



Taipei - March 2017

PRELIMINARY PRODUCTS OVERVIEW 2018

ARO 1

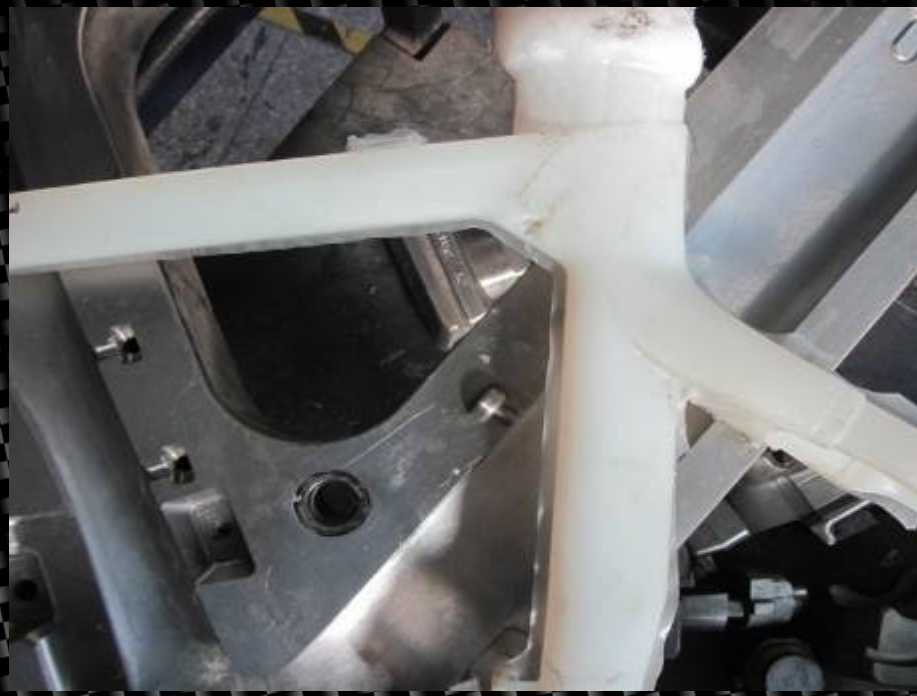


AERO-PRO GRANFONDO



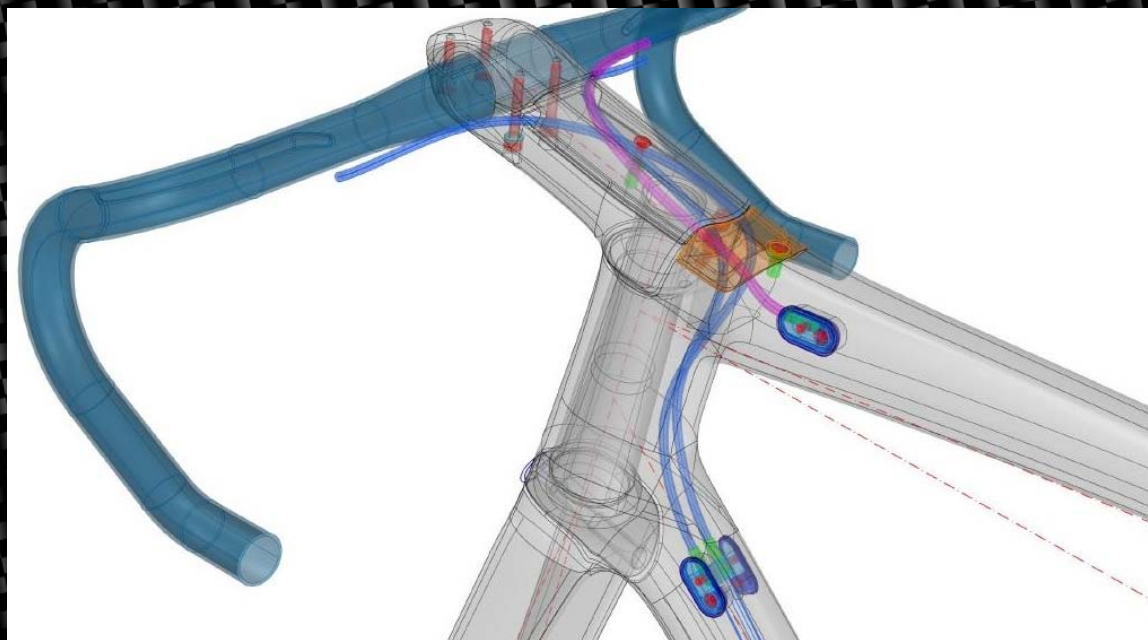
MATERIALS AND PRODUCTION PROCESS FEATURES

- ❖ 55% 30Tons High Modulus/High Strength T1000 Carbon Pre-Preg with Carbon Nanotube Matrix
15% 46Tons Ultra High Modulus HS40 Carbon Pre-Preg
10% 65Tons Super High Modulus Pitch Carbon Pre-Preg
10% Ultra High Strength Mutiple Axes Carbon Woven
10% High Impact Strength Liquid Crystal Polymer Composite Woven
- ❖ The application of high-performance composite materials technology and special graphite fiber/epoxy, which is the same material system applies on the structures of Aeronautics, Aerospace (A380 & B787) and Automobile (Super Car)
- ❖ Advanced VaBM + EPS (Vacuum Bladder Moulding with EPS shell) process.



