

PRESS RELEASE  
JANUARY 2014

GERMAN ENGINEERED



# MARES CX

THE NEW CYCLOCROSS WEAPON



**FOCUS** 



## GERMAN ENGINEERED

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**German engineering and a history of winning races are both very deep in the FOCUS DNA**

For over 20 years, FOCUS has designed and developed race winning bikes. The engineering, product management, production, assembly, and quality control teams are all managed from the company's headquarter in Cloppenburg, Germany.

While the design, engineering, testing, and assembly is happening in Germany, the FOCUS carbon specialists have been working very closely with carbon production experts in Asia. Quality control and product testing takes place in both Germany and Asia to guarantee the highest levels of precision and quality.

Over the past years, FOCUS has invested significantly in design, development, and engineering to create the next generation of products. The first of these products are the Izalco Chrono MAX time trial bike and the Izalco MAX road bike which were launched in 2013 with test winning performance.



*Izalco MAX 0.0*



Now, FOCUS continues this story with the launch of the new Mares CX cyclocross frameset which not only follows the new design language of the brand, but also the high performance standard all FOCUS products set.



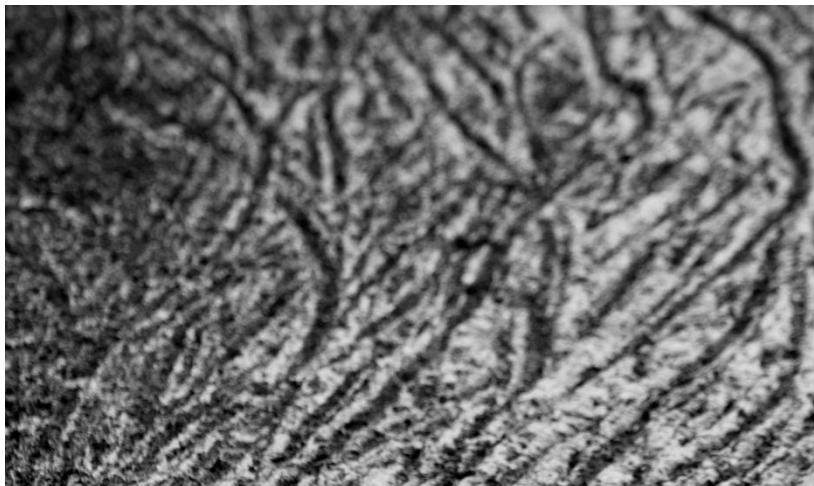
# HISTORY OF FOCUS IN CYCLOCROSS

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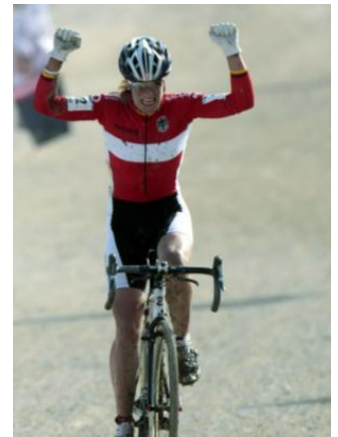
FOCUS isn't just another brand to recently discover cyclocross, but was literally born in the mud and muck of 'cross. Mike Kluge, 1992 cyclocross World Champion, founded the brand during the final years of his racing career.

Since 1992, the brand has continued to grow and evolve, but has never strayed from its 'cross roots. Hanka Kupfernagel, multiple cyclocross World Champion, also raced aboard a FOCUS. Over the years many championships across the globe have been won by FOCUS riders.

Team Rapha FOCUS has dominated the North American racing scene in recent years with Jeremy Powers and Zach McDonald both winning US National Championships while riding FOCUS Mares CX models.



*Mike Kluge*



*Hanka Kupfernagel*



*Jeremy Powers*





# THE NEW MARES CX

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## DEVELOPMENT TARGET

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>>

German Engineered lightweight cyclocross frameset with excellent stiffness and comfort values to provide the best riding performance.

The frameset is available in two versions: One for cantilever and one for disc brakes.

Both versions are compatible with mechanical and electronic shifting.

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# THE NEW MARES CX

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The Mares CX platform has earned a reputation as the benchmark 'cross bike over the last six years, with legendary overall performance.

With the brand's heritage in cyclocross, FOCUS' engineers had the target to develop a new top level cyclocross frameset that meets the needs of world-class cyclocross racers and the new positioning of the brand, using the latest technologies.

