CF TORINO

MICRONORM

# TrueCam

# Data sheet

## Pillar Cam

| Diameter Pillar | Length option | Working angle | Max. stroke blank holder | Working force |
|---|---|---|---|---|
| 50 mm | 1 | 8° - 25° | 0 - 50 mm | 50 kN |
| 50 mm | 2 | 6° - 25° | 0 - 75 mm | 50 kN |
| 50 mm | 3 | 5° - 17° | 0 - 75 mm | 50 kN |
| 63 mm | 1 | 8° - 25° | 0 - 50 mm | 80 kN |
| 63 mm | 2 | 6° - 25° | 0 - 75 mm | 80 kN |
| 63 mm | 3 | 5° - 17° | 0 - 75 mm | 80 kN |
| 80 mm | 1 | 8° - 25° | 0 - 50 mm | 150 kN |
| 80 mm | 2 | 6° - 25° | 0 - 75 mm | 150 KN |
| 80 mm | 3 | 5° - 17° | 0 - 75 mm | 150 KN |

**The Pillar Cams are designed for min. 10% retraction force.**

## Explanation of order number

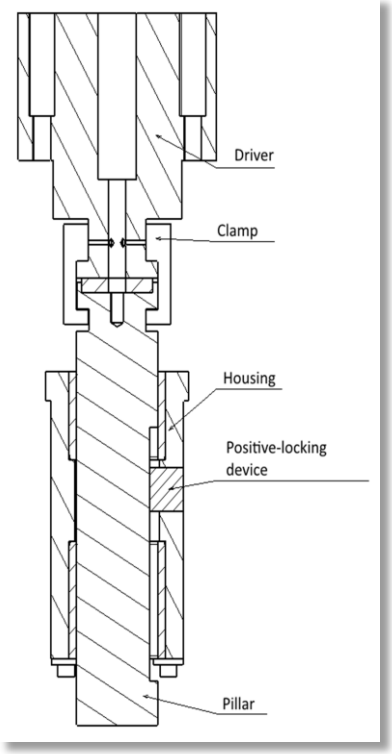
**Pin-050 - 10deg - Variante1 - 50mm stroke - V1**

- Pin-050: Diameter Pillar
- 10deg: Working angle
- Variante1: Length option
- 50mm stroke: Max. blank holder stroke
- V1: Version

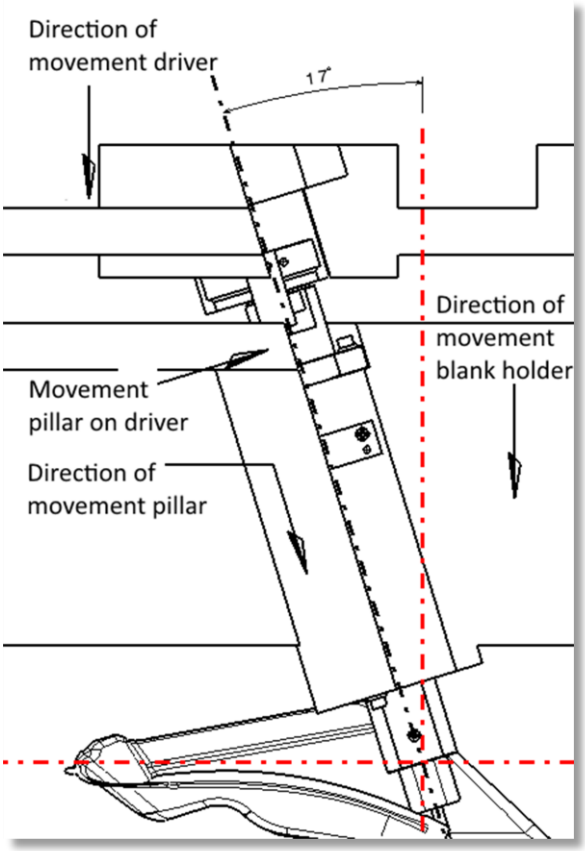
**3D-files at www.micronorm.de**

# Advantages of the TrueCam Pillar Cam

- Compact design
- Positive-locking device of the pillar
- Positive-locking device of the housing and the driver
- Few variants of sizes
- As a complete assembled unit installed in the die: Time saving in designing, die manufacturing and processing due to easy handling
- The pillar is secured against falling out of the housing
- The pillar can be fixed in every position against the driver for dismounting
- The pillar can be demounted without taking off the blank holder
- The blank holder can be taken off with an installed pillar
- Designed for standard punches with standard automotive retainers up to 40 mm shank diameter
- Guides are maintenance-free / self-lubricating