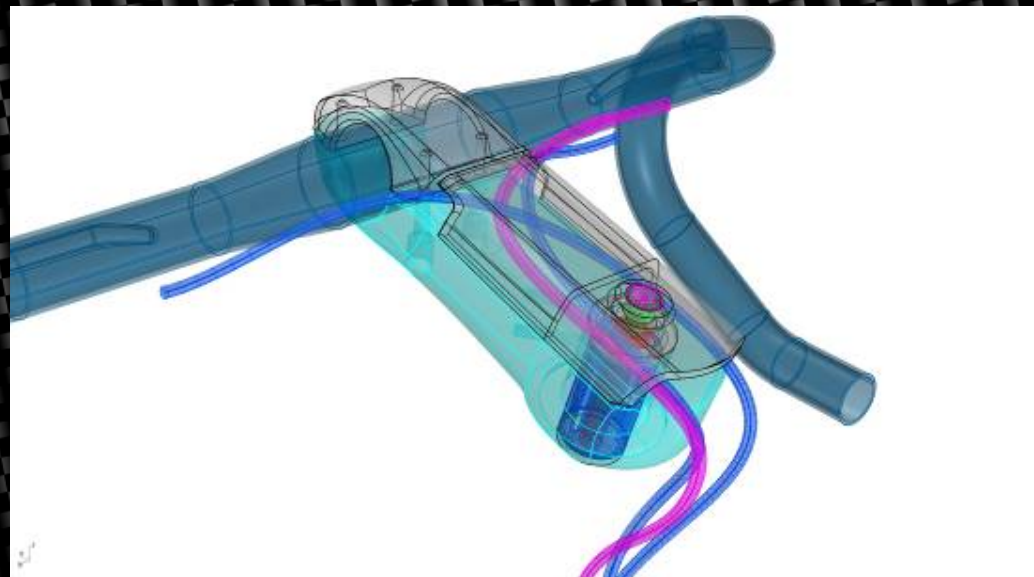
GENERAL FEATURES

- ❖ Frame weight 1100gr. size M
- ❖ Front fork CM58 carbon 60HM UD 1-1/8" — 1,5", 350gr.
- ❖ Integrated headset system 1-1/8" — 1,5"
- ❖ Bottom bracket press fit 86x41
- ❖ Rear dropouts integrated



DESIGN AND TECHNICAL FEATURES

- ❖ **NACA00XX** profiles carbon tubes
- ❖ **KAMM-TAIL** system. The **NACA** profiles have been modified to fit in the rule of 3:1 (ratio of longitudinal section and cross section) in order to comply with the sporting regulation introduced by UCI (UCI label)
- ❖ **IAS**. Integrated Aero Stem. Improved drag coefficient because of its aero shape and internal cables routing
- ❖ Front fork integrated with the head tube
- ❖ **Asymmetric chainstay**. Larger section of the left chain stay than the right one which makes the frameset 12% stiffer than a normal condition