To achieve these requirements the FOCUS engineers spent countless hours refining the legendary Mares CX with innovative solutions to create the new leader of the cyclocross pack.



**AN ERA BEGINS**  
*Mares Team (2009)*



**READY FOR DISC BRAKES**  
*Mares CX 1.0 (2014)*



**NEW MARES CX**  
*Prototype version for sponsored athletes*



# THE NEW MARES CX

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The performance of the new Mares CX is created by the perfect balance of three major characteristics, which is also the basis for the elite performance of the Izalco MAX:

**WEIGHT | STIFFNESS | HANDLING**

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## **DISC BRAKE VERSION**

The Mares CX with disc brakes will only be compatible with 160mm disc rotors.

With our partner Magura, we have tested the difference of heat development at a brake load of 800W with disc brake rotors of 140mm and 160mm. With 140mm the measurement was 190°C compared to 170°C with the 160mm rotor. This difference of 20°C is significant, as a hydraulic brake line melts at 190°C.

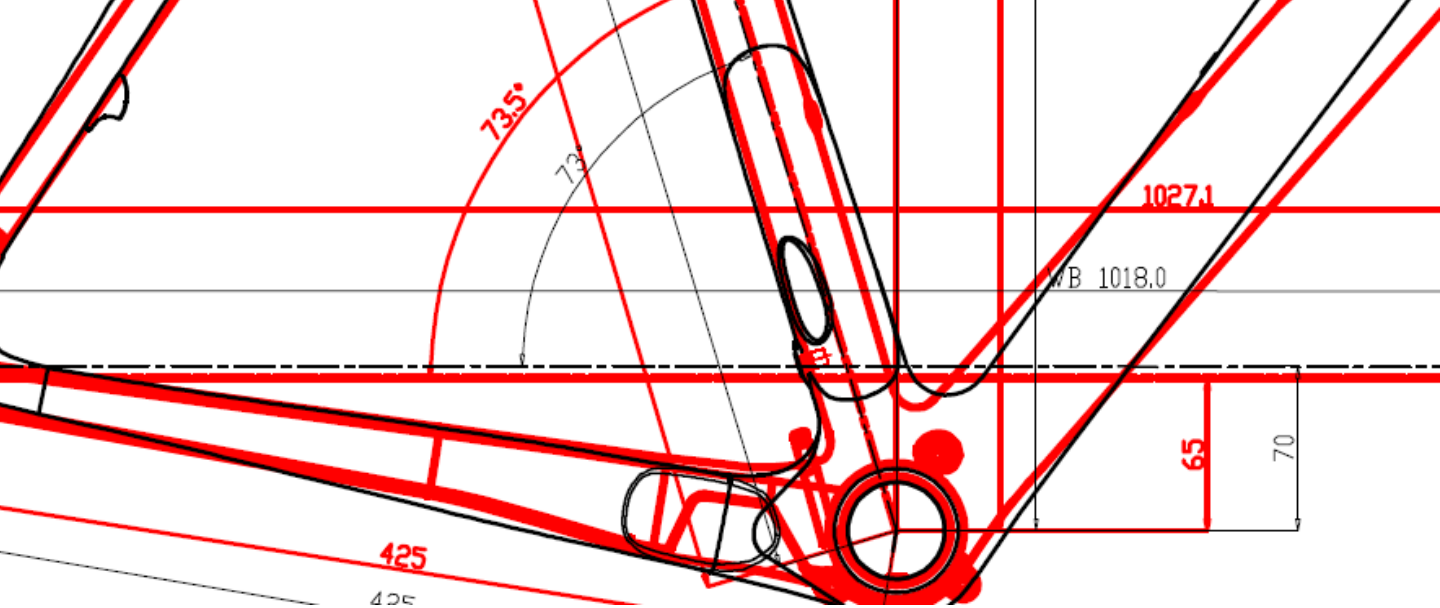
The weight difference of 30 grams in total between the two disc rotor diameters is negligible in regard to the improved safety!