# Movement sequences / Selection of the length




***Deciding for the selection of the pillar length variant:***

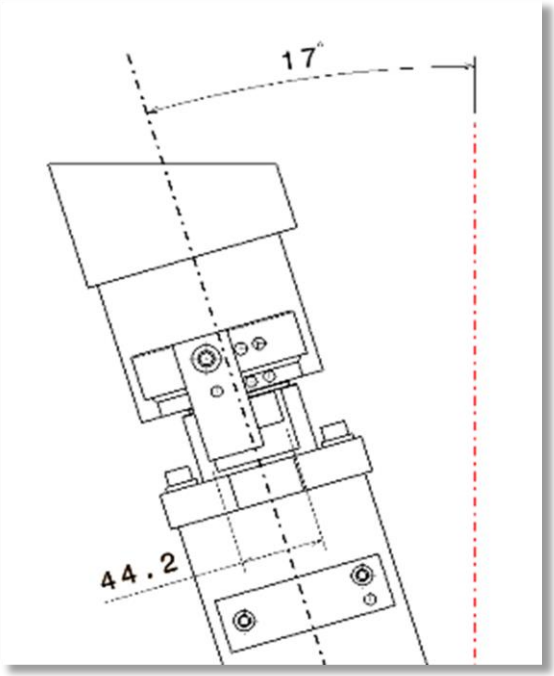
- the working angle
- the stroke of the blank holder
- the thickness of the blank holder

# Special designs

Should it be necessary, for constructive reasons, that the standard unit must be modified, we will check whether a special solution is possible. (Extra expense)

**You can request any working angle in 0.01 ° increments as an intermediate size.**

# Retraction clamps




### *Deciding for the retraction force:*

Due to the operating angle, the size of the contact surface is changing between the pillar and the retracting clamp.

At the maximum stated stroke of the blank holder the retracting clamp is still as much with the pillar in contact, that the retracting force is at least 10% of the working force.

The smaller the stroke of the blank holder at a given working angle, the larger the contact surface between the pillar and the retraction clamp.

# Advice for positioning of the Pillar Cam in the die

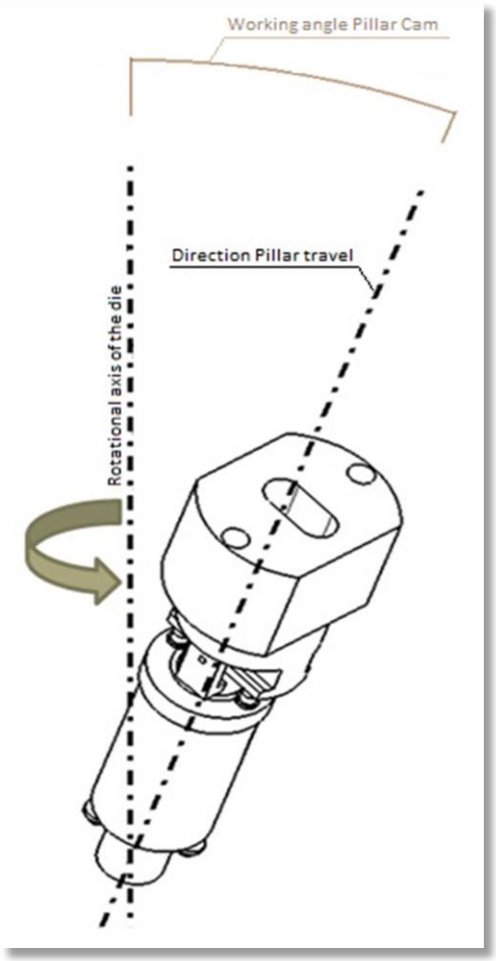
### *Integrating the Pillar Cam in the die design:*

