



PARIS

WHITE PAPER 1.0

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1. INTRODUCTION

Cicli Pinarello S.R.L. is one of the most famous and winning bike manufacturers in the world. Founded in Treviso (Italy) in 1952 by Giovanni (Nani) Pinarello, it produces high end racing bikes. This name, Pinarello, recalls legendary victories of the greatest cyclists of all times: since 1975, the first victory in Giro d'Italia with Fausto Bertoglio, Pinarello has won all the most important races in the world, including The Olympics, World Championships and Tour de France.

Pinarello has always been synonymous with innovation and performance. In every area and segment, Pinarello's DNA leads to the technical solutions that best interpret the rider's needs, whether he/she is a pro rider or a beginner.

All the bikes produced for the best riders in the world have also always been available for the amateurs. This philosophy spans from the high-end Dogma family to the rest of the range, allowing every rider to perform the best. The collaboration with the pro riders allows us to develop cutting edge technologies in order to win the races.... those technologies are then applied to the bikes that everyone can buy and use.





2. GUIDELINES OF THE PINARELLO PARIS PROJECT

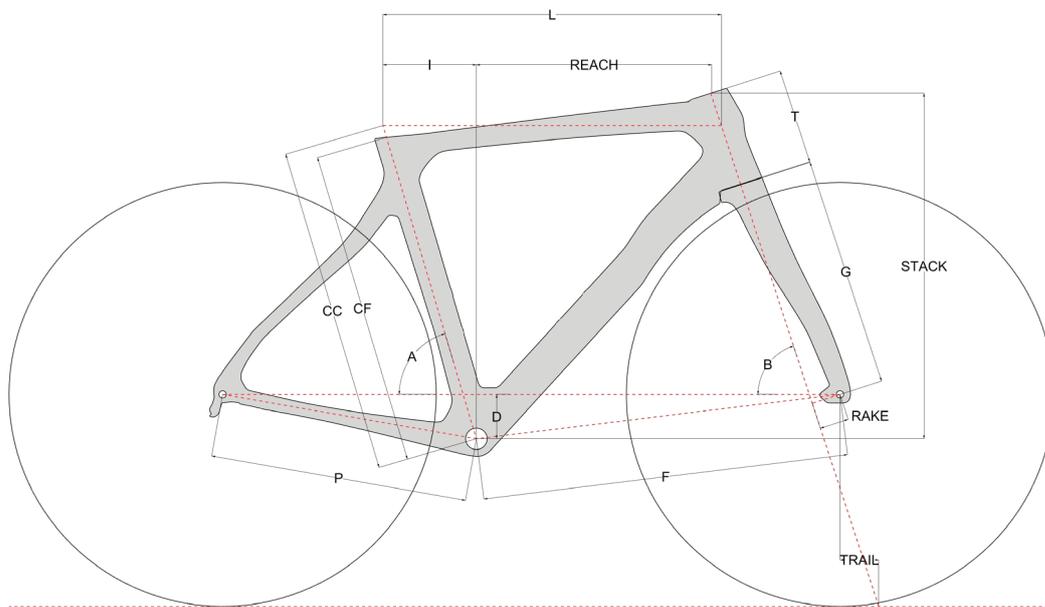
The basis behind the Pinarello Paris project is the will to create a versatile and comfortable bike, that still maintains the famous Pinarello ride feeling.

We have achieved this goal partly with an experienced choice of the tubes' sections and profiles. And partly by introducing a new set of bike geometries, that ensure a comfortable and rational distribution of reach and stack values, between smaller and bigger sizes.

While doing so, we have obviously kept in mind our classic milestone targets, i.e. lightness and aero performances, in order to guarantee the same high standards of Pinarello bikes.

3. GUIDELINES OF THE PINARELLO PARIS PROJECT

Aiming for a bike that must be comfortable and “endurance” oriented, we have developed a new set of bike geometry, across all sizes, that best achieves this goal.

