a removable mounting plate, have the same performance values and dimensions and are interchangeable with one another.

We can also supply the mounting plate in custom dimensions if needed.

These cam units can be ordered ex works with a machined work surface according to your data set upon request. This machining meets the highest requirements of modern toolmaking processes.

## **Design features:**

- Double prism guide
- Sliding surfaces hardened steel / bronze with solid lubricant
- Gas spring with safety features
- The gas spring can be removed within the tool (without disassembling the cam unit).
- Mechanical retraction
- Positive locking connections
- Structural damper
- can be removed backwards or upwards in the tool
- Upon request also available with upwards removable mounting plate

Die mounted cam units in the FCC 2016.15 series are available in twelve widths from 65 mm to 400 mm, each in the angle variants 0-25° in 5° increments. Beginning from a width of 180 mm, the cam slide units in this series are equipped with plate pre-acceleration to improve the dynamic response.

Other widths and angles, as well as other customer-specific designs are possible on request.

# DIE MOUNT CAM FCC-HV

## 2016.15.

Order No	Width [mm]	Performance class [kN]*	Page
2016.15.006.□□.□00□.00	65	125 kN	91
2016.15.008.□□.□00□.00	85	125 kN	91
2016.15.009.□□.□00□.00	90	200 kN	99
2016.15.011.□□.□00□.00	115	200 kN	99
2016.15.012.□□.□00□.00	125	300 kN	107
2016.15.016.□□.□00□.00	160	300 kN	107
2016.15.018.□□.□00□.00	185	450 kN	115
2016.15.022.□□.□00□.00	220	450 kN	115
2016.15.026.□□.□00□.00	260	550 kN	123
2016.15.031.□□.□00□.00	310	550 kN	123
2016.15.034.□□.□00□.00	340	800 kN	131
2016.15.040.□□.□00□.00	400	800 kN	131

\*For exact power values, please refer to the force diagrams of the corresponding cam units

assembly instructions	139
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### Order options:

- .□000 Combination of sliding block / pin in cam unit bed
- .□001 Positioning of cam base via dowel pin
- .□002 Positioning of cam base via feather key (slot stone)
- .100□ Standard working surface on the slider (cast, no recess)
- .300□ Working surface as removable mounting plate

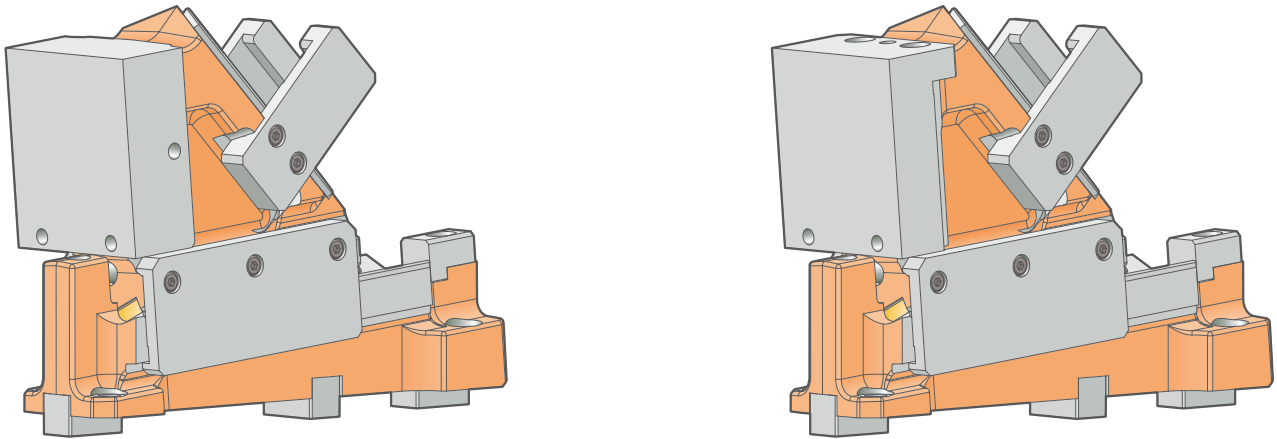
### Ordering Code (example):

FIBRO Die Mounted Cam Unit FCC, width 85 mm	=	2016.15.008.□□.□00□.00
Slide angle $\varepsilon = 20^\circ$	=	20.
Working surface standard	=	100□
Positioning via dowel pin	=	□001
Order No	=	2016.15.008. 20. 1001. 00

# DIE MOUNT CAM FCC-HV 2016.15.

## **EXPANDED RANGE**

Following the successful launch in 2019, we are expanding the range of options available for our die mounted cam unit series this year: We are now offering for our standard range of die mounted cam units an optional mounting plate that can be disassembled upwards.



The removable mounting plate greatly simplifies the drilling pattern application, especially in traditional tool construction processes. Component-related changes can also be realised more easily without reworking the entire cam slide unit body.

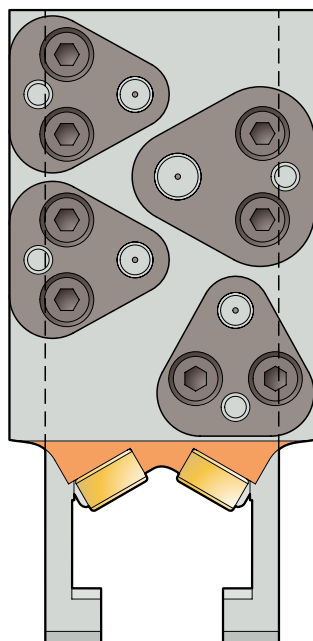
The production of special mounting plates is possible. This means that overbuilding (permissible limits to be clarified with FIBRO!) of the cam unit can easily be realised.

## DIE MOUNT CAM FCC-HV

# DOUBLE WIDTHS

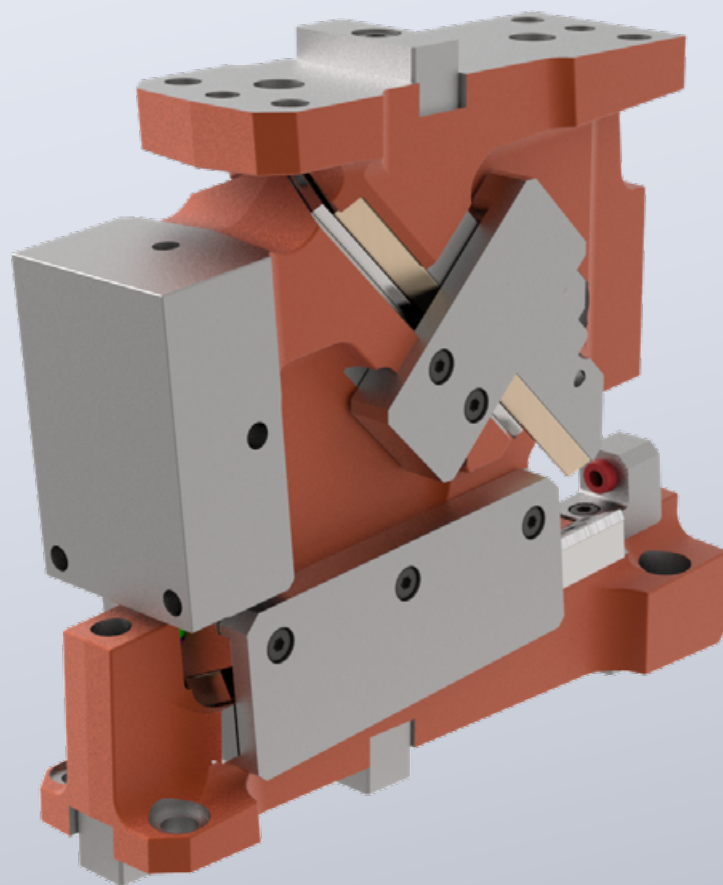
The width grading of the cam slide unit series 2016.15 + .26 is divided into 6x2 double widths, and thus available for each base width in a narrow design, as well as in a narrow design with a widened working surface. The narrow variants impress with their compact dimensions along the entire cam slide unit length, as well as high working forces on all segments of the cam slide unit working surface. With identical cam sliders, the widened designs offers more mounting space for low-force active components (e.g. punch retainers, scraper components) or for large active components with a homogeneous arrangement over the entire working surface.

The figure shows a version with a widened working area. Attached to this working surface are multiple punches with standard, polygon-shaped retainer plates. The force-free screw positions have been rotated into the outer area of the working surface. Multiple punches, through which the force vector is passed, are concentrated in the centre of the cam slide unit working surface.

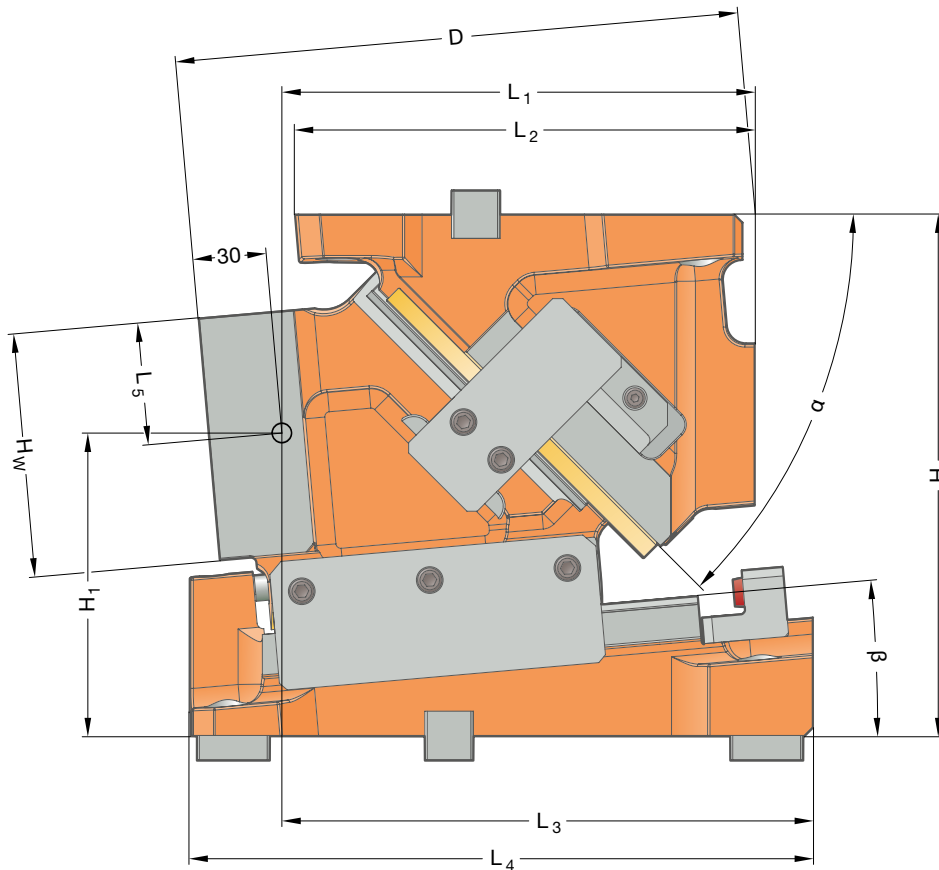
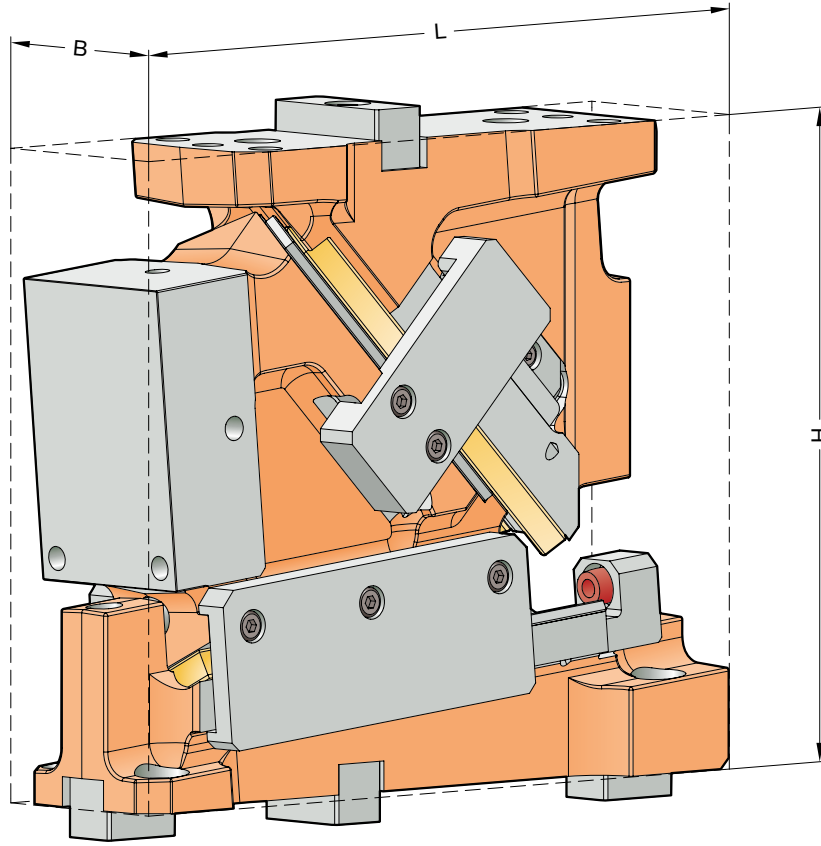


DIE MOUNT CAM FCC-HV  
**2016.15.006./008.**

**Working width:** 65/85 mm  
**Performance class:** 125 kN

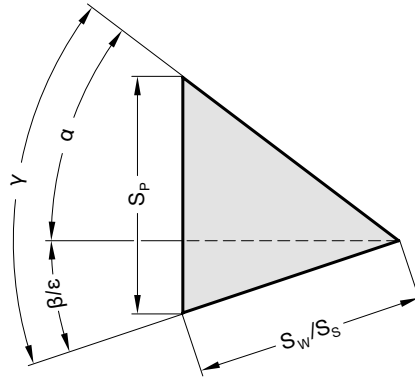


DIE MOUNT CAM FCC-HV 2016.15.006./008.  
**SIZE TABLE**



# DIE MOUNT CAM FCC-HV 2016.15.006./008.

## SIZE TABLE



Order No	L [mm]	B [mm]	H [mm]	H <sub>1</sub> [mm]	H <sub>w</sub> [mm]	L <sub>1</sub> [mm]	L <sub>2</sub> [mm]	L <sub>3</sub> [mm]	L <sub>4</sub> [mm]	D [mm]	$\beta$ [°]	$\alpha$ [°]	S <sub>w</sub> [mm]	S <sub>p</sub> * [mm]
2016.15.006.00.□□□□.00	273	65	220	87,5	100	199	180	255	271	233	0	50	58,0	69,1
2016.15.008.00.□□□□.00		85												
2016.15.006.05.□□□□.00	268	65	220	107,05	100	207	180	255	270	241	5	45	58,0	62,8
2016.15.008.05.□□□□.00		85												
2016.15.006.10.□□□□.00	276	65	220	111,73	100	223	175	255	276	234	10	40	58,0	58,0
2016.15.008.10.□□□□.00		85												
2016.15.006.15.□□□□.00	281	65	220	130,44	100	229	175	255	270	236	15	35	58,0	54,2
2016.15.008.15.□□□□.00		85												
2016.15.006.20.□□□□.00	288	65	220	143,64	100	243	180	250	268	236	20	30	58,0	51,3
2016.15.008.20.□□□□.00		85												
2016.15.006.25.□□□□.00	291	65	220	159,47	100	247	180	245	259	236	25	25	58,0	49,0
2016.15.008.25.□□□□.00		85												

\* Values rounded

### Fastening

Hexagon socket head cap screws DIN EN ISO 4762 / Strength class min. 8.8  
Dowel pins DIN EN ISO 8735

### Cam base:

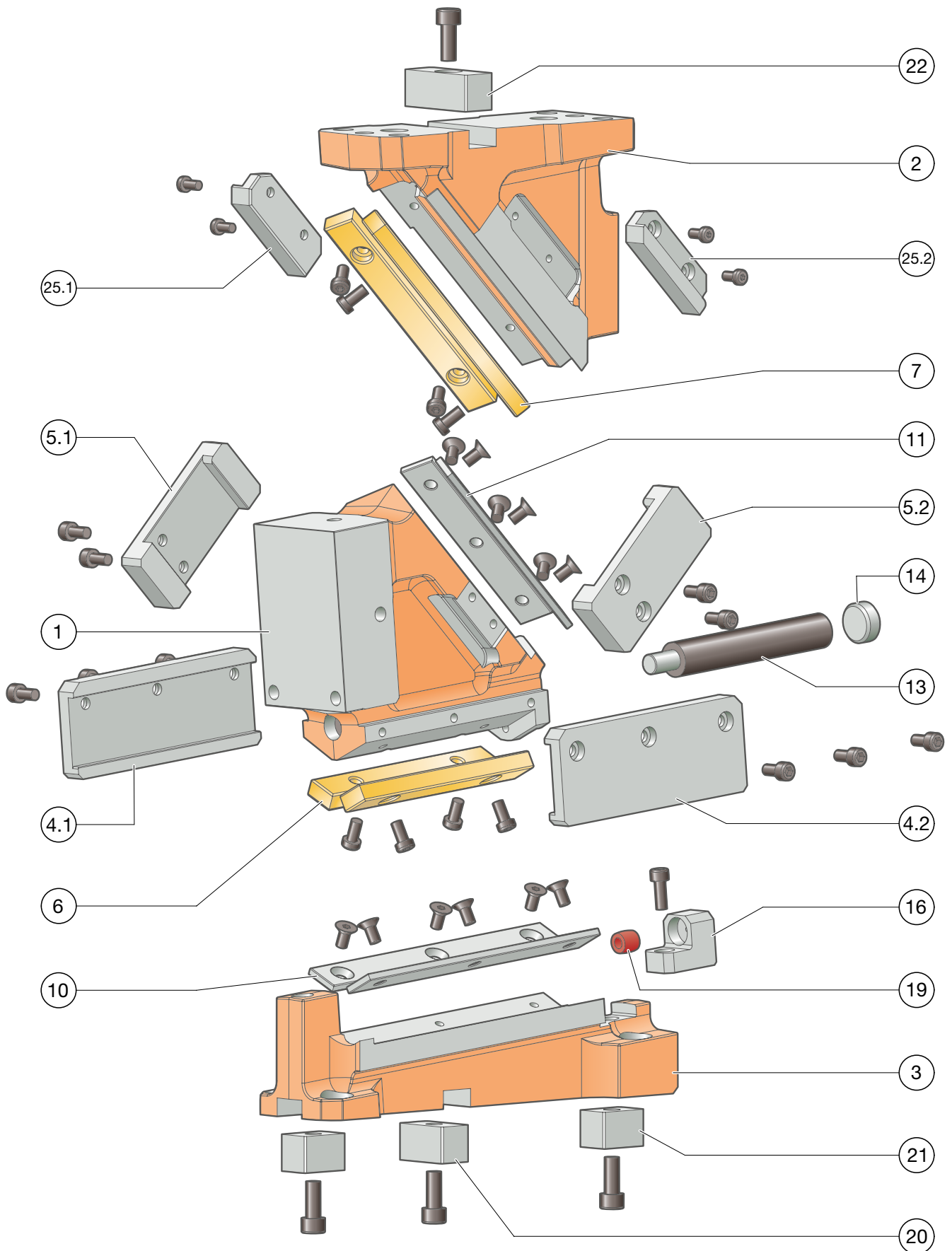
4 × M10  
2 × ø10

### Driver:

4 × M10  
2 × ø10

# DIE MOUNT CAM FCC-HV 2016.15.006./008.

## EXPLODED VIEW





# DIE MOUNT CAM FCC-HV 2016.15.006./008.

## PARTS LIST

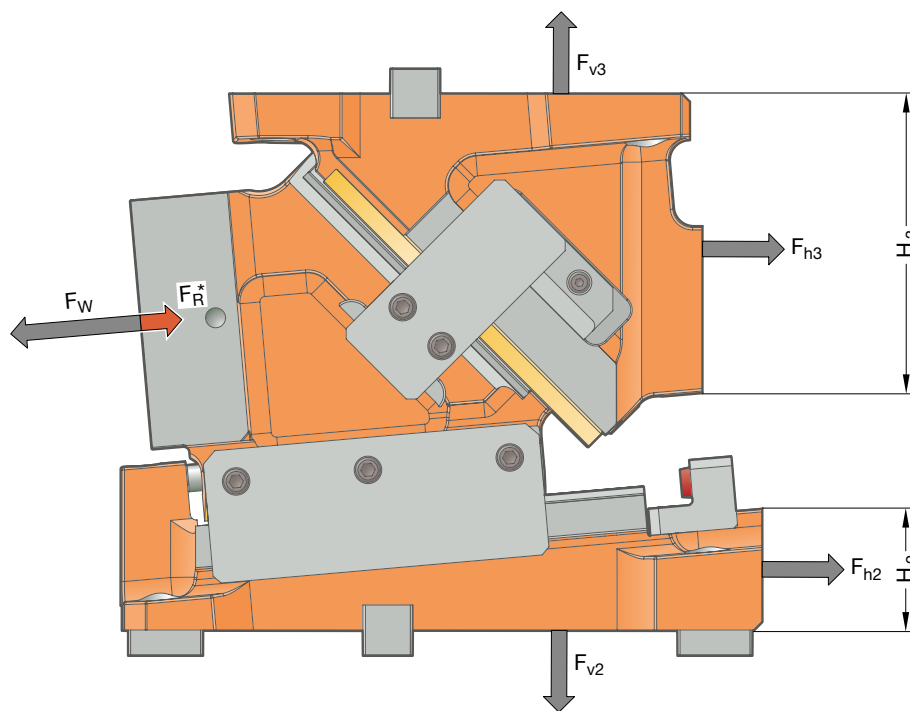
Item No.	Pcs.	Designation	Material	tuned	Spare part
1	1	Cam slider	EN-JS-1060	--	--
2	1	Driver	EN-JS-1060	--	--
3	1	Cam base	EN-JS-1060	--	--
4.1	1	Clamp, left	1.1191 with sinter layer	x	x
4.2	1	Clamp, right	1.1191 with sinter layer	x	x
5.1	1	mechanical retraction, left	1.1191 with sinter layer	x	x
5.2	1	mechanical retraction, right	1.1191 with sinter layer	x	x
6	2	Sliding plate	Bronze with solid lubricant	--	x
7	2	Sliding plate	Bronze with solid lubricant	--	x
8					
9					
10	2	Sliding plate	1.2379	--	x
11	2	Sliding plate	1.2379	--	x
12					
13	1	Gas spring	2487.12.00170.075	--	x
14	1	Locking tappet	1.7131	--	x
15 (not shown)	1	Locking tappet pin			x
16	1	Slide stop	1.1191	--	x
17	1	Spacer			x
18	1	Lock-out system	1.1191	--	x
19	1	Damper	2452.10.012.011.2	--	x
20	1	Feather key (T-nut)	1.1191	--	x
21*	2	Feather key (T-nut)	1.1191	--	x
22	1	Feather key (T-nut)	1.1191	--	x
23					
24					
25.1	1	mechanical retraction, sliding pad	1.2379	--	x
25.2	1	mechanical retraction, sliding pad	1.2379	--	x
26 (not shown)	1	Pallet Carrier Plate	1.7225	--	x

For inquiries or when ordering spare parts (x), we require the following data:

- Cam unit order no.
- Cam unit serial number
- Item No. / Designation / Spare part

# DIE MOUNT CAM FCC-HV 2016.15.006./008.

## SYSTEM AND SURROUNDING FORCES



Order No	$\beta$ [°]	$F_W$ [kN]	$F_R^*$ [kN]	$F_{h2}$ [kN]	$F_{v2}$ [kN]	$F_{h3}$ [kN]	$F_{v3}$ [kN]	$H_2$ [mm]	$H_3$ [mm]
2016.15.00□.00.□00□.00	0	138	15	-10	143	148	143	40	135
2016.15.00□.05.□00□.00	5	138	15	2	143	135	155	55	115
2016.15.00□.10.□00□.00	10	150	15	16	155	131	181	55	115
2016.15.00□.15.□00□.00	15	150	15	30	153	115	192	80	95
2016.15.00□.20.□00□.00	20	150	15	43	150	98	201	95	90
2016.15.00□.25.□00□.00	25	135	15	50	131	72	188	115	70

\* Identified retraction force  $F_R$  can only be achieved with mounted mechanical retractions  
 .00□. = 65 mm (.006.) or 85 mm (.008.)

The forces  $F_{h2}$ ,  $F_{v2}$  as well as  $F_{h3}$ ,  $F_{v3}$  act on the tool environment at maximum working force  $F_W$ .

# DIE MOUNT CAM FCC-HV 2016.15.006./008.

## FORCE DIAGRAM

		Support via cast shoulder				
		Width 85 mm				
0°		10	22.5	20	22.5	10
Height 100 mm	20	32	41	74	41	32
	20	33	48	92	48	33
	20	33	61	112	61	33
	20	33	59	138	59	33
	20	32	58	102	58	32

		Support via feather key				
		Width 85 mm				
0°		10	22.5	20	22.5	10
Height 100 mm	20	23	28	30	28	23
	20	23	27	29	27	23
	20	23	25	28	25	23
	20	22	23	26	23	22
	20	20	22	25	22	20

		Width 85 mm				
		10	22.5	20	22.5	10
5°						
Height 100 mm	20	30	48	112	48	30
	20	30	54	117	54	30
	20	30	54	138	54	30
	20	29	51	133	51	29
	20	27	48	107	48	27

		Width 85 mm				
		10	22.5	20	22.5	10
5°						
Height 100 mm	20	24	30	38	30	24
	20	25	31	35	31	25
	20	26	30	32	30	26
	20	25	28	29	28	25
	20	24	26	28	26	24

		Width 85 mm				
		10	22.5	20	22.5	10
10°						
Height 100 mm	20	29	51	102	51	29
	20	28	50	133	50	28
	20	27	48	150	48	27
	20	26	45	150	45	26
	20	25	43	105	43	25

		Width 85 mm				
		10	22.5	20	22.5	10
10°						
Height 100 mm	20	28	33	34	33	28
	20	27	31	33	31	27
	20	25	30	31	30	25
	20	24	29	29	29	24
	20	22	28	28	28	22

		Width 85 mm				
		10	22.5	20	22.5	10
15°						
Height 100 mm	20	38	59	93	59	38
	20	41	64	128	64	41
	20	43	71	150	71	43
	20	46	79	130	79	46
	20	38	64	107	64	38

		Width 85 mm				
		10	22.5	20	22.5	10
15°						
Height 100 mm	20	28	36	42	36	28
	20	29	34	38	34	29
	20	29	32	35	32	29
	20	28	29	32	29	28
	20	26	28	30	28	26

		Width 85 mm				
		10	22.5	20	22.5	10
20°						
Height 100 mm	20	37	59	122	59	37
	20	36	62	130	62	36
	20	35	59	150	59	35
	20	32	54	105	54	32
	20	31	50	71	50	31

		Width 85 mm				
		10	22.5	20	22.5	10
20°						
Height 100 mm	20	29	37	45	37	29
	20	28	35	42	35	28
	20	26	33	38	33	26
	20	25	31	36	31	25
	20	23	29	33	29	23

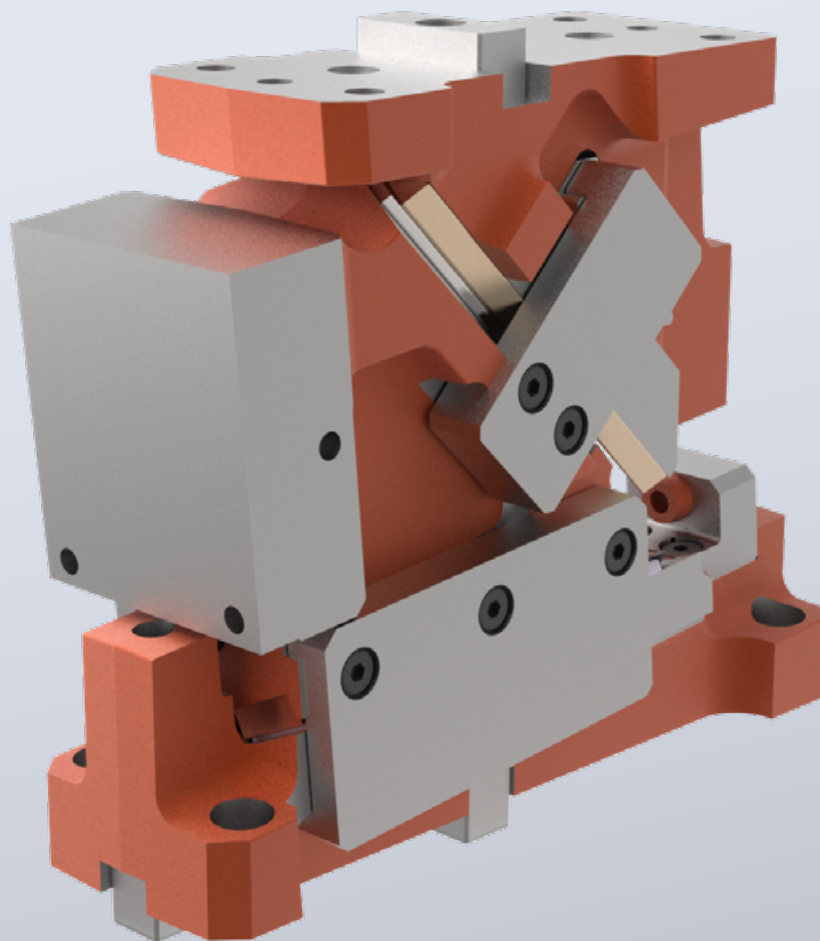
		Width 85 mm				
		10	22.5	20	22.5	10
25°						
Height 100 mm	20	35	48	68	48	35
	20	35	58	88	58	35
	20	34	56	119	56	34
	20	31	51	135	51	31
	20	29	48	99	48	29

		Width 85 mm				
		10	22.5	20	22.5	10
25°						
Height 100 mm	20	29	42	53	42	29
	20	27	43	48	43	27
	20	25	39	44	39	25
	20	24	36	39	36	24
	20	23	33	36	33	23



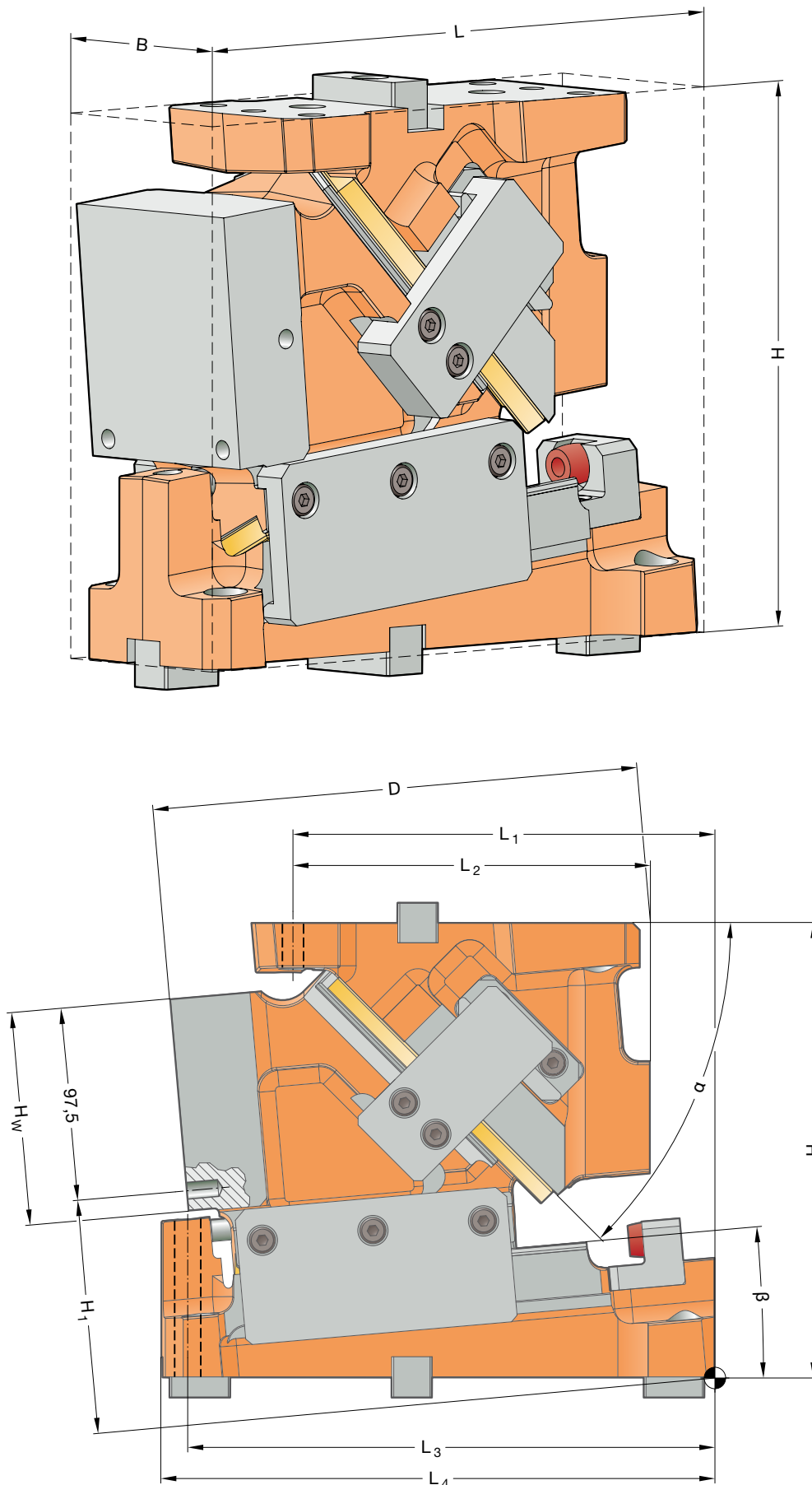
# DIE MOUNT CAM FCC-HV 2016.15.009./011.

**Working width:** 90/115 mm  
**Performance class:** 200 kN



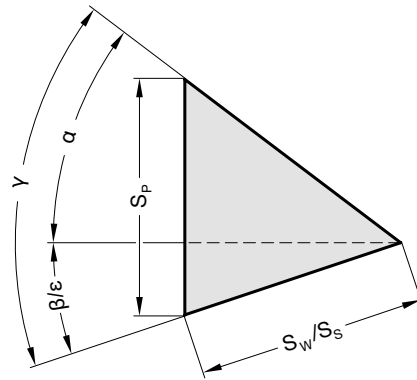
# DIE MOUNT CAM FCC-HV 2016.15.009./011.