## **HOW WE TEST OUR PRODUCTS**

*All FOCUS products are tested and proven by the following tests and standards:*

- EN test standards for fatigue and impact
- Derby Cycle fatigue and impact tests that surpass EN standards
- Professional athletes and FOCUS employees in real world conditions





# GEOMETRY

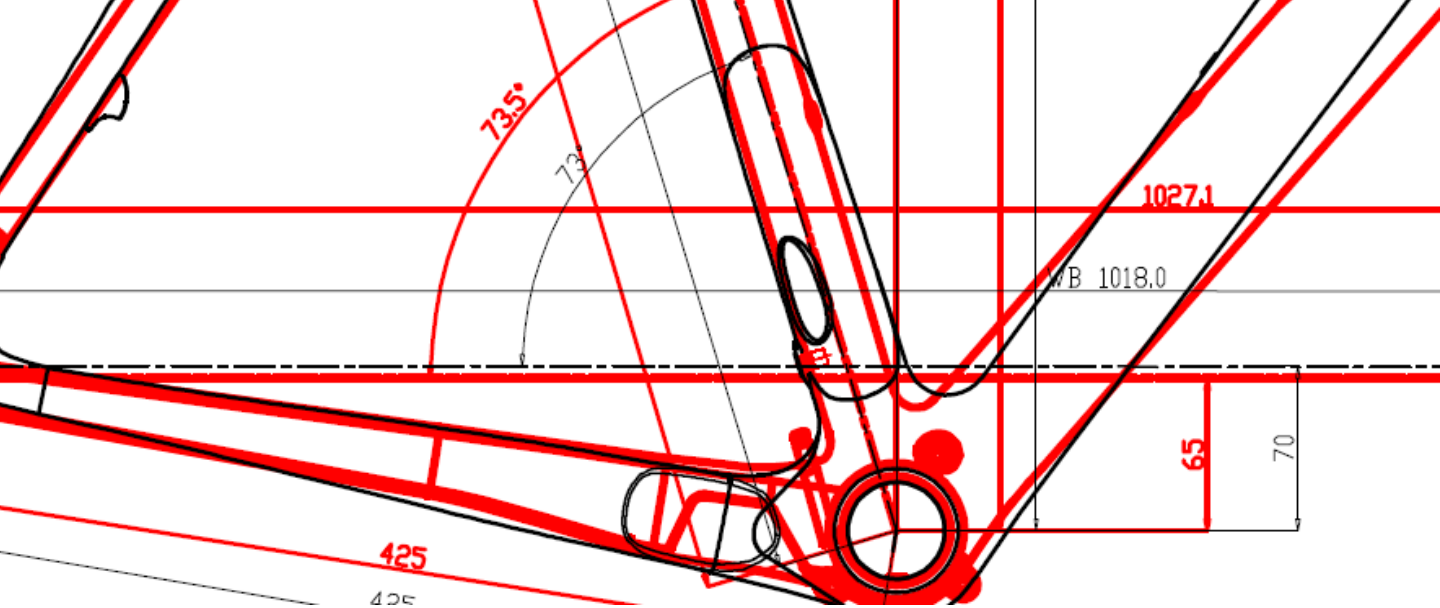
In developing the new Mares CX, the FOCUS engineers took a careful look at each detail of the geometry. The main target was to develop geometry with a constant stack to reach ratio. This is to insure that the frame grows through the entire range, so that each size delivers the same feeling and performance for all riders, regardless of frame size.

## Constant stack to reach ratio: 1.43

The new Mares CX will be available in 6 frame sizes, compared to the 4 sizes of the previous version. With the new 48cm and 60cm sizes, smaller and taller riders can now find their perfect fit with the new Mares CX.

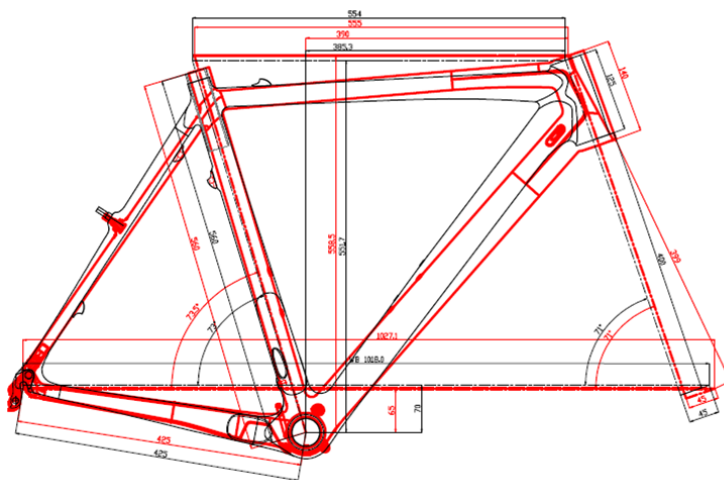
Seat tube [ mm ]	480	510	540	560	580	600
Top tube [ mm ]	523	534	544	555	565	577
Head tube angle [ ° ]	70	70	70.5	71	71	71.5
Seat tube angle [ ° ]	73.5	73.5	73.5	73.5	73.5	73.5
Chain stay [ mm ]	425	425	425	425	425	425
BB Drop [ mm ]	65	65	65	65	65	65
Head tube [ mm ]	110	120	130	140	150	160
Fork length [ mm ]	400	400	400	400	400	400
Fork rake [ mm ]	45	45	45	45	45	45
Wheel base [ mm ]	1001	1015	1021	1027	1038	1045
Stack [ mm ]	527	537	548	559	569	580
Reach [ mm ]	365	375	382	390	397	405