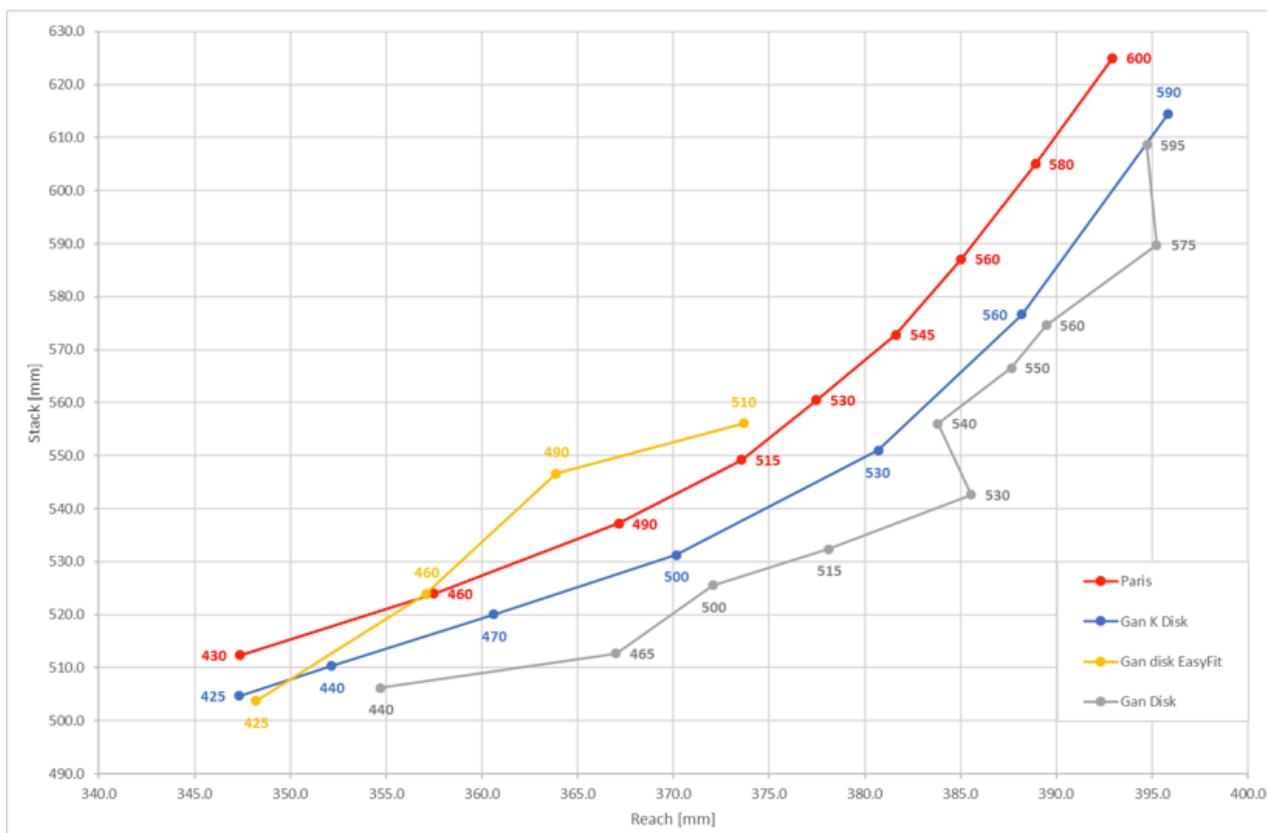


We started on an already good starting point: the Pinarello Gan K Disk. A bike that has been widely appreciated for its comfortable, reliable and “easy to ride” geometries. Listening to the market’s voice and users’ needs, we decided to emphasize the comfort and the “endurance” soul of the bike. These words could be technically translated with two specific parameters: reach and stack. In particular, reach has been wisely reduced and the stack has been increased accordingly. The perfect balance of bike dimensions and angles is a complex science. As such, whenever you vary a factor, all others must be carefully evaluated. Driven by our long-term know-how of bike geometry and starting from our need to improve the reach and stack values, we revised the geometric parameters to guarantee to the new Pinarello Paris has the well-known and worldwide appreciated Pinarello ride feeling.



Furthermore, we pursued the idea of rationalizing the size distribution, standardizing them through the whole mid-range. The result is a complex of nine sizes, shared with the new Pinarello Prince family, that better cover the riders' population and gender distinction.

You can appreciate these concepts by looking at the following graph:



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3. GUIDELINES OF THE PINARELLO PARIS PROJECT

It is easy to observe the precise strategy of rising the stack and decreasing the reach through the various sizes. In doing this, we have also rationalized the reach and stack distribution, further emphasizing the optimal parabolic trend of the Pinarello Gan K Disk. This way, it is easy for every rider to find the right size that allows him/her to ride in the best position longer, with less effort.

Furthermore, it deserves to be highlighted that through the nine sizes that the Pinarello Paris offers, riders who until today chose the EasyFit geometries are now accommodated.

Last but not least, in the graph above, one can see the reach and stack values are distributed with greater density in correspondence with the middle sizes. This allows most cyclists, who statistically choose the middle sizes (from 515 to 560), to easier find the right size that better fits their needs.