## SIZE TABLE



# DIE MOUNT CAM FCC-HV 2016.15.009./011.

## SIZE TABLE



Order No	L [mm]	B [mm]	H [mm]	H <sub>1</sub> [mm]	H <sub>W</sub> [mm]	L <sub>1</sub> [mm]	L <sub>2</sub> [mm]	L <sub>3</sub> [mm]	L <sub>4</sub> [mm]	D [mm]	$\beta$ [°]	$\alpha$ [°]	S <sub>W</sub> [mm]	S <sub>P</sub> * [mm]
2016.15.009.00.□□□□.00	276	90	225	97,5	105	197	175	260	276	233,0	0	50	58,0	69,1
2016.15.011.00.□□□□.00		115												
2016.15.009.05.□□□□.00	274	90	225	112,47	105	210	175	260	274	237,0	5	45	58,0	62,8
2016.15.011.05.□□□□.00		115												
2016.15.009.10.□□□□.00	280	90	225	122,28	105	215	175	260	277	245,0	10	40	58,0	58,0
2016.15.011.10.□□□□.00		115												
2016.15.009.15.□□□□.00	289	90	225	141,65	105	230	185	260	271	250,0	15	35	58,0	54,2
2016.15.011.15.□□□□.00		115												
2016.15.009.20.□□□□.00	302	90	225	157,48	105	240	185	265	284	254,0	20	30	58,0	51,3
2016.15.011.20.□□□□.00		115												
2016.15.009.25.□□□□.00	306	90	225	169,49	105	250	185	265	274	249,0	25	25	58,0	49,0
2016.15.011.25.□□□□.00		115												

\* Values rounded

### Fastening

Hexagon socket head cap screws DIN EN ISO 4762 / Strength class min. 8.8  
Dowel pins DIN EN ISO 8735

### Cam base:

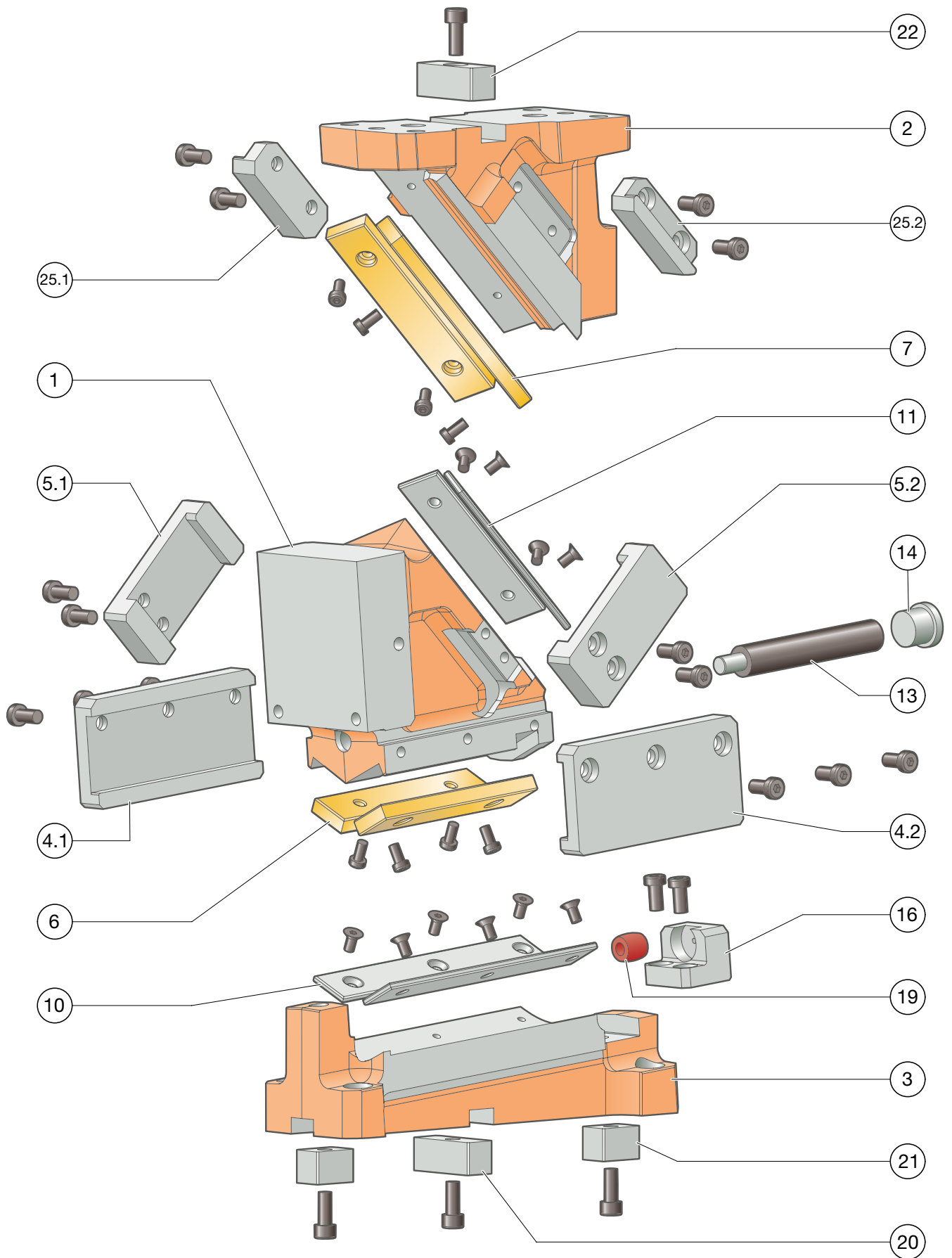
4 × M10  
2 × ø10

### Driver:

4 × M10  
2 × ø10

# DIE MOUNT CAM FCC-HV 2016.15.009./011.

## EXPLODED VIEW





# DIE MOUNT CAM FCC-HV 2016.15.009./011.

## PARTS LIST

Item No.	Pcs.	Designation	Material	tuned	Spare part
1	1	Cam slider	EN-JS-1060	--	--
2	1	Driver	EN-JS-1060	--	--
3	1	Cam base	EN-JS-1060	--	--
4.1	1	Clamp, left	1.1191 with sinter layer	x	x
4.2	1	Clamp, right	1.1191 with sinter layer	x	x
5.1	1	mechanical retraction, left	1.1191 with sinter layer	x	x
5.2	1	mechanical retraction, right	1.1191 with sinter layer	x	x
6	2	Sliding plate	Bronze with solid lubricant	--	x
7	2	Sliding plate	Bronze with solid lubricant	--	x
8					
9					
10	2	Sliding plate	1.2379	--	x
11	2	Sliding plate	1.2379	--	x
12					
13	1	Gas spring	2487.12.00170.075	--	x
14	1	Locking tappet	1.7131	--	x
15 (not shown)	1	Locking tappet pin		--	x
16	1	Slide stop	1.1191	--	x
17 (not shown)	1	Spacer			x
18 (not shown)	1	Lock-out system	1.1191	--	x
19	1	Damper	2452.10.017.016.1	--	x
20	1	Feather key (T-nut)	1.1191	--	x
21*	2	Feather key (T-nut)	1.1191	--	x
22	1	Feather key (T-nut)	1.1191	--	x
23					
24					
25.1	1	mechanical retraction, sliding pad	1.2379	--	x
25.2	1	mechanical retraction, sliding pad	1.2379	--	x
26 (not shown)	1	Pallet Carrier Plate	1.7225	--	x

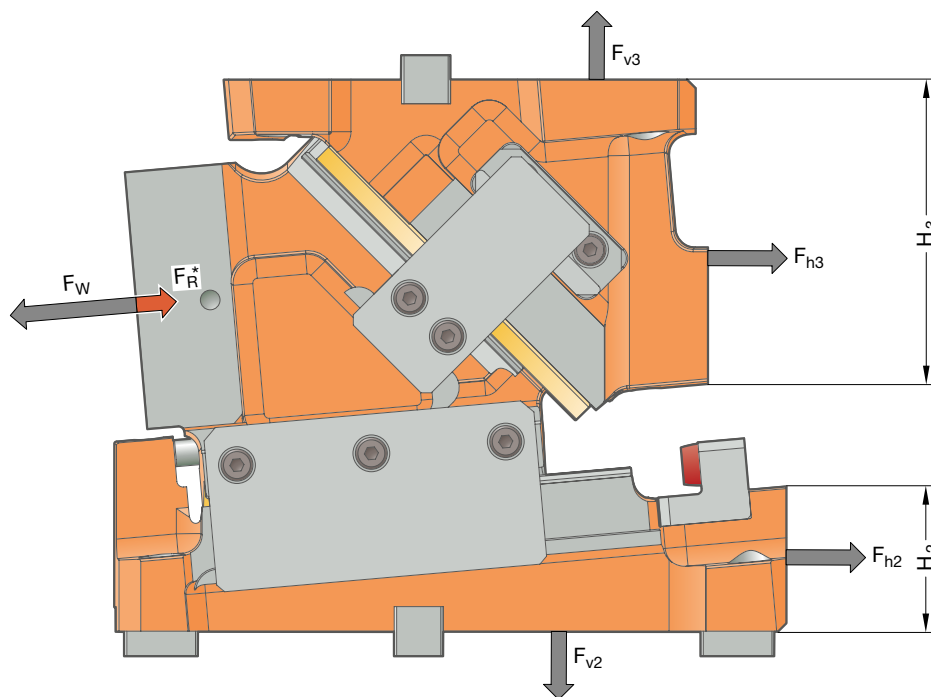
\* Feather key (slot stone) only with order option .1002 (positioning of cam unit base via feather key)

For inquiries or when ordering spare parts (x), we require the following data:

- Cam unit order no.
- Cam unit serial number
- Item No. / Designation / Spare part

# DIE MOUNT CAM FCC-HV 2016.15.009./011.

## SYSTEM AND SURROUNDING FORCES



Order No	$\beta$ [°]	$F_W$ [kN]	$F_R^*$ [kN]	$F_{h2}$ [kN]	$F_{v2}$ [kN]	$F_{h3}$ [kN]	$F_{v3}$ [kN]	$H_2$ [mm]	$H_3$ [mm]
2016.15.0□□.00.□00□.00	0	194	25	-14	201	208	201	45	130
2016.15.0□□.05.□00□.00	5	194	25	4	201	190	218	60	120
2016.15.0□□.10.□00□.00	10	194	25	21	200	170	234	70	120
2016.15.0□□.15.□00□.00	15	191	25	38	195	147	244	90	105
2016.15.0□□.20.□00□.00	20	194	25	56	194	127	260	100	80
2016.15.0□□.25.□00□.00	25	194	25	72	188	104	270	115	70

\* Identified retraction force  $F_R$  can only be achieved with mounted mechanical retractions  
 .0□□. = 90 mm (.009.) or 115 mm (.011.)

The forces  $F_{h2}$ ,  $F_{v2}$  as well as  $F_{h3}$ ,  $F_{v3}$  act on the tool environment at maximum working force  $F_W$ .

# DIE MOUNT CAM FCC-HV 2016.15.009./011.

## FORCE DIAGRAM

Support via cast shoulder

		Width 115 mm							
		12.5	17.5	17.5	20	17.5	17.5	12.5	
Height 105 mm	0°	21	33	49	94	138	94	49	33
		21	32	47	91	176	91	47	32
		21	31	45	86	191	86	45	31
		21	29	41	81	194	81	41	29
		21	26	40	81	109	81	40	26
		21	26	40	81	109	81	40	26

Support via feather key

		Width 115 mm							
		12.5	17.5	17.5	20	17.5	17.5	12.5	
Height 105 mm	0°	21	22	25	32	38	32	25	22
		21	23	27	34	38	34	27	23
		21	24	28	32	37	32	28	24
		21	22	27	30	35	30	27	22
		21	22	25	28	32	28	25	22
		21	22	25	28	32	28	25	22

Support via cast shoulder

		Width 115 mm							
		12.5	17.5	17.5	20	17.5	17.5	12.5	
Height 105 mm	5°	21	35	50	78	137	78	50	35
		21	33	49	76	165	76	49	33
		21	32	46	70	194	70	46	32
		21	30	42	68	194	68	42	30
		21	27	40	68	108	68	40	27
		21	27	40	68	108	68	40	27

Support via feather key

		Width 115 mm							
		12.5	17.5	17.5	20	17.5	17.5	12.5	
Height 105 mm	5°	21	22	25	32	39	32	25	22
		21	23	27	34	38	34	27	23
		21	24	27	32	36	32	27	24
		21	22	27	30	34	30	27	22
		21	22	25	28	30	28	25	22
		21	22	25	28	30	28	25	22

Support via cast shoulder

		Width 115 mm							
		12.5	17.5	17.5	20	17.5	17.5	12.5	
Height 105 mm	10°	21	30	43	81	137	81	43	30
		21	28	41	76	169	76	41	28
		21	26	38	70	194	70	38	26
		21	23	34	65	194	65	34	23
		21	22	32	65	108	65	32	22
		21	22	32	65	108	65	32	22

Support via feather key

		Width 115 mm							
		12.5	17.5	17.5	20	17.5	17.5	12.5	
Height 105 mm	10°	21	19	24	32	40	32	24	19
		21	21	25	34	42	34	25	21
		21	22	27	36	39	36	27	22
		21	23	29	36	37	36	29	23
		21	21	29	34	34	34	29	21
		21	21	29	34	34	34	29	21

Support via cast shoulder

		Width 115 mm							
		12.5	17.5	17.5	20	17.5	17.5	12.5	
Height 105 mm	15°	21	29	43	81	130	81	43	29
		21	27	40	76	155	76	40	27
		21	25	37	68	180	68	37	25
		21	23	32	62	191	62	32	23
		21	21	30	59	108	59	30	21
		21	21	30	59	108	59	30	21

Support via feather key

		Width 115 mm							
		12.5	17.5	17.5	20	17.5	17.5	12.5	
Height 105 mm	15°	21	21	26	34	44	34	26	21
		21	21	28	38	48	38	28	21
		21	23	29	40	46	40	29	23
		21	23	33	42	42	42	33	23
		21	21	29	38	39	38	29	21
		21	21	29	38	39	38	29	21

Support via cast shoulder

		Width 115 mm							
		12.5	17.5	17.5	20	17.5	17.5	12.5	
Height 105 mm	20°	21	33	48	84	119	84	48	33
		21	32	46	86	187	86	46	32
		21	30	43	81	194	81	43	30
		21	27	40	73	151	73	40	27
		21	25	35	73	104	73	35	25
		21	25	35	73	104	73	35	25

Support via feather key

		Width 115 mm							
		12.5	17.5	17.5	20	17.5	17.5	12.5	
Height 105 mm	20°	21	21	27	40	53	40	27	21
		21	25	29	42	57	42	29	25
		21	25	32	46	53	46	32	25
		21	26	36	46	48	46	36	26
		21	24	33	43	44	43	33	24
		21	24	33	43	44	43	33	24

Support via cast shoulder

		Width 115 mm							
		12.5	17.5	17.5	20	17.5	17.5	12.5	
Height 105 mm	25°	21	35	49	81	112	81	49	35
		21	35	51	92	140	92	51	35
		21	32	48	86	187	86	48	32
		21	31	42	78	194	78	42	31
		21	26	37	78	101	78	37	26
		21	26	37	78	101	78	37	26

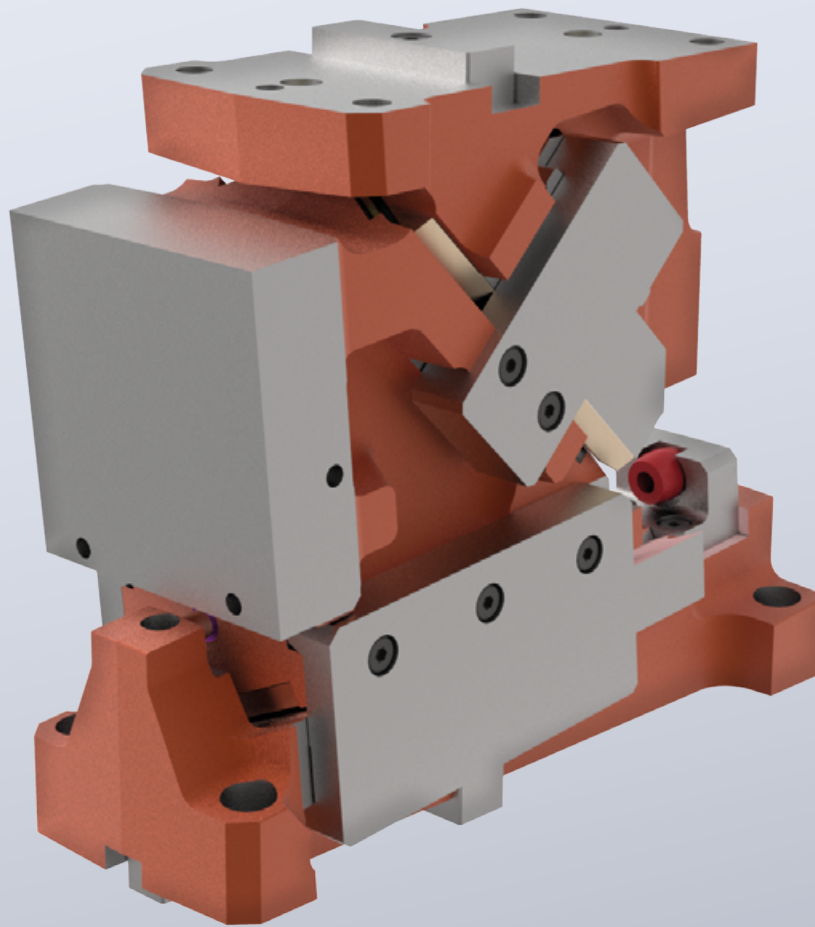
Support via feather key

		Width 115 mm							
		12.5	17.5	17.5	20	17.5	17.5	12.5	
Height 105 mm	25°	21	22	28	42	60	42	28	22
		21	23	30	45	58	45	30	23
		21	25	33	48	53	48	33	25
		21	26	36	44	46	44	36	26
		21	25	34	40	42	40	34	25
		21	25	34	40	42	40	34	25



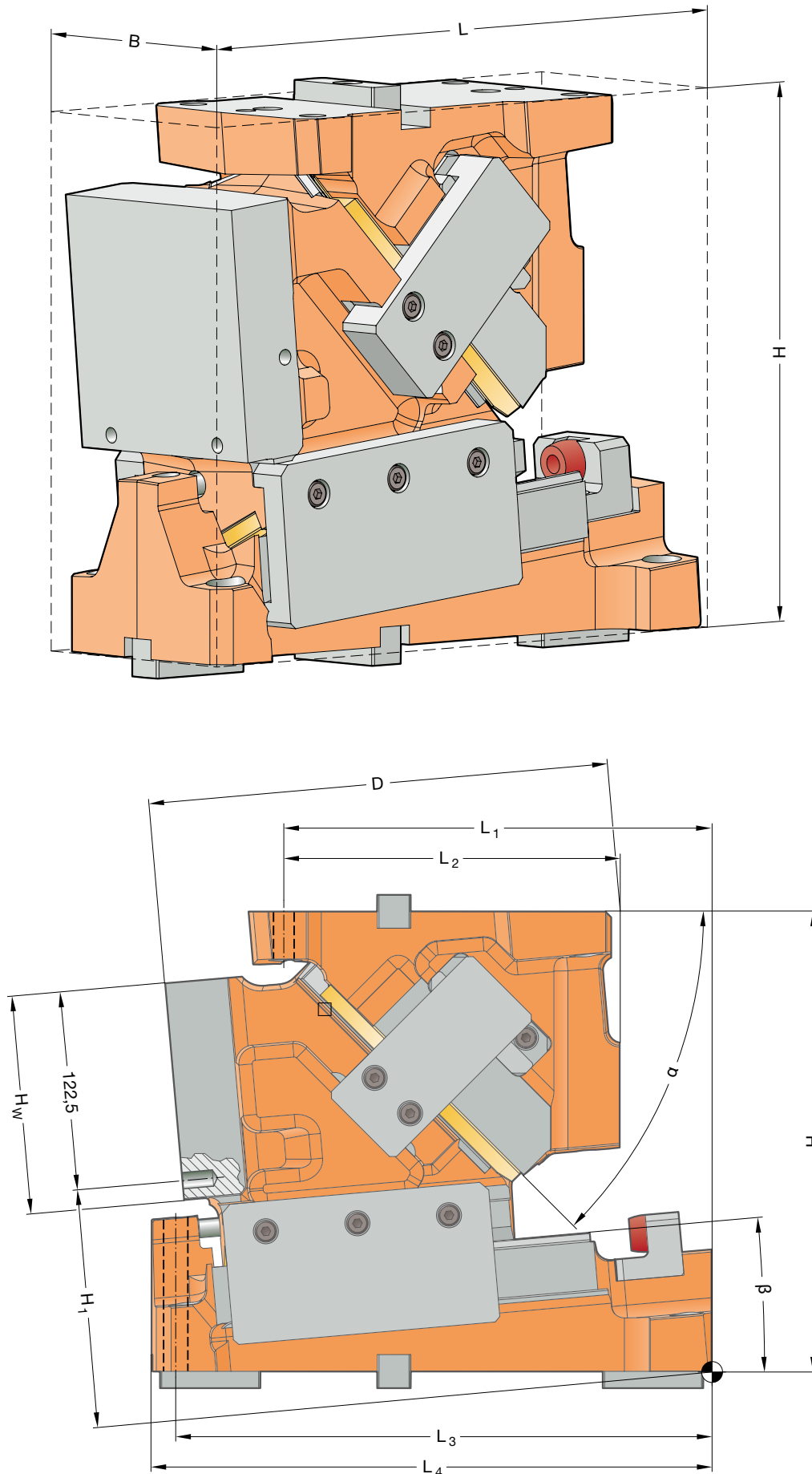
# DIE MOUNT CAM FCC-HV 2016.15.012./016.

**Working width:** 125/160 mm  
**Performance class:** 300 kN



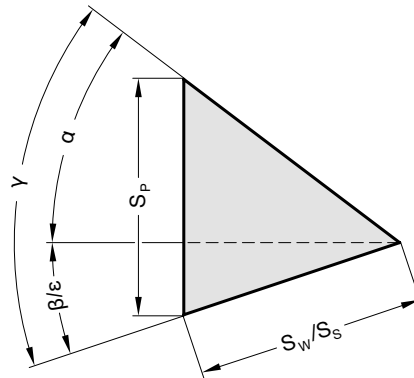
# DIE MOUNT CAM FCC-HV 2016.15.012./016.

## SIZE TABLE



# DIE MOUNT CAM FCC-HV 2016.15.012./016.

## SIZE TABLE



Order No	L [mm]	B [mm]	H [mm]	H <sub>1</sub> [mm]	H <sub>w</sub> [mm]	L <sub>1</sub> [mm]	L <sub>2</sub> [mm]	L <sub>3</sub> [mm]	L <sub>4</sub> [mm]	D [mm]	$\beta$ [°]	$\alpha$ [°]	S <sub>w</sub> [mm]	S <sub>p</sub> * [mm]
2016.15.012.00.□00□.00	339	125	275	122,5	130	250	210	285	339	270,0	0	50	70,0	83,4
2016.15.016.00.□00□.00		160												
2016.15.012.05.□00□.00	335	125	275	137,19	130	265	210	285	335	275,0	5	45	70,0	75,8
2016.15.016.05.□00□.00		160												
2016.15.012.10.□00□.00	339	125	275	151,52	130	270	210	285	337	284,0	10	40	70,0	70,0
2016.15.016.10.□00□.00		160												
2016.15.012.15.□00□.00	350	125	275	175,21	130	290	225	275	330	291,0	15	35	70,0	65,5
2016.15.016.15.□00□.00		160												
2016.15.012.20.□00□.00	361	125	275	188,68	130	300	225	275	335	294,0	20	30	70,0	61,9
2016.15.016.20.□00□.00		160												
2016.15.012.25.□00□.00	371	125	275	210,86	130	315	225	275	329	289,0	25	25	70,0	59,2
2016.15.016.25.□00□.00		160												

\* Values rounded

### Fastening

Hexagon socket head cap screws DIN EN ISO 4762 / Strength class min. 8.8  
Dowel pins DIN EN ISO 8735

### Cam base:

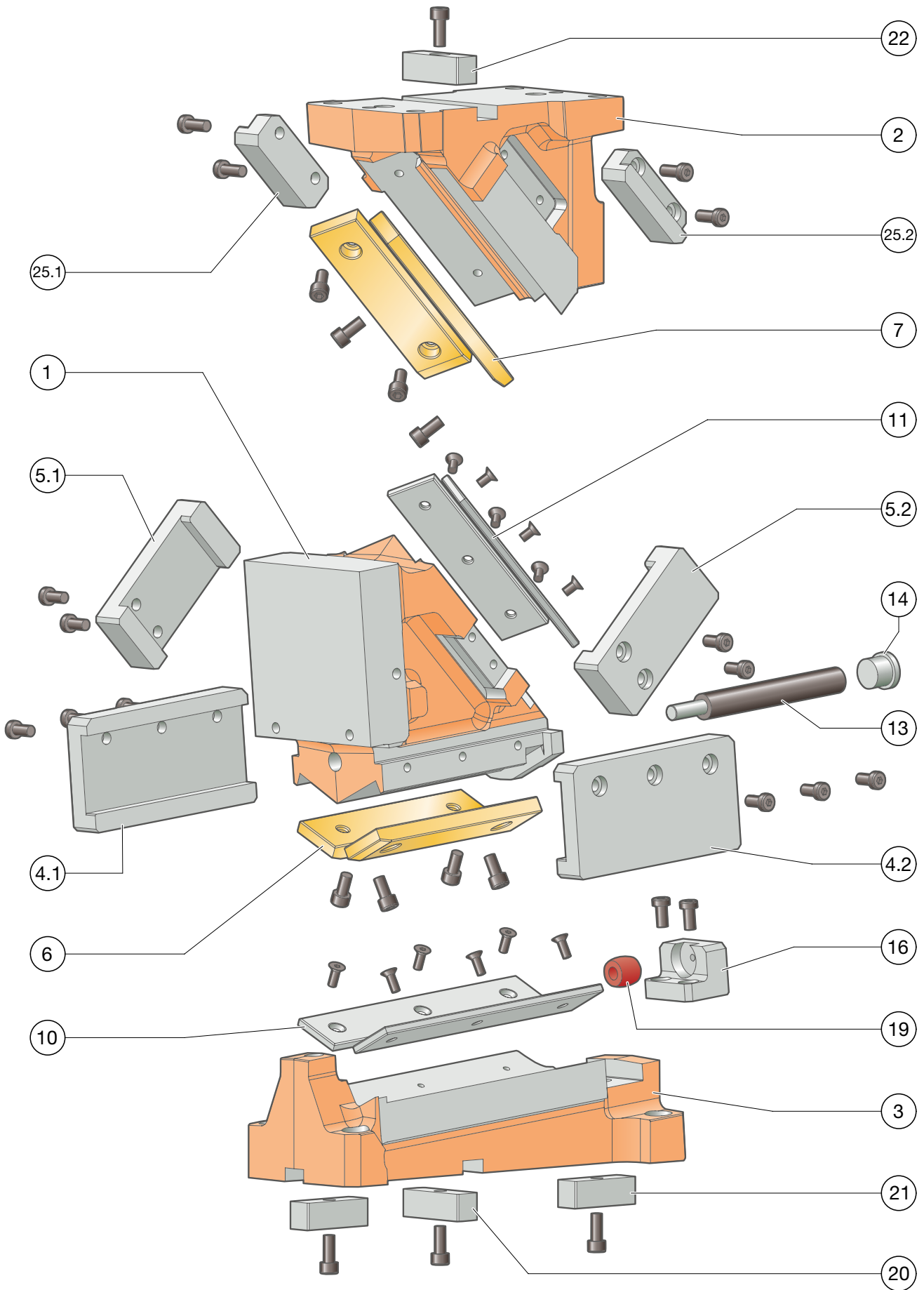
4 × M12  
2 ×  $\varnothing$ 12

### Driver:

4 × M12  
2 ×  $\varnothing$ 12

# DIE MOUNT CAM FCC-HV 2016.15.012./016.

## EXPLODED VIEW





# DIE MOUNT CAM FCC-HV 2016.15.012./016.

## PARTS LIST

Item No.	Pcs.	Designation	Material	tuned	Spare part
1	1	Cam slider	EN-JS-1060	--	--
2	1	Driver	EN-JS-1060	--	--
3	1	Cam base	EN-JS-1060	--	--
4.1	1	Clamp, left	1.1191 with sinter layer	x	x
4.2	1	Clamp, right	1.1191 with sinter layer	x	x
5.1	1	mechanical retraction, left	1.1191 with sinter layer	x	x
5.2	1	mechanical retraction, right	1.1191 with sinter layer	x	x
6	2	Sliding plate	Bronze with solid lubricant	--	x
7	2	Sliding plate	Bronze with solid lubricant	--	x
8					
9					
10	2	Sliding plate	1.2379	--	x
11	2	Sliding plate	1.2379	--	x
12					
13	1	Gas spring	2487.12.00170.100	--	x
14	1	Locking tappet	1.7131	--	x
15 (not shown)	1	Locking tappet pin			x
16	1	Slide stop	1.1191	--	x
17 (not shown)	1	Spacer			x
18 (not shown)	1	Lockout system	1.1191	--	x
19	1	Damper	2452.10.022.019.2	--	x
20	1	Feather key (T-nut)	1.1191	--	x
21*	2	Feather key (T-nut)	1.1191	--	x
22	1	Feather key (T-nut)	1.1191	--	x
23					
24					
25.1	1	mechanical retraction, sliding pad	1.2379	--	x
25.2	1	mechanical retraction, sliding pad	1.2379	--	x
26 (not shown)	1	Pallet Carrier Plate	1.7225	--	x

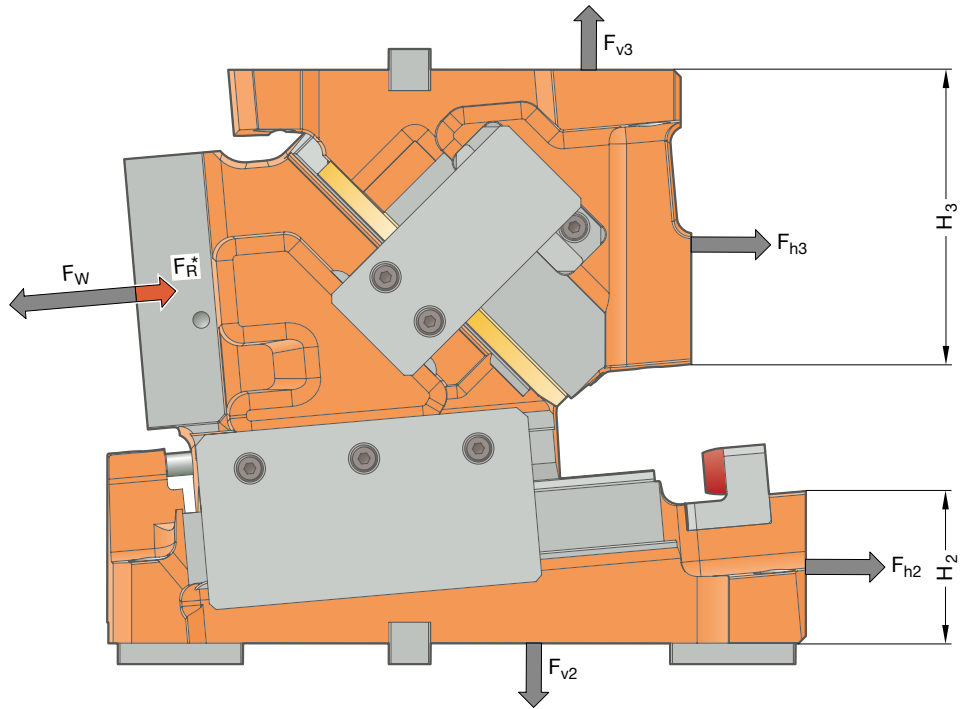
\* Feather key (slot stone) only with order option .1002 (positioning of cam unit base via feather key)

For inquiries or when ordering spare parts (x), we require the following data:

- Cam unit order no.
- Cam unit serial number
- Item No. / Designation / Spare part

# DIE MOUNT CAM FCC-HV 2016.15.012./016.

## SYSTEM AND SURROUNDING FORCES



Order No	$\beta$ [°]	$F_W$ [kN]	$F_R^*$ [kN]	$F_{h2}$ [kN]	$F_{v2}$ [kN]	$F_{h3}$ [kN]	$F_{v3}$ [kN]	$H_2$ [mm]	$H_3$ [mm]
2016.15.0□□.00.□00□.00	0	320	30	-23	331	343	331	50	145
2016.15.0□□.05.□00□.00	5	320	30	6	332	313	360	65	135
2016.15.0□□.10.□00□.00	10	350	30	38	361	307	422	80	135
2016.15.0□□.15.□00□.00	15	350	30	69	357	269	447	110	115
2016.15.0□□.20.□00□.00	20	245	30	70	245	160	328	125	110
2016.15.0□□.25.□00□.00	25	248	30	92	240	132	345	155	90

\* Identified retraction force  $F_R$  can only be achieved with mounted mechanical retractions

.0□□. = 125 mm (.012.) or 160 mm (.016.)

The forces  $F_{h2}$ ,  $F_{v2}$  as well as  $F_{h3}$ ,  $F_{v3}$  act on the tool environment at maximum working force  $F_W$ .

# DIE MOUNT CAM FCC-HV 2016.15.012./016.

## FORCE DIAGRAM

Support via cast shoulder

		Width 160 mm						
0°		17.5	25	25	25	25	25	17.5
Height 130 mm	26	56	70	96	128	96	70	56
	26	63	84	120	160	120	84	63
	26	77	98	144	208	144	98	77
	26	84	119	192	320	192	119	84
	26	84	112	192	288	192	112	84

Support via feather key

		Width 160 mm						
0°		17.5	25	25	25	25	25	17.5
Height 130 mm	26	33	42	60	74	60	42	33
	26	35	45	62	70	62	45	35
	26	37	48	60	66	60	48	37
	26	38	50	56	62	56	50	38
	26	35	47	53	58	53	47	35

Support via cast shoulder

		Width 160 mm						
5°		60	60	60	40	60	60	60
Height 130 mm	26	44	57	97	129	97	57	44
	26	47	66	121	161	121	66	47
	26	55	72	144	209	144	72	55
	26	59	81	179	320	179	81	59
	26	77	95	182	276	182	95	77

Support via feather key

		Width 160 mm						
5°		17.5	25	25	25	25	25	17.5
Height 130 mm	26	26	33	46	59	46	33	26
	26	27	35	49	61	49	35	27
	26	28	37	52	60	52	37	28
	26	29	39	53	56	53	39	29
	26	31	41	50	52	50	41	31

Support via cast shoulder

		Width 160 mm						
10°		17.5	25	25	25	25	25	17.5
Height 130 mm	26	44	57	86	107	86	57	44
	26	44	60	106	132	106	60	44
	26	45	60	123	168	123	60	45
	26	42	60	140	252	140	60	42
	26	46	57	129	350	129	57	46

Support via feather key

		Width 160 mm						
10°		17.5	25	25	25	25	25	17.5
Height 130 mm	26	30	37	48	60	48	37	30
	26	32	40	52	60	52	40	32
	26	34	42	52	56	52	42	34
	26	32	42	50	51	50	42	32
	26	31	40	46	49	46	40	31

Support via cast shoulder

		Width 160 mm						
15°		17.5	25	25	25	25	25	17.5
Height 130 mm	26	48	66	126	176	126	66	48
	26	52	74	156	218	156	74	52
	26	51	68	150	281	150	68	51
	26	46	63	137	350	137	63	46
	26	46	57	138	281	138	57	46

Support via feather key

		Width 160 mm						
15°		17.5	25	25	25	25	25	17.5
Height 130 mm	26	29	38	56	74	56	38	29
	26	30	40	61	78	61	40	30
	26	32	43	65	81	65	43	32
	26	31	43	70	74	70	43	31
	26	27	38	64	68	64	38	27

Support via cast shoulder

		Width 160 mm						
20°		17.5	25	25	25	25	25	17.5
Height 130 mm	26	46	56	77	114	77	56	46
	26	45	66	93	139	93	66	45
	26	42	59	108	170	108	59	42
	26	36	50	113	238	113	50	36
	26	35	45	101	245	101	45	35

Support via feather key

		Width 160 mm						
20°		17.5	25	25	25	25	25	17.5
Height 130 mm	26	26	32	41	50	41	32	26
	26	28	34	45	53	45	34	28
	26	30	37	49	56	49	37	30
	26	26	37	53	56	53	37	26
	26	23	43	51	53	51	43	23

Support via cast shoulder

		Width 160 mm						
25°		17.5	25	25	25	25	25	17.5
Height 130 mm	26	51	70	99	146	99	70	51
	26	54	76	120	178	120	76	54
	26	50	65	139	221	139	65	50
	26	42	55	123	232	123	55	42
	26	40	49	101	248	101	49	40

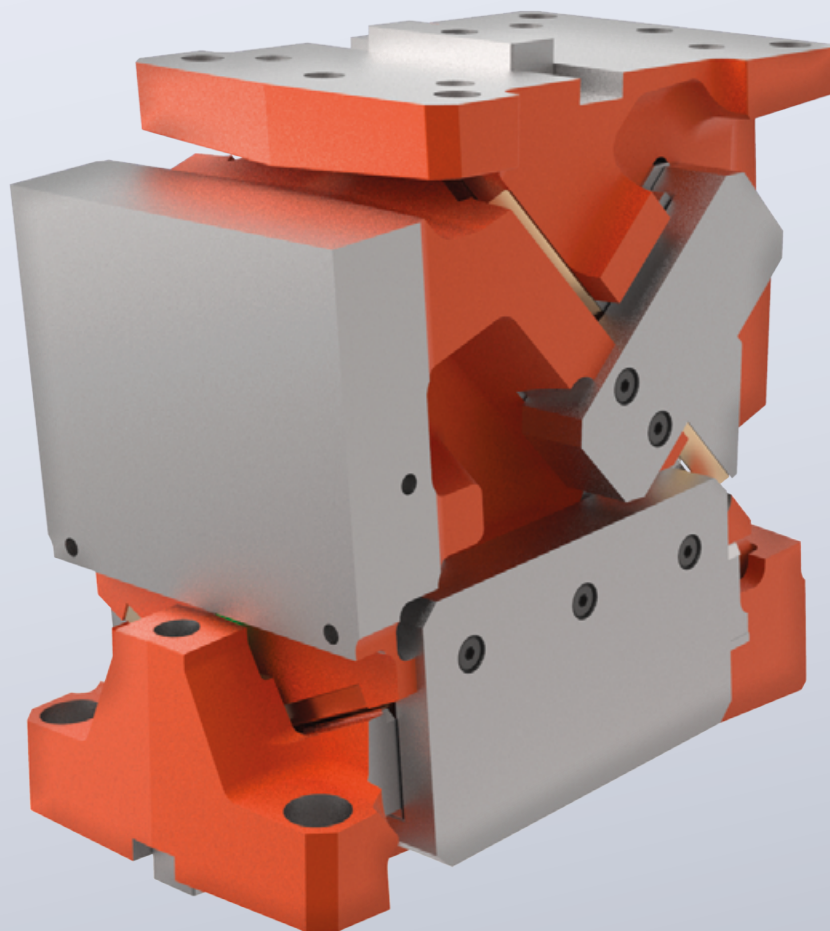
Support via feather key

		Width 160 mm						
25°		17.5	25	25	25	25	25	17.5
Height 130 mm	26	27	33	42	50	42	33	27
	26	29	35	46	52	46	35	29
	26	28	35	47	55	47	35	28
	26	24	30	42	53	42	30	24
	26	21	26	38	47	38	26	21