*Geometry new Mares CX*



# GEOMETRY

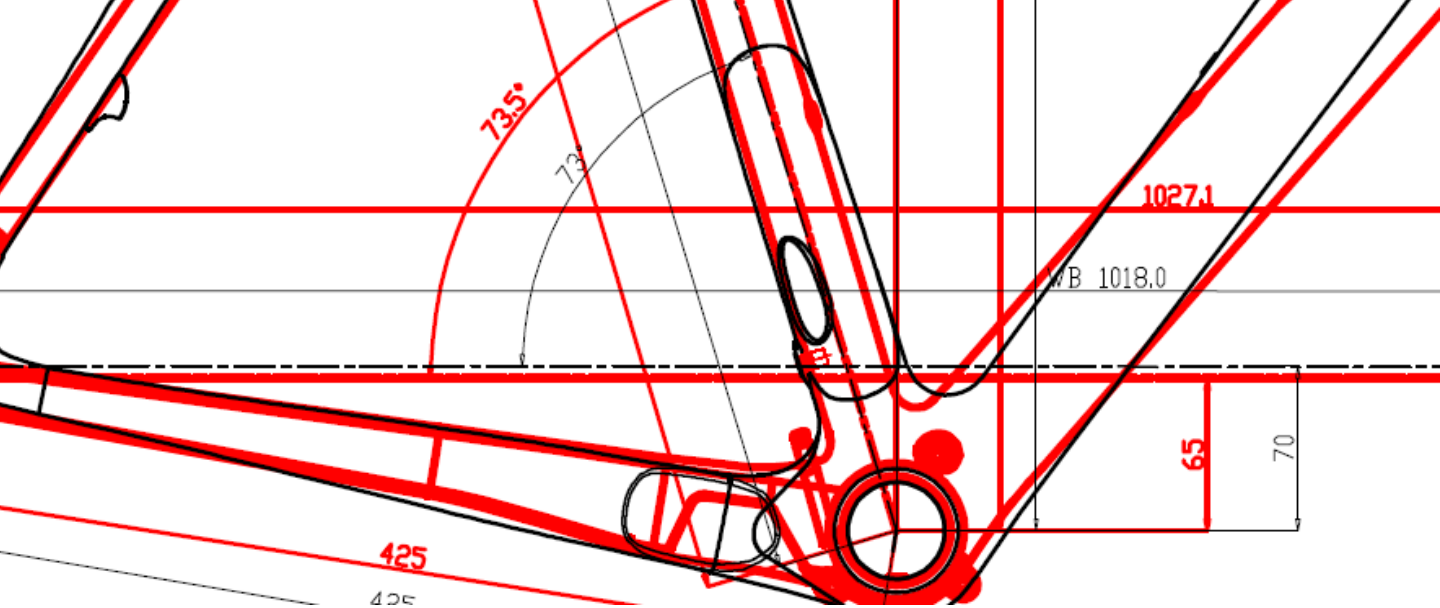
## OLD VS. NEW MARES CX



Seat tube [ mm ]	480	510	520	540	540	560	560	580	580	600
Top tube [ mm ]	523	534	530	544	540	555	555	565	571	577
Head tube angle [ ° ]	70	70	70.0	70.5	70.5	71	71.0	71	71.0	71.5
Seat tube angle [ ° ]	73.5	73.5	74.5	73.5	74.5	73.5	73.0	73.5	73.0	73.5
Chain stay [ mm ]	425	425	425	425	425	425	425	425	425	425
BB Drop [ mm ]	65	65	70	65	70	65	70	65	70	65
Head tube [ mm ]	110	120	105	130	115	140	125	150	140	160
Fork length [ mm ]	400	400	400	400	400	400	400	400	400	400
Fork rake [ mm ]	45	45	45	45	45	45	45	45	45	45
Wheel base [ mm ]	1001	1015	1018	1021	1019	1027	1018	1038	1035	1045
Stack [ mm ]	527	537	537	548	548	559	559	569	569	580
Reach [ mm ]	365	375	375	382	382	390	390	397	397	405