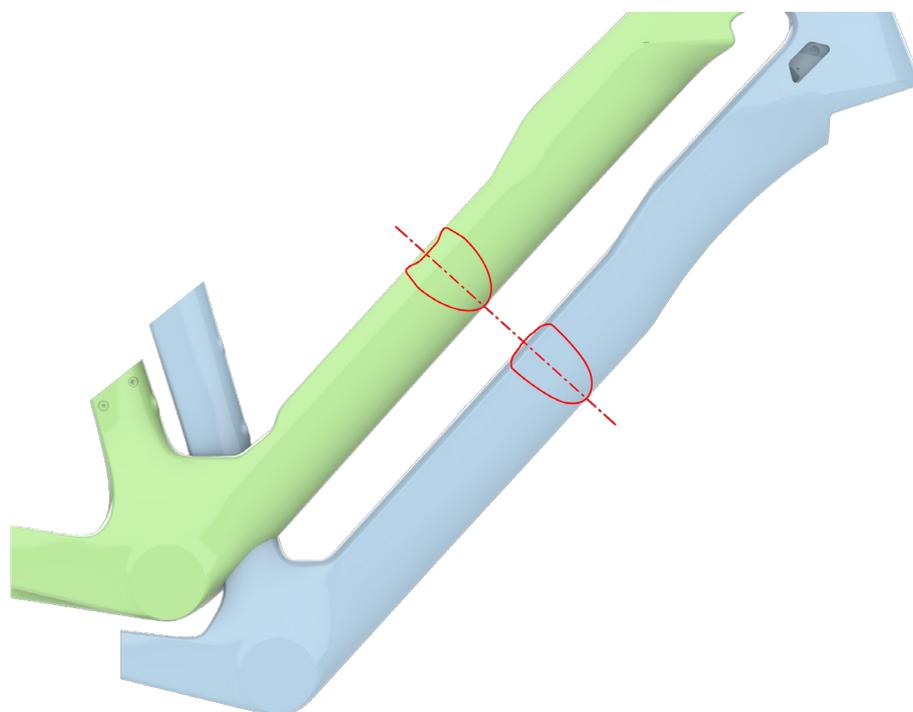
It has already been mentioned that, starting with the improved reach and stack values, all other dimensions and angles have been revised accordingly. One of the major improvements is the variation of the fork rake dimension through the size range. The three smaller sizes (i.e. 430, 460 and 490) show a bigger rake than the others (52 mm instead of 47 mm). The reason behind this lies in the desire to keep the trail constant. It is well known in bike science literature, that the trail dimension strongly affects the riding experience; and one of the major challenges for a bike designer is to maintain the trail dimension inside a tight range of values between all sizes of the range. This range of values is dictated from the experience and vary in function of the type of bike (i.e. endurance, road racing, gravel bike...). Going from bigger to smaller sizes, the dimension and the angles clearly vary and with them, the trail become bigger and bigger. This behavior, combined with the need to follow an appropriate reach and stack trend (as already illustrated), lead to the decision to add another fork rake dimension. This decision clearly implies a considerable logistical effort which is however justified precisely in the consistency of the trail dimension, which in turns translates into a constant riding feeling between all sizes.



All the geometry improvements described above, represent only a part of the work done in order to emphasize the comfort and the “endurance” soul of the bike. The rest of the modifications have been focused on designing the tube’s profiles and sections that allow us to achieve a bike that combines the best riding comfort, the necessary stiffness, and structural performances that every Pinarello bike must have in order to be reactive and capable to optimally transfer the power from the rider to the road.

This search of the best balance has been performed respecting the aesthetic guidelines traced by Pinarello Dogma F12, that represent the state of the art across the whole bike industry. You can indeed appreciate design adapted from to our flagship bike all around the frame and forks, especially on the seat stays, bottom bracket area and fork legs. Clearly, even through all these adaptations we managed the design in order to reduce tubes’ sections compared with the Pinarello Dogma F12. All this allowed us to calibrate the structural performances of the new Pinarello Paris to obtain a bike that better hits its target, i.e. raise the bar for mid-range endurance bikes.

In the images that follow you can appreciate the general downsizing in the tubes’ sections of the Pinarello Paris as it relates to the Pinarello Dogma F12 (Dogma F12 in green, new Paris in blue).