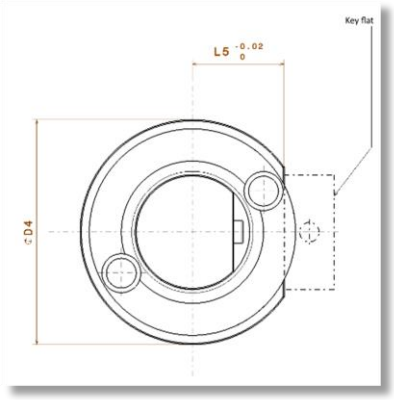
Best practice:

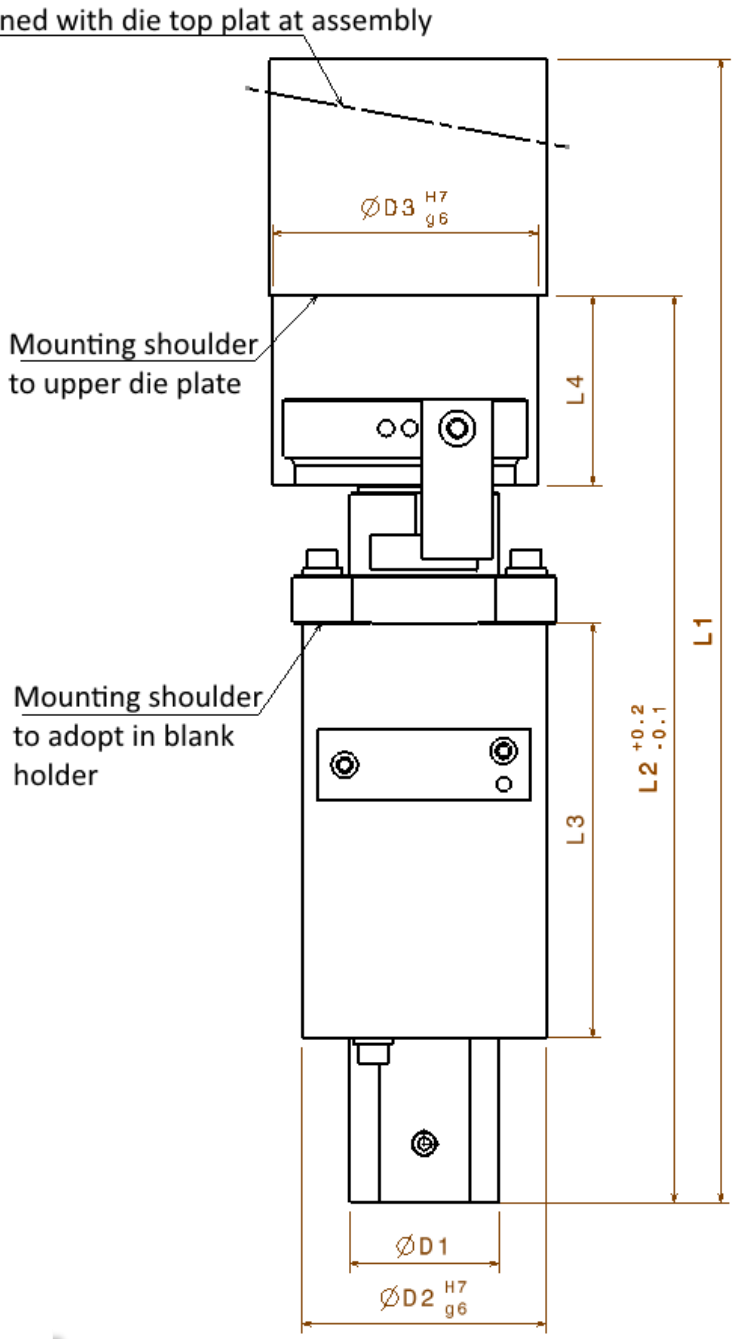
1. Determine working angle.
2. Determine design twist angle around rotational axis.
3. Download Pillar Cam with determined working angle.
4. Create in the design an insertion point for the unit and fix the position by rotation around the axis.