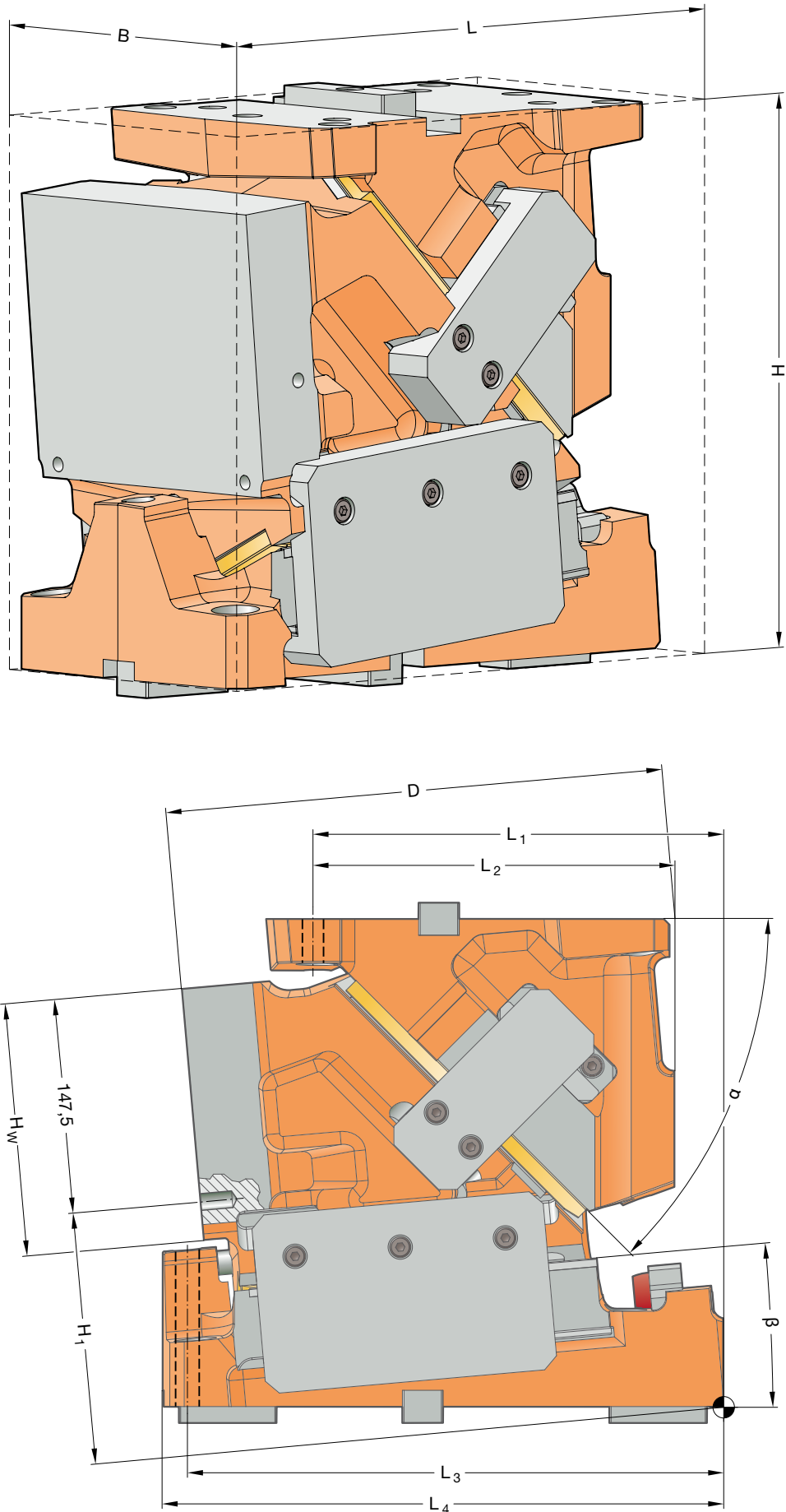


DIE MOUNT CAM FCC-HV  
**2016.15.018./022.**

**Working width:** 185/220 mm  
**Performance class:** 450 kN

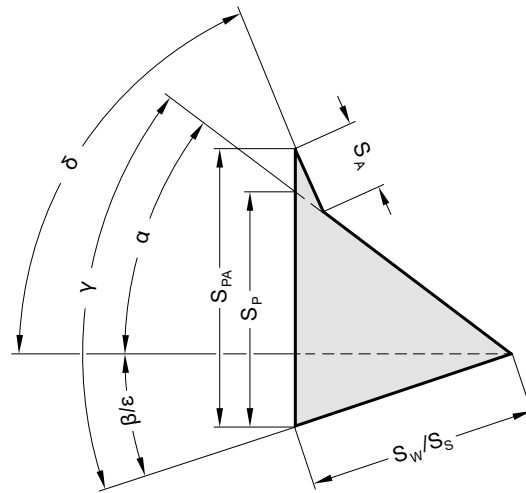


DIE MOUNT CAM FCC-HV 2016.15.018./022.  
**SIZE TABLE**



# DIE MOUNT CAM FCC-HV 2016.15.018./022.

## SIZE TABLE



Order No	L	B	H	H <sub>1</sub>	H <sub>w</sub>	L <sub>1</sub>	L <sub>2</sub>	L <sub>3</sub>	L <sub>4</sub>	D	β	α	δ	S <sub>w</sub>	S <sub>p</sub> *	S <sub>pa</sub> *
2016.15.	[mm]	[mm]	[mm]	[mm]	[mm]	[mm]	[mm]	[mm]	[mm]	[mm]	[°]	[°]	[°]	[mm]	[mm]	[mm]
2016.15.018.00.□00□.00	352	185	300	117,5	140	250	230	295	352	295,0	0	50	75	70,0	83,4	93,3
2016.15.022.00.□00□.00		220														
2016.15.018.05.□00□.00	347	185	300	137,58	140	260	230	295	347	306,0	5	45	70	70,0	75,8	84,8
2016.15.022.05.□00□.00		220														
2016.15.018.10.□00□.00	352	185	300	158,03	140	270	230	295	352	316,0	10	40	65	70,0	70,0	78,3
2016.15.022.10.□00□.00		220														
2016.15.018.15.□00□.00	364	185	300	177,45	140	285	240	280	343	324,0	15	35	60	70,0	65,5	73,2
2016.15.022.15.□00□.00		220														
2016.15.018.20.□00□.00	371	185	300	194,48	140	295	240	280	347	321,0	20	30	55	70,0	61,9	69,2
2016.15.022.20.□00□.00		220														
2016.15.018.25.□00□.00	383	185	300	212,04	140	305	240	280	339	323,0	25	25	50	70,0	59,2	66,2
2016.15.022.25.□00□.00		220														

\* Values rounded

### Fastening

Hexagon socket head cap screws DIN EN ISO 4762 / Strength class min. 8.8  
Dowel pins DIN EN ISO 8735

### Cam base:

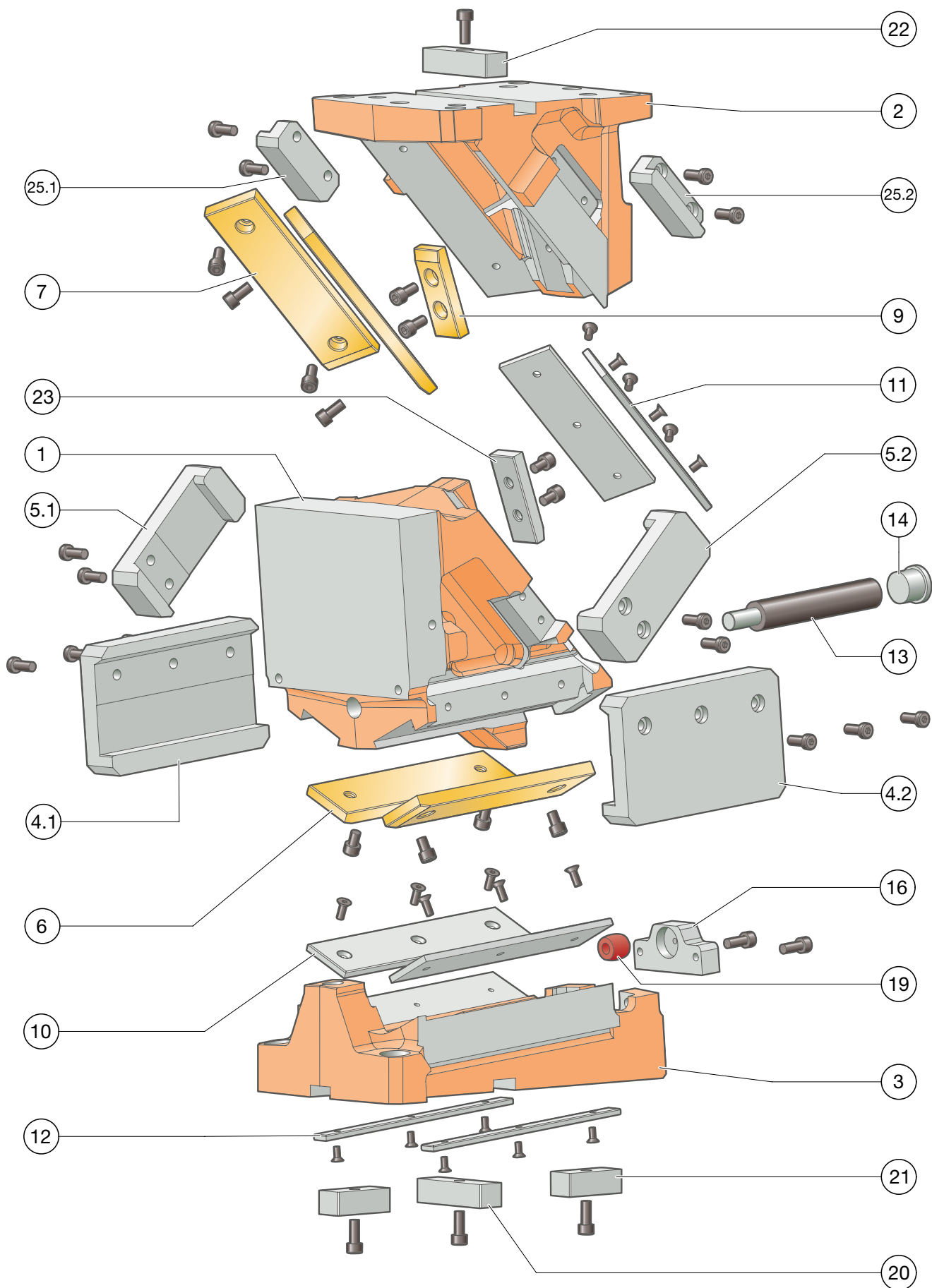
4 × M16  
2 × ø16

### Driver:

4 × M16  
2 × ø16

# DIE MOUNT CAM FCC-HV 2016.15.018./022.

## EXPLODED VIEW





# DIE MOUNT CAM FCC-HV 2016.15.018./022.

## PARTS LIST

Item No.	Pcs.	Designation	Material	tuned	Spare part
1	1	Cam slider	EN-JS-1060	--	--
2	1	Driver	EN-JS-1060	--	--
3	1	Cam base	EN-JS-1060	--	--
4.1.	1	Clamp, left	1.1191 with sinter layer	x	x
4.2	1	Clamp, right	1.1191 with sinter layer	x	x
5.1	1	mechanical retraction, left	1.1191 with sinter layer	x	x
5.2	1	mechanical retraction, right	1.1191 with sinter layer	x	x
6	2	Sliding plate	Bronze with solid lubricant	--	x
7	2	Sliding plate	Bronze with solid lubricant	--	x
8					
9	1	Sliding plate	Bronze with solid lubricant	--	x
10	2	Sliding plate	1.2379	--	x
11	2	Sliding plate	1.2379	--	x
12	2	Sliding plate	1.2379	--	x
13	1	Gas spring	2487.12.00320.100	--	x
14	1	Locking tappet	1.7131	--	x
15 (not shown)	1	Locking tappet pin			x
16	1	Slide stop	1.1191	--	x
17 (not shown)	1	Spacer			x
18 (not shown)	1	Lockout	1.1191	--	x
19	1	Damper	2452.10.022.019.2	--	x
20	1	Feather key (T-nut)	1.1191	--	x
21*	2	Feather key (T-nut)	1.1191	--	x
22	1	Feather key (T-nut)	1.1191	--	x
23	1	pre-acceleration	1.2379	--	x
24					
25.1	1	mechanical retraction, sliding pad	1.2379	--	x
25.2	1	mechanical retraction, sliding pad	1.2379	--	x
26 (not shown)	1	Pallet Carrier Plate	1.7225	--	x

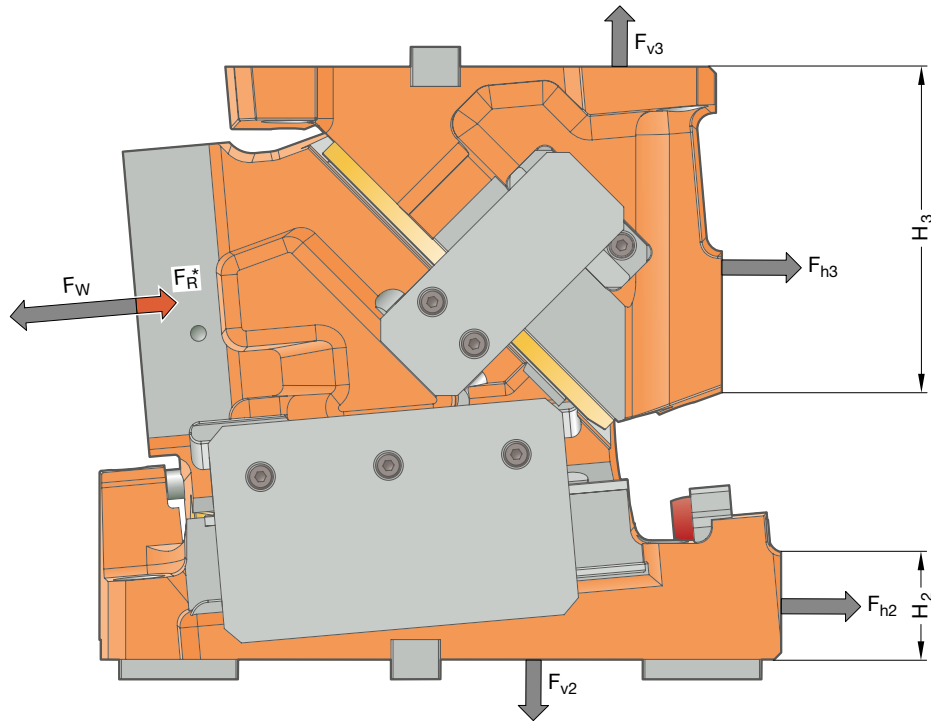
\* Feather key (slot stone) only with order option .1002 (positioning of cam unit base via feather key)

For inquiries or when ordering spare parts (x), we require the following data:

- Cam unit order no.
- Cam unit serial number
- Item No. / Designation / Spare part

# DIE MOUNT CAM FCC-HV 2016.15.018./022.

## SYSTEM AND SURROUNDING FORCES



Order No	$\beta$ [°]	$F_W$ [kN]	$F_R^*$ [kN]	$F_{h2}$ [kN]	$F_{v2}$ [kN]	$F_{h3}$ [kN]	$F_{v3}$ [kN]	$H_2$ [mm]	$H_3$ [mm]
2016.15.0□□.00.□00□.00	0	493	40	-36	511	529	511	30	175
2016.15.0□□.05.□00□.00	5	430	40	8	446	421	484	50	160
2016.15.0□□.10.□00□.00	10	430	40	47	444	377	519	70	135
2016.15.0□□.15.□00□.00	15	422	40	84	430	324	539	95	120
2016.15.0□□.20.□00□.00	20	430	40	123	429	281	576	115	110
2016.15.0□□.25.□00□.00	25	430	40	160	417	230	599	140	95

\* Identified retraction force  $F_R$  can only be achieved with mounted mechanical retractions

.0□□. = 185 mm (.018.) or 220 mm (.022.)

The forces  $F_{h2}$ ,  $F_{v2}$  as well as  $F_{h3}$ ,  $F_{v3}$  act on the tool environment at maximum working force  $F_W$ .

# DIE MOUNT CAM FCC-HV 2016.15.018./022.

## FORCE DIAGRAM

Support via cast shoulder

		Width 220 mm						
0°		17.5	40	40	25	40	40	17.5
Height 140 mm	28	116	145	234	305	234	145	116
	28	121	158	270	352	270	158	121
	28	127	178	305	446	305	178	127
	28	138	191	305	493	305	191	138
	28	121	158	246	399	246	158	121

Support via feather key

		Width 220 mm						
0°		17.5	40	40	25	40	40	17.5
Height 140 mm	28	40	48	70	96	70	48	40
	28	43	53	75	101	75	53	43
	28	45	56	80	102	80	56	45
	28	48	61	85	104	85	61	48
	28	53	64	88	106	88	64	53

Support via cast shoulder

		Width 220 mm						
5°		17.5	40	40	25	40	40	17.5
Height 140 mm	28	122	151	196	303	196	151	122
	28	116	145	189	364	189	145	116
	28	109	137	176	430	176	137	109
	28	103	126	169	430	169	126	103
	28	94	118	169	239	169	118	94

Support via feather key

		Width 220 mm						
5°		17.5	40	40	25	40	40	17.5
Height 140 mm	28	35	43	61	80	61	43	35
	28	38	46	66	84	66	46	38
	28	40	49	71	87	71	49	40
	28	43	54	75	89	75	54	43
	28	47	58	79	92	79	58	47

Support via cast shoulder

		Width 220 mm						
10°		17.5	40	40	25	40	40	17.5
Height 140 mm	28	103	129	203	303	203	129	103
	28	97	121	189	374	189	121	97
	28	91	113	176	430	176	113	91
	28	81	102	162	430	162	102	81
	28	75	94	162	239	162	94	75

Support via feather key

		Width 220 mm						
10°		17.5	40	40	25	40	40	17.5
Height 140 mm	28	36	44	61	79	61	44	36
	28	39	47	67	85	67	47	39
	28	41	51	73	89	73	51	41
	28	45	56	79	94	79	56	45
	28	49	62	85	100	85	62	49

Support via cast shoulder

		Width 220 mm						
15°		17.5	40	40	25	40	40	17.5
Height 140 mm	28	100	129	203	287	203	129	100
	28	94	118	189	343	189	118	94
	28	87	110	169	398	169	110	87
	28	81	97	155	422	155	97	81
	28	72	89	149	239	149	89	72

Support via feather key

		Width 220 mm						
15°		17.5	40	40	25	40	40	17.5
Height 140 mm	28	36	43	60	77	60	43	36
	28	39	47	66	83	66	47	39
	28	41	51	72	89	72	51	41
	28	45	57	80	95	80	57	45
	28	50	63	87	101	87	63	50

Support via cast shoulder

		Width 220 mm						
20°		17.5	40	40	25	40	40	17.5
Height 140 mm	28	116	143	210	263	210	143	116
	28	109	137	216	414	216	137	109
	28	103	129	203	430	203	129	103
	28	94	118	182	335	182	118	94
	28	87	105	182	231	182	105	87

Support via feather key

		Width 220 mm						
20°		17.5	40	40	25	40	40	17.5
Height 140 mm	28	36	43	59	77	59	43	36
	28	39	46	66	84	66	46	39
	28	42	51	72	90	72	51	42
	28	46	57	80	97	80	57	46
	28	50	64	88	104	88	64	50

Support via cast shoulder

		Width 220 mm						
25°		17.5	40	40	25	40	40	17.5
Height 140 mm	28	122	145	203	247	203	145	122
	28	122	153	230	311	230	153	122
	28	112	143	216	414	216	143	112
	28	106	126	196	430	196	126	106
	28	91	110	196	223	196	110	91

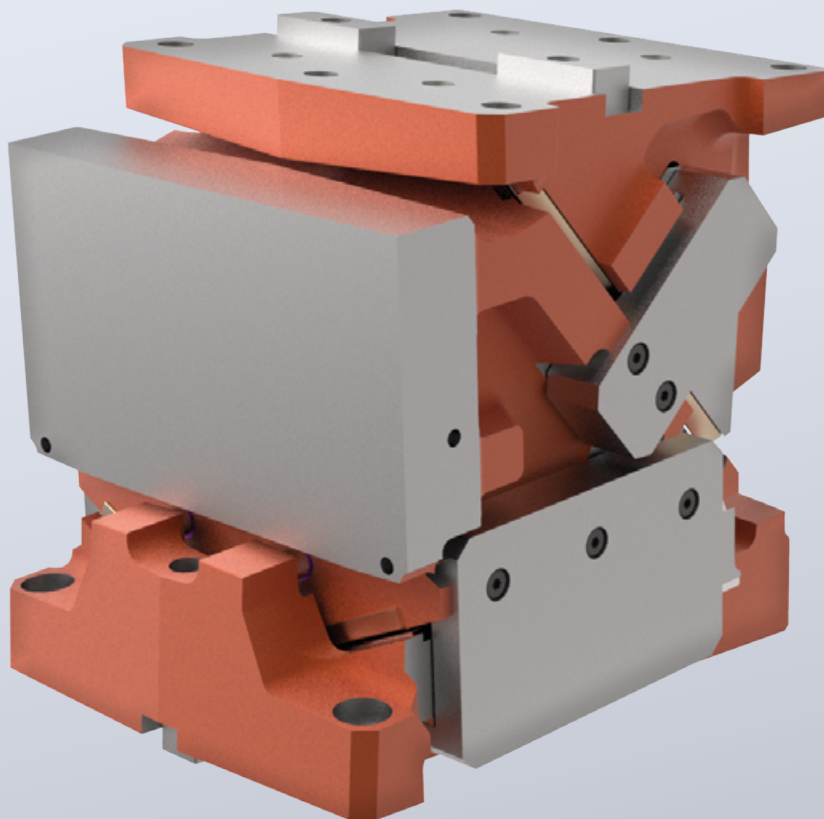
Support via feather key

		Width 220 mm						
25°		17.5	40	40	25	40	40	17.5
Height 140 mm	28	38	45	61	76	61	45	38
	28	40	49	68	84	68	49	40
	28	44	54	75	92	75	54	44
	28	48	60	84	100	84	60	48
	28	53	67	92	110	92	67	53

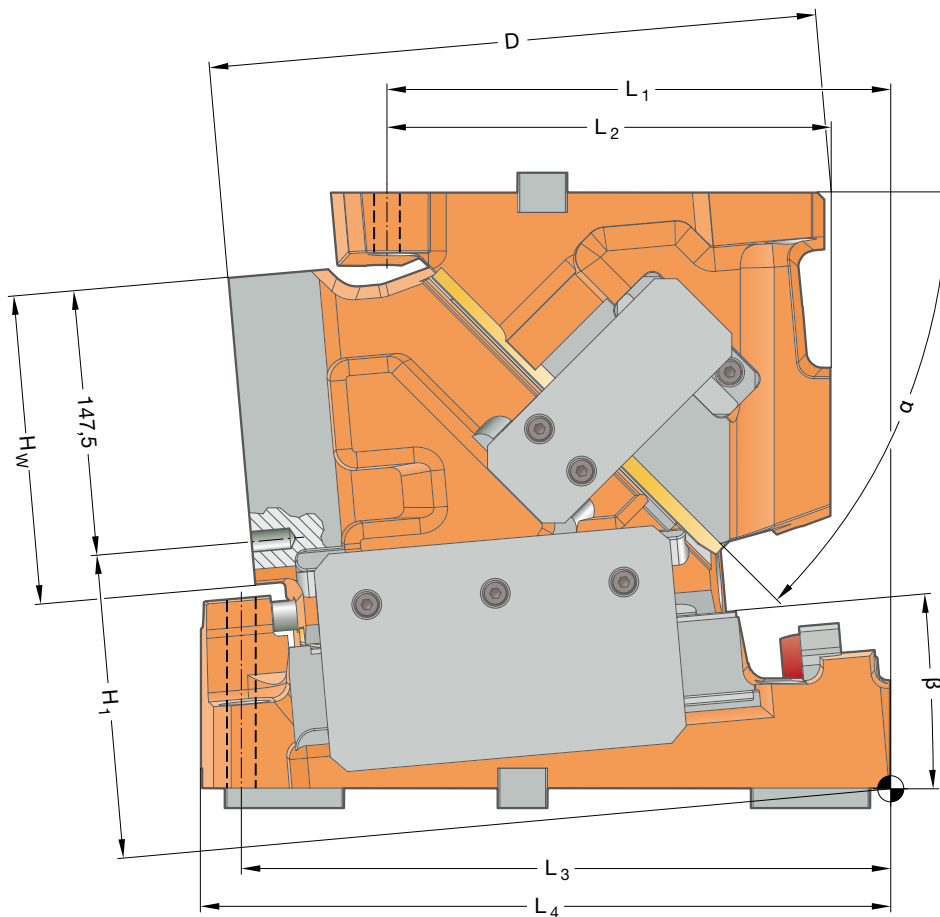
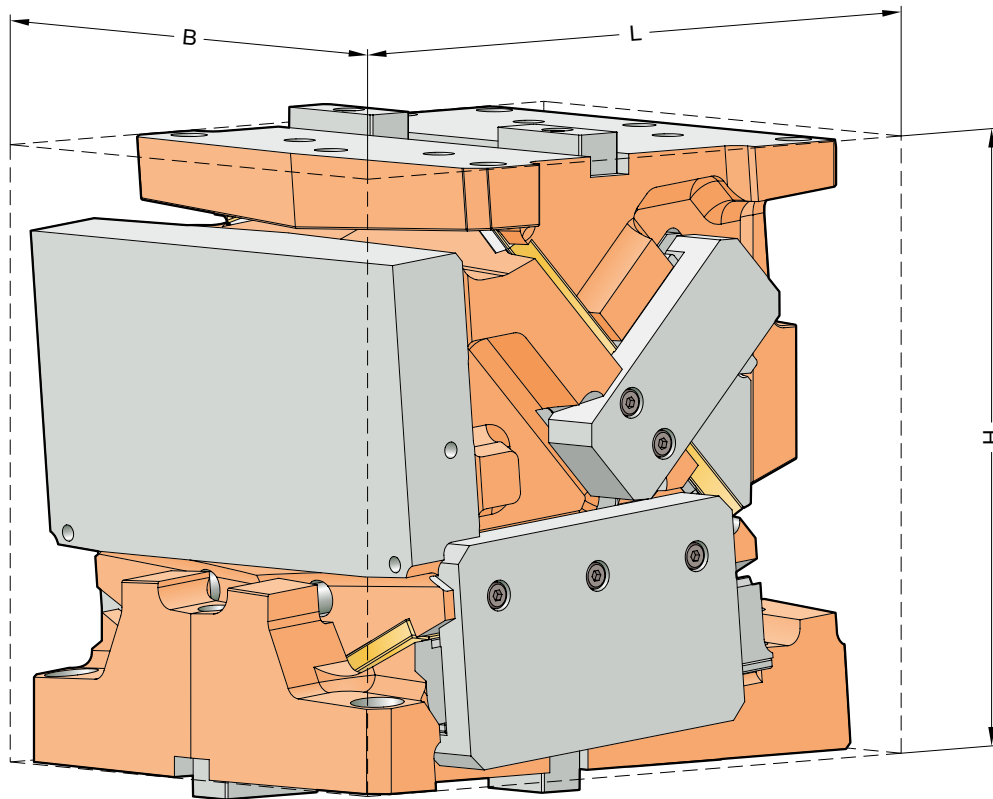


DIE MOUNT CAM FCC-HV  
**2016.15.026./031.**

**Working width:** 260/310 mm  
**Performance class:** 550 kN

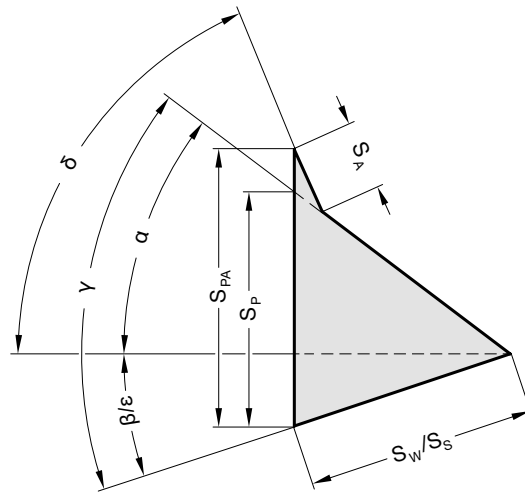


DIE MOUNT CAM FCC-HV 2016.15.026./031.  
**SIZE TABLE**



# DIE MOUNT CAM FCC-HV 2016.15.026./031.

## SIZE TABLE



Order No	L	B	H	H <sub>1</sub>	H <sub>w</sub>	L <sub>1</sub>	L <sub>2</sub>	L <sub>3</sub>	L <sub>4</sub>	D	β	α	δ	S <sub>w</sub>	S <sub>p</sub> *	S <sub>pa</sub> *
2016.15.	[mm]	[mm]	[mm]	[mm]	[mm]	[mm]	[mm]	[mm]	[mm]	[mm]	[°]	[°]	[°]	[mm]	[mm]	[mm]
2016.15.026.00.□00□.00	352	260	300	117,5	145	240	220	300	352	295,0	0	50	75	70,0	83,4	93,3
2016.15.031.00.□00□.00		310														
2016.15.026.05.□00□.00	347	260	300	137,58	145	250	220	300	347	306,0	5	45	70	70,0	75,8	84,8
2016.15.031.05.□00□.00		310														
2016.15.026.10.□00□.00	356	260	300	158,03	145	280	240	300	356	316,0	10	40	65	70,0	70,0	78,3
2016.15.031.10.□00□.00		310														
2016.15.026.15.□00□.00	364	260	300	177,45	145	285	240	300	347	324,0	15	35	60	70,0	65,5	73,2
2016.15.031.15.□00□.00		310														
2016.15.026.20.□00□.00	376	260	300	196,19	145	300	240	290	348	321,0	20	30	55	70,0	61,9	69,2
2016.15.031.20.□00□.00		310														
2016.15.026.25.□00□.00	388	260	300	214,15	145	310	240	290	340	323,0	25	25	50	70,0	59,2	66,2
2016.15.031.25.□00□.00		310														

\* Values rounded

### Fastening

Hexagon socket head cap screws DIN EN ISO 4762 / Strength class min. 8.8  
Dowel pins DIN EN ISO 8735

### Cam base:

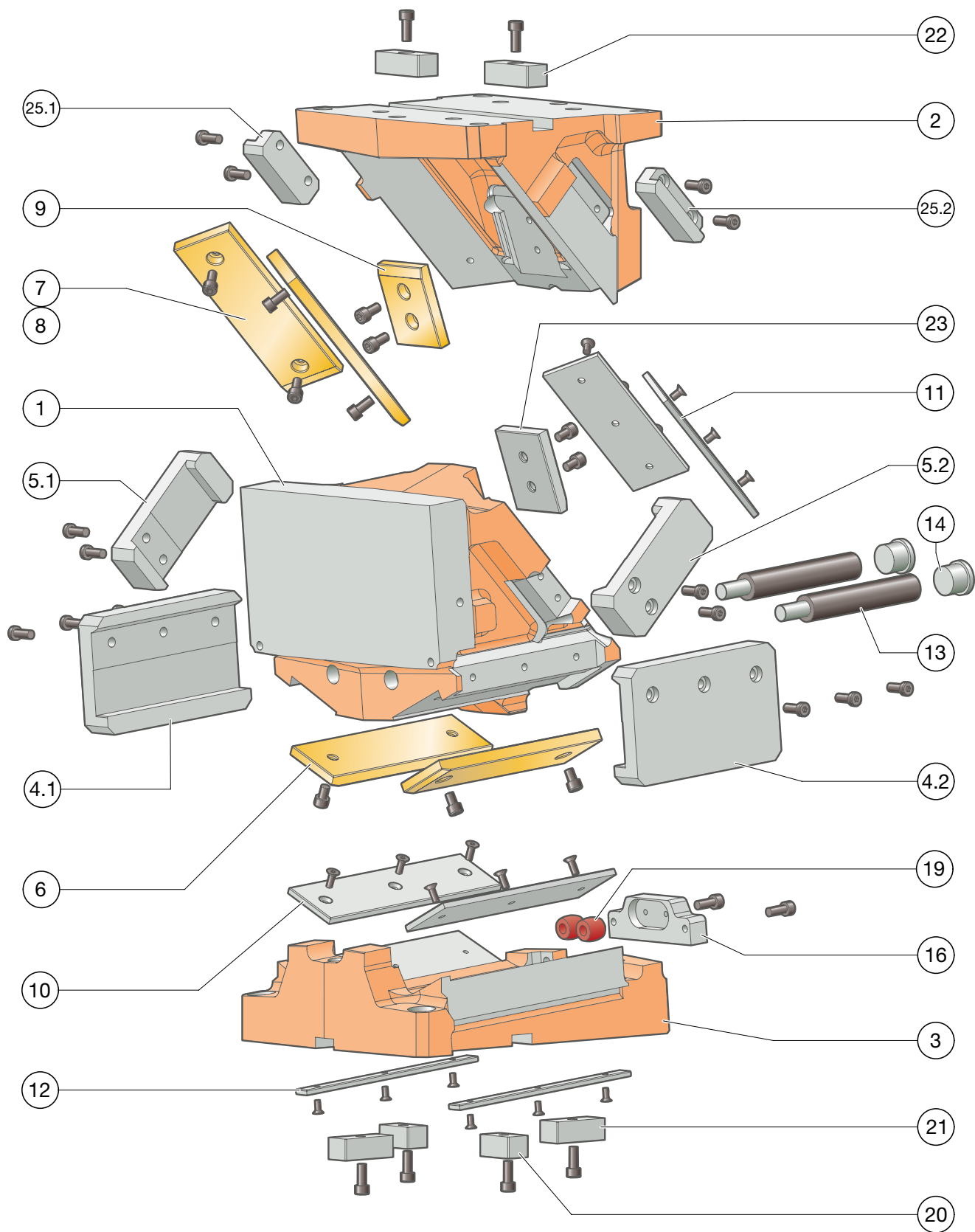
4 × M16  
2 × ø16

### Driver:

4 × M16  
2 × ø16

# DIE MOUNT CAM FCC-HV 2016.15.026./031.

## EXPLODED VIEW





# DIE MOUNT CAM FCC-HV 2016.15.026./031.

## PARTS LIST

Item No.	Pcs.	Designation	Material	tuned	Spare part
1	1	Cam slider	EN-JS-1060	--	--
2	1	Driver	EN-JS-1060	--	--
3	1	Cam base	EN-JS-1060	--	--
4.1	1	Clamp, left	1.1191 with sinter layer	x	x
4.2	1	Clamp, right	1.1191 with sinter layer	x	x
5.1	1	mechanical retraction, left	1.1191 with sinter layer	x	x
5.2	1	mechanical retraction, right	1.1191 with sinter layer	x	x
6	2	Sliding plate	Bronze with solid lubricant	--	x
7	2	Sliding plate	Bronze with solid lubricant	--	x
8** (not shown)	2	Sliding plate	Bronze with solid lubricant	--	x
9	1	Sliding plate	Bronze with solid lubricant	--	x
10	2	Sliding plate	1.2379	--	x
11	2	Sliding plate	1.2379	--	x
12	2	Sliding plate	1.2379	--	x
13	2	Gas spring	2487.12.00320.100	--	x
14	2	Locking tappet	1.7131	--	x
15 (not shown)	2	Locking tappet pin			x
16	1	Slide stop	1.1191	--	x
17 (not shown)	1	Spacer			x
18 (not shown)	1	Lockout system	1.1191	--	x
19	2	Damper	2452.10.022.019.2	--	x
20	2	Feather key (T-nut)	1.1191	--	x
21*	2	Feather key (T-nut)	1.1191	--	x
22	2	Feather key (T-nut)	1.1191	--	x
23	1	pre-acceleration	1.2379	--	
24					
25.1	1	mechanical retraction, sliding pad	1.2379	--	x
25.2	1	mechanical retraction, sliding pad	1.2379	--	x
26 (not shown)	1	Pallet Carrier Plate	1.7225	--	x

\* Feather key (slot stone) only with order option .1002 (positioning of cam unit base via feather key)

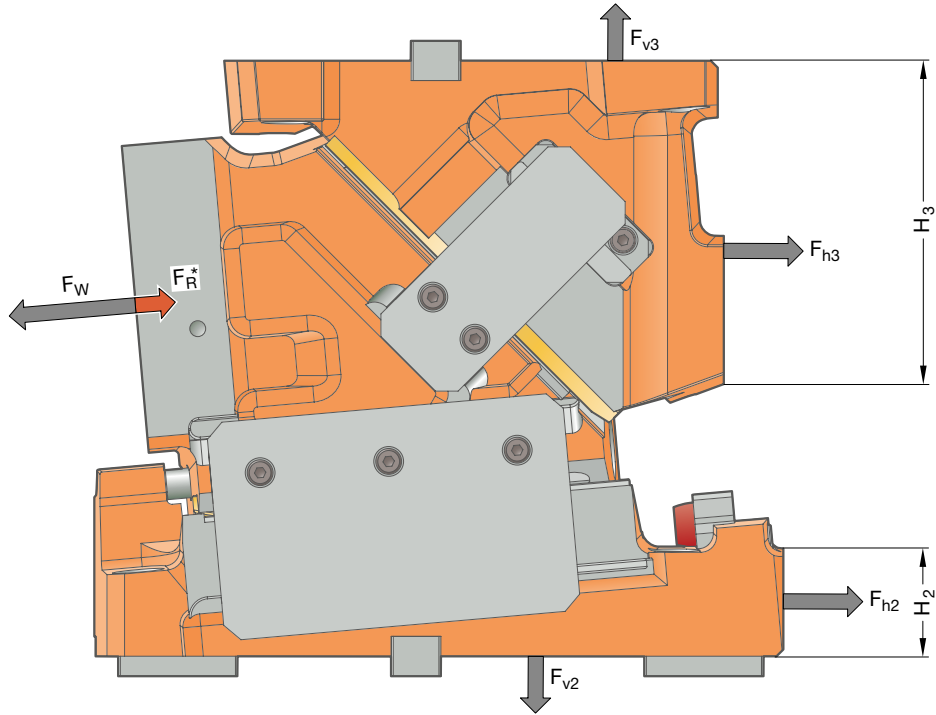
\*\* Only at angles of 0°-15°

For inquiries or when ordering spare parts (x), we require the following data:

- Cam unit order no.
- Cam unit serial number
- Item No. / Designation / Spare part

# DIE MOUNT CAM FCC-HV 2016.15.026./031.

## SYSTEM AND SURROUNDING FORCES



Order No	$\beta$ [°]	$F_W$ [kN]	$F_{R^*}$ [kN]	$F_{h2}$ [kN]	$F_{v2}$ [kN]	$F_{h3}$ [kN]	$F_{v3}$ [kN]	$H_2$ [mm]	$H_3$ [mm]
2016.15.0□□.00.□00□.00	0	560	70	-41	580	601	580	30	170
2016.15.0□□.05.□00□.00	5	600	70	11	623	587	675	50	155
2016.15.0□□.10.□00□.00	10	600	70	65	620	526	724	70	145
2016.15.0□□.15.□00□.00	15	600	70	119	612	461	767	90	125
2016.15.0□□.20.□00□.00	20	528	70	151	527	345	708	100	115
2016.15.0□□.25.□00□.00	25	528	70	196	512	282	735	120	95

Identified retraction force  $F_R$  can only be achieved with mounted mechanical retractions  
 .0□□. = 260 mm (.026.) or 310 mm (.031.)