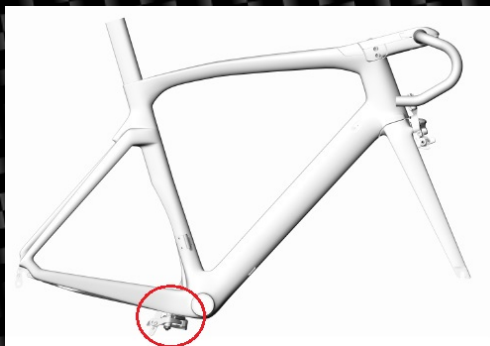
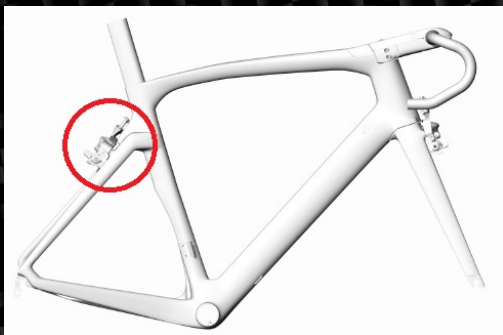
❖ **Seat stays design.** The special structure keeps the top end of the rear wheel far enough from the seat stay itself. This system is able to **avoid the turbulence** that may be generated by the wheel movement flow combined with the advancement air-flow

❖ **Top tube.** Because of the **integration stem/top tube**, the top tube stays in a higher position compared to a traditional frameset. To compensate this fact the top tube was curved in down and this causes some advantages:

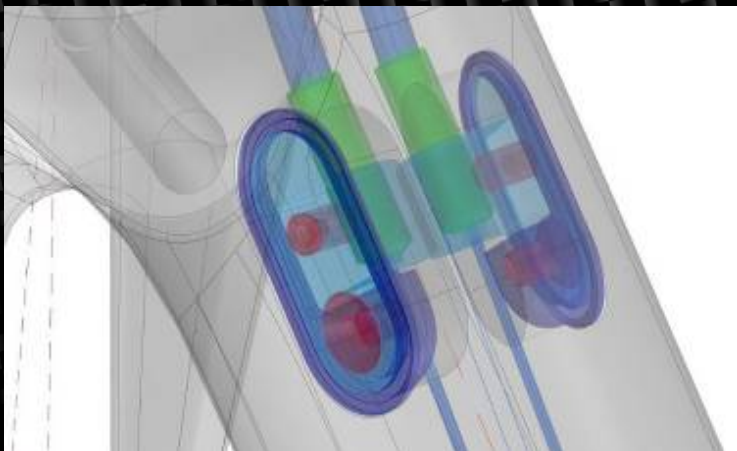
- a. the triangle is more compact, stiffer
- b. it is more comfortable and safer for the rider who needs to get off the bike quickly, especially for tall persons.
- c. in aesthetic terms, you can have an higher seatpost which is nicer to see
- d. for the shorter riders, you have a higher seatpost adjustment range



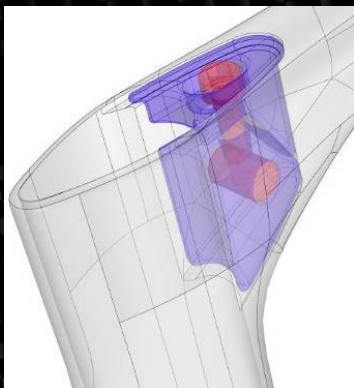
- ❖ **3 BRAKES SYSTEM** — D.M. on the chainstay, D.M. on the seat stays, 12mm Thru Axle disc brake. You can choose your preferred brake system option just by changing front fork & rear dropouts. The non-disc frameset version includes a special quick release which is a little bit longer than the standard one.



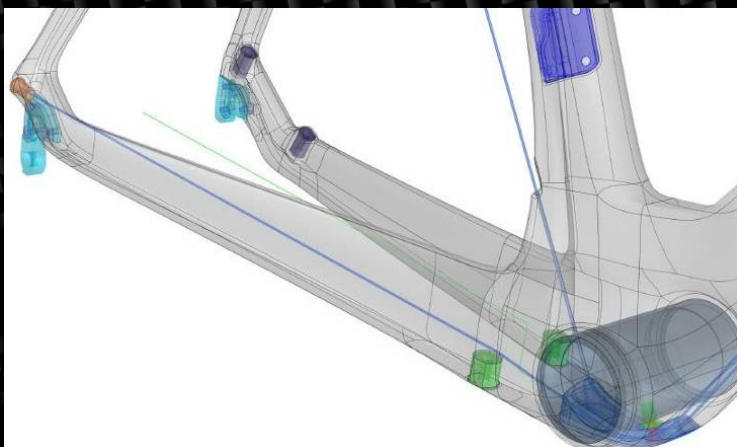
- ❖ **Internal cabling ready for electronic shifting — ICRS**