Geometry old vs. *new* Mares CX

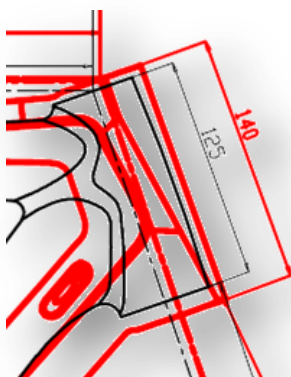




# GEOMETRY

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The main changes between the old and the new version of the Mares CX in detail:

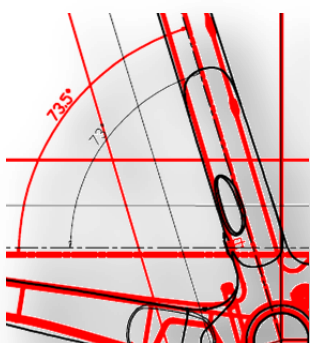


## HEAD TUBE LENGTH

In researching the geometry of the old Mares CX among FOCUS sponsored athletes, the FOCUS engineers discovered that each of them had mounted at least 15 mm of spacers below the stem to get into their desired position. Therefore, in developing the new Mares CX the engineers decided to lengthen the head tube by 15 mm.

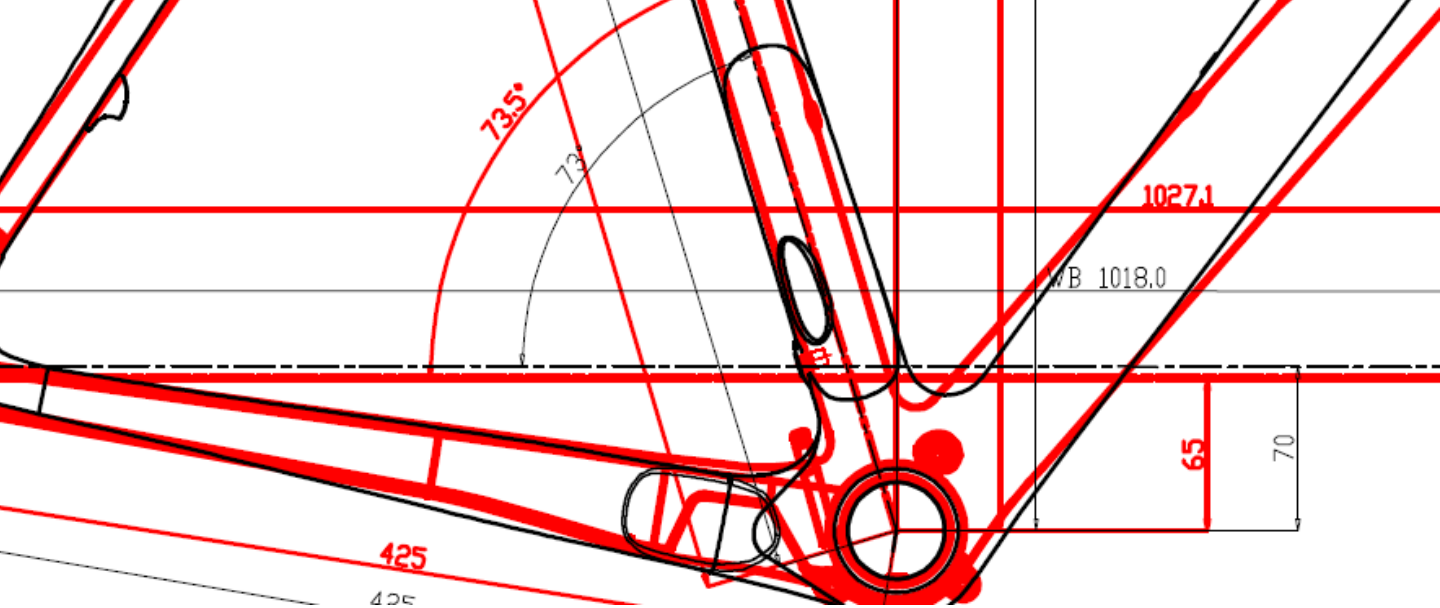
With this solution, the riders were able to set up their preferred position on the new Mares CX without mounting spacers below the stem.

Lengthening the head tube not only addressed fitting the riders better, but also greatly improved front end stiffness by removing the spacers.