The forces  $F_{h2}$ ,  $F_{v2}$  as well as  $F_{h3}$ ,  $F_{v3}$  act on the tool environment at maximum working force  $F_W$ .

# DIE MOUNT CAM FCC-HV 2016.15.026./031.

## FORCE DIAGRAM

Support via cast shoulder

		Width 310 mm									
		25	35	40	40	30	40	40	35	25	
Height 145 mm	0°	29	64	78	168	250	312	250	168	78	64
		29	67	85	182	285	380	285	182	85	67
		29	72	92	210	340	460	340	210	92	72
		29	77	101	238	400	560	400	238	101	77
		29	81	105	238	330	480	330	238	105	81

		Width 310 mm									
		25	35	40	40	30	40	40	35	25	
Height 145 mm	5°	29	68	86	176	270	336	270	176	86	68
		29	72	92	200	300	408	300	200	92	72
		29	78	101	224	350	492	350	224	101	78
		29	86	111	252	415	600	415	252	111	86
		29	82	109	240	340	516	340	240	109	82

		Width 310 mm									
		25	35	40	40	30	40	40	35	25	
Height 145 mm	10°	29	70	86	184	270	336	270	184	86	70
		29	74	94	200	313	408	313	200	94	74
		29	78	101	232	356	504	356	232	101	78
		29	86	113	259	430	600	430	259	113	86
		29	86	113	256	370	576	370	256	113	86

		Width 310 mm									
		25	35	40	40	30	40	40	35	25	
Height 145 mm	15°	29	68	86	176	270	336	270	176	86	68
		29	74	90	200	300	408	300	200	90	74
		29	78	101	224	351	504	351	224	101	78
		29	86	111	282	420	600	420	282	111	86
		29	90	113	258	373	552	373	258	113	90

		Width 310 mm									
		25	35	40	40	30	40	40	35	25	
Height 145 mm	20°	29	68	86	176	270	360	270	176	86	68
		29	72	92	200	300	432	300	200	92	72
		29	78	101	224	350	528	350	224	101	78
		29	84	109	252	393	504	393	252	109	84
		29	80	101	232	323	420	323	232	101	80

		Width 310 mm									
		25	35	40	40	30	40	40	35	25	
Height 145 mm	25°	29	62	76	160	240	312	240	160	76	62
		29	64	82	176	280	396	280	176	82	64
		29	72	90	204	315	480	315	204	90	72
		29	74	98	232	362	528	362	232	98	74
		29	70	90	200	290	408	290	200	90	70

Support via feather key

		Width 310 mm									
		25	35	40	40	30	40	40	35	25	
Height 145 mm	0°	29	22	26	33	42	53	42	33	26	22
		29	23	28	35	45	54	45	35	28	23
		29	24	29	36	47	56	47	36	29	24
		29	26	31	38	48	56	48	38	31	26
		29	28	32	40	48	56	48	40	32	28

		Width 310 mm									
		25	35	40	40	30	40	40	35	25	
Height 145 mm	5°	29	22	27	33	44	50	44	33	27	22
		29	23	27	35	46	55	46	35	27	23
		29	24	28	36	48	55	48	36	28	24
		29	26	30	40	48	57	48	40	30	26
		29	27	32	40	48	57	48	40	32	27

		Width 310 mm									
		25	35	40	40	30	40	40	35	25	
Height 145 mm	10°	29	23	27	35	49	60	49	35	27	23
		29	24	29	38	52	63	52	38	29	24
		29	26	31	40	56	65	56	40	31	26
		29	28	33	43	60	68	60	43	33	28
		29	30	36	46	61	72	61	46	36	30

		Width 310 mm									
		25	35	40	40	30	40	40	35	25	
Height 145 mm	15°	29	23	27	35	49	57	49	35	27	23
		29	24	29	38	52	63	52	38	29	24
		29	26	31	41	57	66	57	41	31	26
		29	28	33	44	60	70	60	44	33	28
		29	30	36	47	64	72	64	47	36	30

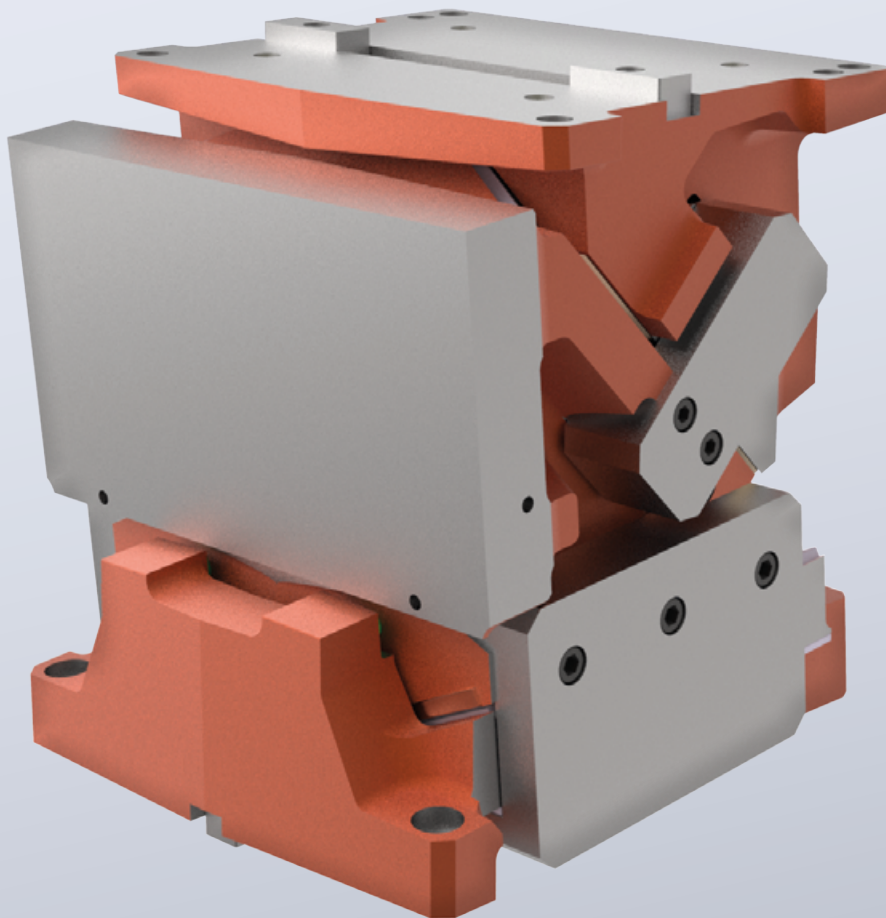
		Width 310 mm									
		25	35	40	40	30	40	40	35	25	
Height 145 mm	20°	29	23	28	34	59	60	59	34	28	23
		29	25	30	38	54	65	54	38	30	25
		29	28	32	40	59	70	59	40	32	28
		29	30	34	45	64	75	64	45	34	30
		29	32	38	49	68	80	68	49	38	32

		Width 310 mm									
		25	35	40	40	30	40	40	35	25	
Height 145 mm	25°	29	26	31	39	52	58	52	39	31	26
		29	28	32	42	57	65	57	42	32	28
		29	30	34	45	62	70	62	45	34	30
		29	32	38	50	68	75	68	50	38	32
		29	36	42	54	72	82	72	54	42	36

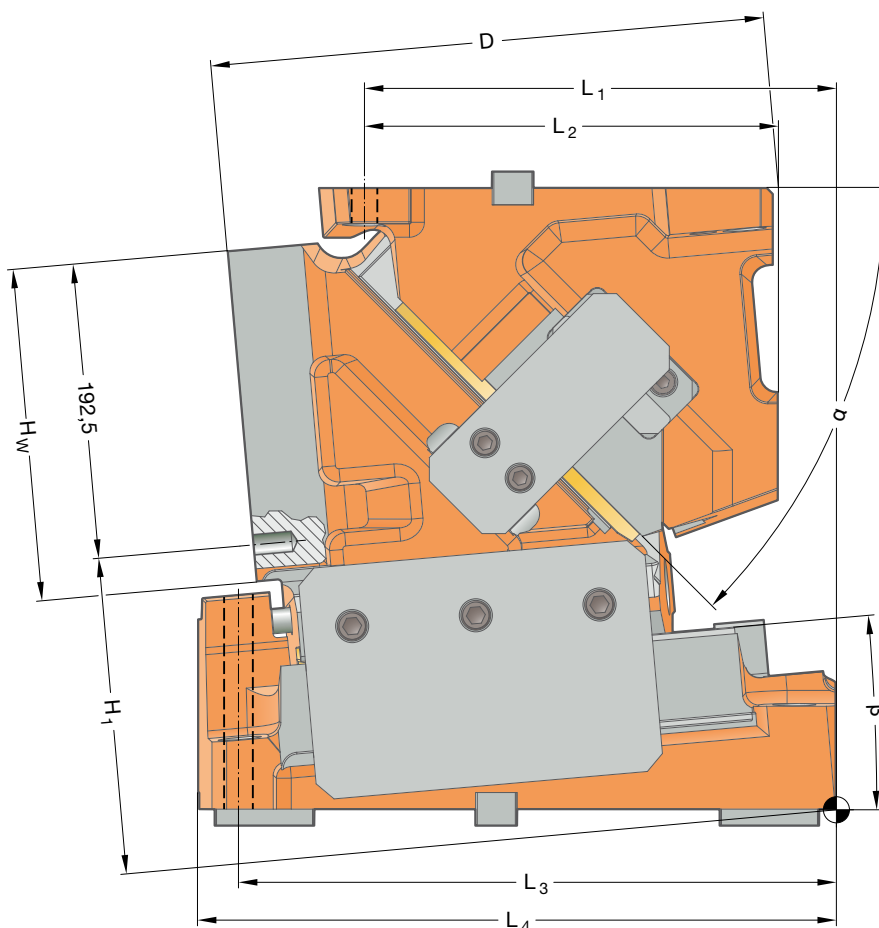
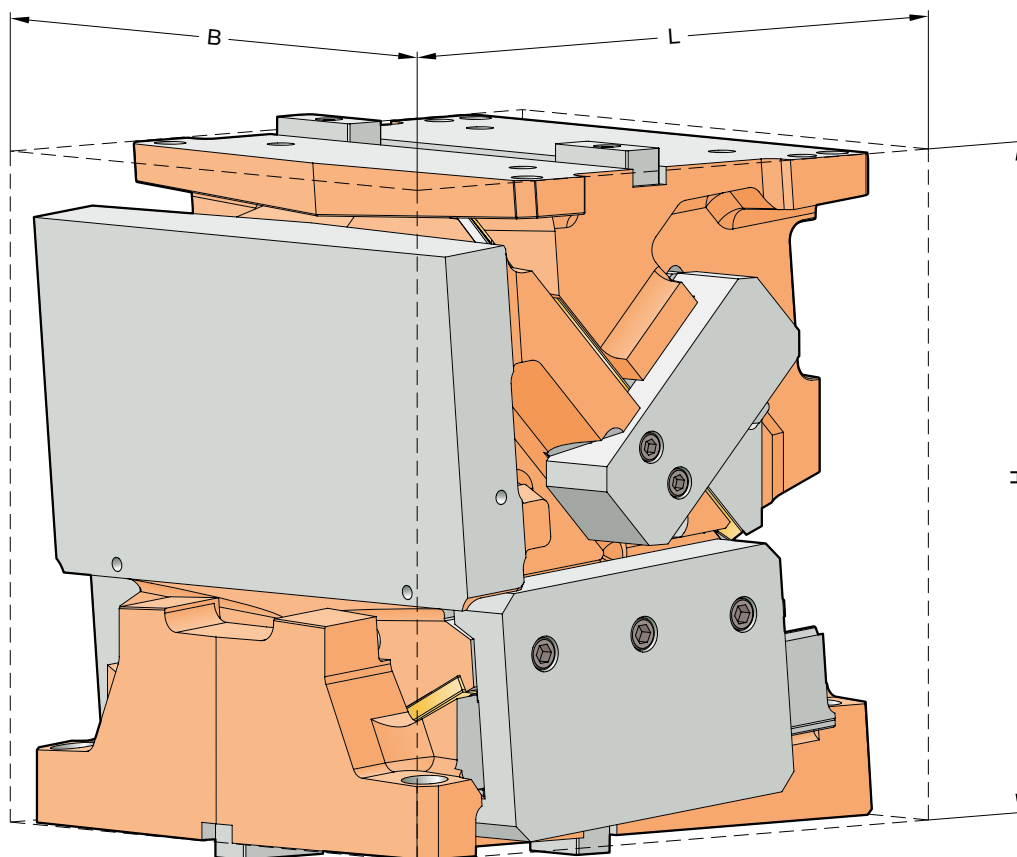


DIE MOUNT CAM FCC-HV  
**2016.15.034./040.**

**Working width:** 340/400 mm  
**Performance class:** 800 kN

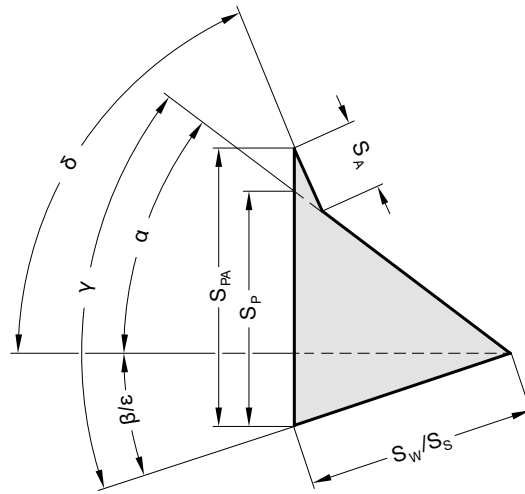


DIE MOUNT CAM FCC-HV 2016.15.034./040.  
**SIZE TABLE**



# DIE MOUNT CAM FCC-HV 2016.15.034./040.

## SIZE TABLE



Order No	L	B	H	H <sub>1</sub>	H <sub>W</sub>	L <sub>1</sub>	L <sub>2</sub>	L <sub>3</sub>	L <sub>4</sub>	D	β	α	δ	S <sub>W</sub>	S <sub>P</sub> *	S <sub>PA</sub> *
2016.15.	[mm]	[mm]	[mm]	[mm]	[mm]	[mm]	[mm]	[mm]	[mm]	[mm]	[°]	[°]	[°]	[mm]	[mm]	[mm]
2016.15.034.00.□00□.00	387	340	375	147,5	190	60	45	320	387	325,0	0	50	75	70,0	83,4	93,3
2016.15.040.00.□00□.00		400														
2016.15.034.05.□00□.00	385	340	375	175,07	190	80	45	320	385	335,0	5	45	70	70,0	75,8	84,8
2016.15.040.05.□00□.00		400														
2016.15.034.10.□00□.00	394	340	375	197,71	190	80	45	320	394	372,0	10	40	65	70,0	70,0	78,3
2016.15.040.10.□00□.00		400														
2016.15.034.15.□00□.00	400	340	375	222,56	190	95	45	310	377	367,0	15	35	60	70,0	65,5	73,2
2016.15.040.15.□00□.00		400														
2016.15.034.20.□00□.00	427	340	375	245,75	190	135	45	310	391	366,0	20	30	55	70,0	61,9	69,2
2016.15.040.20.□00□.00		400														
2016.15.034.25.□00□.00	437	340	375	258,55	190	145	45	310	375	367,0	25	25	50	70,0	59,2	66,2
2016.15.040.25.□00□.00		400														

\* Values rounded

### Fastening

Hexagon socket head cap screws DIN EN ISO 4762 / Strength class min. 8.8  
Dowel pins DIN EN ISO 8735

### Cam base:

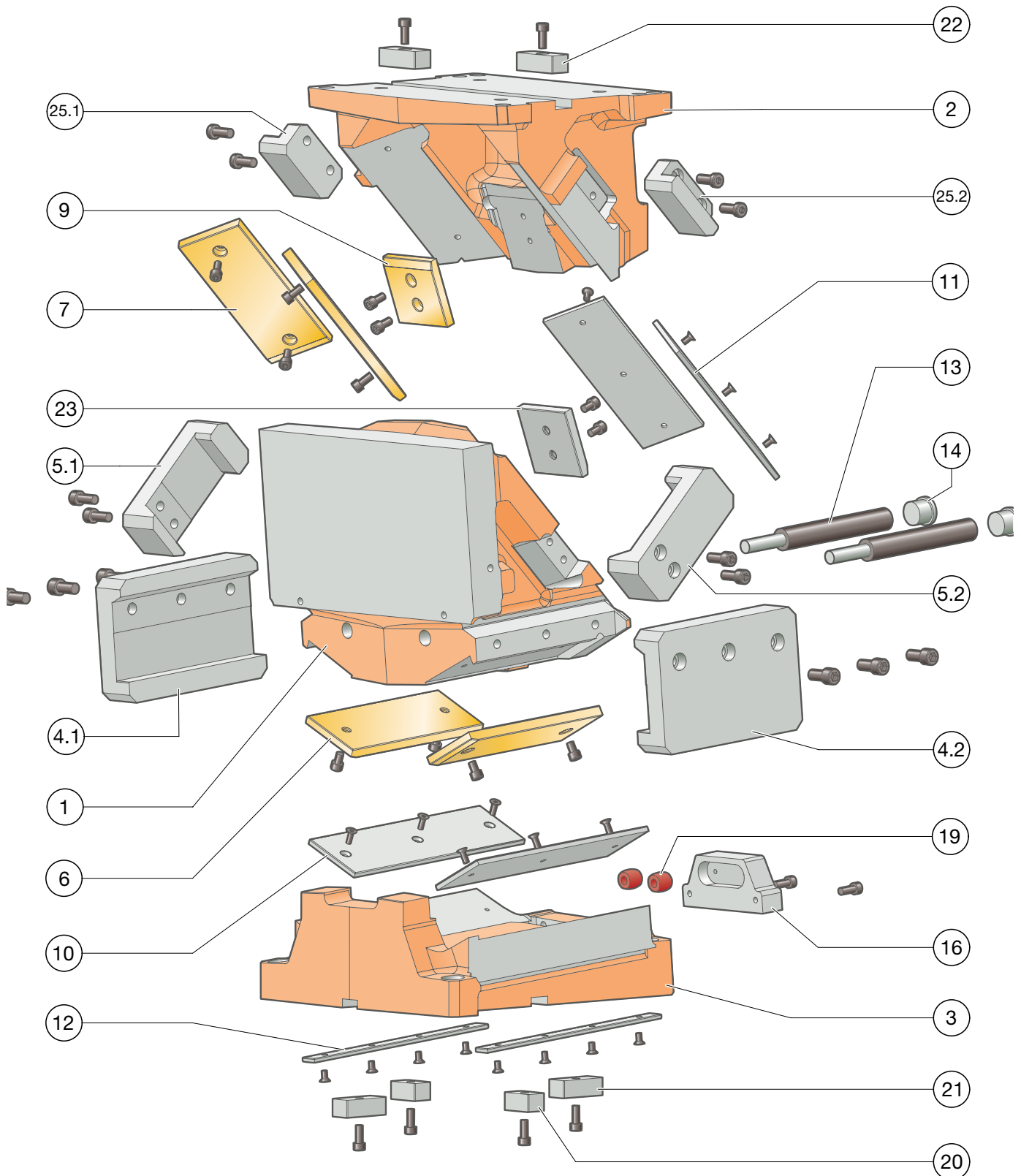
4 × M16  
2 × ø16

### Driver:

4 × M16  
2 × ø16

# DIE MOUNT CAM FCC-HV 2016.15.034./040.

## EXPLODED VIEW





# DIE MOUNT CAM FCC-HV 2016.15.034./040.

## PARTS LIST

Item No.	Pcs.	Designation	Material	tuned	Spare part
1	1	Cam slider	EN-JS-1060	--	--
2	1	Driver	EN-JS-1060	--	--
3	1	Cam base	EN-JS-1060	--	--
4.1	1	Clamp, left	1.1191 with sinter layer	x	x
4.2	1	Clamp, right	1.1191 with sinter layer	x	x
5.1	1	mechanical retraction, left	1.1191 with sinter layer	x	x
5.2	1	mechanical retraction, right	1.1191 with sinter layer	x	x
6	2	Sliding plate	Bronze with solid lubricant	--	x
7	2	Sliding plate	Bronze with solid lubricant	--	x
8					
9	1	Sliding plate	Bronze with solid lubricant	--	x
10	2	Sliding plate	1.2379	--	x
11	2	Sliding plate	1.2379	--	x
12	2	Sliding plate	1.2379	--	x
13	2	Gas spring	2487.12.00320.125	--	x
14	2	Locking tappet	1.7131	--	x
15 (not shown)	2	Locking tappet pin			x
16	1	Slide stop	1.1191	--	x
17 (not shown)	1	Spacer			x
18 (not shown)	1	Lockout system	1.1191	--	x
19	2	Damper	2452.10.022.019.2	--	x
20	2	Feather key (T-nut)	1.1191	--	x
21*	2	Feather key (T-nut)	1.1191	--	x
22	2	Feather key (T-nut)	1.1191	--	x
23	1	pre-acceleration	1.2379	--	x
24					
25.1	1	mechanical retraction, sliding pad	1.2379	--	x
25.2	1	mechanical retraction, sliding pad	1.2379	--	x
26 (not shown)	1	Pallet Carrier Plate	1.7225	--	x

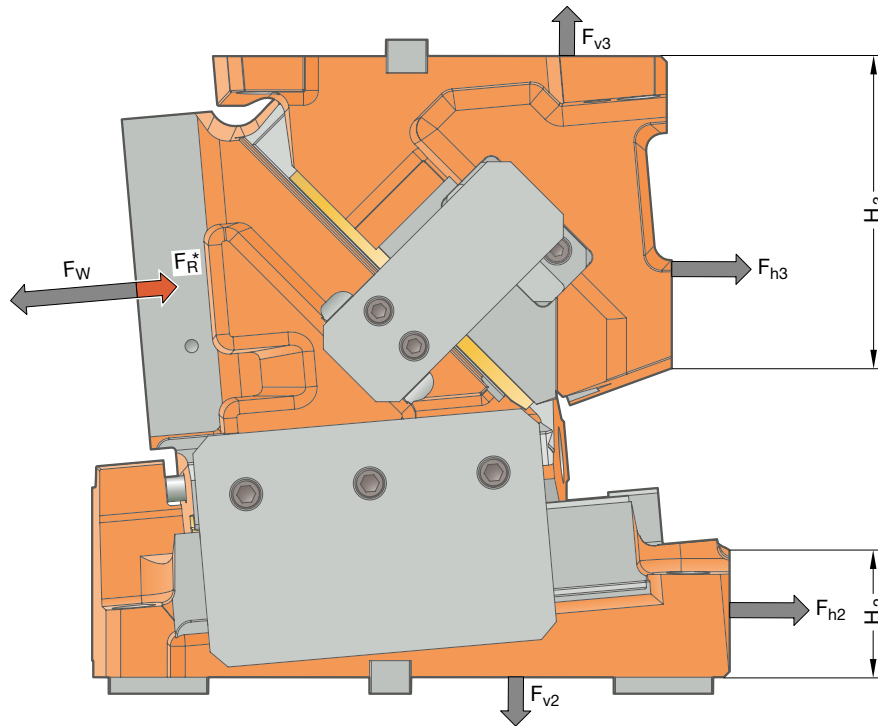
\* Feather key (slot stone) only with order option .1002 (positioning of cam unit base via feather key)

For inquiries or when ordering spare parts (x), we require the following data:

- Cam unit order no.
- Cam unit serial number
- Item No. / Designation / Spare part

# DIE MOUNT CAM FCC-HV 2016.15.034./040.

## SYSTEM AND SURROUNDING FORCES



Order No	$\beta$ [°]	$F_w$ [kN]	$F_R^*$ [kN]	$F_{h2}$ [kN]	$F_{v2}$ [kN]	$F_{h3}$ [kN]	$F_{v3}$ [kN]	$H_2$ [mm]	$H_3$ [mm]
2016.15.0□□.00.□00□.00	0	800	90	-58	829	858	829	30	200
2016.15.0□□.05.□00□.00	5	750	90	14	779	734	844	60	180
2016.15.0□□.10.□00□.00	10	800	90	87	826	701	965	85	175
2016.15.0□□.15.□00□.00	15	800	90	158	815	614	1023	90	150
2016.15.0□□.20.□00□.00	20	760	90	217	759	497	1019	95	150
2016.15.0□□.25.□00□.00	25	800	90	298	776	427	1114	115	135

\* Identified retraction force  $F_R$  can only be achieved with mounted mechanical retractions  
 .0□□. = 340 mm (.034.) or 400 mm (.040.)

The forces  $F_{h2}$ ,  $F_{v2}$  as well as  $F_{h3}$ ,  $F_{v3}$  act on the tool environment at maximum working force  $F_w$ .

# DIE MOUNT CAM FCC-HV 2016.15.034./040.

## FORCE DIAGRAM

Support via cast shoulder

		Width 400 mm								
0°		30	50	50	50	40	50	50	50	30
Height 190 mm	38	118	139	294	315	344	315	294	139	118
	38	127	156	374	400	446	400	374	156	127
	38	151	188	504	540	608	540	504	188	151
	38	188	238	546	760	800	760	546	238	188
	38	194	224	504	700	760	700	504	224	194

		Width 400 mm								
5°		30	50	50	50	40	50	50	50	30
Height 190 mm	38	99	119	280	315	325	315	280	119	99
	38	104	134	350	399	425	399	350	134	104
	38	119	153	434	525	625	525	434	153	119
	38	144	184	460	656	750	656	460	184	144
	38	139	168	406	546	650	546	406	168	139

		Width 400 mm								
10°		30	50	50	50	40	50	50	50	30
Height 190 mm	38	85	108	260	340	400	340	260	108	85
	38	90	116	299	420	520	420	299	116	90
	38	96	127	364	520	680	520	364	127	96
	38	100	131	390	600	800	600	390	131	100
	38	89	112	312	440	640	440	312	112	89

		Width 400 mm								
15°		30	50	50	50	40	50	50	50	30
Height 190 mm	38	77	96	247	320	360	320	247	96	77
	38	81	104	280	400	500	400	280	104	81
	38	89	116	325	500	620	500	325	116	89
	38	89	131	364	600	800	600	364	131	89
	38	96	116	299	450	650	450	299	116	96

		Width 400 mm								
20°		30	50	50	50	40	50	50	50	30
Height 190 mm	38	77	94	240	320	380	320	240	94	77
	38	79	100	273	400	480	400	273	100	79
	38	85	112	312	520	760	520	312	112	85
	38	92	122	338	560	640	560	338	122	92
	38	89	108	278	428	640	428	278	108	89

		Width 400 mm								
25°		30	50	50	50	40	50	50	50	30
Height 190 mm	38	77	96	240	320	360	320	240	96	77
	38	81	100	273	400	480	400	273	100	81
	38	85	112	318	520	640	520	318	112	85
	38	96	128	357	590	800	590	357	128	96
	38	94	113	292	450	660	450	292	113	94

Support via feather key

		Width 400 mm								
0°		30	50	50	50	40	50	50	50	30
Height 190 mm	38	38	44	56	77	114	77	56	44	38
	38	39	46	59	79	118	79	59	46	39
	38	40	47	61	82	120	82	61	47	40
	38	42	48	62	82	122	82	62	48	42
	38	43	49	62	82	122	82	62	49	43

		Width 400 mm								
5°		30	50	50	50	40	50	50	50	30
Height 190 mm	38	51	60	75	103	137	103	75	60	51
	38	52	62	79	109	137	109	79	62	52
	38	52	62	81	109	138	109	81	62	52
	38	53	62	82	109	138	109	82	62	53
	38	53	62	82	109	139	109	82	62	53

		Width 400 mm								
10°		30	50	50	50	40	50	50	50	30
Height 190 mm	38	49	60	78	112	143	112	78	60	49
	38	52	62	82	114	156	114	82	62	52
	38	55	62	82	120	156	120	82	62	55
	38	55	65	82	120	156	120	82	65	55
	38	55	65	82	114	156	114	82	65	55

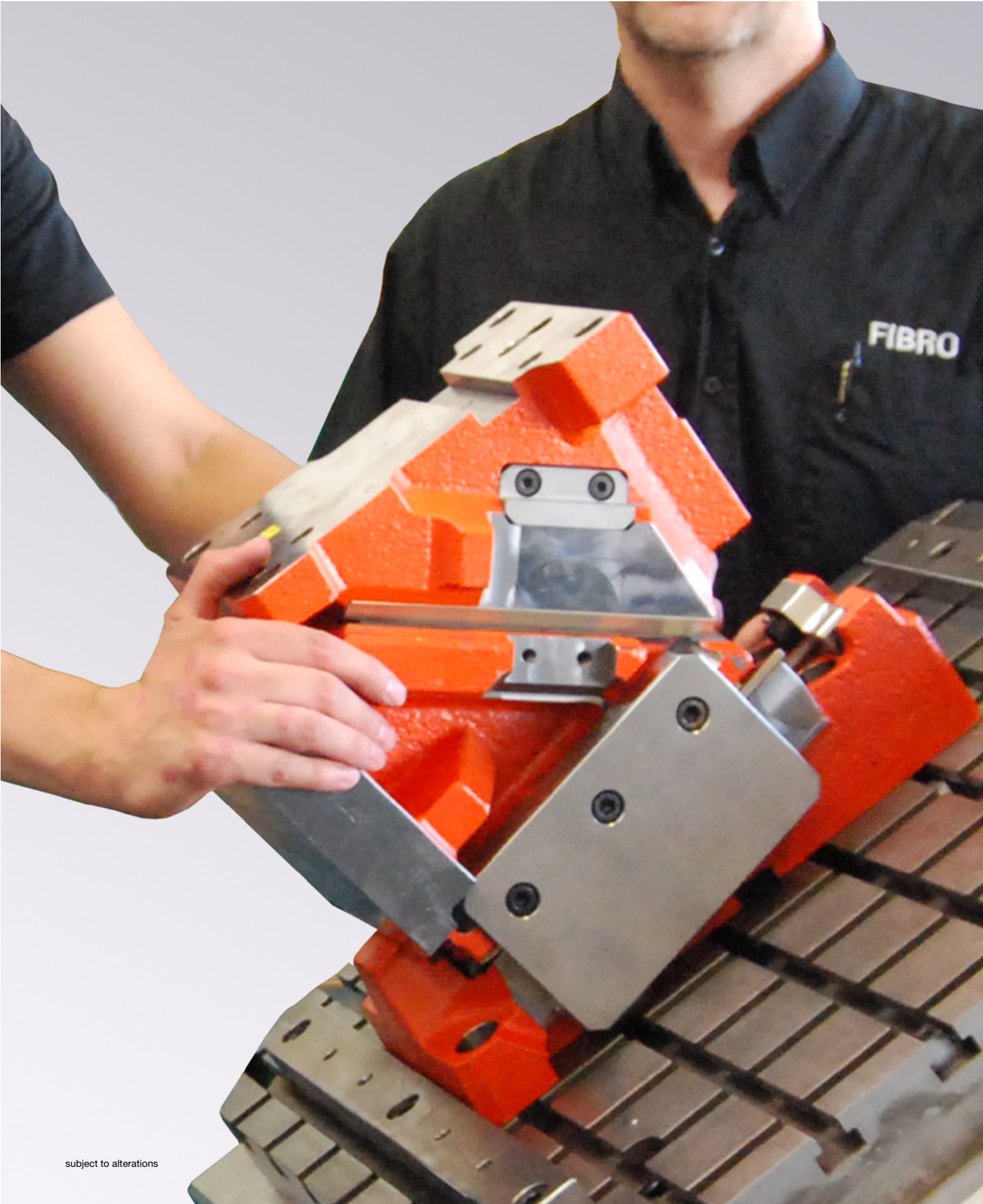
		Width 400 mm								
15°		30	50	50	50	40	50	50	50	30
Height 190 mm	38	60	72	94	137	189	137	94	72	60
	38	60	72	95	137	189	137	95	72	60
	38	60	72	95	137	189	137	95	72	60
	38	61	72	94	135	176	135	94	72	61
	38	61	72	91	127	176	127	91	72	61

		Width 400 mm								
20°		30	50	50	50	40	50	50	50	30
Height 190 mm	38	65	78	104	146	202	146	104	78	65
	38	65	78	104	148	208	148	104	78	65
	38	65	78	104	148	202	148	104	78	65
	38	65	78	98	140	195	140	98	78	65
	38	65	78	98	135	186	135	98	78	65

		Width 400 mm								
25°		30	50	50	50	40	50	50	50	30
Height 190 mm	38	75	91	121	172	189	172	121	91	75
	38	75	91	121	172	176	172	121	91	75
	38	75	91	121	172	176	172	121	91	75
	38	75	88	113	166	176	166	113	88	75
	38	75	88	113	151	165	151	113	88	75



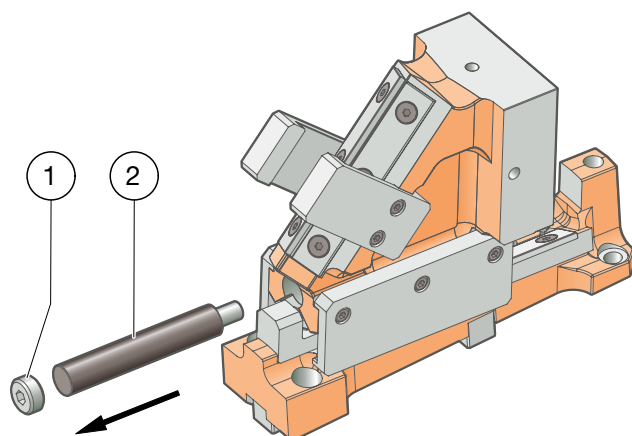
# ASSEMBLY INSTRUCTIONS



subject to alterations

# DIE MOUNT CAM FCC-HV 2016.15.

## ASSEMBLY INSTRUCTIONS



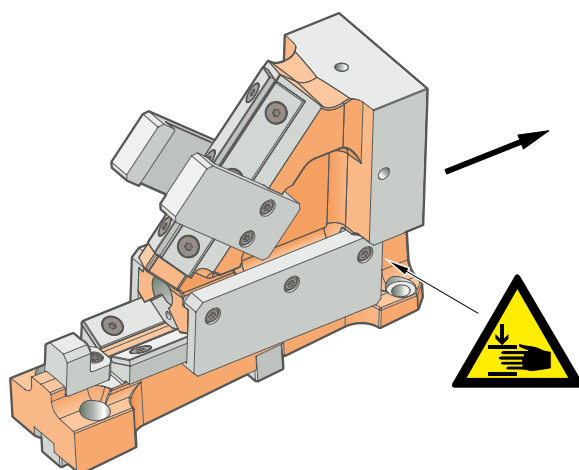
### STEP 1

- Remove the locking screw **(1)** and remove the gas spring **(2)** from the hole

#### Caution

The gas spring may only be removed if the spring itself is released.

After removing the locking screw for the gas spring, note that there is a risk of crushing between the cam slide unit body and the cam slide unit bed due to independent movement of the cam slide unit body.

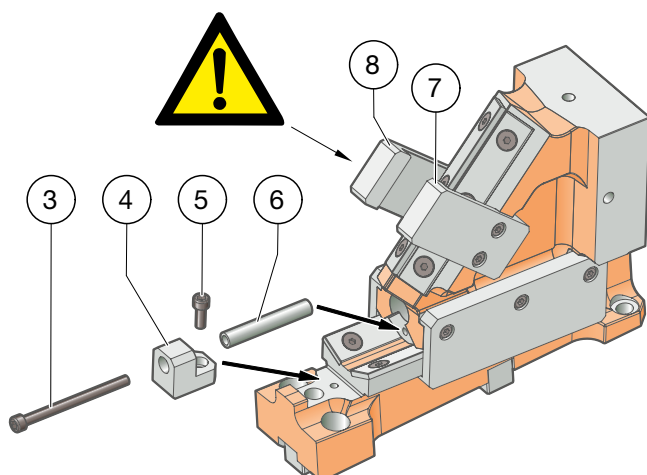


### STEP 2

- Slide the cam unit driver into the front position

#### Caution

Risk of crushing between the cam unit driver and the cam unit base by movement of the cam unit driver.