- ❖ Integrated seatpost clamp to get the better drag coefficient



- ❖ Rear derailleur cable. It comes out straight from the rear drop out which allows to use a shorter cable: less friction and useless cables that can affect the drag coefficient

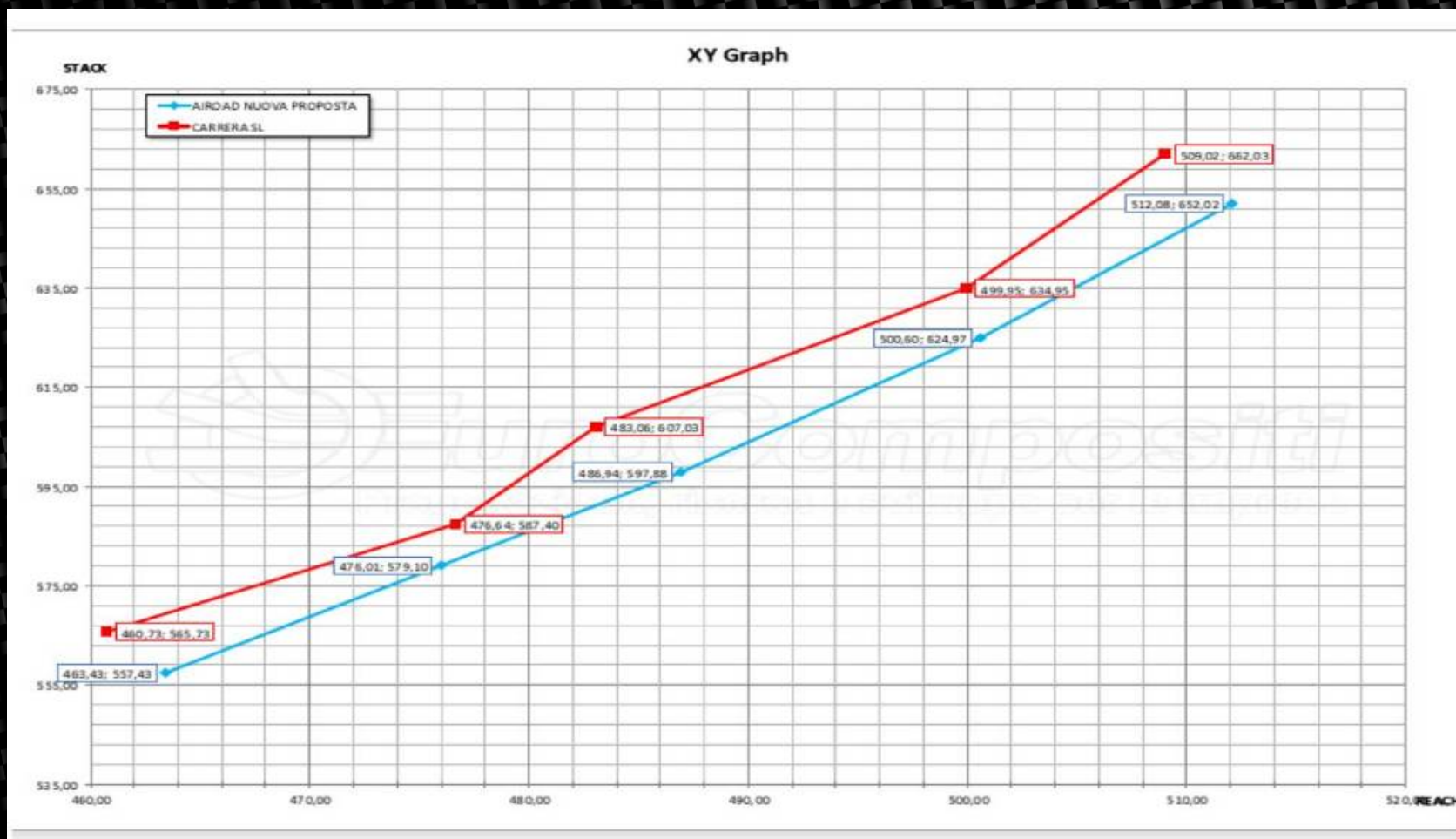


GEOMETRY FEATURES

An important preliminary study allowed the AROI project to optimize all the possible geometries with only 5 size of frames (XS S M L XL) and 3 size of stems (100mm 110mm 120mm). This study can be considered an innovation because we can say we took a step forward compared to the traditional Stack & Reach system. The optimal size combination of frame and stem is the following:

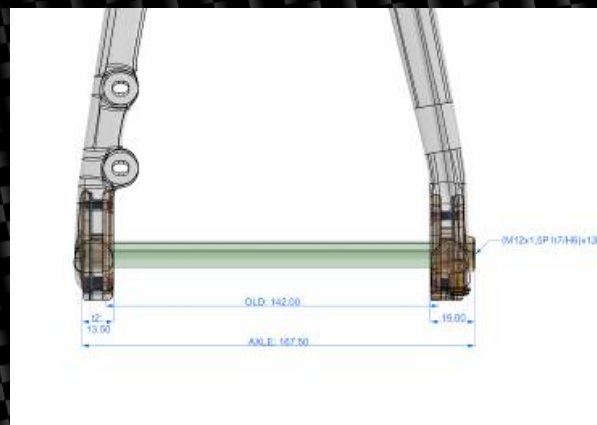
FRAME SIZE	STEM SIZE (mm)
XS	100
S	100
M	110
L	120
XL	120

The graph here below highlights the difference between SL7 (red line) and ARO1 (blu line). You can see how on the whole set frame/stem of the ARO1, the arrangements of points in S&R chart is homogenous:



UPGRADES 2018

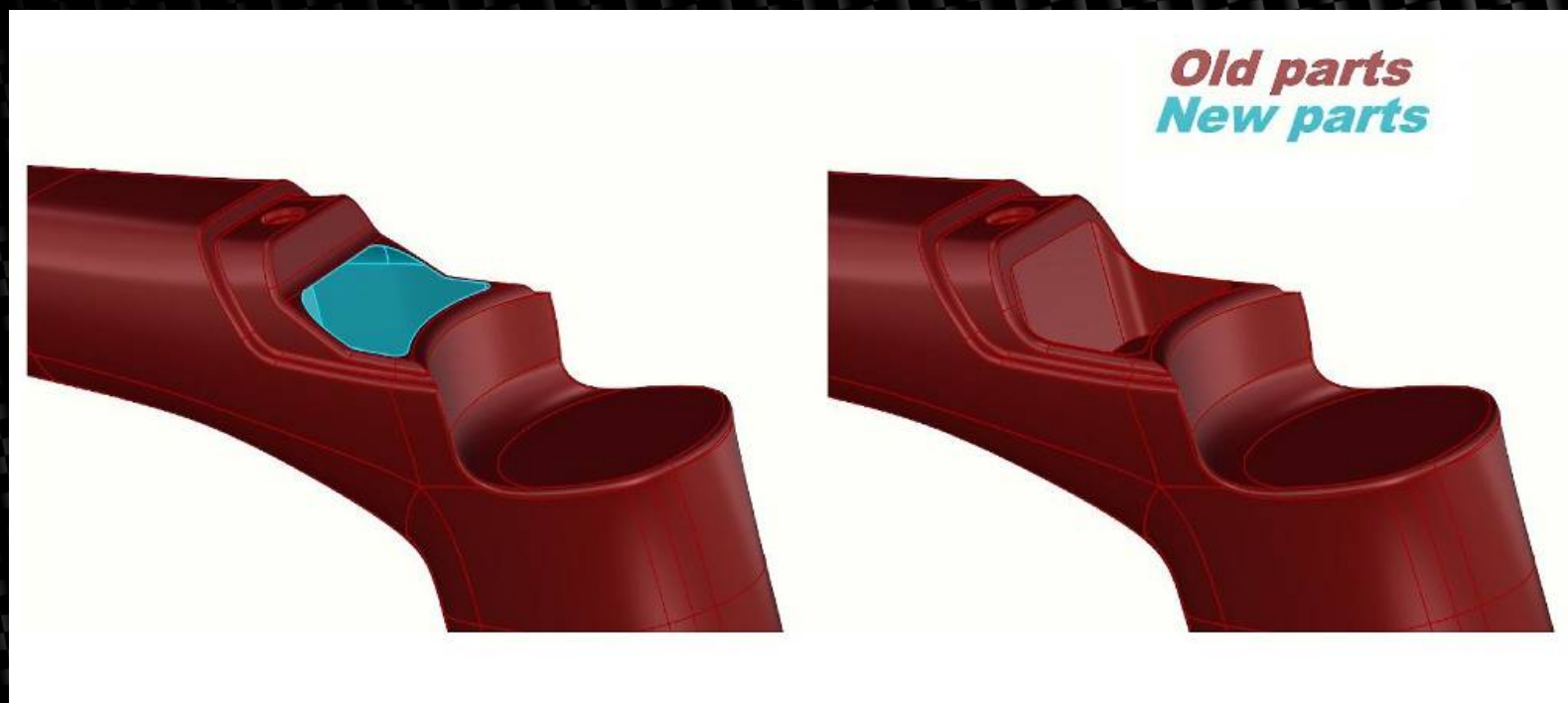
THRU AXLE for disc brake option



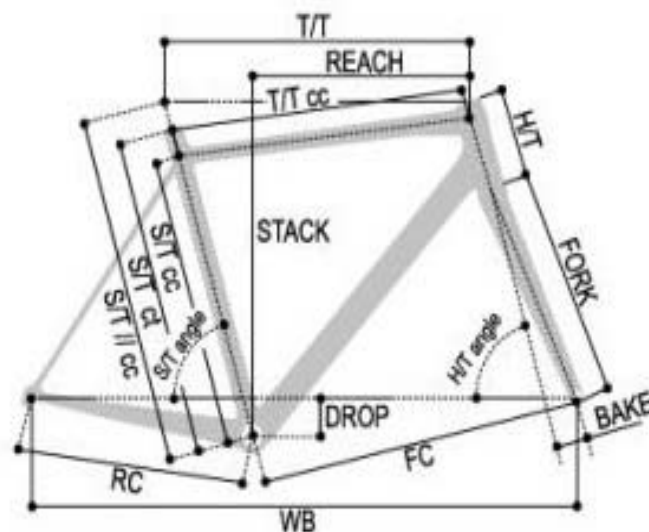
Direct Mount brake option on the seat stays



New design for a better cable routing to totally remove the frictions



	S/T ct	S/T ang	T/T	T/T cc	HT	HT ang	FC	RC	WB	DROP	STACK	REACH	SLOOP.
XS	460	75	512	497	108	71,5	572	403	965	70	507	375	85
S	490	74	529	513	125	72	577	406	973	70	525	378	76
M	520	73,5	549	534	143	73	584	407	981	70	545	388	69
L	550	73	566	550	169	73	596	409	994	70	570	392	66
XL	580	73	585	569	196	73,5	610	409	1009	70	598	403	65





PAINT-SCHEME OPTIONS









ERAKLE AIR



AERO-PRO



GRANFONDO



MATERIALS AND PRODUCTION PROCESS FEATURES

- ❖ 45% 30Tons High Modulus/High Strength T1100 Carbon Pre-Preg with Carbon Nanotube Matrix
25% 46Tons Ultra High Modulus M46JB Carbon Pre-Preg
10% 65Tons Super High Modulus Pitch Carbon Pre-Preg
10% Ultra High Strength Multiple Axes Carbon Woven
10% High Impact Strength Liquid Crystal Polymer Composite Woven)
- ❖ The application of high-performance composite materials technology and special graphite fiber/epoxy, which is the same material system applies on the structures of Aeronautics, Aerospace (A380 & B787) and Automobile (Super Car).
- ❖ Advanced VaBM + EPU (Vacuum Bladder Moulding with EPU shell) process.

GENERAL FEATURES

- ❖ Frame weight 1050gr. size M
- ❖ Front fork CM58 carbon 60HM UD 1-1/8" — 1,5", 360gr.
- ❖ Integrated headset system 1-1/8" — 1,5"
- ❖ Bottom bracket press fit 86x41
- ❖ Rear dropouts integrated
- ❖ Internal cabling ready for electronic shifting — ICRS
- ❖ Integrated seatpost clamp to get the better drag coefficient
- ❖ Integrated gear cable guide which keep the cable away from the internal surface of the tubes