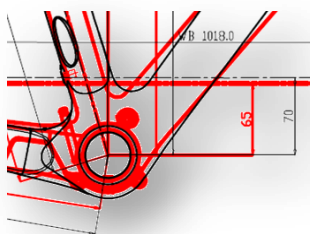
## SEAT TUBE ANGLE

In order to achieve the main goal of the new geometry being able to provide a constant stack to reach ratio across all sizes, and identical performance, the team of FOCUS engineers arrived at a Seat Tube Angle of 73.5° for all sizes.



# GEOMETRY

The main changes between the old and the new version of the Mares CX in detail:



## BOTTOM BRACKET DROP

As the cornering performance of a cyclocross bike in competition is critical, the FOCUS engineers did extensive research in order to optimize the BB Drop. As the BB Drop is the distance by which the center of the bottom bracket lies below the level of the axles, it correlates with pedal clearance. With a deeper BB Drop the pedal clearance is low, which increases the possibility of pedal strike in tight corners.

In their research, the FOCUS engineers conducted a blind test with a group of 20 riders (professionals and amateurs) with frame prototypes on a cyclocross circuit. The prototype frames had BB Drops of 70 mm (like the old Mares CX) and 65 mm. The result of this test was that, without exception, all riders preferred the cornering performance of the prototypes with a BB Drop of 65mm.

The new Mares CX uses a 65mm BB Drop across all sizes, since smaller riders normally use shorter crank arms than taller riders, therefore minimizing risk of pedal strike.



## CX CHAIN GUIDE

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Cyclocross races have numerous rough or bumpy sections which can cause the chain to fall off of the chainrings and wedge against the frame. Since road rear derailleurs have lighter springs than their mountainbike counterparts, FOCUS engineers were researching solutions to avoid chain suck and improve rider safety.

The solution is the FOCUS CX Chain Guide, using the industry standard ISCG-05 that is common for mountain bikes. This makes the new Mares CX the first cyclocross bike on the market to use a chain guide.

The reason for using the ISCG-05 standard is to give riders the ability to use any chain guides that may possibly be developed by component makers in the future.



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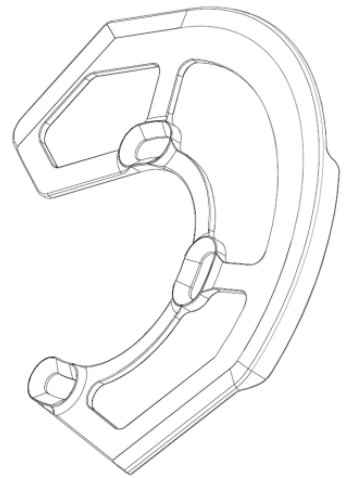
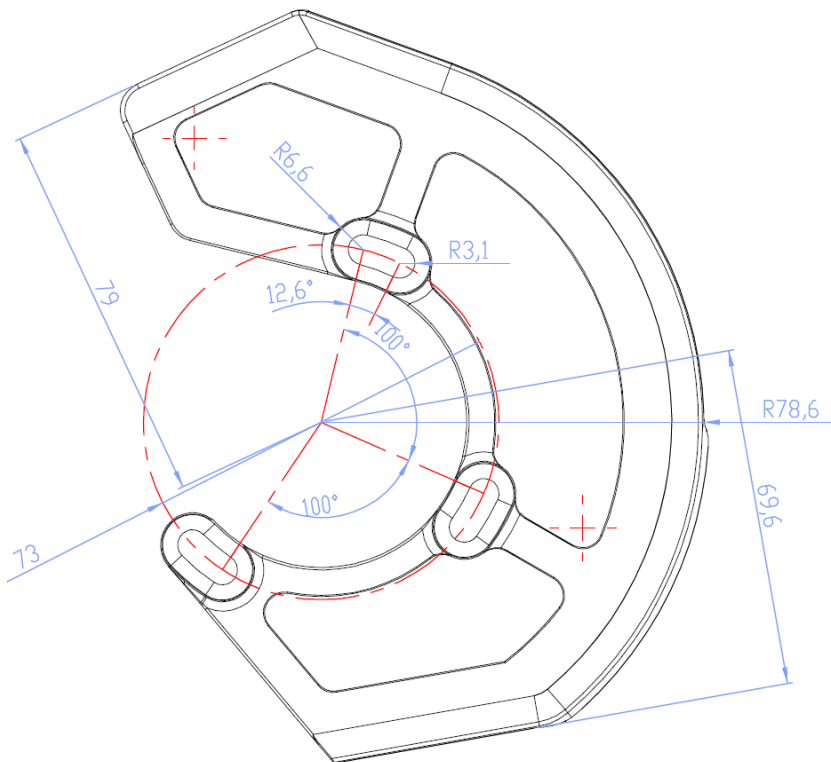
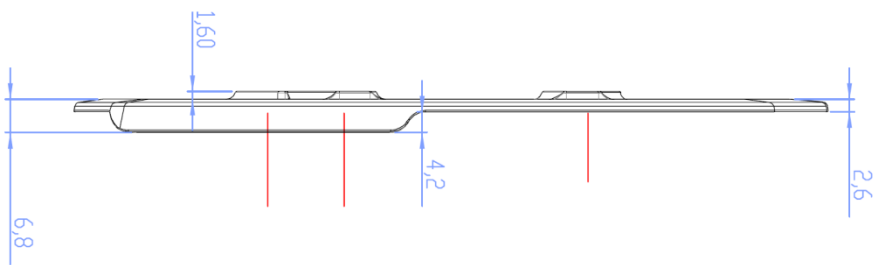
### WEIGHT