### STEP 3

- Remove the cam stop
- Insert Lock-Out system **(4)** and secure with the screw **(5)**
- Insert Lock-Out sleeve **(6)** and secure the cam slider with the screw **(3)**.

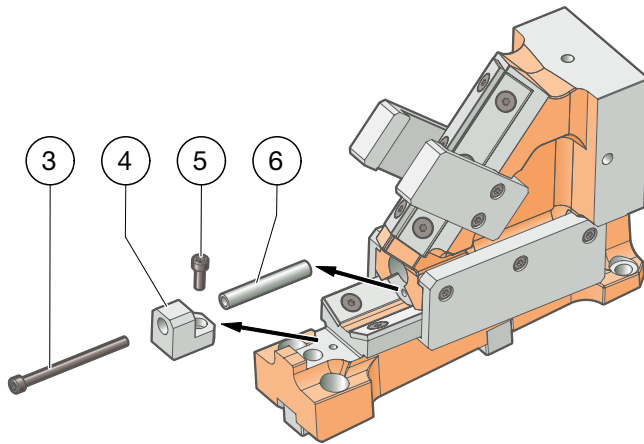
This position corresponds to the closed position (working position) in the tool.

#### Caution

In the traditional tool setup process (pressing the cam driver in the tool), the forced retractors on the left **(8)** and right **(7)** must also be removed to avoid damaging the cam slide unit, cam driver and tool.

# DIE MOUNT CAM FCC-HV 2016.15.

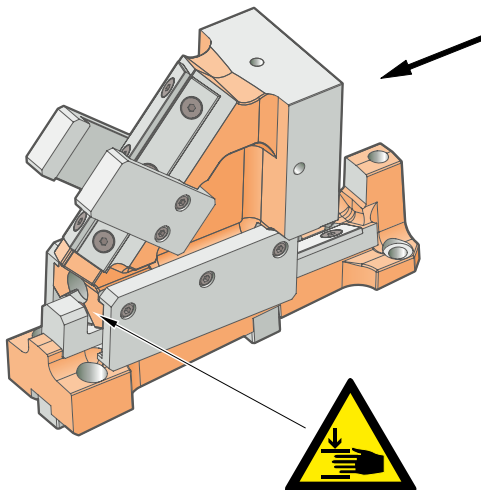
## ASSEMBLY INSTRUCTIONS



### STEP 4

Restore the cam unit function after completion of the work (setup, work surface machining).

- Remove screw **(3)**
- Remove Lock-Out sleeve **(6)**
- Remove screw **(5)** and dismantle Lock-Out system **(4)**
- Insert and secure the cam stop

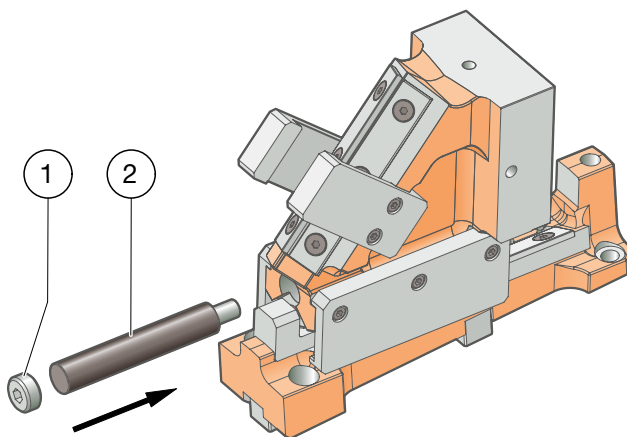


### STEP 5

- Slide the cam unit Driver backwards

### Caution

Risk of crushing between the cam unit driver and the cam unit base by movement of the cam unit driver.



### STEP 6

- Insert gas spring **(2)** and secure using the locking screw **(1)**

Screws must be secured against loosening by means of adhesive or suitable lock washers.

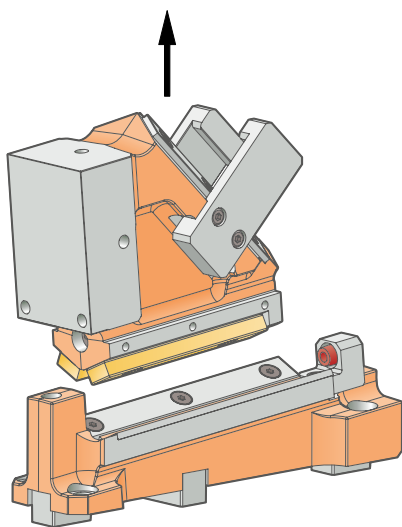
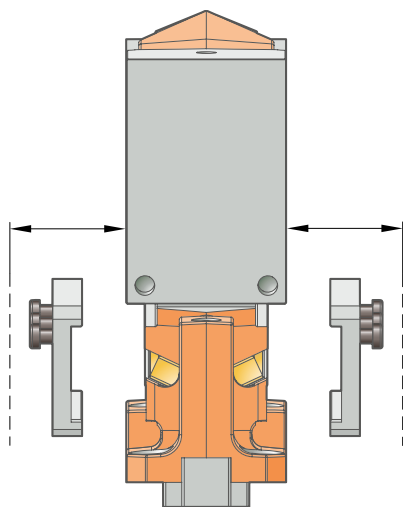
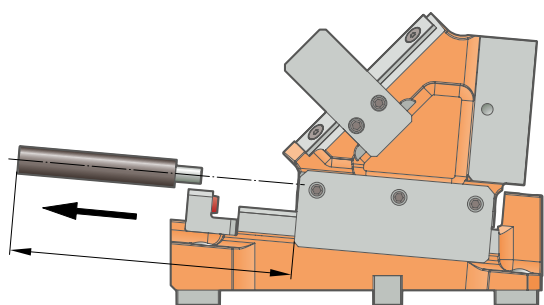
# DIE MOUNT CAM FCC-HV 2016.15.

## ASSEMBLY IN THE TOOL

Series 2016.15. cam units are designed in a way that the screws and pins for positioning and securing the cam slide unit components in the tool are accessible in the open position of the cam unit (after removing the cam stop, where applicable).

This access can be restricted or completely prevented by constructions on the cam slide unit working surface.

In these cases, the populated cam unit can be disassembled / assembled by dismantling the clamp:



### STEP 1

---

- Remove the gas spring before disassembling the cam unit.  
Within the tool, the corresponding constructional clearances must be taken into account at the rear.

### Caution

The gas spring may only be removed if the spring itself is released.

After removing the locking tappet for the gas spring, note that there is a risk of crushing between the cam slider and the cam unit base due to independent movement of the cam slider.

### STEP 2

---

- Unfasten and dismantle the left and right guide clamps.

### STEP 3

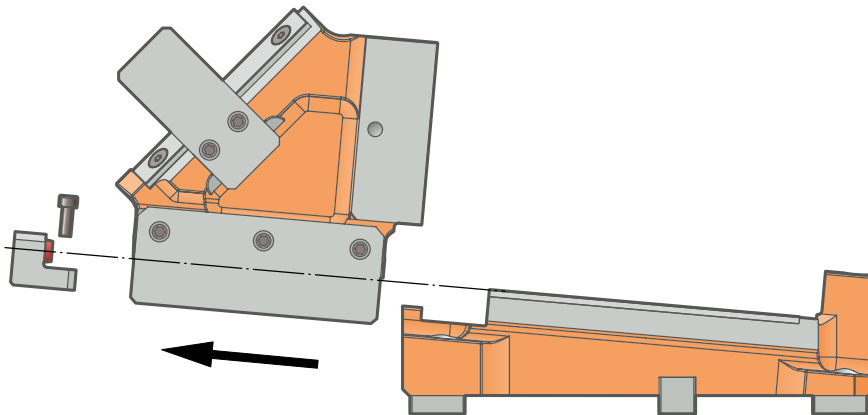
---

- Lift the populated cam slide unit upwards. The cam base can remain in the lower die.



# DIE MOUNT CAM FCC-HV 2016.15.

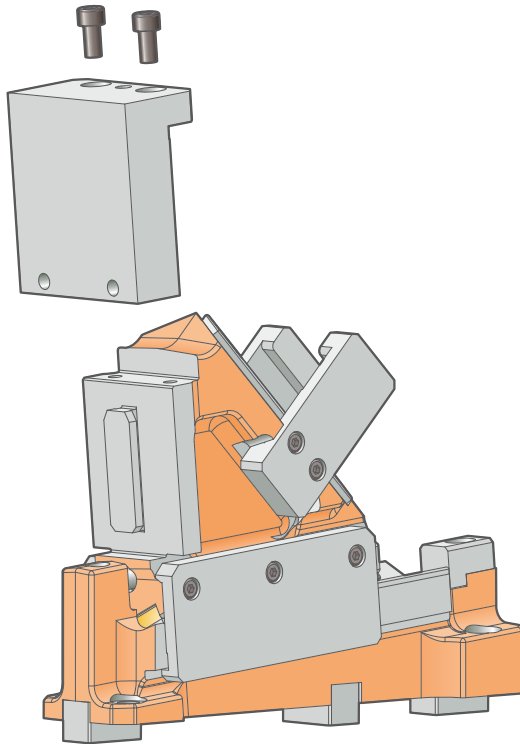
## ASSEMBLY IN THE TOOL



### ALTERNATIVE TO STEP 2

---

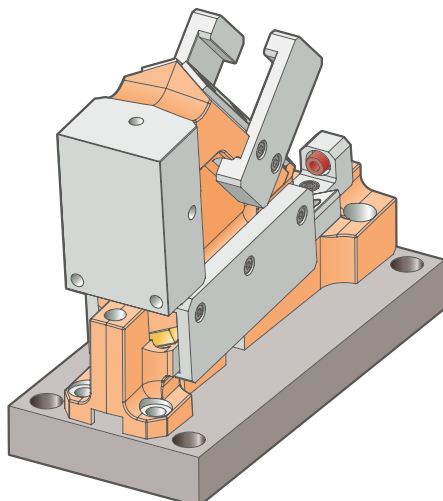
- Unfastening and removing the cam stop
- Remove the populated cam slide unit towards the back.  
The cam base can remain in the lower die.



### MOUNTING PLATE OPTION (ONLY VERSION .300□.)

---

- Unfasten the screws and the locating pin
- Remove the mounting plate upwards



In the event of installation space problems in the tool, an additional mounting board can be used as an alternative.

The cam unit is positioned and fixed on this mounting plate, the options for positioning and fastening to the tool are located outside the compact cam slide unit structure, and are therefore easily accessible from above for the necessary fitting aids.

Mounting plates are to be provided by the tool shop if necessary, as they are not included as standard with FIBRO cam units.



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## INTRODUCTION AND PRODUCT OVERVIEW

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**2016.26. AERIAL CAM UNIT FCC-LV**

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**2016.15. DIE MOUNT CAM FCC-HV**

BMW, DAIMLER,  
VOLKSWAGEN GROUP

**2016.24. AERIAL CAM UNIT FCC-HV**

BMW, DAIMLER, VOLVO,  
VOLKSWAGEN GROUP

**2017.43. ROLLER SLIDE UNITS FRC**

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DAIMLER, PSA

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## CUSTOMER-SPECIFIC SERVICES

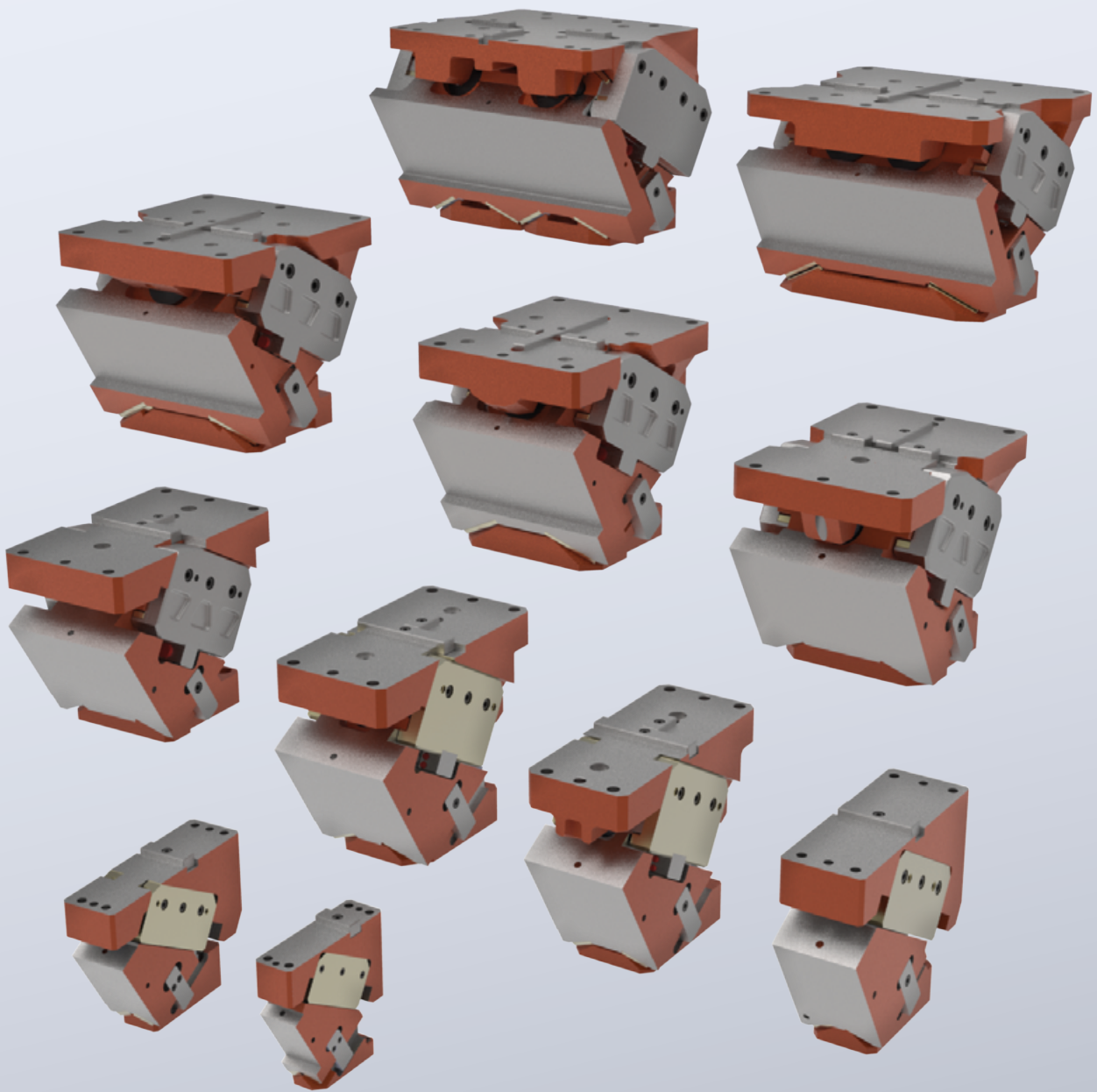
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EMERGENCY SITUATION / CONTACTS

---



AERIAL CAM UNIT  
**2016.24.**



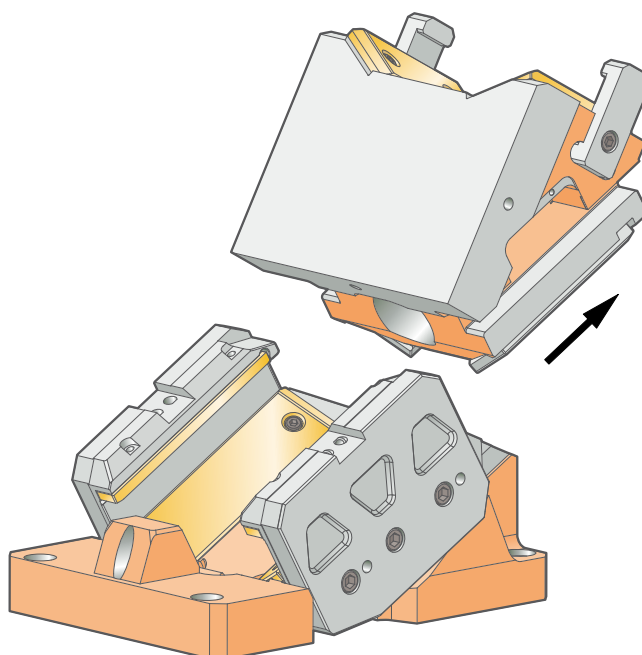
# AERIAL CAM UNIT 2016.24. PRODUCT UPDATE

The space conditions in tools can be very limited in some cases. Practical solutions for mounting the cam unit in the tool are extremely important here.

For this purpose, we have developed new removable cam slide unit stops. With the new cam stops, the cam unit body can still be lifted out at the top as normal after removal of the guiding clamps.

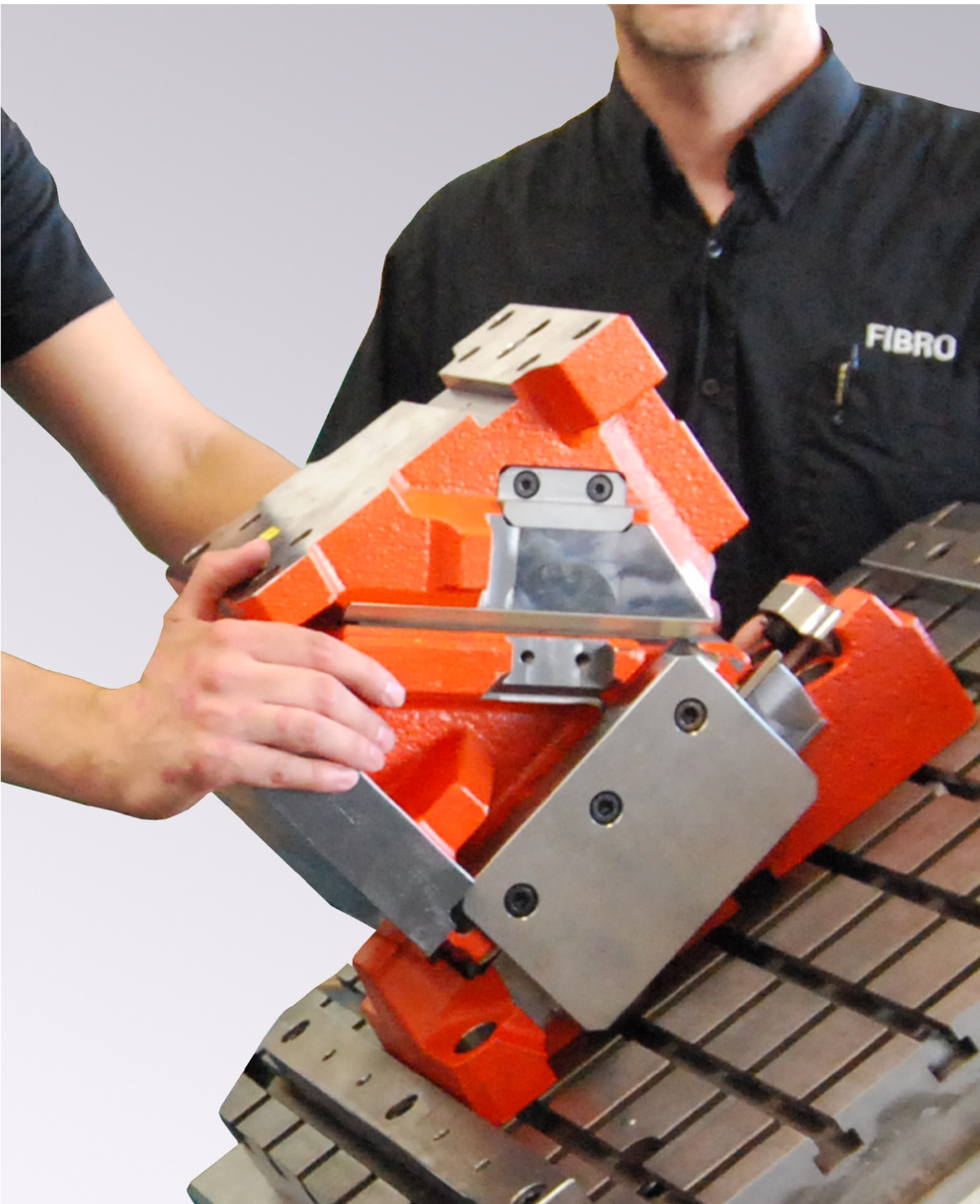
If the lateral removal of the clamps is not possible due to interference contours, such as a cast wall, the new stop system allows to remove the cam slide unit body to the rear after the stops have been released.

Existing cam units can be easily retrofitted to the new stop system on request.





# ASSEMBLY INSTRUCTIONS



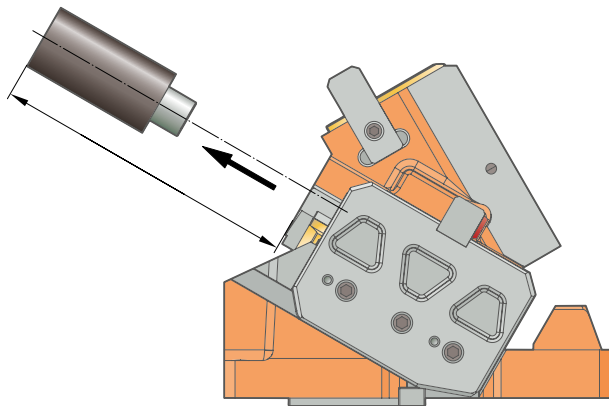
# AERIAL CAM UNIT FCC-HV 2016.24.

## ASSEMBLY IN THE TOOL

Series 2016.24. cam units are designed in a way that the screws and pins for positioning and securing the cam slide unit components in the tool are accessible in the open position of the cam unit.

This access can be restricted or completely prevented by constructions on the cam slide unit working surface.

In these cases, the populated cam unit can be disassembled / assembled by dismantling the clamp:



### STEP 1

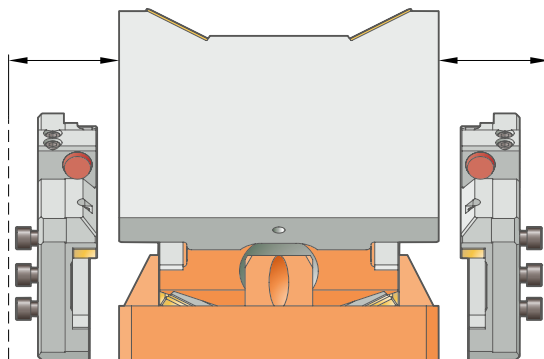
---

- Remove the gas spring before disassembling the cam unit.  
Within the tool, the corresponding constructional clearances must be taken into account at the rear.

### Caution

The gas spring may only be removed if the spring itself is released.

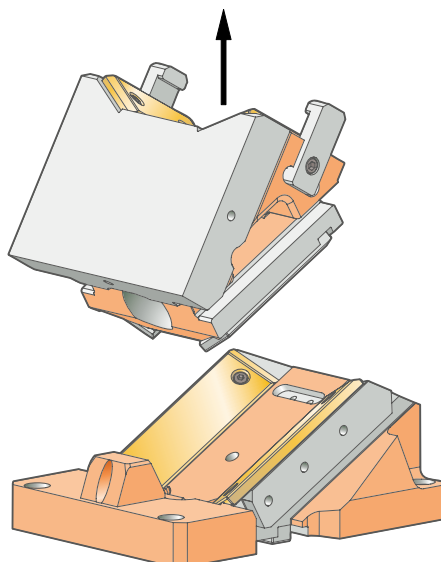
After removing the stop plate for the gas spring, note that there is a risk of crushing between the cam slider and the cam unit base due to independent movement of the cam slider.



### STEP 2

---

- Unfasten and dismantle the left and right guide clamps. No removal of positioning pins required!  
Within the tool, the corresponding constructional clearances must be provided on the sides.



### STEP 3

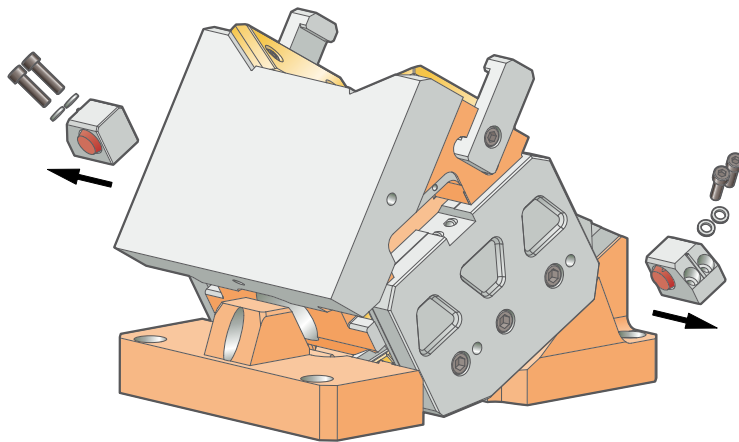
---

- Lift the populated cam slide unit upwards.  
The cam unit base can remain in the upper die



# AERIAL CAM UNIT FCC-HV 2016.24.

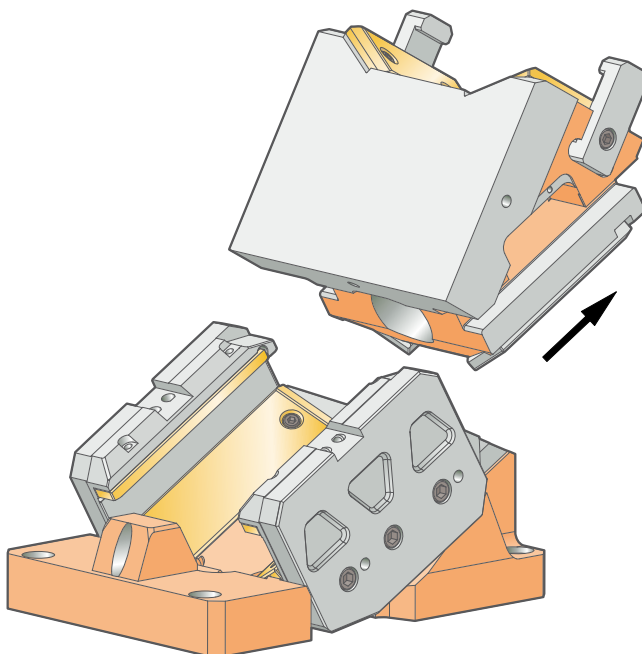
## ASSEMBLY IN THE TOOL



### STEP 2 (ALTERNATIVE)

---

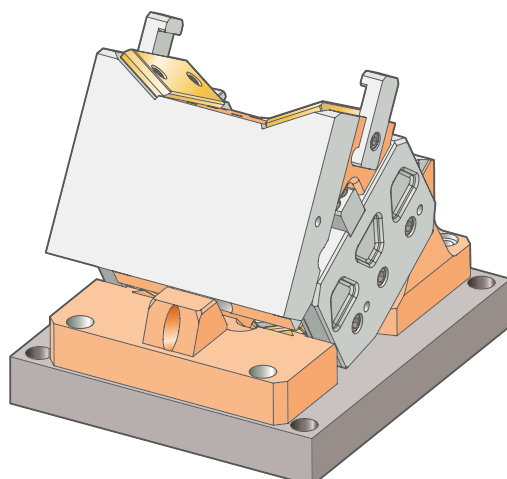
- Unfasten and dismantle the side slide stops (fitted on both guiding clamps)



### STEP 3 (ALTERNATIVE)

---

- Take off the cam slide unit towards the back.  
The cam unit base can remain in the upper die



In the event of installation space problems in the tool, an additional mounting board can be used as an alternative. The cam slide unit is positioned and fixed on this mounting plate, the options for positioning and fastening to the tool are located outside the compact cam slide unit structure, and are therefore easily accessible from above for the necessary fitting aids.

Mounting plates are to be provided by the tool shop if necessary, as they are not included as standard with FIBRO cam units.



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## INTRODUCTION AND PRODUCT OVERVIEW

---

**2016.26. AERIAL CAM UNIT FCC-LV**

---

**2016.15. DIE MOUNT CAM FCC-HV**

BMW, DAIMLER,  
VOLKSWAGEN GROUP

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**2016.24. AERIAL CAM UNIT FCC-HV**

BMW, DAIMLER, VOLVO,  
VOLKSWAGEN GROUP

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**2017.43. ROLLER SLIDE UNITS FRC**

DAIMLER, PSA

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## CUSTOMER-SPECIFIC SERVICES

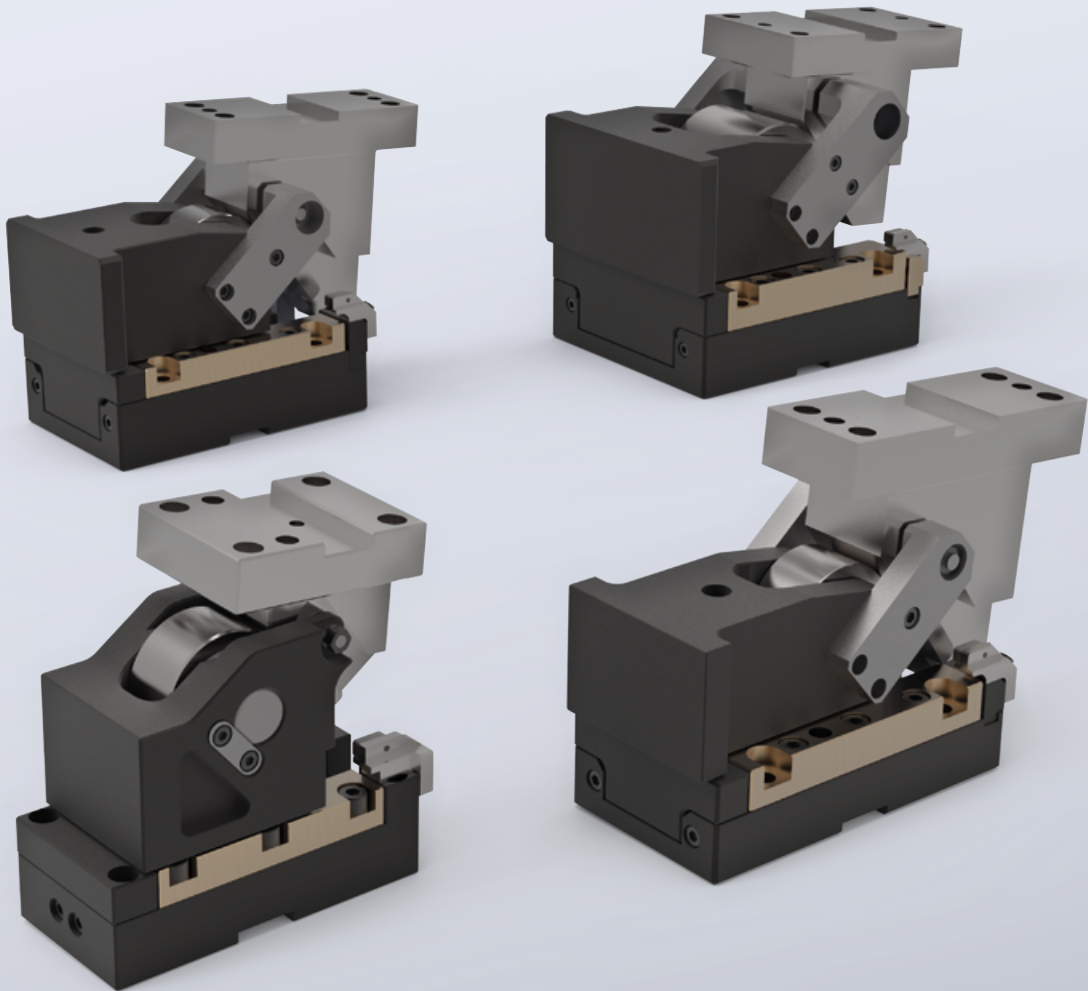
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EMERGENCY SITUATION / CONTACTS

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ROLLER SLIDE UNITS FRC  
**2017.43.**



# ROLLER SLIDE UNITS FRC

## 2017.43.

Our roller slide units series 2017.43 have been used in various dies for many years. They allow a working angle which can be individually adapted to the necessary requirements, and are ideal for use in punching operations.

The roller slide units are available in four widths and different stroke lengths. In comparison to cam units, the working angle in the permitted angular range can be selected virtually without restriction and without graduation.

The V-shaped guide, in combination with a solid roller, permits sufficiently high pressing forces and precise guidance. The guide, which is equipped with bronze or sintered sliding elements, reduces the required maintenance work and allows simple repair in the event of wear.

Our roller slide units are reset by gas springs. These gas springs used in these units, with the advanced safety features, are from our Standard Parts product range and offer the highest possible safety standard according to the Pressure Equipment Directive. The cam unit reset can be secured via forced retraction as an option, or as well as end position interrogation via a sensor. To improve operational safety, we recommend the use of forced retractions. The end position can also be queried by means of a sensor. Both versions can be selected as an option.

These cam units can be ordered ex works with a machined work surface according to your data set upon request.

### Design features:

- Prism guide against cam base
- Solid roller against driver
- Steel sliding surfaces (induction hardened) / bronze with solid lubricant or sinter
- Different stroke lengths available
- Cam unit in the tool can be removed towards the rear
- Gas spring with safety features
- Forced retraction available as an option
- Idle position sensor monitoring available as an option

Our roller slide units are available in four widths from 78mm to 170mm, and can be used in a working angle range from -20 ° to 50°.

Order No	Width [mm]	Nominal lifting length [mm]*	Performance class [kN]**	Page
2017.43.08.□.□□□.□□□.0	78	30, 50	45	159
2017.43.09.□.□□□.□□□.0	94	50, 80	70	165
2017.43.12.□.□□□.□□□.0	120	50, 80, 100	150	171
2017.43.17.□.□□□.□□□.0	170	50, 80, 100	160	177

\*The nominal lift should not be used completely.

In the dimension tables on the following pages, the lifting reserve of 10% recommended by us is taken into account for all values.

\*\*For exact power values, please refer to the force diagrams of the corresponding cam units

assembly instructions	183
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The ordering options are explained on the following page.

# ROLLER SLIDE UNITS FRC 2017.43.

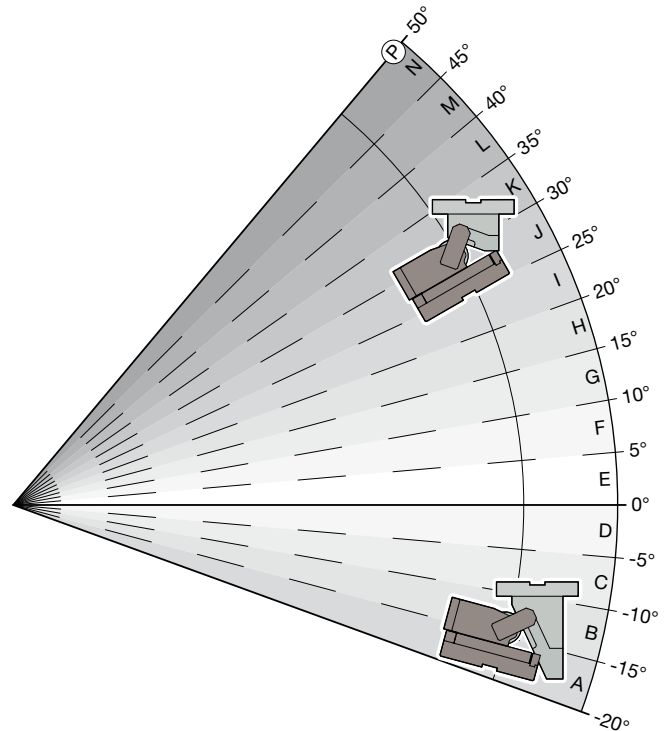
The cam driver is included as standard with our current roller slide unit series. Please note the correct selection of the roller unit for your tool – the cam drivers can be used for the corresponding angle ranges shown below.

## Angle ranges:

.A	-20 up to	< -15
.B	-15 up to	< -10
.C	-10 up to	< -5
.D	-5 up to	< 0
.E	0 up to	< 5
.F	5 up to	< 10
.G	10 up to	< 15
.H	15 up to	< 20
.I	20 up to	< 25
.J	25 up to	< 30
.K	30 up to	< 35
.L	35 up to	< 40
.M	40 up to	< 45
.N	45 up to	< 50
.P	50	

## Order options:

- .0□0 without forced retraction
- .0□1 Forced retraction
- .00□ without end position query
- .01□ End position query via inductive sensor



## Ordering Code (example):

FIBRO Roller Slide Units, Series .43, width 94mm	=	2017.43.09. □.□□□.□□□.0
Slide angle $\varepsilon = 12^\circ$	=	G
equipped with forced retraction and inductive sensor	=	011
Stroke 80 mm	=	080
Order number	=	2017.43.09. G. 011. 080. 0

# ROLLER SLIDE UNITS FRC

## 2017.43.

Our roller slide units can be equipped with an optional sensor that can be used to query the initial position. This ensures reliable monitoring of the setup and stamping processes. A potential consequential damage caused by a non-retracted cam slide unit can be avoided.