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3. GUIDELINES OF THE PINARELLO PARIS PROJECT

Alongside the tubes' sections research activity described above, we carried on with the proper design of the tubes' profile too. The result of these efforts are the overall aspects of the brand new Pinarello Paris shown below. You can appreciate the tubes where the power transfer takes place (i.e. Head Tube, Down Tube and Seat Stays) are massive and strong enough to guarantee the optimal stiffness. While the Top Tube (especially near the seat post) and the Seat Stays are properly designed to give the necessary flexibility to absorb the road roughness and increase the riding comfort. It is worth emphasizing the "Onda" shape of the seat stays is derived directly from the Dogma family. This is one of the key points if you want to have a bike that is the best combination of performance and riding pleasure.



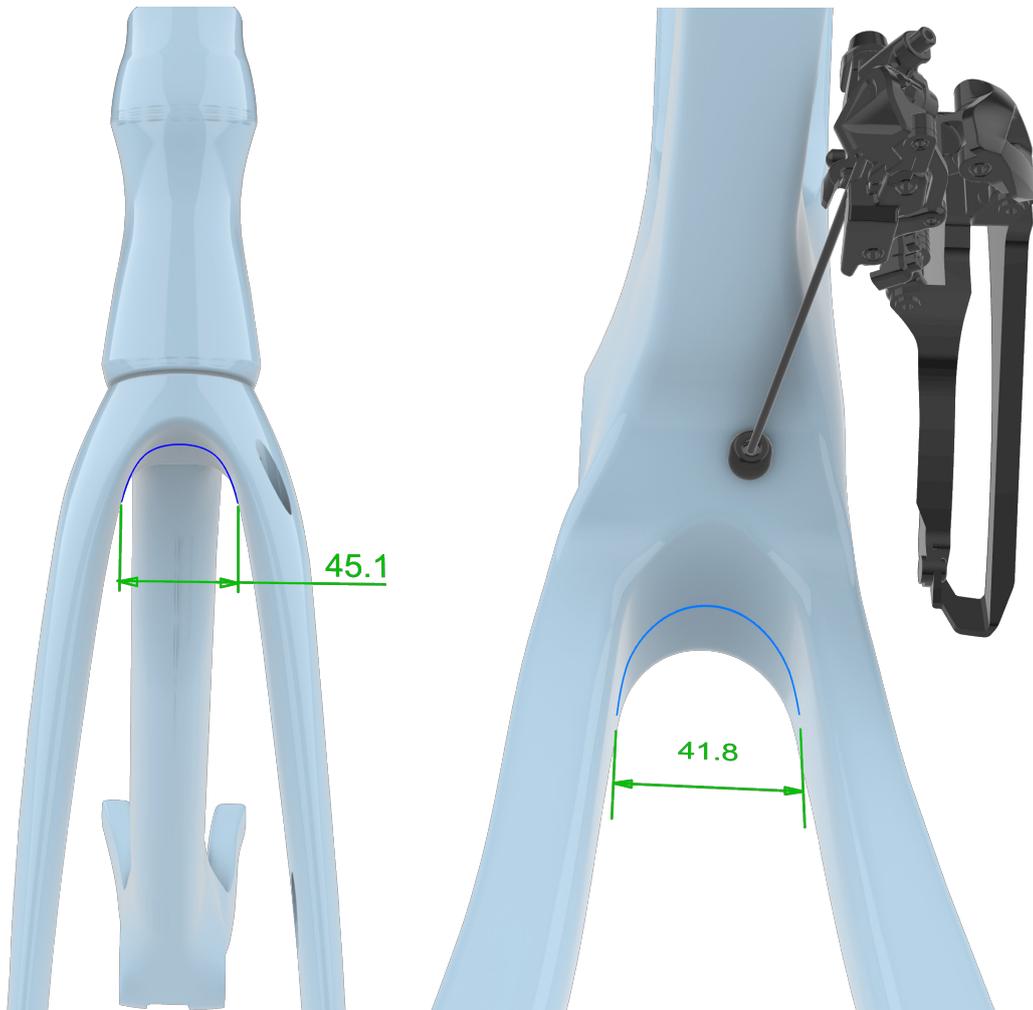


Another key word that has led the design process is versatility. One of the main topics when we speak about bike versatility is the possibility to mount bigger tires. Furthermore, the adoption of generously sized tires increases the riding comfort, allowing greater shock absorption capacity. When you handle a road bike with bigger tires, you may struggle with tight spaces where the stays and the fork legs must pass through. A careful design of the tire clearances areas allows the brand new Pinarello Paris to mount tires up to 30 mm, without sacrificing stiffness and power transfer capacity.