### *Important:*

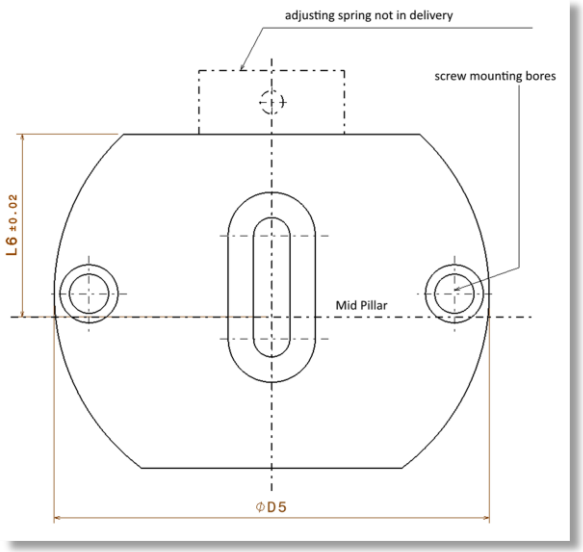
- The cam unit can only be twisted around the rotational axis!
- The “working angle“ for the Pillar Cam is already specified by the CAD data supplied!






## Dimensions of the Pillar Cam



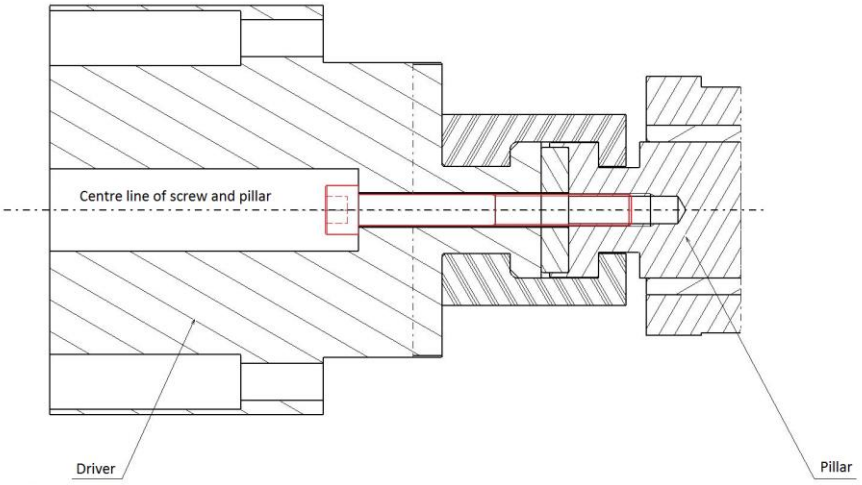

**Dimension data see page 5**

| Ø Pillar | Length option | D1 | D2 | D3 | D4 | D5 | L1 | L2 | L3 | L4 | L5 | L6 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 50 | 1 | 50 | 90 | 108 | 98 | 150 | 463 | 363 | 155 | 80 | 46 | 63 |
| 50 | 2 | 50 | 90 | 108 | 98 | 150 | 538 | 415 | 205 | 80 | 46 | 66,5 |
| 50 | 3 | 50 | 90 | 108 | 98 | 150 | 588 | 488 | 255 | 80 | 46 | 67,5 |
| 63 | 1 | 63 | 103 | 112 | 111 | 156 | 483 | 383 | 157 | 80 | 52,5 | 65 |
| 63 | 2 | 63 | 103 | 112 | 111 | 156 | 558 | 458 | 225 | 80 | 52,5 | 68,5 |
| 63 | 3 | 63 | 103 | 112 | 111 | 156 | 608 | 508 | 275 | 80 | 52,5 | 69,5 |
| 80 | 1 | 80 | 130 | 125 | 140 | 174 | 483 | 383 | 175 | 80 | 66 | 80 |
| 80 | 2 | 80 | 130 | 125 | 140 | 174 | 558 | 458 | 225 | 80 | 66 | 83,5 |
| 80 | 3 | 80 | 130 | 125 | 140 | 174 | 608 | 508 | 275 | 80 | 66 | 84,5 |