### Technical data

- Inductive query of the home position

### General features

- Basic standard IEC 60977-5-2
- Approval cULus / CE / EAC / WEEE

### Output / interface

- Switch output PNP make contact (NO)

### Electrical features

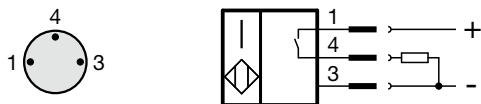
- Rated operation voltage  $U_e$  24V DC
- Operating voltage  $U_b$  10...30V DC

### Raccordement électrique

- Connection M8x1 Plug, 3 pole
- Connection type Cables with connectors, 0,30m PUR

### Ambient conditions

- Protection type IP 67
- Ambient temperature  $T_a$  -25...70°C







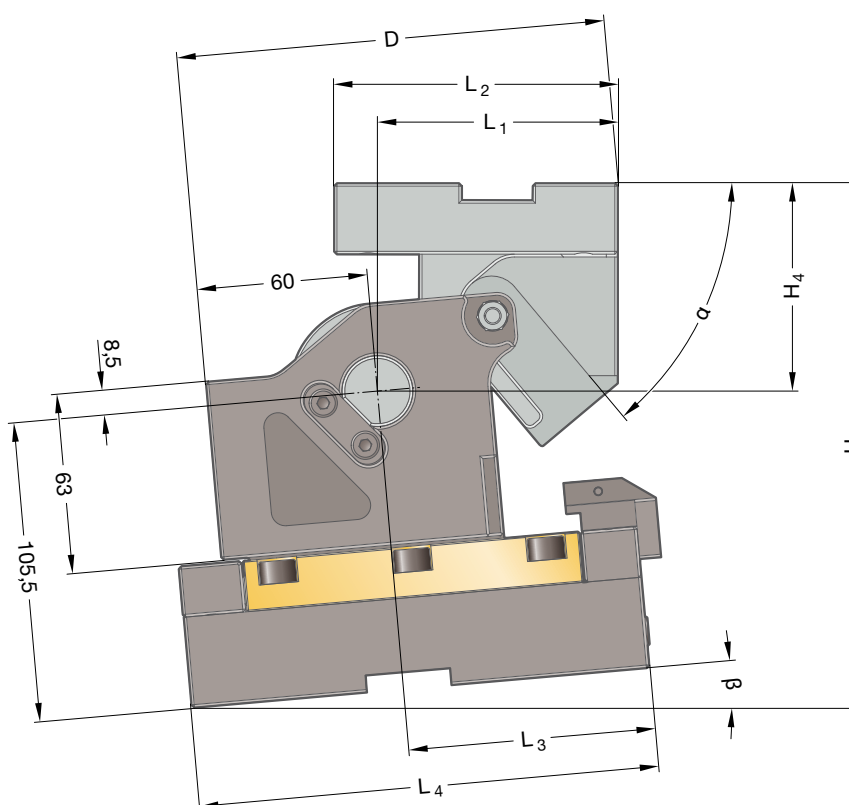
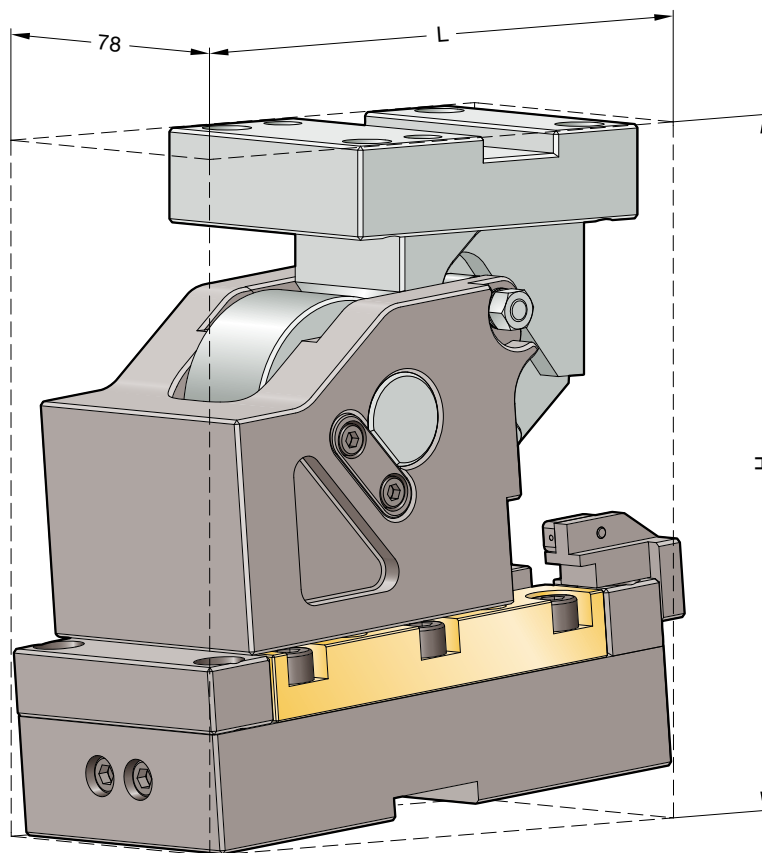
# ROLLER SLIDE UNITS FRC 2017.43.08.

**Working width:** 78 mm  
**Performance class:** 45 kN



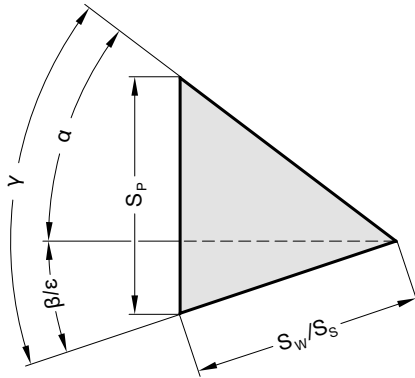
# ROLLER SLIDE UNITS FRC 2017.43.08.

## SIZE TABLE



# ROLLER SLIDE UNITS FRC 2017.43.08.

## SIZE TABLE



### Fastening

Socket cap screws DIN EN ISO 4762 /  
Strength class 8.8

Dowel pins DIN EN ISO 8735

### Cam base:

4 × M8

2 × ø8

### Cam driver:

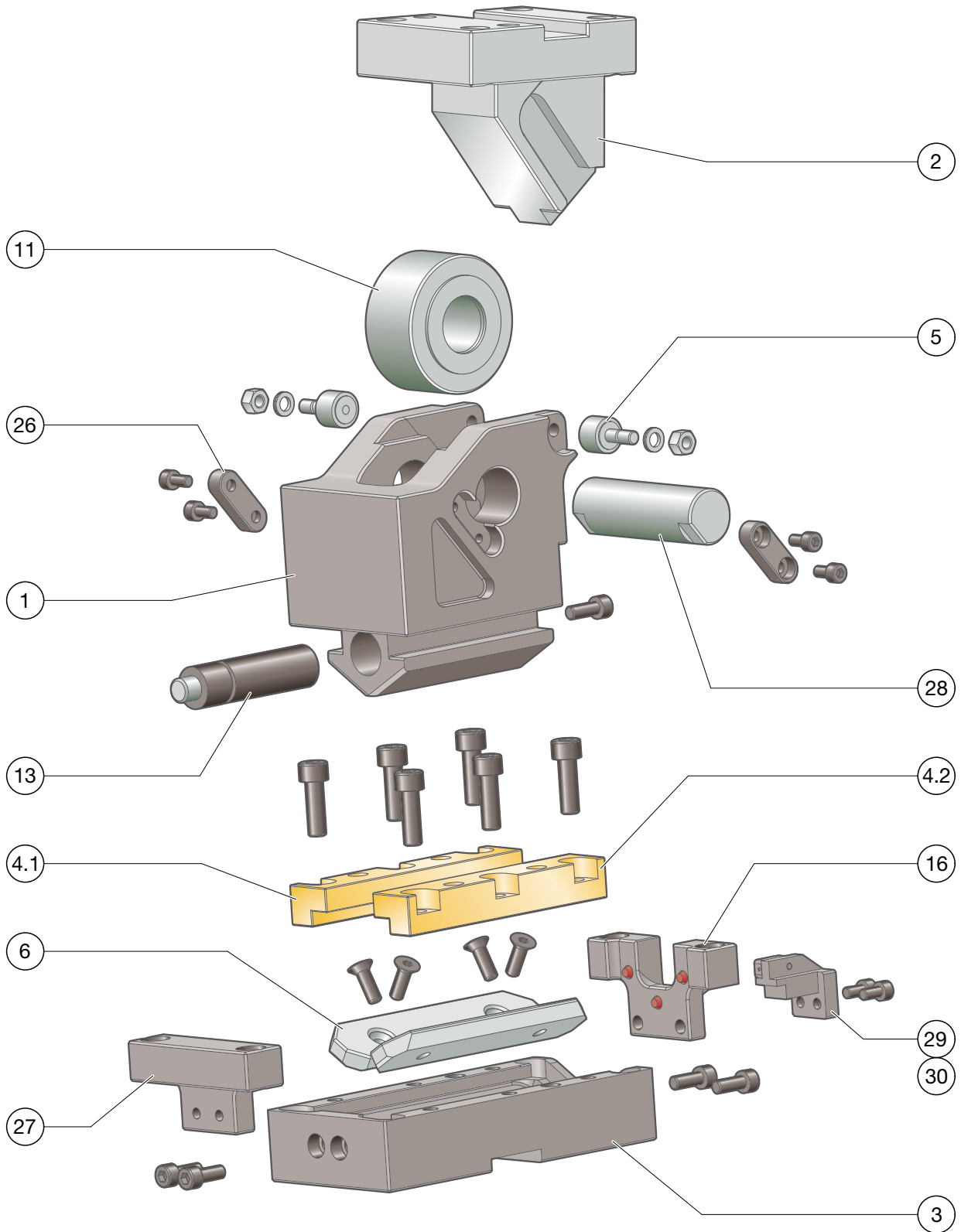
4 × M12

2 × ø10

Order No	L [mm]"	H [mm]"	H <sub>4</sub> [mm]"	L <sub>1</sub> [mm]"	L <sub>2</sub> [mm]"	L <sub>3</sub> [mm]"	L <sub>4</sub> [mm]"	D [mm]"	β [°]"	α [°]"	S <sub>w</sub> * [mm]"	S <sub>p</sub> [mm]"
2017.43.08.B.0□□.030.0	192,6	197,6	74	89,94	100	84	162	127,7	-15	65	27	48,9
2017.43.08.C.0□□.030.0	182,4	192,5	74	87,22				133,0	-10	60	27	41,4
2017.43.08.D.0□□.030.0	169,6	185,4	73	82,68				136,0	-5	55	27	36,1
2017.43.08.E.0□□.030.0	162,1	178,5	73	84,05				144,1	0	50	27	32,2
2017.43.08.F.0□□.030.0	165,7	183,9	72	80,63				146,6	5	45	27	29,3
2017.43.08.G.0□□.030.0	168,2	189,4	72	82,06				153,3	10	40	27	27,0
2017.43.08.H.0□□.030.0	169,4	199,1	77	77,95				155,2	15	35	27	25,2
2017.43.08.I.0□□.030.0	174,3	205,8	80	76,96				159,7	20	30	27	23,9
2017.43.08.J.0□□.030.0	178,7	210,6	82	68,97				157,2	25	25	27	22,8
2017.43.08.K.0□□.030.0	181,7	215,4	85	64,82				158,6	30	20	27	22,0
2017.43.08.L.0□□.030.0	183,3	218,2	86	61,88				160,6	35	15	27	21,4
2017.43.08.M.0□□.030.0	183,6	220,0	89	51,04				156,3	40	10	27	21,0
2017.43.08.N.0□□.030.0	182,4	218,8	89	54,25				161,3	45	5	27	20,8
2017.43.08.P.0□□.030.0	184,8	218,3	90,74	50,00				161,7	50	0	27	20,7
2017.43.08.B.0□□.050.0	212,9	212,8	84,5	108,37	120	102	182	142,8	-15	65	45	81,6
2017.43.08.C.0□□.050.0	203,1	203,1	81,5	105,98				150,2	-10	60	45	68,9
2017.43.08.D.0□□.050.0	195,0	198,5	84,5	106,14				158,4	-5	55	45	60,1
2017.43.08.E.0□□.050.0	182,8	180,0	74,5	102,80				162,8	0	50	45	53,6
2017.43.08.F.0□□.050.0	185,7	191,6	79,5	102,13				168,7	5	45	45	48,8
2017.43.08.G.0□□.050.0	187,9	199,3	81,5	94,59				167,3	10	40	45	45,0
2017.43.08.H.0□□.050.0	188,7	211,6	89	89,37				169,4	15	35	45	42,1
2017.43.08.I.0□□.050.0	191,2	218,5	92	82,15				168,7	20	30	45	39,8
2017.43.08.J.0□□.050.0	195,0	222,4	93	77,56				169,6	25	25	45	38,0
2017.43.08.K.0□□.050.0	197,3	227,4	96	67,57				166,5	30	20	45	36,7
2017.43.08.L.0□□.050.0	198,1	232,3	100	69,32				174,1	35	15	45	35,7
2017.43.08.M.0□□.050.0	209,2	230,2	98	56,71				166,4	40	10	45	35,0
2017.43.08.N.0□□.050.0	212,5	230,2	99	54,21				168,3	45	5	45	34,6
2017.43.08.P.0□□.050.0	202,4	229,8	100,74	64,00				178,3	50	0	45	34,5

# ROLLER SLIDE UNITS FRC 2017.43.08.

## EXPLODED VIEW



# ROLLER SLIDE UNITS FRC 2017.43.08.

## PARTS LIST

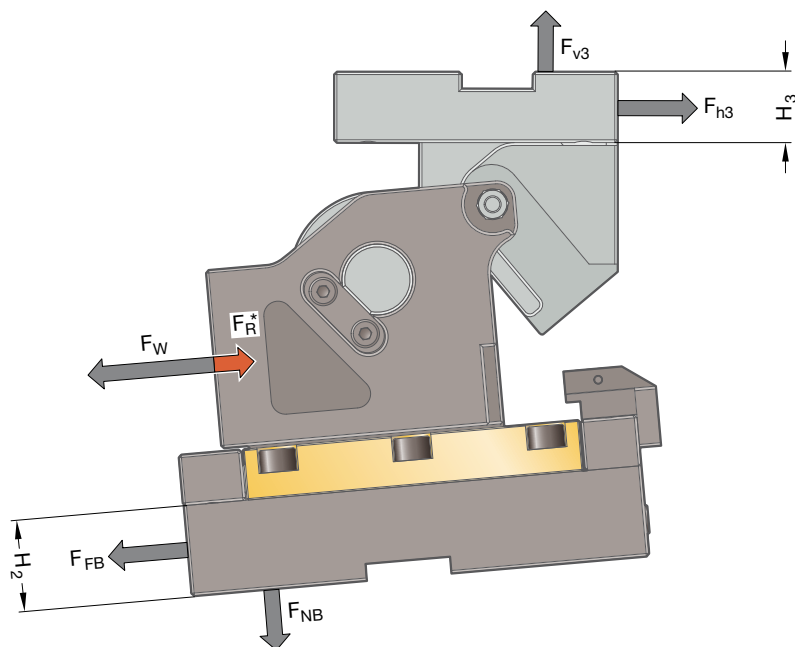
Item No.	Pcs.	Designation	Material	tuned	Spare part
1	1	Cam slider	Ck45	--	--
2	1	Driver	Ck45	--	x
3	1	Cam base	Ck45	--	--
4.1	1	Bracket, left	Bronze with solid lubricant	x	x
4.2	1	Bracket, right	Bronze with solid lubricant	x	x
5	2	Forced retraction		--	x
6	2	Sliding plate	1.1191 with sinter layer	--	x
7					
8					
9					
10					
11	1	Drive roller spare parts set	100Cr6	--	x
12					
13	1	Gas spring	2487.12.00170.□□□	--	x
14					
15					
16	2	Rear cam stop spare parts set	Ck45	--	x
17					
18					
19					
20					
21					
22					
23					
24					
25					
26	2	Feather key	Ck45	--	x
27	1	Front cam stop	Ck45	--	x
28	1	Spindle	16NiCrMo4	--	x
29	1	Sensor mount		--	x
30	1	Sensor		--	x

For inquiries or for spare part orders (x), we require the following data:

- Cam unit order no.
- Cam unit serial number
- Item No. / Designation / Spare part

# ROLLER SLIDE UNITS FRC 2017.43.08.

## SYSTEM AND SURROUNDING FORCES



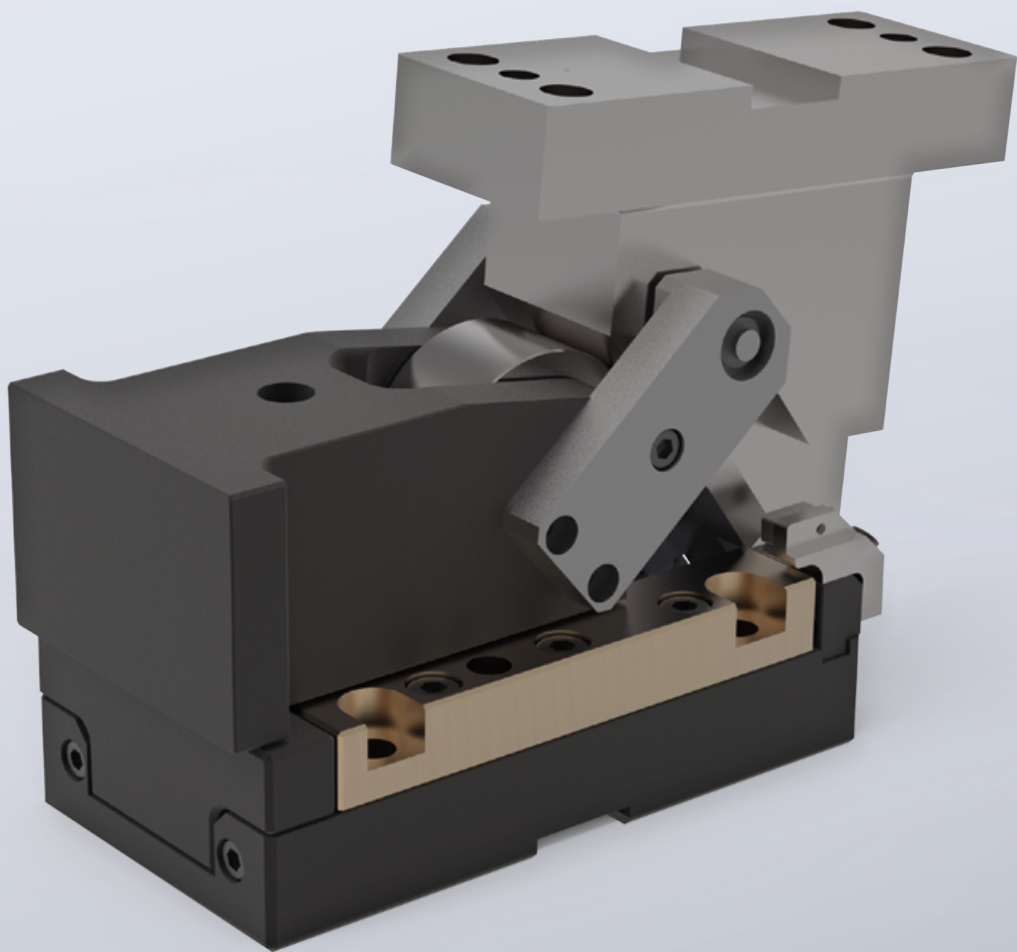
Order No	$\alpha$ [°]	$F_W$ [kN]	$F_R$ [kN]	$F_{FB}$ [kN]	$F_{NB}$ [kN]	$F_{h3}$ [kN]	$F_{v3}$ [kN]	$H_2$ [mm]	$H_3$ [mm]
2017.43.08.B.□□□.□□□.0	-15	45	2,4	2,8	40,2	26,4	56,6	10	25
2017.43.08.C.□□□.□□□.0	-10	45	2,4	2,8	40,2	31,2	54,0	10	25
2017.43.08.D.□□□.□□□.0	-5	45	2,4	2,8	40,2	35,8	51,1	10	25
2017.43.08.E.□□□.□□□.0	0	45	2,4	2,8	40,2	40,1	47,8	10	25
2017.43.08.F.□□□.□□□.0	5	45	2,4	2,8	40,2	44,1	44,1	10	25
2017.43.08.G.□□□.□□□.0	10	45	2,4	2,8	40,2	47,8	40,1	10	25
2017.43.08.H.□□□.□□□.0	15	45	2,3	2,8	40,2	51,1	35,8	10	25
2017.43.08.I.□□□.□□□.0	20	45	2,3	2,8	40,2	54,0	31,2	10	25
2017.43.08.J.□□□.□□□.0	25	45	2,3	2,8	40,2	56,6	26,4	10	25
2017.43.08.K.□□□.□□□.0	30	45	2,3	2,8	40,2	58,6	21,3	10	25
2017.43.08.L.□□□.□□□.0	35	45	2,3	2,8	40,2	60,3	16,2	10	25
2017.43.08.M.□□□.□□□.0	40	45	2,3	2,8	40,2	61,5	10,8	10	25
2017.43.08.N.□□□.□□□.0	45	45	2,3	2,8	40,2	62,2	5,4	10	25
2017.43.08.P.□□□.□□□.0	50	45	2,3	2,8	40,2	62,4	0,0	10	25

Support via cast shoulder

		Width 78 mm		
-15° up to 50°		26	26	26
Height 68 mm	21	11	45	11
	21	11	45	11
	21	11	45	11

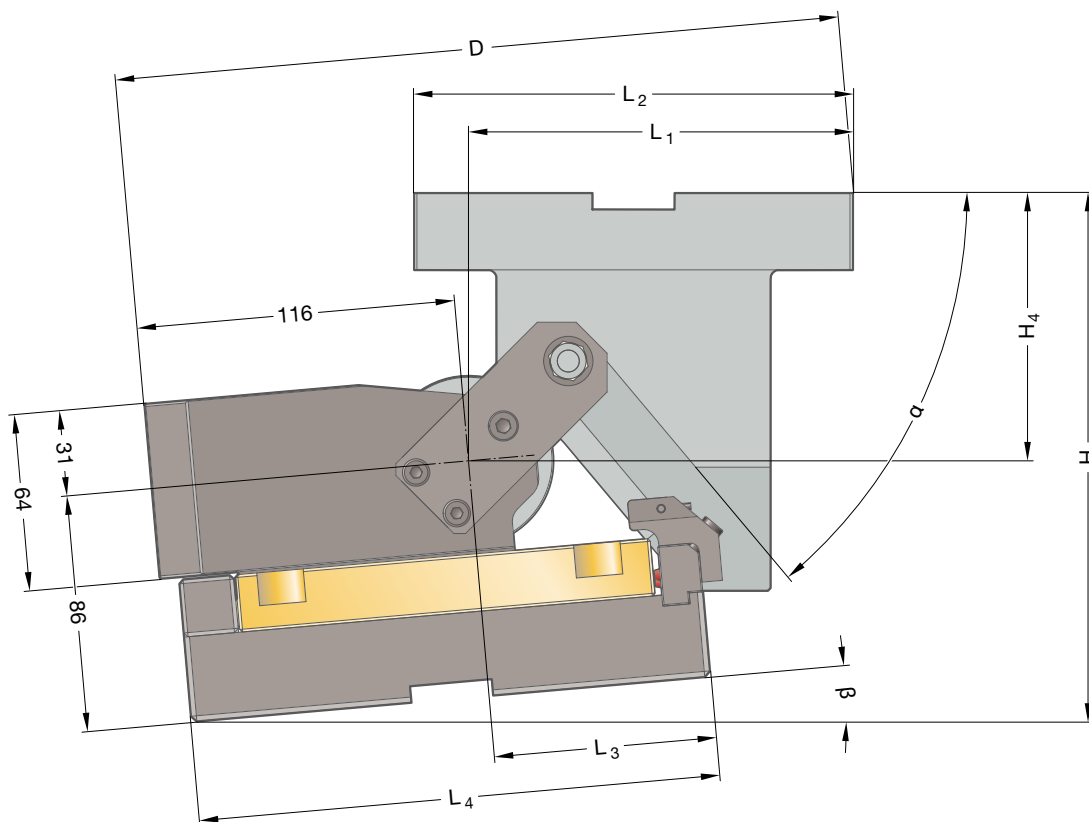
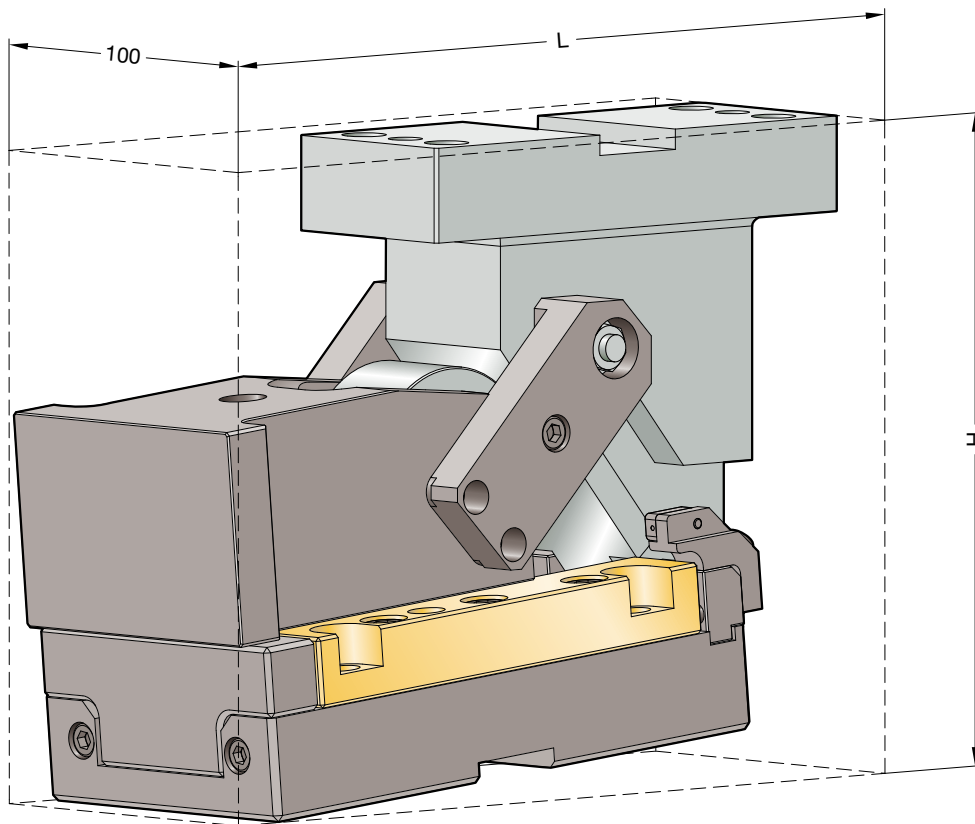
# ROLLER SLIDE UNITS **FRC 2017.43.09.**

**Working width:** 94 mm  
**Performance class:** 70 kN



# ROLLER SLIDE UNITS FRC 2017.43.09.

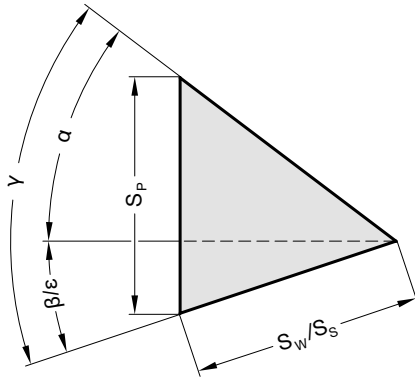
## SIZE TABLE





# ROLLER SLIDE UNITS FRC 2017.43.09.

## SIZE TABLE



### Fastening

Socket cap screws DIN EN ISO 4762 /  
Strength class 8.8  
Dowel pins DIN EN ISO 8735

### Cam base:

4 × M10  
2 × ø10

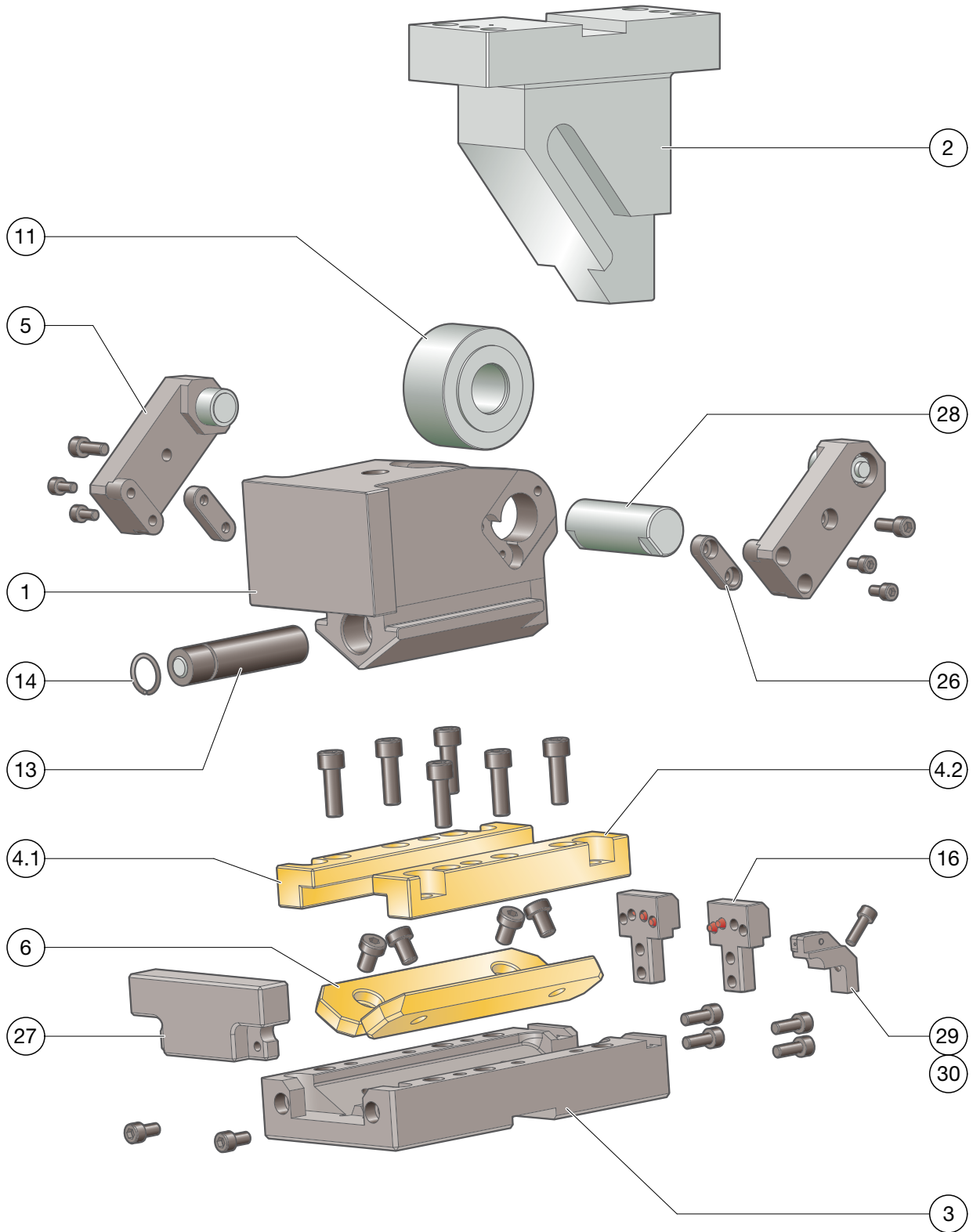
### Cam driver:

4 × M12  
2 × ø10

Order No	L [mm]	H [mm]	H <sub>4</sub> [mm]	L <sub>1</sub> [mm]	L <sub>2</sub> [mm]	L <sub>3</sub> [mm]	L <sub>4</sub> [mm]	D [mm]	β [°]	α [°]	S <sub>w</sub> * [mm]	S <sub>p</sub> [mm]	B [mm]	H <sub>1</sub> [mm]	H <sub>w</sub> [mm]
2017.43.09.A.0□□.050.0	273,4	220	105	136,85	160			208,7	-20	70	45	100,8	94	86	64
2017.43.09.B.0□□.050.0	270,5	202,7	100	138,17	160			223,6	-15	65	45	81,6	94	86	64
2017.43.09.C.0□□.050.0	265,4	192,9	95	138,21	160			235,6	-10	60	45	68,9	94	86	64
2017.43.09.D.0□□.050.0	259,4	192,3	100	138,36	160			245,1	-5	55	45	60,1	94	86	64
2017.43.09.E.0□□.050.0	250	191	105	134,03	160			250	0	50	45	53,6	94	86	64
2017.43.09.F.0□□.050.0	252,1	210,6	115	133,84	160			259,4	5	45	45	48,8	94	86	64
2017.43.09.G.0□□.050.0	249,7	214,5	110	130,06	160			263,2	10	40	45	45,0	94	86	64
2017.43.09.H.0□□.050.0	246,4	232,6	120	126,33	160	76	190	269,1	15	35	45	42,1	94	86	64
2017.43.09.I.0□□.050.0	240,1	237,8	118	120,47	160			269,6	20	30	45	39,8	94	86	64
2017.43.09.J.0□□.050.0	235,9	251,1	125	117,63	160			275,4	25	25	45	38,0	94	86	64
2017.43.09.K.0□□.050.0	231,6	243,5	112	115,67	160			272,2	30	20	45	36,7	94	86	64
2017.43.09.L.0□□.050.0	224,4	253,8	118	110,6	160			274,3	35	15	45	35,7	94	86	64
2017.43.09.M.0□□.050.0	222,3	252,2	113	103,08	160			267,6	40	10	45	35,0	94	86	64
2017.43.09.N.0□□.050.0	218,5	258,4	117	102,07	160			270,9	45	5	45	34,6	94	86	64
2017.43.09.P.0□□.050.0	213	253,6	111	83	160			254,4	50	0	45	34,5	94	86	64
2017.43.09.A.0□□.080.0	317	380	175	177,6	220			103	220	223	72	161,3	94	86	64
2017.43.09.B.0□□.080.0	317,8	320	150	182,48	220			253,4	-15	65	72	130,5	94	86	64
2017.43.09.C.0□□.080.0	301,3	250	135	171,19	220			261,1	-10	60	72	110,3	94	86	64
2017.43.09.D.0□□.080.0	297,4	225	130	173,36	220			277,4	-5	55	72	96,2	94	86	64
2017.43.09.E.0□□.080.0	287,4	221	135	170,4	220			286,4	0	50	72	85,8	94	86	64
2017.43.09.F.0□□.080.0	289,1	240,1	145	170,84	220			298,8	5	45	72	78,0	94	86	64
2017.43.09.G.0□□.080.0	286,5	245	140	166,86	220			304,6	10	40	72	72,0	94	86	64
2017.43.09.H.0□□.080.0	282	263,4	150	161,89	220	103	220	311,2	15	35	72	67,3	94	86	64
2017.43.09.I.0□□.080.0	273,1	268,8	148	153,45	220			310,8	20	30	72	63,7	94	86	64
2017.43.09.J.0□□.080.0	275	282,4	155	156,8	220			323,6	25	25	72	60,9	94	86	64
2017.43.09.K.0□□.080.0	261,1	280	147	145,14	220			315,2	30	20	72	58,7	94	86	64
2017.43.09.L.0□□.080.0	262,7	290,6	153	149,92	220			326,6	35	15	72	57,1	94	86	64
2017.43.09.M.0□□.080.0	245,2	274,1	133	136,44	200			306	40	10	72	56,0	94	86	64
2017.43.09.N.0□□.080.0	237,6	283,5	140	129,93	200			306,9	45	5	72	55,4	94	86	64
2017.43.09.P.0□□.080.0	235	270,9	126	97	200			274,9	50	0	72	55,2	94	86	64

# ROLLER SLIDE UNITS FRC 2017.43.09.

## EXPLODED VIEW



# ROLLER SLIDE UNITS FRC 2017.43.09.

## PARTS LIST

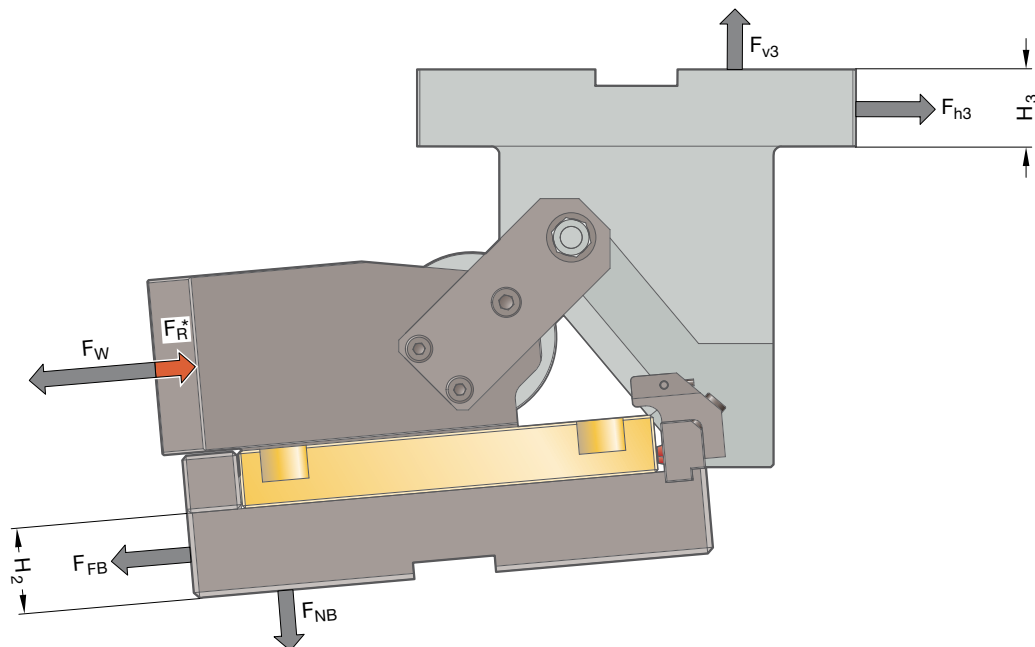
Item No.	Pcs.	Designation	Material	tuned	Spare part
1	1	Cam slider	Ck45	--	--
2	1	Driver	Ck45	--	x
3	1	Cam base	Ck45	--	--
4.1	1	Bracket, left	Bronze with solid lubricant	x	x
4.2	1	Bracket, right	Bronze with solid lubricant	x	x
5	2	Forced retraction	Ck45	--	x
6	2	Sliding plate	Bronze with solid lubricant	--	x
7					
8					
9					
10					
11	1	Drive roller spare parts set	100Cr6	--	x
12					
13	1	Gas spring	2487.12.00170.□□□	--	x
14	1	Circlip		--	x
15					
16	2	Rear cam stop spare parts set	Ck45	--	x
17					
18					
19					
20					
21					
22					
23					
24					
25					
26	2	Feather key	Ck45	--	x
27	1	Front cam stop	Ck45	--	x
28	1	Spindle	16NiCrMo4	--	x
29	1	Sensor mount		--	x
30	1	Sensor		--	x