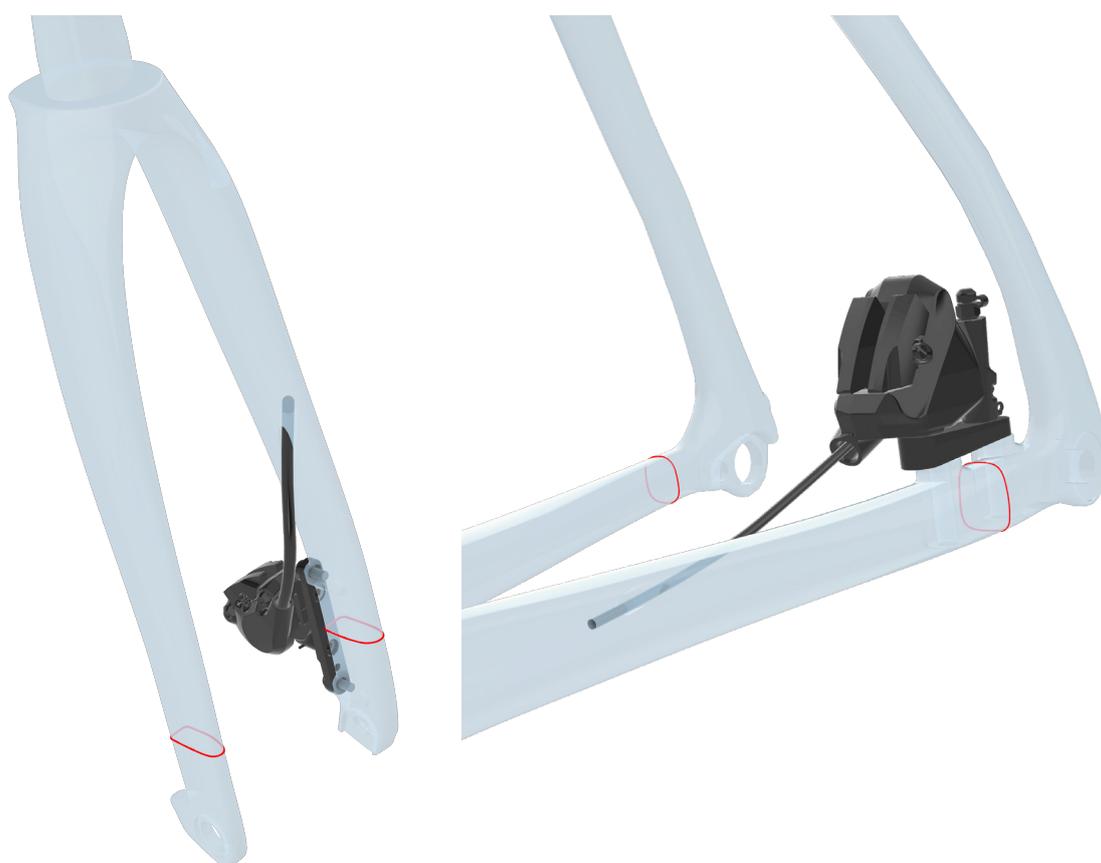
The choice of a slightly longer chain stays, compared with a road racing bike (e.g. Pinarello Dogma F12), helped us to guarantee compatibility with bigger tires. Even if this parameter has been wisely chosen primarily to increase the bike stability and the reliability and ease of riding.

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3. GUIDELINES OF THE PINARELLO PARIS PROJECT



With the intent to give our riders a bike with the most safe, reliable and pleasant to ride as possible, the new Pinarello Paris is only offered with the disc brakes. This is clearly a must have for a bike like this, but, introducing such a braking system without a careful and dedicated design could be counterproductive. This is the reason why we spent a lot of time designing the left fork leg and the left chain stay. We have borrowed the experience in this field made with the Pinarello Dogma F12 Disk, designing a left fork leg and chain stay that better withstand the particular forces that are born when a disc brake acts. One can easily understand this concept observing the fork and the chain stays where the calipers are placed; the left-hand side is clearly bigger and stiffer than the right-hand side.



So, we can resume all the concepts expressed along this paragraph, with the rows that follow. The new Pinarello Paris is a bike whose geometries and structure give it a reliable, versatile, comfortable and pleasant character; or, in one word, it is a perfect “endurance” bike. It allows the expert rider to ride longer, and it is also ideal for the beginner that needs a less demanding bike over a pure road racing bike. It suites users that ask for a bike with less extreme road racing oriented geometries and stiffness, without sacrificing the overall performances and riding pleasure.