All dimensions in [mm]

## Handling of the Pillar Cam

Locking screw

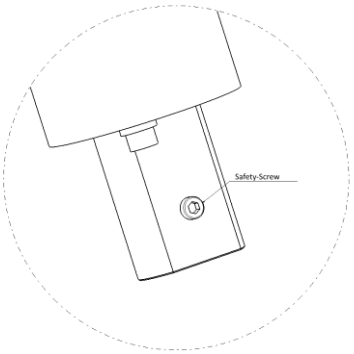



## Locking

The pillar can be locked tight by a socked head screw with the cam driver for mounting and dismounting.

To withdraw the pillar together with the cam driver, the locking key must be removed first.

## Safety-key




The key serves as a safety retainer to avoid an unwanted fall out of the pillar from the housing.

In the assembly it must be assured that the key is accessible in case it has to be removed.

# Various positions of the Pillar

**Position 1 ➔ die in compressed stage**

**Position 2 ➔ Stroke blank holder down**

**Position 3 ➔ Stroke blank holder until pillar is unlocked**

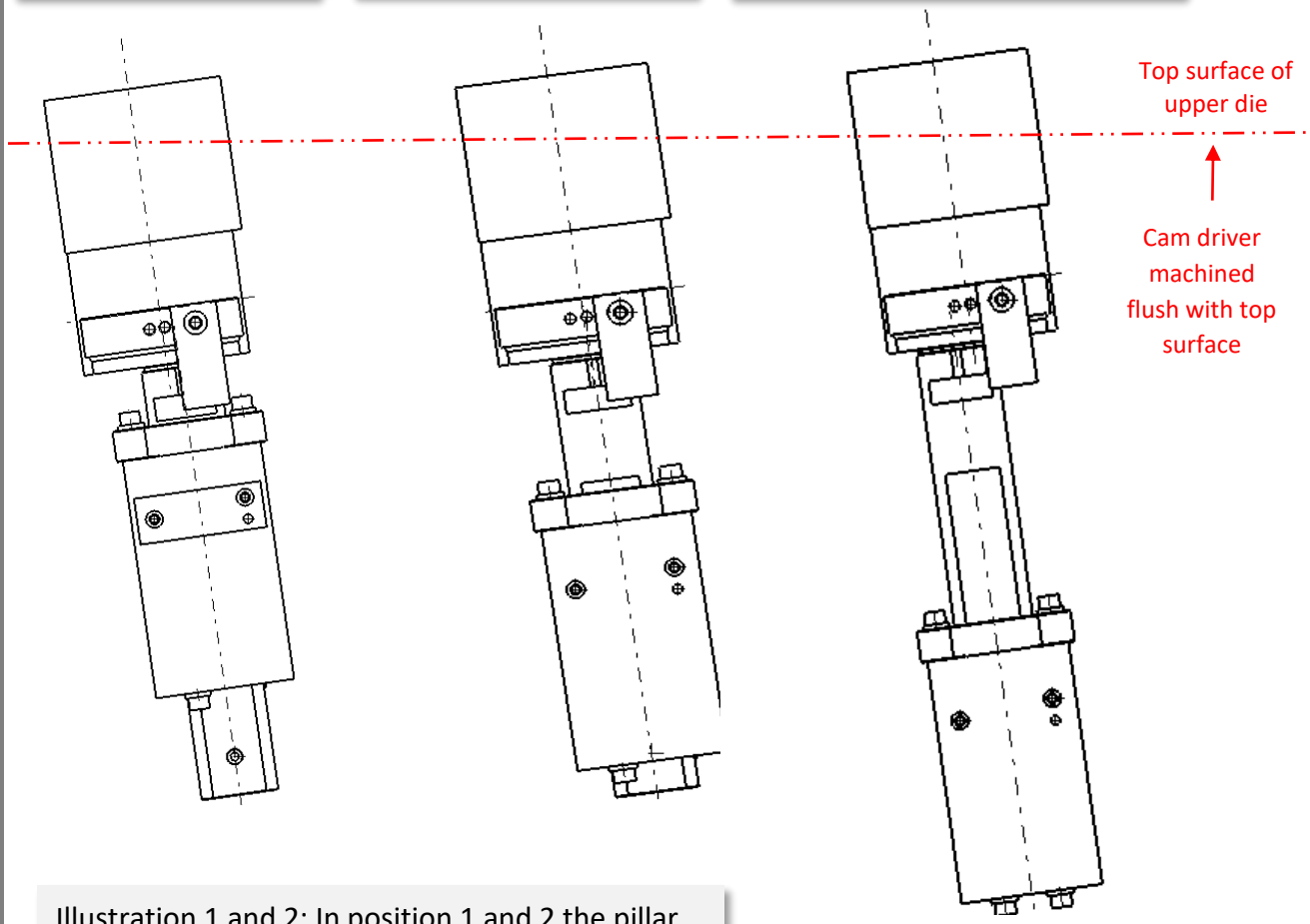



Illustration 1 and 2: In position 1 and 2 the pillar can be tightened to the cam driver by a socket head screw and the whole unit can be lifted out of the die. (Housing stays in the blank holder)