48 g (incl. screws)



# CX CHAIN GUIDE

## DIMENSIONS







## RAT | Rapid Axle Technology

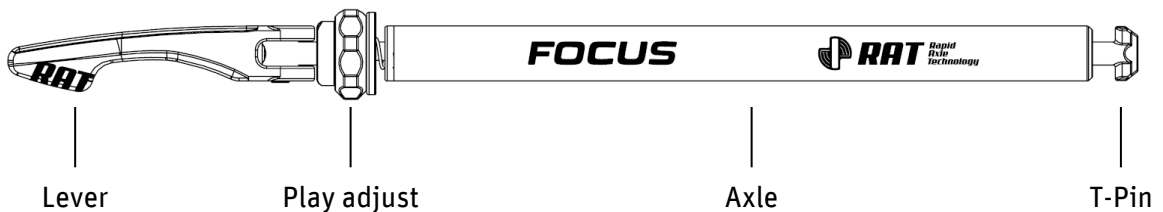
For the disc brake version of the new Mares CX frameset, the FOCUS engineers have developed the first thru axle system in the market to really meet the needs of professional cyclocrossers and roadies – a fast release and engagement of the wheel.

*Why didn't we just use a standard quick release lever, as with the cantilever version?* FOCUS wants to deliver the best performance- and safety- to the rider, and for disc brakes there is only one option to properly retain the wheels: thru axle.

One reason why our engineers came up with the RAT was the higher stiffness that thru axles deliver to the wheels. Due to the increase in stiffness, the noises caused by disc brakes can be reduced to a minimum.

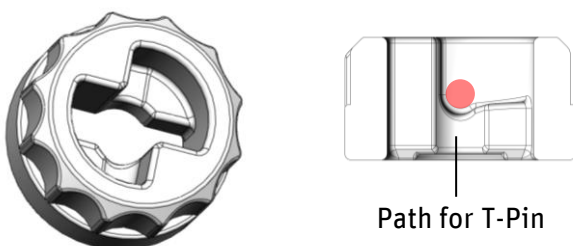
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### AXLE CONSTRUCTION



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### INSERT CONSTRUCTION



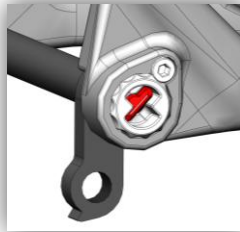
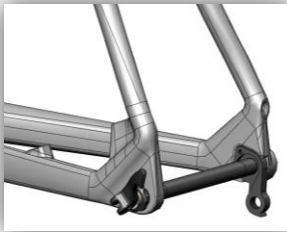


## RAT | Rapid Axle Technology

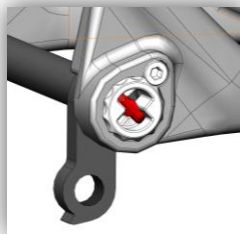
### FUNCTION



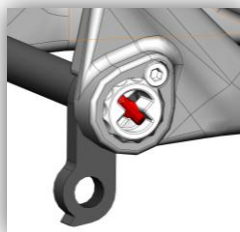
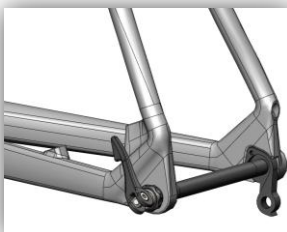
Insert axle into insert