4. MATERIAL CHOICE

All the performances described in the previous paragraph, in terms of power transfer capacity (i.e. stiffness) and shock absorption capability (i.e. comfort), would not have been possible without a proper and careful material choice. Indeed the choice of material, especially speaking about carbon fiber, deeply influences the performances of the frame. The polymer reinforced with carbon fiber (CFRP), in particular, based on the localization of stress, can be optimized layer by layer for each individual area of the frame to obtain the best combination of stiffness, vibrations damping capacity and lightness.

For the new Pinarello Paris, we chose to use the T600 carbon fiber that, in combination with a proper resin and an experienced layup, allows us to create a bike that fully meets the targets of a mid-range endurance bike in terms of comfort, stiffness, lightness and cost. In particular, we opted for the UD finish; this allows us to save weight even with a middle level carbon.

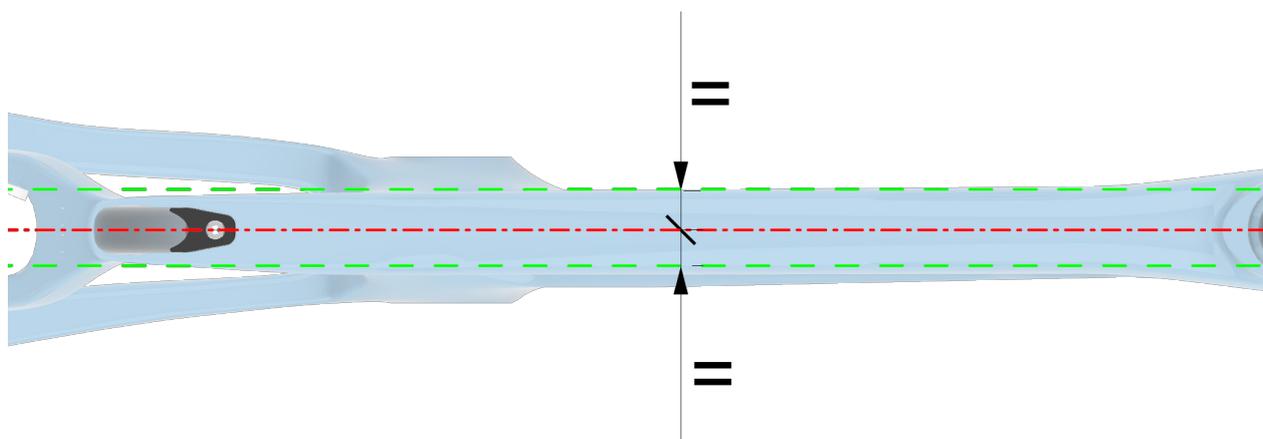


5. ASYMMETRY AND AERODYNAMIC DESIGN

Beyond all the improvements described above, we clearly do not lose sight of our precious and robust know-how. Hence, like all Pinarello frames since the famous Dogma 60.1, this frame is also characterized by an evident asymmetry.

The well-known Pinarello Asymmetric design establishes that the right side of the frame must be larger than the left side, to better counteract the asymmetric forces that come from the combined action of rider and chain, providing a stiffer and more balanced bike and allows more freedom to aerodynamically optimize the tube shape.

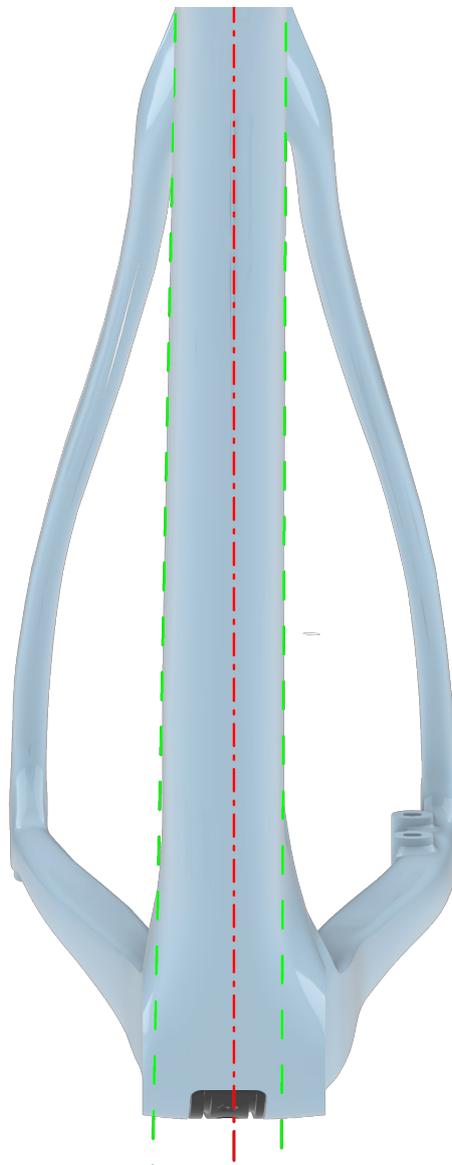
Even the new Pinarello Paris has been developed following the Asymmetric principles. So, for example, the top tube section was moved to the right side, as clearly visible on the picture below.