Illustration 3: To withdraw the blank holder from the die, the blank holder must be guided until the pillar is disengaged at the retraction clamps. (See instructions in the table)

| Ø Pillar | Min. guide length blank holder |
|---|---|
| 50 | 150 mm |
| 63 | 202 mm |
| 80 | 248 mm |

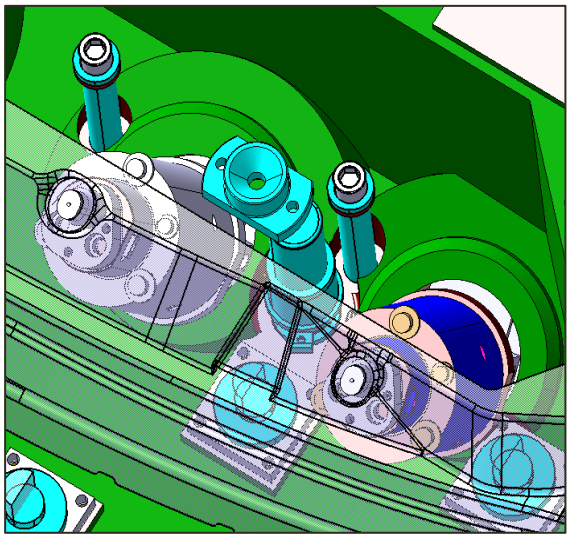
The position of the retraction clamps is set in the CAD file and is taken into account by the manufacturer during assembly. Only the calculated fixed position of the retraction clamps ensures the necessary retraction force and the handling during the dismounting of the blank holder in the tool.

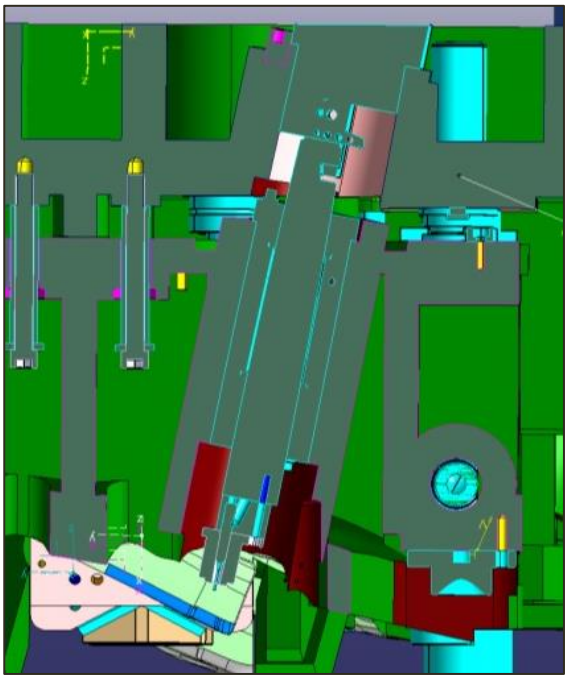
# Solution examples

Pillar cam mounted in the blank holder in start position

Pillar cam mounted in the blank holder in end position

# For designing



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