Align axle in the correct position so that the T-Pin fitting engages the insert



Rotate the axle until the T-Pin fully engages the stopper



Flip the lever closed to securely clamp axle



# RAT | Rapid Axle Technology

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## DIMENSION & WEIGHT

### Front

100x15mm

77.1 g



### Rear

142x12mm

63.8 g



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## BENEFITS

- + Fastest thru axle system on the market
- + Faster release and engagement of the wheel
- + Better alignment of the disc brake rotor to reduce noise
- + Increased front end stiffness



## TECHNICAL DETAILS | FRAME



### STABLE STIFFNESS PER SIZE | SSPS

*Each frame size has a customized tube diameter.*

- +Optimal stiffness regarding the size
- +Optimal weight to stiffness ratio w/o sacrificing comfort

### TAPERED HEAD TUBE | 1 1/8" - 1 1/4"

- +Increased head tube stiffness
- +Improves the steering and handling of the bike

### INTEGRATED HEADSET

*Full carbon head tube bearing seats.*

- +Weight reduction



### 3D FULL CARBON DROPOUTS

- +Higher damping factor
- +Improved comfort values



### PF30 BOTTOM BRACKET

*Full carbon bottom bracket | width: 68 mm*



### FLAT TOP TUBE WITH INTERNAL CABLE ROUTING

- +Allows better, more comfortable shouldering

### INTERNAL CABLE ROUTING

- +Cables are protected from mud and water contamination
- +Increased cable lifetime
- +Improved aesthetics



### FRAME SIZES

48 (new!) | 51 | 54 | 56 | 58 | 60 (new!)





## TECHNICAL DETAILS | FRAME



### WEIGHT\*

Cantilever version: 895 g

Disc version: 922 g

\* painted frame in size 56 w/o assembly parts

### STIFFNESS

Head Tube Stiffness: 100 Nm/°

STW Head Tube\*: 110 Nm/° kg

Bottom Bracket Stiffness: 65 N/mm

Comfort Value: 200 N/mm

\* painted frame in size 56 w/o assembly parts

### Di2 & EPS READY

Frame is compatible with either mechanical or electronical shifting.

### CX CHAIN GUIDE

In-house designed chain guide using ISCG-05 standard.

+Prevents the chain from jumping off the chainrings

+Protects the carbon frame

### CHAIN STAY PROTECTION PLATE

*Small aluminum plate that is glued on the chainstay.*

+Protects the carbon chainstay in case of a chain suck

### POST MOUNT DISC BRAKE CHAINSTAY ATTACHEMENT

*Brake system is mounted on the chainstay.*

+Improved compensation of brake forces

+Improved heat dissipation

+Improved adjustment of brakes

+Brake system is better protected from external impacts

### SHROUDED CABLE ROUTING BOX

+Improved cable routing

+Improved maintenance of the cables

+Protects the cables from mud and water





## TECHNICAL DETAILS | **FORK**



### **TAPERED STEERER | 1 1/8" - 1 1/4"**

- +Increased head tube stiffness
- +Improved steering and handling of the bike



### **INTEGRATED BEARINGSEAT**

- +Weight reduction
- +Increased head tube stiffness

### **CABLE STOP**

- +Prevents brake shudder



### **WEIGHT**

418 g

### **STIFFNESS**

Lateral Stiffness: 55 N/mm  
Comfort Value: 80 N/mm  
Brake Stiffness: 82 N/mm



# CONTACT

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FOCUS is an internationally recognised cycling sports brand owned by Derby Cycle Holding GmbH. It covers the entire spectrum of sports bicycles – both all segments and all categories of usage. Thus top athlete, recreational athlete and junior athlete alike will find the perfect competition and training equipment at FOCUS, at excellent value for money.

[www.focus-bikes.com](http://www.focus-bikes.com)

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Derby Cycle Holding GmbH is by revenue the largest bicycle manufacturer in Germany and with its brands Kalkhoff, FOCUS, Raleigh, Univega, Rixe and Cervélo one of the leading manufacturers in Europe. The annual bike sales total nearly 500,000, including almost (weglassen) 100,000 e-bikes and pedelecs, for which Derby Cycle is market leader in Germany for years. The Derby Cycle product range also includes competition-level road and mountain bikes, high-quality trekking, city, off-road and children's bikes for everyday use and touring.

[www.derby-cycle.com](http://www.derby-cycle.com)