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5. ASYMMETRY AND AERODYNAMIC DESIGN

At the same time, the down tube was not only enlarged but moved even more to the right side of the frame. Indeed, moving the down tube on the right side allows the bike to become stiffer where it is most useful, i.e. where the power transfer actually takes place, increasing the overall balance of the bike at the same time. The picture below shows clearly this concept:





The Pinarello knowledge is not limited to only asymmetry and extends into the field of aerodynamics. The research of drag reduction has become more and more important in an “endurance” bike, like the brand new Pinarello Paris. If we consider an apparently insignificant aerodynamic marginal gain, multiplied for a considerable number of miles that a bike like this allows to ride, makes an appreciable difference in terms of effort required for the rider to cover that distance.

It is for this reason that the Pinarello Paris applies a whole series of aerodynamic precautions, well tested on high-end bikes of the Dogma family, that allow it to reach very good performances in term of overall drag reduction. Between all these aero precautions we can mention the well-known “Flatback” profile, derived directly from the Dogma F8, F10 and F12. This type of section allows optimization of the aerodynamic penetration of the tubes, and then of the whole bike, while remaining within the UCI’s rules. See this in the figure below:



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5. ASYMMETRY AND AERODYNAMIC DESIGN

Even the fork has been included in our aerodynamic research. We decided to equip the fork with our famous "Fork Flaps™". Seen for the first time in the Pinarello Bolide HR track bike and then on the Pinarello Dogma F10, they have proven to be very effective in reducing the drag that is generated by the air flow around the fork. So, the same effect is replicated on this mid-range bike (see figure below).





The connection between the fork's head and the Down Tube is delicate area in regards of aerodynamic turbulences. Obtaining a "clean" and stable air flow around this zone allows improvement of the overall aero performances. This is why we spent time designing a connection between the fork's head and Down Tube that is more intergraded. The results have been more than satisfactory, as one can see on the following picture.



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5. ASYMMETRY AND AERODYNAMIC DESIGN

Finally, we want to highlight the introduction of the “E-Link™” system on the Down Tube. Again, this solution derives directly to the Dogma family, and allows better integration with the electronic groupsets’ HMI interface. This aspect, beyond the unquestionable improvement in terms of aesthetics and integration, allows the electronic junction to be hidden from the air flow bringing an easy to understand improvement also in terms of aerodynamics.





6. TECHNICAL SPECIFICATIONS

Carbon T600 UD

Asymmetric frame

Italian thread BB

Drop In bearing system with tapered headset (1" 1/8 up; 1" 1/2 down)