For inquiries or for spare part orders (x), we require the following data:

- Cam unit order no.
- Cam unit serial number
- Item No. / Designation / Spare part

# ROLLER SLIDE UNITS FRC 2017.43.09.

## SYSTEM AND SURROUNDING FORCES

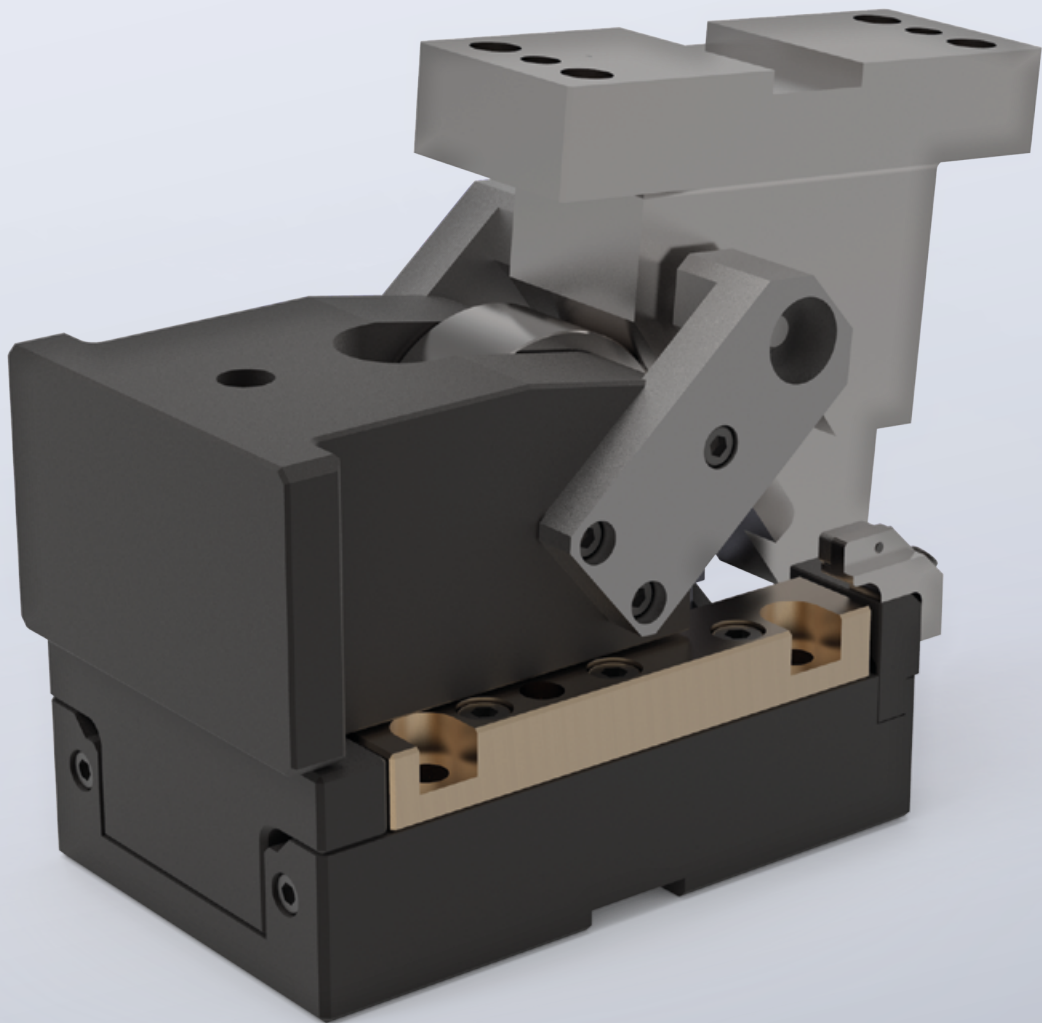


Order No	$\alpha$ [°]	$F_W$ [kN]	$F_R$ [kN]	$F_{FB}$ [kN]	$F_{NB}$ [kN]	$F_{h3}$ [kN]	$F_{v3}$ [kN]	$H_2$ [mm]	$H_3$ [mm]
2017.43.09.A.□□□.□□□.0	-20	72	2,7	4,5	64,3	34,2	93,8	10	28
2017.43.09.B.□□□.□□□.0	-15	72	2,7	4,5	64,3	42,2	90,5	10	28
2017.43.09.C.□□□.□□□.0	-10	72	2,7	4,5	64,3	49,9	86,5	10	28
2017.43.09.D.□□□.□□□.0	-5	72	2,7	4,5	64,3	57,3	81,8	10	28
2017.43.09.E.□□□.□□□.0	0	72	2,7	4,5	64,3	64,2	76,5	10	28
2017.43.09.F.□□□.□□□.0	5	72	2,7	4,5	64,3	70,6	70,6	10	28
2017.43.09.G.□□□.□□□.0	10	72	2,7	4,5	64,3	76,5	64,2	10	28
2017.43.09.H.□□□.□□□.0	15	72	2,7	4,5	64,3	81,8	57,3	10	28
2017.43.09.I.□□□.□□□.0	20	72	2,7	4,5	64,3	86,5	49,9	10	28
2017.43.09.J.□□□.□□□.0	25	72	2,7	4,5	64,3	90,5	42,2	10	28
2017.43.09.K.□□□.□□□.0	30	72	2,7	4,5	64,3	93,8	34,2	10	28
2017.43.09.L.□□□.□□□.0	35	72	2,7	4,5	64,3	96,4	25,8	10	28
2017.43.09.M.□□□.□□□.0	40	72	2,7	4,5	64,3	98,3	17,3	10	28
2017.43.09.N.□□□.□□□.0	45	72	2,6	4,5	64,3	99,5	8,7	10	28
2017.43.09.P.□□□.□□□.0	50	72	2,6	4,5	64,3	99,8	0,0	10	28

		Support via cast shoulder		
		Width 94 mm		
-20° up to 50°		30	34	30
Height 64 mm	21	10	15	10
	21	15	53	15
	22	20	72	20

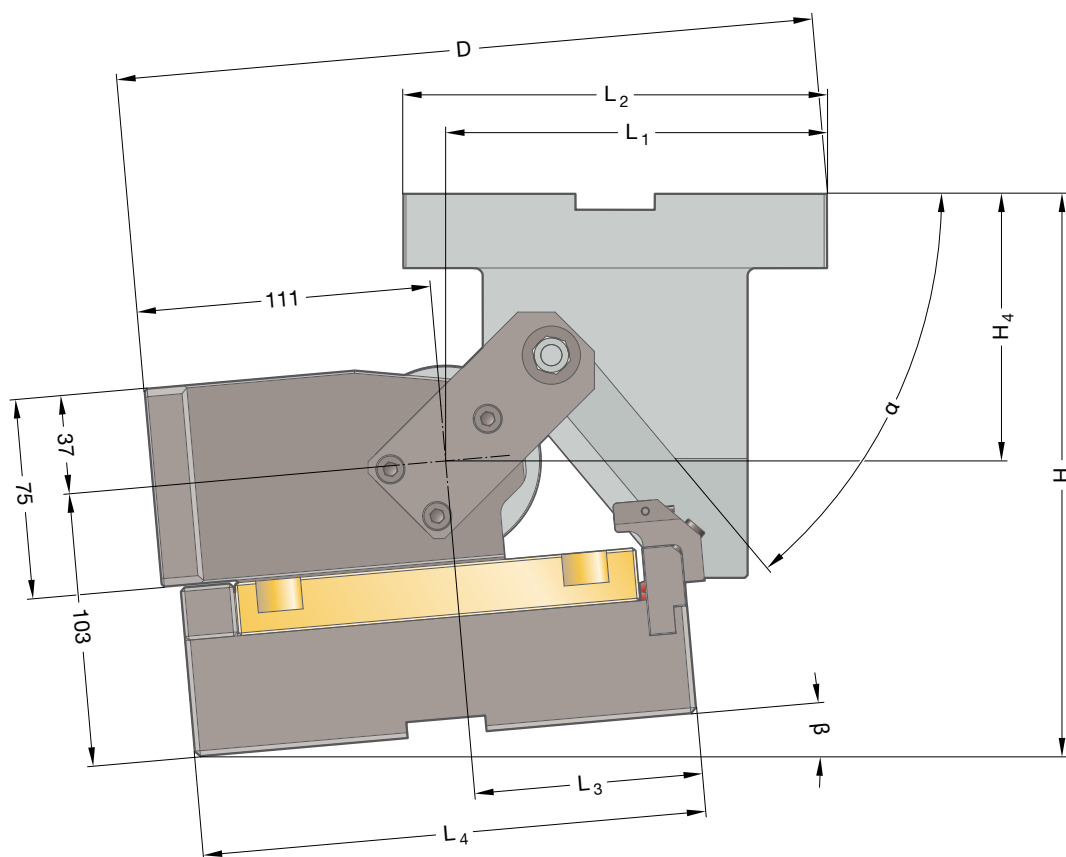
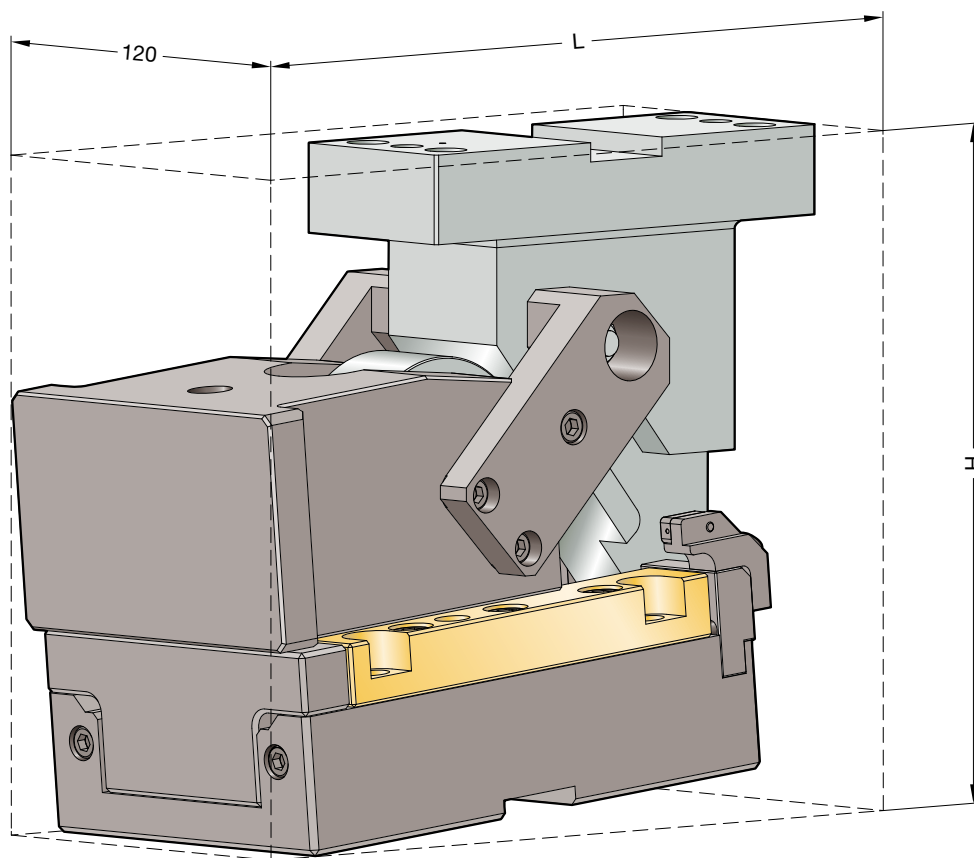
# ROLLER SLIDE UNITS FRC 2017.43.12.

**Working width:** 120 mm  
**Performance class:** 150 kN



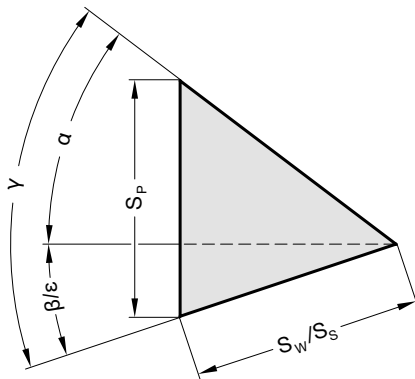
# ROLLER SLIDE UNITS FRC 2017.43.12.

## SIZE TABLE



# ROLLER SLIDE UNITS FRC 2017.43.12.

## SIZE TABLE



### Fastening

Socket cap screws DIN EN ISO 4762 /  
Strength class 8.8

Dowel pins DIN EN ISO 8735

### Cam base:

4 x M10

2 x ø10

### Cam driver:

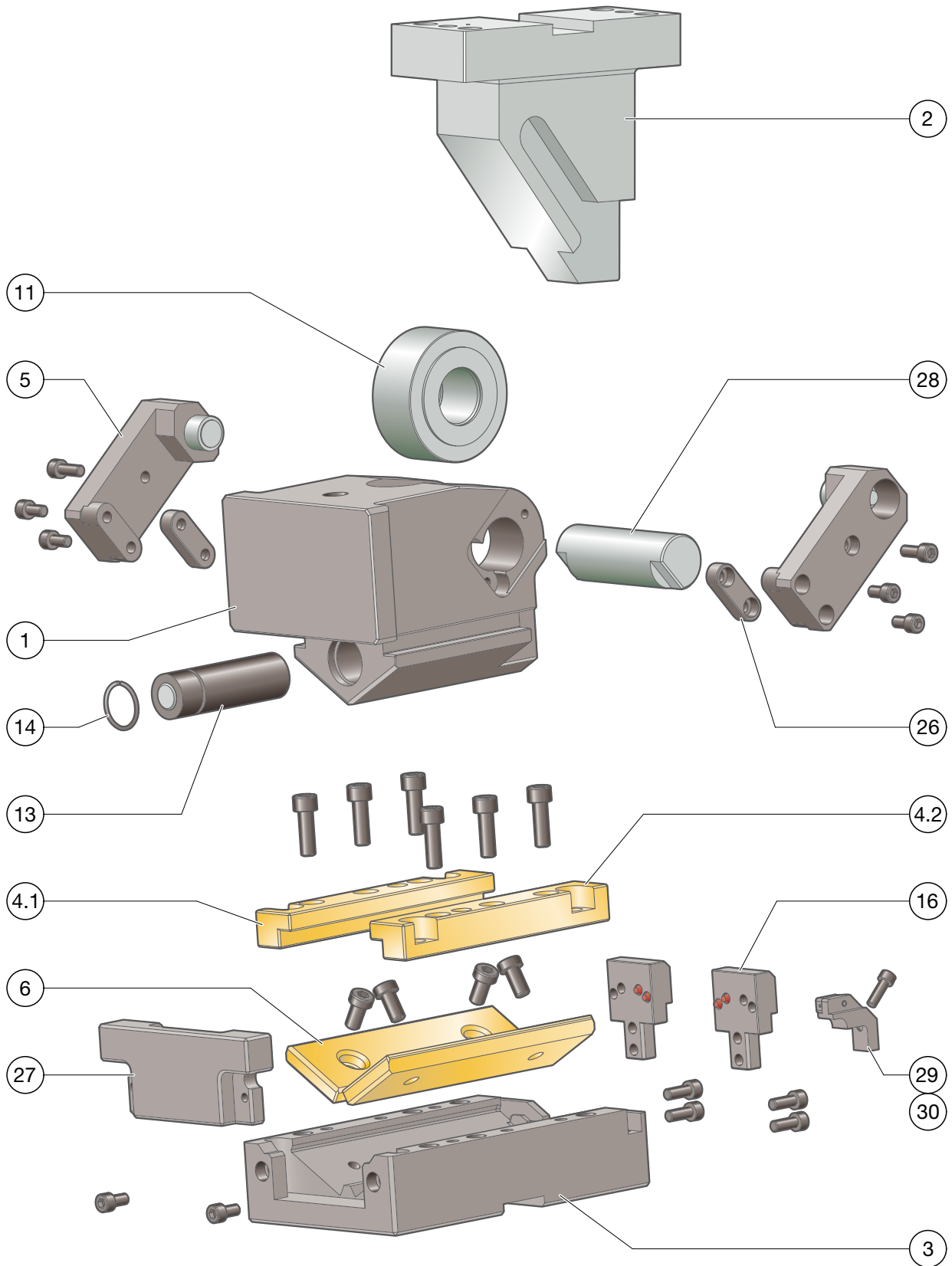
4 x M12

2 x ø10

Order No	L [mm]	H [mm]	H <sub>4</sub> [mm]	L <sub>1</sub> [mm]	L <sub>2</sub> [mm]	L <sub>3</sub> [mm]	L <sub>4</sub> [mm]	D [mm]	β [°]	α [°]	S <sub>w</sub> * [mm]	S <sub>p</sub> [mm]
2017.43.12.A.0□□.050.0	279,8	229,5	105	142,17	160			208,7	-20	70	45	100,8
2017.43.12.B.0□□.050.0	275,6	220,5	100	143,69	160			223,9	-15	65	45	81,6
2017.43.12.C.0□□.050.0	269,2	210,5	95	143,98	160			236,3	-10	60	45	68,9
2017.43.12.D.0□□.050.0	262	209,7	100	144,46	160			246,2	-5	55	45	60,1
2017.43.12.E.0□□.050.0	251,6	208	105	140,56	160			251,6	0	50	45	53,6
2017.43.12.F.0□□.050.0	249,7	232,1	120	135,91	160			256,9	5	45	45	48,8
2017.43.12.G.0□□.050.0	247,6	235,4	115	131,88	160			260,8	10	40	45	45,0
2017.43.12.H.0□□.050.0	244,7	252,7	125	127,91	160	81	190	266,9	15	35	45	42,1
2017.43.12.I.0□□.050.0	244	254	120	127	160			271,4	20	30	45	39,8
2017.43.12.J.0□□.050.0	235	269,4	130	118,74	160			273,6	25	25	45	38,0
2017.43.12.K.0□□.050.0	236,3	260,7	117	116,55	160			270,4	30	20	45	36,7
2017.43.12.L.0□□.050.0	237,6	268,9	122	114,99	160			275,2	35	15	45	35,7
2017.43.12.M.0□□.050.0	237,1	267	118	103,52	160			266,1	40	10	45	35,0
2017.43.12.N.0□□.050.0	234,8	271,9	122	102,29	160			269,6	45	5	45	34,6
2017.43.12.P.0□□.050.0	230,7	265,7	116	80	160			251,3	50	0	45	34,5
2017.43.12.A.0□□.080.0	323,4	380	175	182,92	220			108	220	223	72	161,3
2017.43.12.B.0□□.080.0	322,8	320	150	187,99	220			253,8	-15	65	72	130,5
2017.43.12.C.0□□.080.0	305,1	255,2	135	176,97	220			261,8	-10	60	72	110,3
2017.43.12.D.0□□.080.0	300	242	130	179,47	220			278,5	-5	55	72	96,2
2017.43.12.E.0□□.080.0	287,9	238	135	176,93	220			287,9	0	50	72	85,8
2017.43.12.F.0□□.080.0	286,7	262,4	150	172,91	220			296,3	5	45	72	78,0
2017.43.12.G.0□□.080.0	284,4	265,9	145	168,68	220			302,3	10	40	72	72,0
2017.43.12.H.0□□.080.0	280,3	283,5	155	163,47	220	108	220	309	15	35	72	67,3
2017.43.12.I.0□□.080.0	276,9	285,1	150	159,98	220			312,6	20	30	72	63,7
2017.43.12.J.0□□.080.0	274,1	300,7	160	157,91	220			321,7	25	25	72	60,9
2017.43.12.K.0□□.080.0	260,7	297,2	152	146,03	220			313,5	30	20	72	58,7
2017.43.12.L.0□□.080.0	266,5	305,6	157	154,31	220			327,5	35	15	72	57,1
2017.43.12.M.0□□.080.0	257,8	288,9	138	136,88	200			304,6	40	10	72	56,0
2017.43.12.N.0□□.080.0	253,9	297	145	130,15	200			305,6	45	5	72	55,4
2017.43.12.P.0□□.080.0	248	283	131	94	200			271,8	50	0	72	55,2
2017.43.12.A.0□□.100.0	336,2	380	145	193,84	220			243,6	-20	70	90	201,6
2017.43.12.B.0□□.100.0	331,8	320	135	194,99	220			264,4	-15	65	90	163,1
2017.43.12.C.0□□.100.0	327,3	250	100	197,17	220			287,8	-10	60	90	137,9
2017.43.12.D.0□□.100.0	323	225	100	200,47	220			302	-5	55	90	120,2
2017.43.12.E.0□□.100.0	304,7	218	115	193,71	220			304,7	0	50	90	107,3
2017.43.12.F.0□□.100.0	301,7	247,5	135	187,91	220			310	5	45	90	97,5
2017.43.12.G.0□□.100.0	302,3	251,2	130	186,55	220			317,3	10	40	90	90,0
2017.43.12.H.0□□.100.0	301,7	269	140	184,89	220	126	240	325,8	15	35	90	84,2
2017.43.12.I.0□□.100.0	294,3	275,8	140	177,3	220			325,5	20	30	90	79,6
2017.43.12.J.0□□.100.0	284,9	296,5	155	168,63	220			329,3	25	25	90	76,1
2017.43.12.K.0□□.100.0	275,2	293,2	147	159,76	220			322,9	30	20	90	73,4
2017.43.12.L.0□□.100.0	274,4	306,8	157	154,31	220			327,5	35	15	90	71,4
2017.43.12.M.0□□.100.0	271,5	288,2	136	148,22	200			312	40	10	90	70,0
2017.43.12.N.0□□.100.0	266,6	297,4	144	141,58	200			312,9	45	5	90	69,2
2017.43.12.P.0□□.100.0	259,6	284,5	131	110	200			282,1	50	0	90	68,9

# ROLLER SLIDE UNITS FRC 2017.43.12.

## EXPLODED VIEW





# ROLLER SLIDE UNITS FRC 2017.43.12.

## PARTS LIST

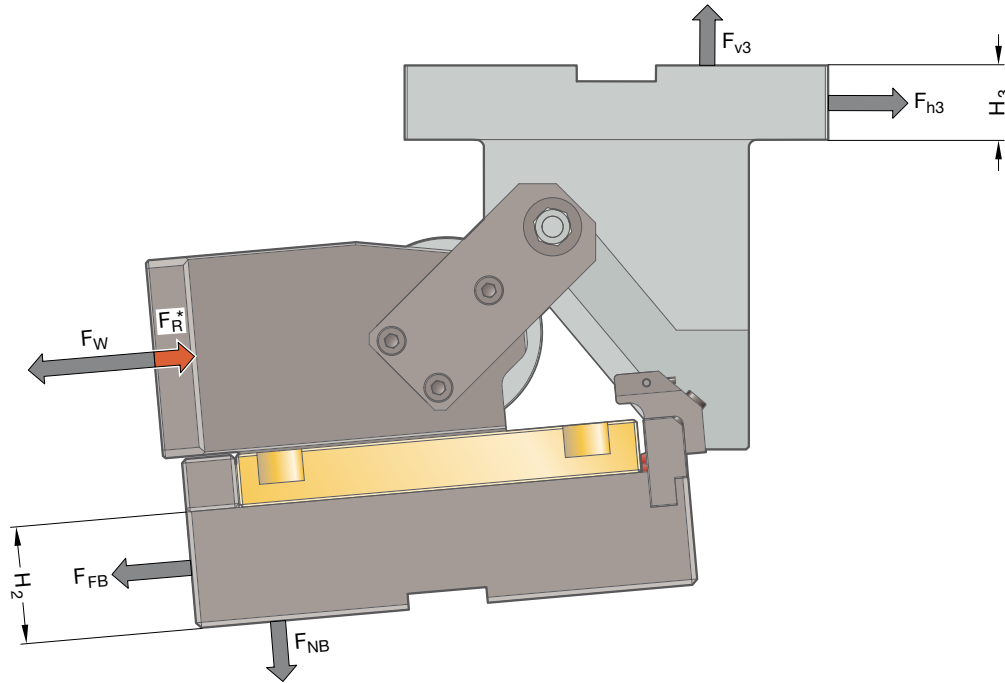
Item No.	Pcs.	Designation	Material	tuned	Spare part
1	1	Cam slider	Ck45	--	--
2	1	Driver	Ck45	--	x
3	1	Cam base	Ck45	--	--
4.1	1	Bracket, left	Bronze with solid lubricant	x	x
4.2	1	Bracket, right	Bronze with solid lubricant	x	x
5	2	Forced retraction	Ck45	--	x
6	2	Sliding plate	Bronze with solid lubricant	--	x
7					
8					
9					
10					
11	1	Drive roller spare parts set	100Cr6	--	x
12					
13	1	Gas spring	2487.12.00320.□□□	--	x
14	1	Circlip		--	x
15					
16	2	Rear cam stop spare parts set	Ck45	--	x
17					
18					
19					
20					
21					
22					
23					
24					
25					
26	2	Feather key	Ck45	--	x
27	1	Front cam stop	Ck45	--	x
28	1	Spindle	16NiCrMo4	--	x
29	1	Sensor mount		--	x
30	1	Sensor		--	x

For inquiries or for spare part orders (x), we require the following data:

- Cam unit order no.
- Cam unit serial number
- Item No. / Designation / Spare part

# ROLLER SLIDE UNITS FRC 2017.43.12.

## SYSTEM AND SURROUNDING FORCES

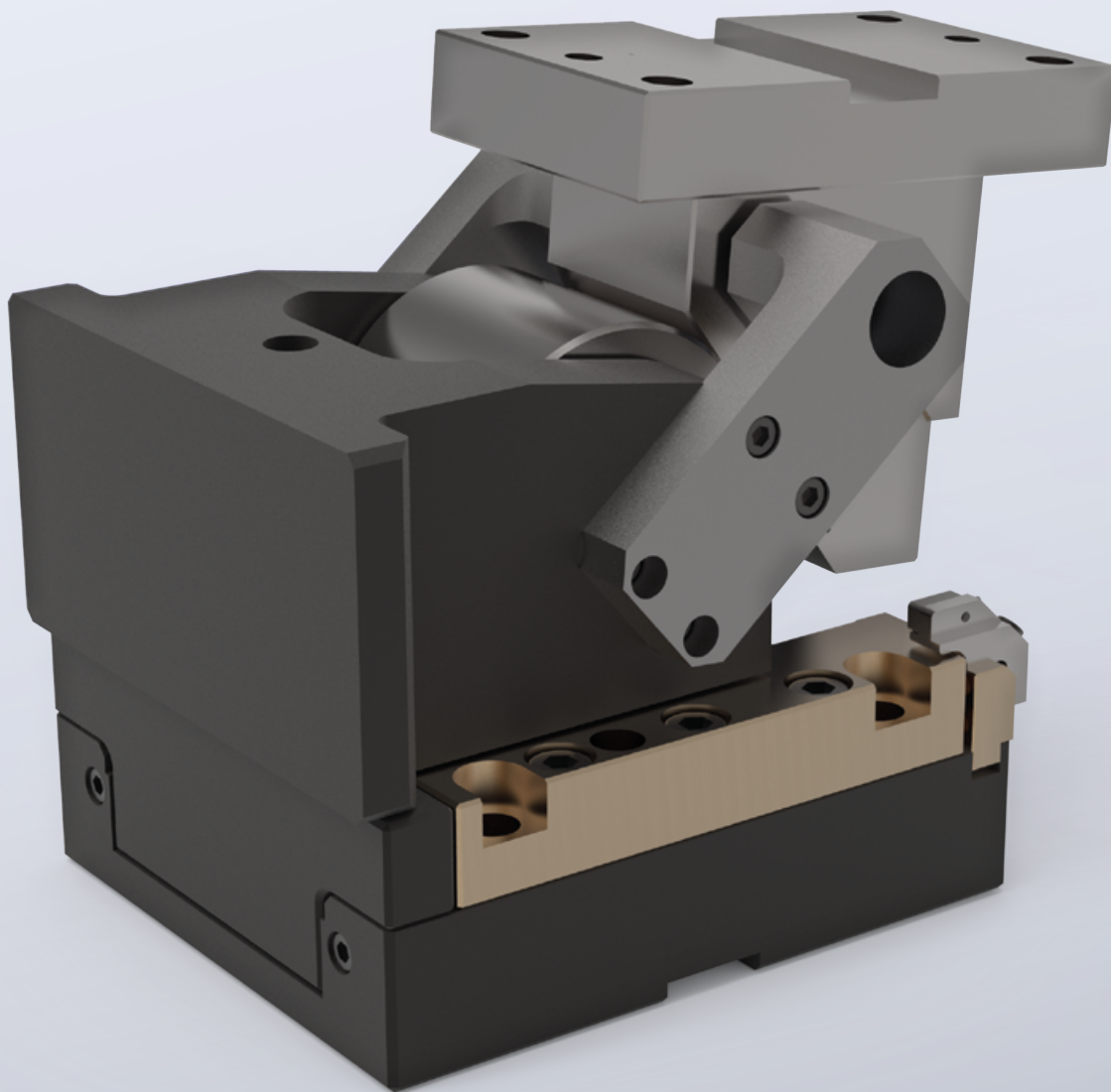


Order No	$\alpha$ [°]	$F_W$ [kN]	$F_R$ [kN]	$F_{FB}$ [kN]	$F_{NB}$ [kN]	$F_{h3}$ [kN]	$F_{v3}$ [kN]	$H_2$ [mm]	$H_3$ [mm]
2017.43.12.A.□□□.□□□.0	-20	153	5,2	9,6	136,7	72,6	199,4	10	28
2017.43.12.B.□□□.□□□.0	-15	153	5,2	9,6	136,7	89,7	192,3	10	28
2017.43.12.C.□□□.□□□.0	-10	153	5,1	9,6	136,7	106,1	183,8	10	28
2017.43.12.D.□□□.□□□.0	-5	153	5,1	9,6	136,7	121,7	173,8	10	28
2017.43.12.E.□□□.□□□.0	0	153	5,1	9,6	136,7	136,4	162,5	10	28
2017.43.12.F.□□□.□□□.0	5	153	5,1	9,6	136,7	150,0	150,0	10	28
2017.43.12.G.□□□.□□□.0	10	153	5,1	9,6	136,7	162,5	136,4	10	28
2017.43.12.H.□□□.□□□.0	15	153	5,1	9,6	136,7	173,8	121,7	10	28
2017.43.12.I.□□□.□□□.0	20	153	5,0	9,6	136,7	183,8	106,1	10	28
2017.43.12.J.□□□.□□□.0	25	153	5,0	9,6	136,7	192,3	89,7	10	28
2017.43.12.K.□□□.□□□.0	30	153	5,0	9,6	136,7	199,4	72,6	10	28
2017.43.12.L.□□□.□□□.0	35	153	5,0	9,6	136,7	204,9	54,9	10	28
2017.43.12.M.□□□.□□□.0	40	153	5,0	9,6	136,7	209,0	36,8	10	28
2017.43.12.N.□□□.□□□.0	45	153	5,0	9,6	136,7	211,4	18,5	10	28
2017.43.12.P.□□□.□□□.0	50	153	5,0	9,6	136,7	212,2	0,0	10	28

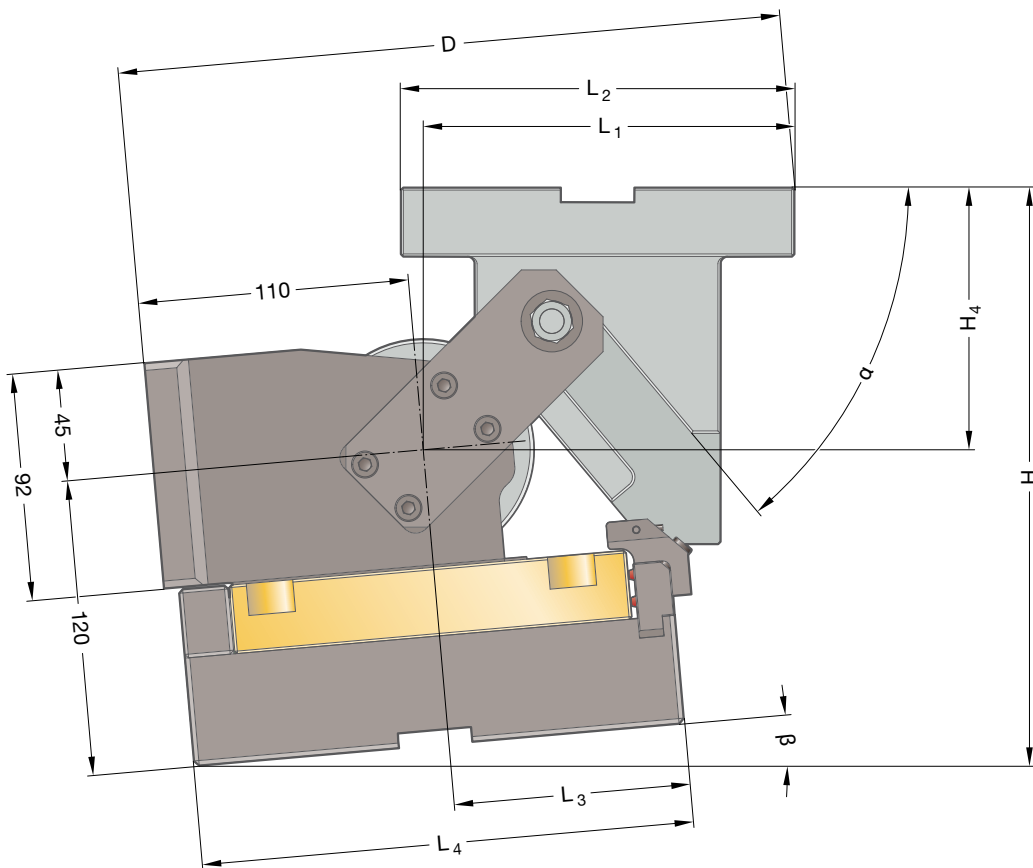
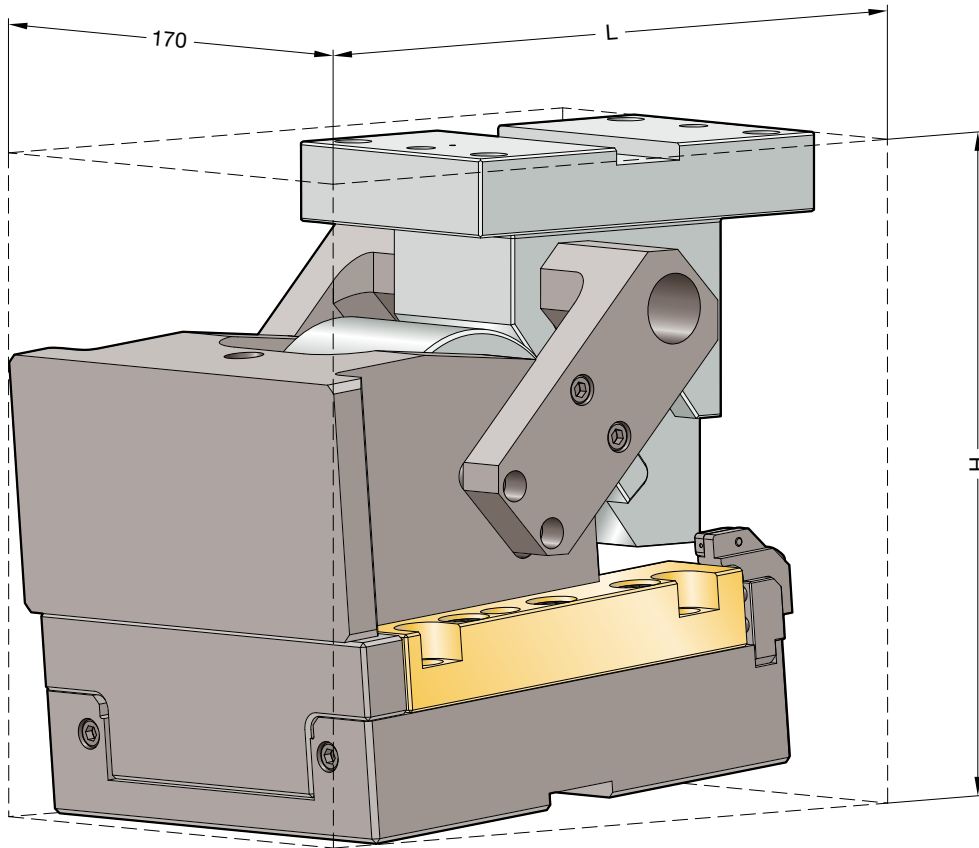
		Support via cast shoulder		
		Width 120 mm		
-20° up to 50°		40	40	40
Height 75 mm	24	39	72	39
	26	47	122	47
	25	52	153	52