Think 2, to fit electronic or mechanical groupsets on the same frame

Internal cable routing

FSC Frontal seat clamp, integrated and aerodynamic

Flatback profiles

Fork ONDA with Fork Flap™

E-link™ system

30 mm tires fitting

RAD SYSTEM Disk brake

Front Axle 100x12mm Shimano®

Rear Axle 142x12mm Shimano®

Disc Flat Mount max 160mm

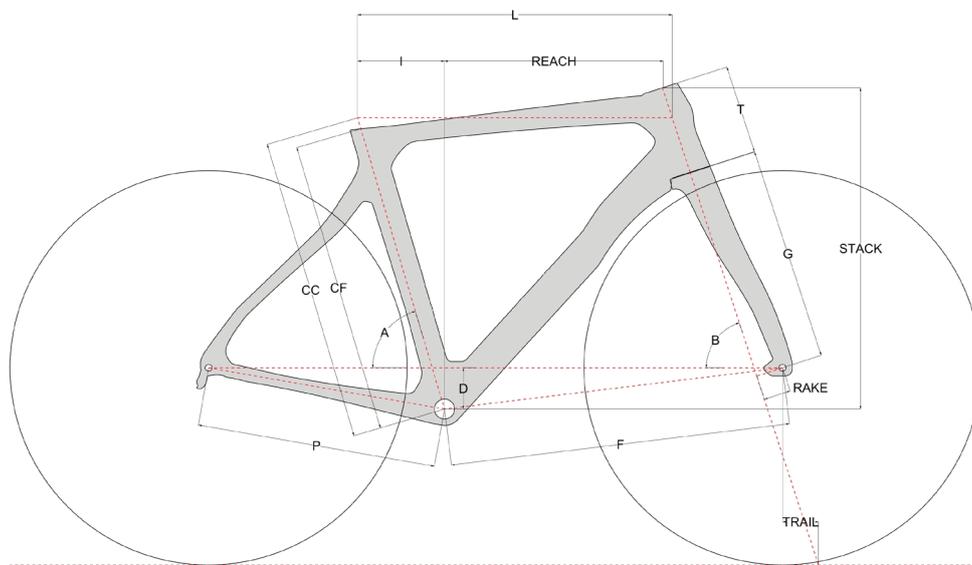
Max Tire 700x30mm

980 g for raw, not painted, frame size 530

UCI approved

7. GEOMETRIES AND SIZES

The concepts behind the new geometries and sizes have been extensively illustrated in the previous paragraphs. Below we summarize the nine sizes highlighting all the geometries. In addition, for those who already own a Pinarello bike and desire to better understand which one of these new sizes corresponds to the bike he/she already owns, we offer a “conversion chart” that references the Pinarello GAN Disk sizes. The chart intends to be a reference; we strongly recommend visiting a Pinarello dealer to determine the size that fits best. Finally, we would like to highlight that every single size is designed on its own, for example the bigger sizes are shaped in order to absorb bigger stresses that a taller rider involves, while smaller sizes can be lighter by saving material. The main purpose is that every rider can ride his Pinarello with the same feeling and performance.



| CF | CC | L | I | A [°] | B [°] | F | P | T | D | R | G | REACH | STACK |
|-----|-----|-----|-------|-------|-------|-------|-----|-----|----|----|-----|-------|-------|
| 425 | 430 | 492 | 109.5 | 75.25 | 70.00 | 568.8 | 415 | 119 | 67 | 52 | 373 | 347.4 | 512.4 |
| 450 | 460 | 509 | 122.9 | 74.50 | 70.50 | 577.2 | 415 | 124 | 72 | 52 | 373 | 357.5 | 524.0 |
| 470 | 490 | 525 | 135.1 | 74.00 | 71.00 | 586.8 | 415 | 136 | 72 | 52 | 373 | 367.2 | 537.2 |
| 495 | 515 | 536 | 144.1 | 73.75 | 71.50 | 587.2 | 415 | 145 | 72 | 47 | 373 | 373.6 | 549.2 |
| 510 | 530 | 545 | 150.5 | 73.50 | 72.00 | 590.0 | 415 | 155 | 72 | 47 | 373 | 377.5 | 560.5 |
| 525 | 545 | 555 | 157.1 | 73.25 | 72.25 | 595.7 | 415 | 167 | 72 | 47 | 373 | 381.6 | 572.8 |
| 540 | 560 | 565 | 163.7 | 73.00 | 72.50 | 601.0 | 415 | 181 | 72 | 47 | 373 | 385.0 | 587.1 |
| 560 | 580 | 577 | 172.0 | 72.75 | 72.50 | 611.5 | 415 | 205 | 67 | 47 | 373 | 388.9 | 605.0 |
| 590 | 600 | 590 | 180.4 | 72.50 | 72.50 | 621.8 | 415 | 226 | 67 | 47 | 373 | 392.9 | 625.0 |

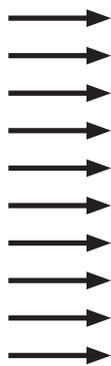
DIMENSIONS IN MM



CONVERSION CHART

GAN DISK

| CC | STEM LENGTH |
|-----|-------------|
| 440 | 80 |
| 465 | 90 |
| 500 | 100 |
| 515 | 110 |
| 530 | 110 |
| 540 | 120 |
| 550 | 120 |
| 560 | 130 |
| 575 | 130 |
| 595 | 140 |



PARIS

| CC | STEM LENGTH |
|-----|-------------|
| 430 | 90 |
| 460 | 90 |
| 490 | 100 |
| 515 | 110 |
| 530 | 110 |
| 545 | 120 |
| 555 | 120 |
| 560 | 130 |
| 580 | 130 |
| 600 | 140 |

DIMENSIONS IN MM

8. RACING

The new Pinarello Paris is UCI approved. It is ready to be used in all international competitions.





CICLI PINARELLO SRL

Viale della Repubblica 12

31020 Villorba (TV) Italy

tel. +39 0422 420877 fax +39 0422 421816

infobike@pinarello.com

www.pinarello.com