# ROLLER SLIDE UNITS FRC 2017.43.17.

**Working width:** 170 mm  
**Performance class:** 160 kN

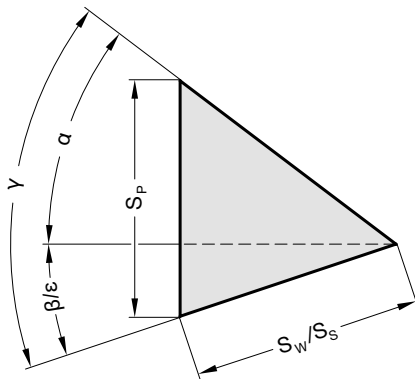


ROLLER SLIDE UNITS FRC 2017.43.17.  
**SIZE TABLE**



# ROLLER SLIDE UNITS FRC 2017.43.17.

## SIZE TABLE



### Fastening

Socket cap screws DIN EN ISO 4762 /  
Strength class 8.8

Dowel pins DIN EN ISO 8735

### Cam base:

4 × M12

2 × ø12

### Cam driver:

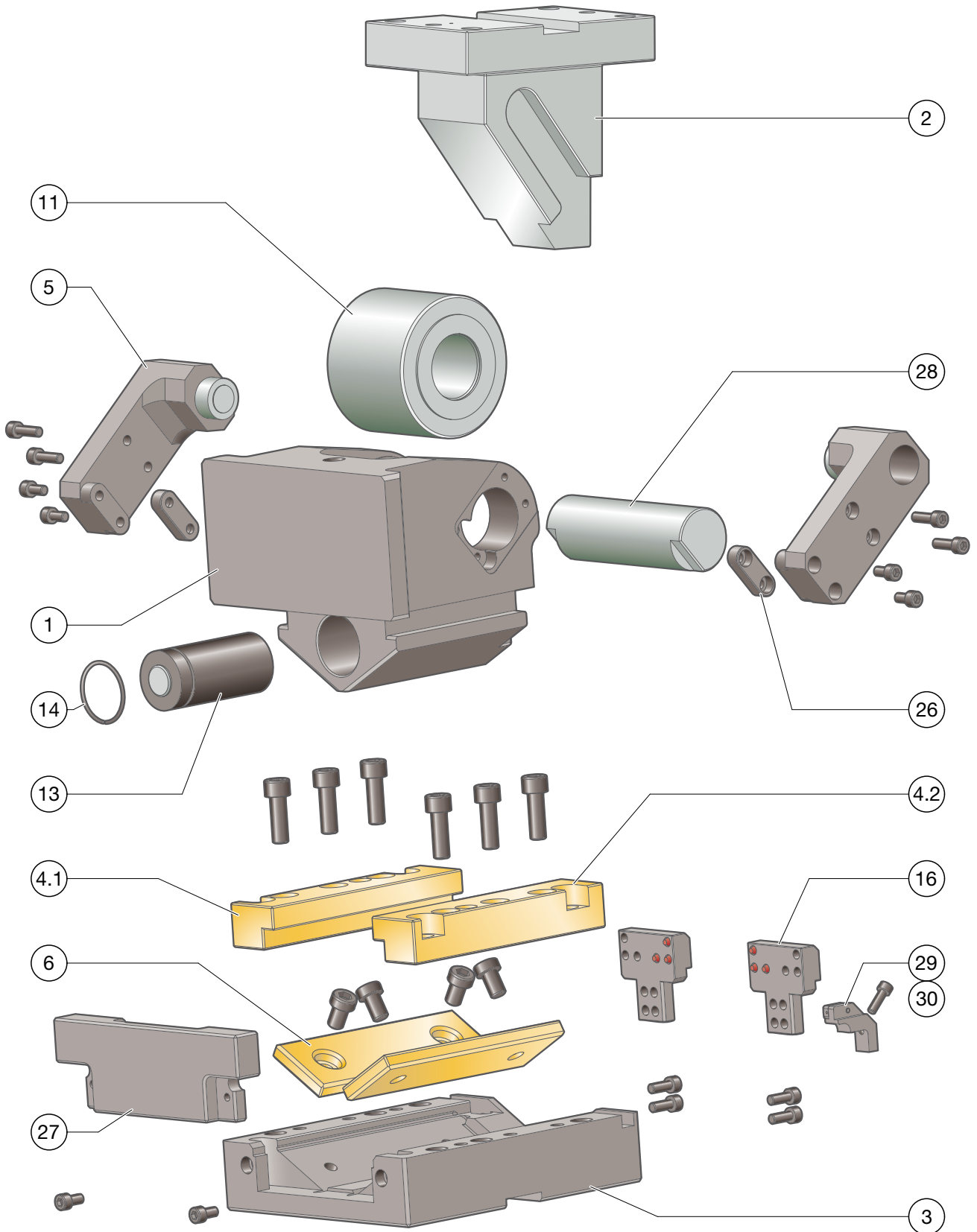
4 × M12

2 × ø10

Order No	L [mm]	H [mm]	H <sub>4</sub> [mm]	L <sub>1</sub> [mm]	L <sub>2</sub> [mm]	L <sub>3</sub> [mm]	L <sub>4</sub> [mm]	D [mm]	β [°]	α [°]	S <sub>w</sub> * [mm]	S <sub>p</sub> [mm]
2017.43.17.A.0□□.050.0	295,2	248,9	105	151,75	160			216,7	-20	70	45	100,8
2017.43.17.B.0□□.050.0	287,6	254,5	115	151,29	160			226,4	-15	65	45	81,6
2017.43.17.C.0□□.050.0	279,7	234	100	151,49	160			241,8	-10	60	45	68,9
2017.43.17.D.0□□.050.0	265,5	237,5	110	146,44	160			246,3	-5	55	45	60,1
2017.43.17.E.0□□.050.0	258,1	230	110	148,11	160			258,11	0	50	45	53,6
2017.43.17.F.0□□.050.0	257,1	254	125	143,64	160			264	5	45	45	48,8
2017.43.17.G.0□□.050.0	256,1	257,1	120	139,93	160			268,6	10	40	45	45,0
2017.43.17.H.0□□.050.0	254,4	274,1	130	136,46	160	91	200	275,5	15	35	45	42,1
2017.43.17.I.0□□.050.0	246,4	280	130	127,68	160			274,4	20	30	45	39,8
2017.43.17.J.0□□.050.0	251,9	291,8	137	125,02	160			281,2	25	25	45	38,0
2017.43.17.K.0□□.050.0	256,6	283,4	125	120,89	160			277,2	30	20	45	36,7
2017.43.17.L.0□□.050.0	259,3	291,8	131	116,17	160			280,3	35	15	45	35,7
2017.43.17.M.0□□.050.0	260	288	126	109,98	160			275,2	40	10	45	35,0
2017.43.17.N.0□□.050.0	258,8	293	131	102,69	160			275,2	45	5	45	34,6
2017.43.17.P.0□□.050.0	255,6	285,6	125	83	160			259,1	50	0	45	34,5
2017.43.17.A.0□□.080.0	338,8	380	175	192,5	220			231	-20	70	72	161,3
2017.43.17.B.0□□.080.0	330,2	320	165	190,93	220			251,7	-15	65	72	130,5
2017.43.17.C.0□□.080.0	315,6	278,7	140	184,47	220			267,4	-10	60	72	110,3
2017.43.17.D.0□□.080.0	305,5	269,8	140	183,45	220			280,6	-5	55	72	96,2
2017.43.17.E.0□□.080.0	294,5	260	140	184,48	220			294,5	0	50	72	85,8
2017.43.17.F.0□□.080.0	299,1	284,3	155	185,64	220			308,4	5	45	72	78,0
2017.43.17.G.0□□.080.0	292,9	287,6	150	176,72	220			310,1	10	40	72	72,0
2017.43.17.H.0□□.080.0	297,1	304,9	160	179,16	220	118	230	324,5	15	35	72	67,3
2017.43.17.I.0□□.080.0	279,4	311,1	160	160,66	220			315,7	20	30	72	63,7
2017.43.17.J.0□□.080.0	282,9	323,1	167	164,19	220			329,4	25	25	72	60,9
2017.43.17.K.0□□.080.0	280	319,9	160	150,36	220			320,2	30	20	72	58,7
2017.43.17.L.0□□.080.0	281,4	331,5	169	144,3	220			325,1	35	15	72	57,1
2017.43.17.M.0□□.080.0	280,7	311,9	148	131,99	200			306,2	40	10	72	56,0
2017.43.17.N.0□□.080.0	277,9	318	154	130,55	200			311,2	45	5	72	55,4
2017.43.17.P.0□□.080.0	273	302,9	140	97	200			279,6	50	0	72	55,2
2017.43.17.A.0□□.100.0	351,6	380	145	203,42	220			251,6	-20	70	90	201,6
2017.43.17.B.0□□.100.0	343,8	320	140	202,59	220			269,4	-15	65	90	163,1
2017.43.17.C.0□□.100.0	337,8	250	105	204,68	220			293,3	-10	60	90	137,9
2017.43.17.D.0□□.100.0	328,5	241,4	110	204,46	220			304,1	-5	55	90	120,2
2017.43.17.E.0□□.100.0	311,3	240	120	201,26	220			311,26	0	50	90	107,3
2017.43.17.F.0□□.100.0	309,1	274,5	145	195,64	220			317,5	5	45	90	97,5
2017.43.17.G.0□□.100.0	304,8	278	140	188,64	220			320,1	10	40	90	90,0
2017.43.17.H.0□□.100.0	304,2	300,4	155	186,3	220	136	250	330,1	15	35	90	84,2
2017.43.17.I.0□□.100.0	296,7	301,8	150	177,98	220			328,6	20	30	90	79,6
2017.43.17.J.0□□.100.0	293,6	318,9	162	174,91	220			337	25	25	90	76,1
2017.43.17.K.0□□.100.0	295,5	315,9	155	164,1	220			329,6	30	20	90	73,4
2017.43.17.L.0□□.100.0	296,2	329,7	166	155,49	220			332,6	35	15	90	71,4
2017.43.17.M.0□□.100.0	294,5	311,2	146	143,34	200			313,6	40	10	90	70,0
2017.43.17.N.0□□.100.0	290,6	318,5	153	141,97	200			318,6	45	5	90	69,2
2017.43.17.P.0□□.100.0	284,5	304,5	140	108	200			286,7	50	0	90	68,9

# ROLLER SLIDE UNITS FRC 2017.43.17.

## EXPLODED VIEW



# ROLLER SLIDE UNITS FRC 2017.43.17.

## PARTS LIST

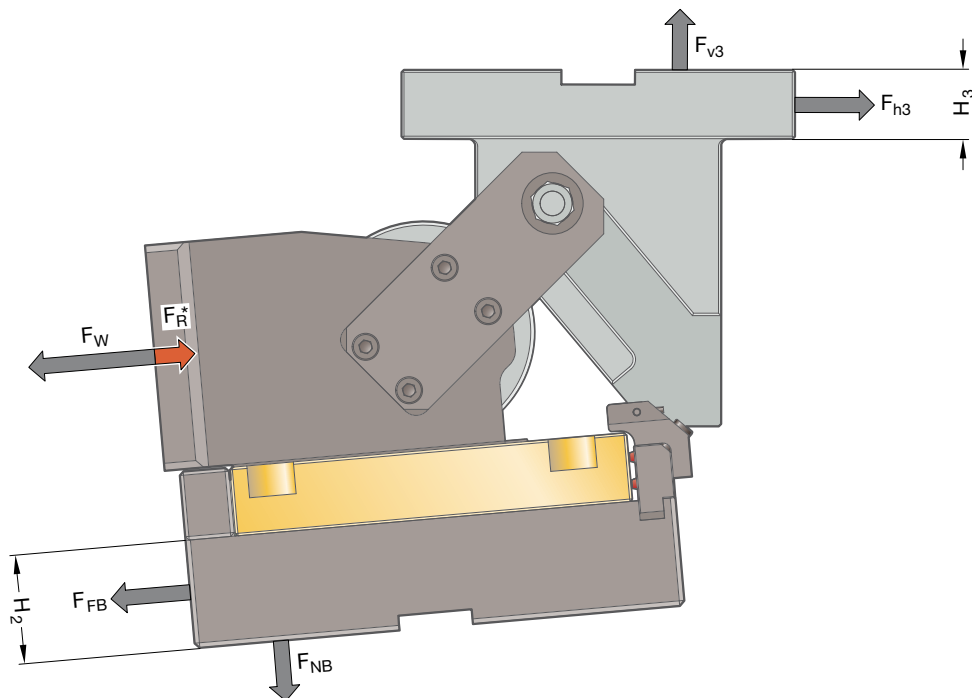
Item No.	Pcs.	Designation	Material	tuned	Spare part
1	1	Cam slider	Ck45	--	--
2	1	Driver	Ck45	--	x
3	1	Cam base	Ck45	--	--
4.1	1	Bracket, left	Bronze with solid lubricant	x	x
4.2	1	Bracket, right	Bronze with solid lubricant	x	x
5	2	Forced retraction	Ck45	--	x
6	2	Sliding plate	Bronze with solid lubricant	--	x
7					
8					
9					
10					
11	1	Drive roller spare parts set	100Cr6	--	x
12					
13	1	Gas spring	2487.12.00500.□□□	--	x
14	1	Circlip		--	x
15					
16	2	Rear cam stop spare parts set	Ck45	--	x
17					
18					
19					
20					
21					
22					
23					
24					
25					
26	2	Feather key	Ck45	--	x
27	1	Front cam stop	Ck45	--	x
28	1	Spindle	16NiCrMo4	--	x
29	1	Sensor mount		--	x
30	1	Sensor		--	x

For inquiries or for spare part orders (x), we require the following data:

- Cam unit order no.
- Cam unit serial number
- Item No. / Designation / Spare part

# ROLLER SLIDE UNITS FRC 2017.43.17.

## SYSTEM AND SURROUNDING FORCES



Order No	$\alpha$ [°]	$F_W$ [kN]	$F_R$ [kN]	$F_{FB}$ [kN]	$F_{NB}$ [kN]	$F_{h3}$ [kN]	$F_{v3}$ [kN]	$H_2$ [mm]	$H_3$ [mm]
2017.43.17.A.□□□.□□□.0	-20	160	7,1	10,0	143,0	75,9	208,5	10	28
2017.43.17.B.□□□.□□□.0	-15	160	7,1	10,0	143,0	93,8	201,1	10	28
2017.43.17.C.□□□.□□□.0	-10	160	7,1	10,0	143,0	110,9	192,2	10	28
2017.43.17.D.□□□.□□□.0	-5	160	7,1	10,0	143,0	127,3	181,8	10	28
2017.43.17.E.□□□.□□□.0	0	160	7,0	10,0	143,0	142,6	170,0	10	28
2017.43.17.F.□□□.□□□.0	5	160	7,0	10,0	143,0	156,9	156,9	10	28
2017.43.17.G.□□□.□□□.0	10	160	7,0	10,0	143,0	170,0	142,6	10	28
2017.43.17.H.□□□.□□□.0	15	160	7,0	10,0	143,0	181,8	127,3	10	28
2017.43.17.I.□□□.□□□.0	20	160	7,0	10,0	143,0	192,2	110,9	10	28
2017.43.17.J.□□□.□□□.0	25	160	7,0	10,0	143,0	201,1	93,8	10	28
2017.43.17.K.□□□.□□□.0	30	160	6,9	10,0	143,0	208,5	75,9	10	28
2017.43.17.L.□□□.□□□.0	35	160	6,9	10,0	143,0	214,3	57,4	10	28
2017.43.17.M.□□□.□□□.0	40	160	6,9	10,0	143,0	218,5	38,5	10	28
2017.43.17.N.□□□.□□□.0	45	160	6,9	10,0	143,0	221,0	19,3	10	28
2017.43.17.P.□□□.□□□.0	50	160	6,9	10,0	143,0	221,9	0,0	10	28

Support via cast shoulder

		Width 170 mm		
-20° up to 50°		40	40	40
Height 75 mm	30	49	133	49
	32	73	160	73
	30	81	159	81

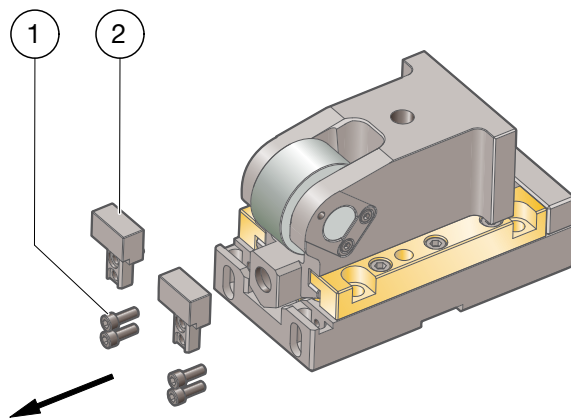


# ASSEMBLY INSTRUCTIONS



# ROLLER SLIDE UNITS FRC 2017.43.

## ASSEMBLY IN THE TOOL



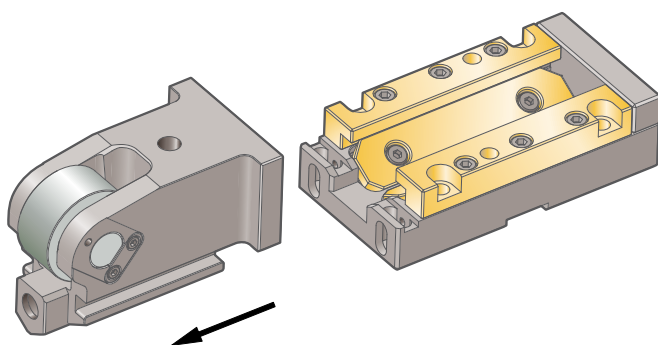
### STEP 1

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- Remove screws **(1)**
- Remove cam stop blocks **(2)**

### Caution

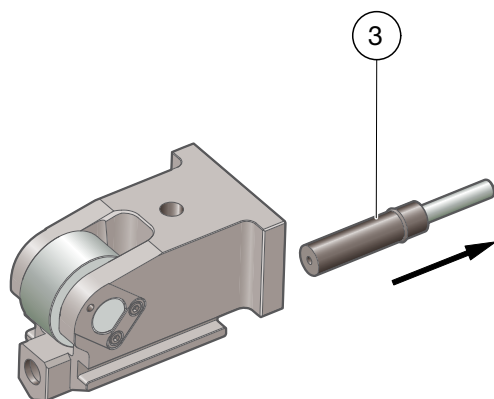
The gas spring may only be removed if the spring itself is released.



### STEP 2

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- Remove the cam slider towards the rear



### STEP 3

---

- Pull the gas spring **(3)** forward.

The assembly process takes place in reverse order.

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## INTRODUCTION AND PRODUCT OVERVIEW

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**2016.26. AERIAL CAM UNIT FCC-LV**

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**2016.15. DIE MOUNT CAM FCC-HV**

BMW, DAIMLER,  
VOLKSWAGEN GROUP

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**2016.24. AERIAL CAM UNIT FCC-HV**

BMW, DAIMLER, VOLVO,  
VOLKSWAGEN GROUP

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**2017.43. ROLLER SLIDE UNITS FRC**

DAIMLER, PSA

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## CUSTOMER-SPECIFIC SERVICES

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EMERGENCY SITUATION / CONTACTS

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## CUSTOMER-SPECIFIC SERVICES

# PREFABRICATION

Catalog cam units are processed with tool-specific machining in the mounting surface so that the required components can be fixed on the mounting surface. This machining is performed as a classical toolmaking process, often resulting in a certain readiness for tool assembly. Process responsibility and risk lie with the executing tool shop.

As a service, FIBRO offers you the complete processing of catalog cam units according to your specifications. The machining is closely matched to the requirements of your tooling process. In addition to conventional qualities, which serve the requirements of classical tooling processes, FIBRO also offers high-precision finishing of cam units that are ready for operation on the cam unit side (efp\*). Cam units with efp\* allow the cam unit to be mounted in the tool with a initial test press stroke in the tool without further adjustment of the cam unit. By processing at FIBRO as an extended workbench, we thus assume process responsibility for the entire cam unit production.

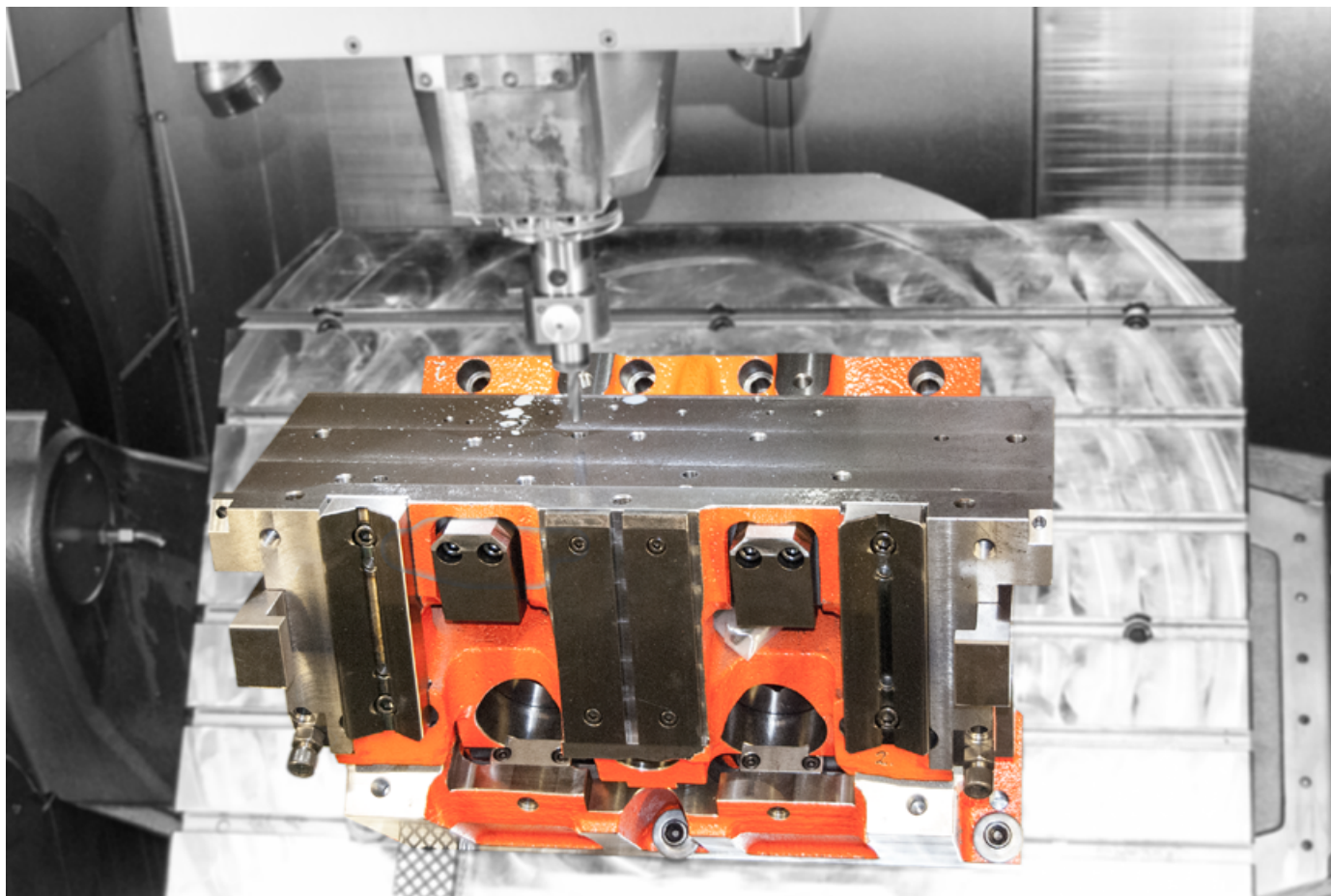


Image 3: Prefabrication of cam units according to customer data

Tool-specific machining of cam units by FIBRO allows you to further improve your toolmaking processes. In addition to relieving logistical capacities, the machining, testing and cleaning of the cam units in your facility is also no longer necessary. You keep limited capacities in your mechanical production and assembly facilities free for other tasks, thus reducing the lead time of the tools and ultimately saving money.

# CUSTOMER-SPECIFIC SERVICES

## **PREFABRICATION**

If you want tool-specific machining of the cam unit working surface, please clarify your process-specific requirements early on, ideally before the first order. The cam unit working surface is machined according to the data you provide. Our process is set up for the processing of 3D data in a variety of formats. We prefer to accept data in the format CATIA V5, but we can also process other native and data exchange formats such as step. In order to provide important information for production, the data must be processed according to a clearly agreed methodology. As a well-established standard, the color coding of the machined objects, has been established according to color coding with the basic guideline for equipment constructions of the German automotive industry (see register APPENDIX "CAD color coding ..."). You can naturally also take your own factory standards into account. The selected standard will be clearly agreed upon with us and clarified beforehand.

In the course of an order, we will require the working stock number (tool number) as well as the item numbers of the cam units with prefabrication. For the respective slides, the tool-specific machining of the work surface must be noted on the order as additional text (e.g. "Machining according to CAD data"). The order must be received in time so that the desired delivery date can be met. The regular delivery time for cam units with specific machining of the mounting surface is 5 to 8 weeks. The actual delivery date depends on the availability of the approved production data. These should be received by us in the agreed quality 15 working days before the desired delivery date. Delayed receipt of the data may lead to a delay in delivery.

Please note that modified requirements on the machining can no longer be ensured after approved production data has already been provided, and this can result in the accepted delivery dates being postponed.

We would be happy to answer any further questions and we will send you an corresponding offer if you wish.

\*efp = equipped for press

# CUSTOMER-SPECIFIC SERVICES

## CUSTOMER-SPECIFIC CAM UNITS

In many areas of toolmaking, cam units with purchased part are established as a low-cost standard. Standard solutions can be used for a wide range of applications thanks to a diversified range of cam unit series.

Complex component geometries, overlaps with mechanization devices or modified geometrical requirements on cam units do not permit the use of standard cam units in various cases. Cam units from FIBRO configured specifically for tools represent an alternative to the self-constructed cam units used here. This allows application-specific requirements to be combined with the advantages of cam units with standard purchase parts.

### **Take advantage of our expertise**

FIBRO develops tool-specific cam units according to the same technical standards as the catalog cam units. By inquiring at an early stage, we can closely assist you in the development of tools, and you also have the option of designing an optimal solution for your application. Our tool-specific cam units means there is no longer any additional logistical effort required in your procurement processes as well as in parts supply in the workshop. The installation of the cam units configured specifically for tools corresponds to the process sequences of catalog cam units; assembly and tuning for a self-assembly cam unit are no longer required. The analytical design of these cam units is the basic prerequisite for smooth application over the intended life cycle of the cam unit. However, should undesirable wear occur during the tool life cycle, rapid supply of spare parts is ensured by the use of a maximum number of standard parts in the cam unit. Throughout the entire tool development and assembly process, as well as the entire service life of the cam unit, FIBRO is your expert contact for all your cam unit questions.

### **Features of customized cam units**

Cam units from FIBRO configured specifically to tools generally have the same properties and qualities as our catalog cam units. We can create working widths of over 2000mm for you.

### **What is the process?**

Tool-specific cam units are used whenever a catalog cam unit cannot meet the requirements of the tool. These can be very simple changes, such as a widened working surface, but also very complex changes, such as completely offset cam unit components, multiple working surfaces, modified stiffnesses, etc.

Description of your requirements for the cam unit which are as exact as possible are the basis for targeted engineering of your tool-specific cam unit. In addition to the desired design principle (on which series your customer-specific slide will be based), we will also require a detailed description of changes. Alternatively, you have the option of describing your problem to us in the tool and providing us with design data from your tool (for example, component position, method plan, maximum possible space for the cam unit) as well as the tool environment (e.g. restrictions on mechanization devices). In this case, FIBRO can handle the entire engineering of the customer-specific cam unit for you.

Of course, you also have the option of sending us modified CAD data from our catalog cam units, from which we can then extract the properties of your tool-specific cam unit. The plausibility and feasibility test as well as the preparation for production with any technical modifications are made in our facility due to warranty reasons.

# CUSTOMER-SPECIFIC SERVICES

## CUSTOMER-SPECIFIC CAM UNITS

Normally, you will receive a CAD design draft of the tool-specific cam unit within 3 working days of your request. This will be in data format CATIA V5, or alternatively in the neutral exchange format STEP, and also include the article number associated with the cam unit. Using these, we can clearly assign further arrangements made in the course of the project, and they can be used to purchase the cam unit from us. At the same time the design is created, our sales department will work out an offer for you for the tool-specific cam unit.

The production detailing as well as the production of the tool-specific cam unit only occurs after you give a production go-ahead. After this production go-ahead, bigger changes such as, for example, a change in the cam unit angle are still only conditionally possible according to the progress of production, and at this point absolutely require an agreement with us. Changes after the production go-ahead may result in additional costs and delays in delivery.

For manufacturing reasons, you should give the production go-ahead of the tool-specific cam unit 8 weeks before your desired delivery time. A delayed production go-ahead can lead to a delay in delivery; shorter delivery periods must be agreed with us at an early stage.

If you have any additional questions, our technology and sales departments will be happy to assist you. For contact persons, see the "EMERGENCY SITUATION / Contacts" tab.

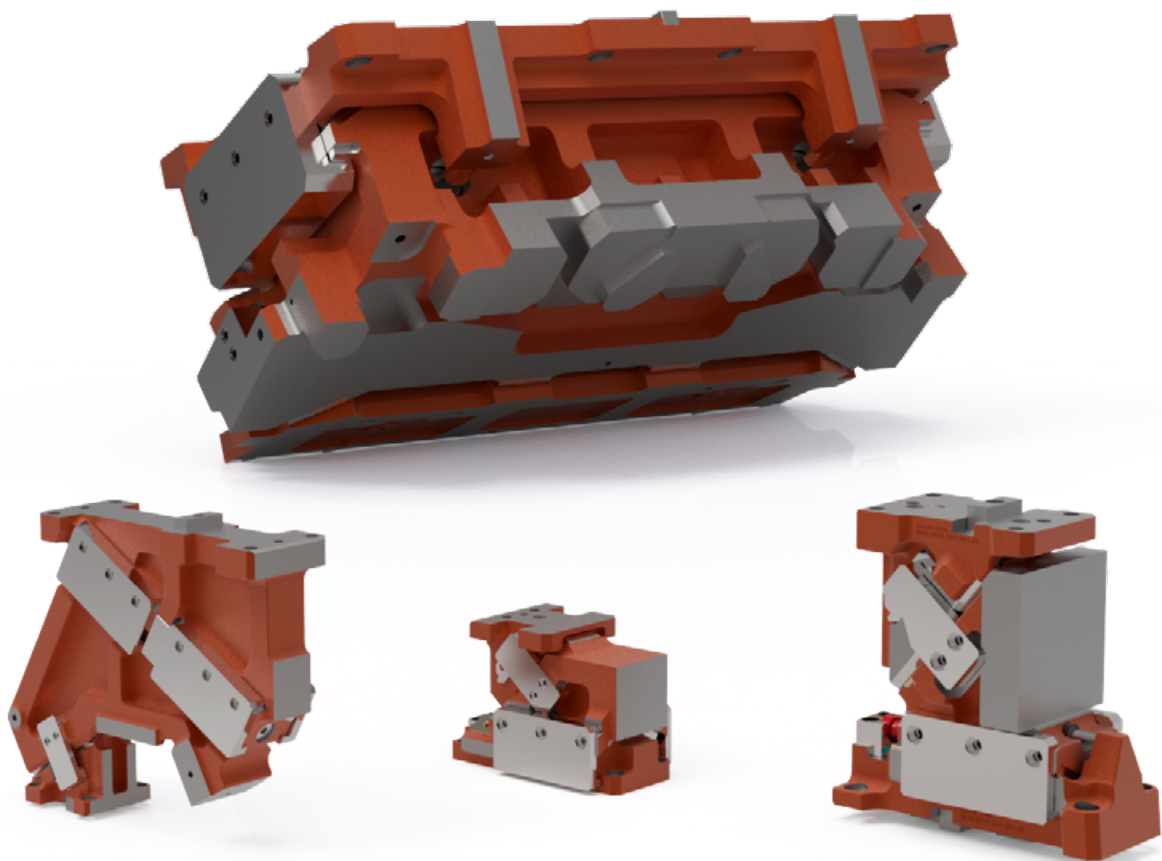


Image 4: Module articles





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## INTRODUCTION AND PRODUCT OVERVIEW

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**2016.26. AERIAL CAM UNIT FCC-LV**

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**2016.15. DIE MOUNT CAM FCC-HV**

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VOLKSWAGEN GROUP

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**2016.24. AERIAL CAM UNIT FCC-HV**

BMW, DAIMLER, VOLVO,  
VOLKSWAGEN GROUP

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**2017.43. ROLLER SLIDE UNITS FRC**

DAIMLER, PSA

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## CUSTOMER-SPECIFIC SERVICES

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EMERGENCY SITUATION / CONTACTS

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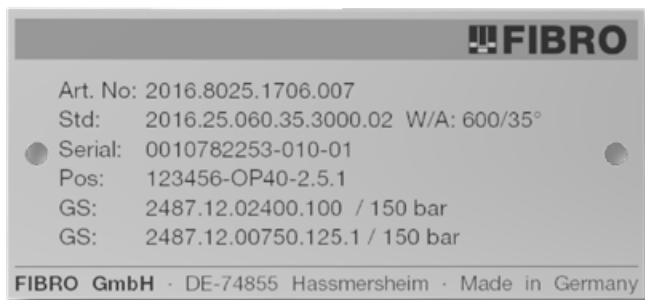
# EMERGENCY SITUATION / CONTACTS

FIBRO cam units are marked with a unique, unmistakable serial number.

Since October 2017, these serial numbers, together with all other important names, are grouped together on a type plate (see fig.).

Until September 2017 the serial numbers were engraved directly on the cam units.

The type plate is located on the side of your cam unit.



## Legend:

<b>Art. No:</b>	article number	(Order number)
<b>Std:</b>	standard	(Standard)
<b>W/A:</b>	width/angle	(Width/Angle)
<b>Serial:</b>	serial number	(Serial number)
<b>Pos:</b>	position	(Item No.)
<b>GS:</b>	gas spring	(Gas spring)
<b>GS:</b>	gas spring	(Gas spring)

In order to help you as quickly as possible, we require both the article number and the unique serial number when ordering individual spare parts as well as when replacing a complete cam unit in case of a crash.

In these cases, please always include the serial number for a quick handling of your needs.

# ((( SOS )))

If an acute emergency occurs, for example, in the form of a tool crash, we are there for you.

## In the event of a crash, you can reach us as follows:

Via phone: +49 6266 73-112

Via email: [cam.crash@fibro.de](mailto:cam.crash@fibro.de)

# EMERGENCY SITUATION / CONTACTS



FIBRO offers you a comprehensive service in the field of cam units to provide you with advice and support if needed.

- Spare parts deliveries ex stock
- Free on-site training
- The fastest possible delivery of replacement cam units in the event of a crash
- Design support

If you have any questions concerning our cam unit program, please contact:

**Markus Meyer**

**Head of Cam Unit Applications**

cam.engineering@fibro.de

+49 6266 73-210

**Georg Schreck**

**Product Manager Cam Unit Applications**

cam.engineering@fibro.de

+49 6266 73-210

**Markus Steinhilber**

**Key Account Manager Cam Unit Applications**

m.steinhilber@fibro.de

+49 151 64975857

**Roberto Inchingoli**

**Key Account Manager Cam Unit Applications**

r.inchingoli@fibro.de

+49 160 96871380

**Manfred Wagner**

**Senior Key Account Manager Slide Applications**

manfred.wagner@fibro.de

+49 151 58582297

# EMERGENCY SITUATION / CONTACTS

For offers and price information, please contact your regional supply centre:

<b>In Germany</b>	Postal code region 1... – 6...	<b>ac1.normalien@fibro.de</b>
	Postal code region 7... – 0...	<b>ac2.normalien@fibro.de</b>
<b>International</b>	Eastern Europe, Africa, Asia	<b>ac3.normalien@fibro.de</b>
	Western Europe, North and South America	<b>ac4.normalien@fibro.de</b>

For orders, date information and general service questions, please contact your local sales centre:

<b>In Germany</b>	Postal code region 1... – 6...	<b>vc1.normalien@fibro.de</b>
	Postal code region 7... – 0...	<b>vc2.normalien@fibro.de</b>
<b>International</b>	Eastern Europe, Africa, Asia	<b>vc3.normalien@fibro.de</b>
	Western Europe, North and South America, Australia	<b>vc4.normalien@fibro.de</b>

... or contact your on-site partner, see register „Introduction and table of contents“ – Representatives

**FIBRO GmbH**

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Business Unit Standard Parts  
August-Läpple-Weg  
74855 Hassmersheim  
Germany  
**T** +49 6266 73-0  
info@fibro.de  
www.fibro.com

**THE LÄPPLE GROUP**

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LÄPPLE AUTOMOTIVE  
FIBRO  
FIBRO LÄPPLE TECHNOLOGY  
LÄPPLE AUS- UND WEITERBILDUNG

Order No. 2.2916.00.0920.0100000