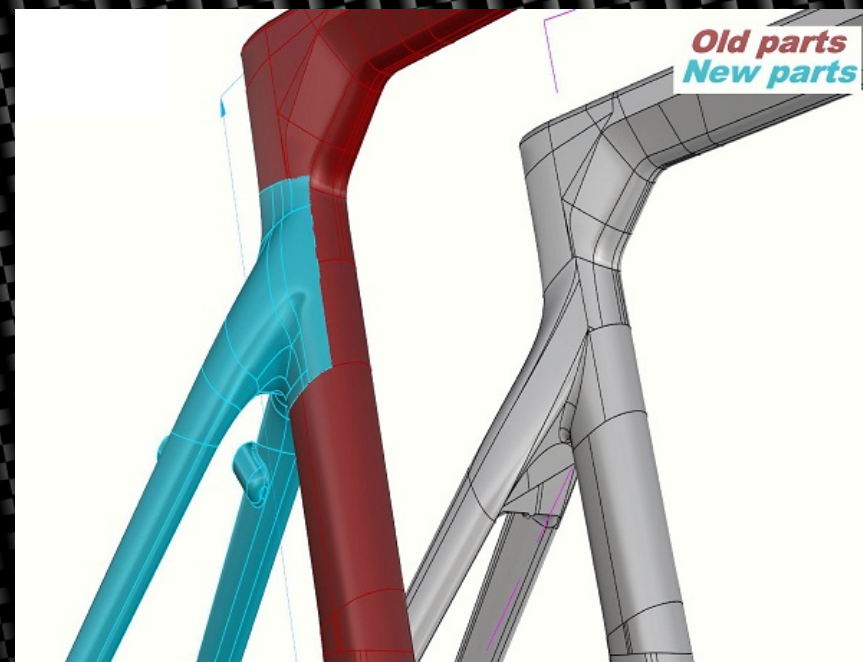
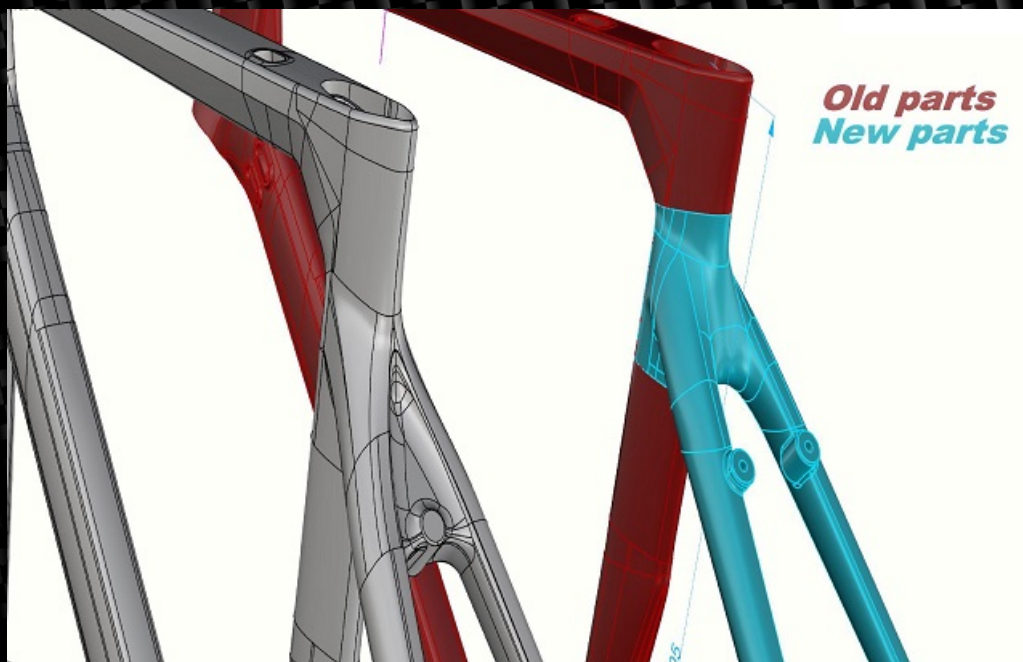
DESIGN AND TECHNICAL FEATURES

- ❖ NACA00XX profiles carbon tubes. Thanks to the NACA foils, the fluid boundary layer stays in the immediate vicinity of the tube surface and this essential feature can prevent the turbulence
- ❖ Kamm-tail system. The NACA profiles have been modified to fit in the rule of 3:1 (ratio of longitudinal section and cross section) in order to comply with the sporting regulation introduced by UCI (UCI label)
- ❖ Front fork integrated with the head tube
- ❖ Asymmetric chainstay. Larger section of the left chain stay than the right one which makes the frameset 12% stiffer than a normal condition
- ❖ Rear derailleur cable. It comes out straight from the rear drop out which allows to use a shorter cable: less friction and useless cables that can affect the drag coefficient

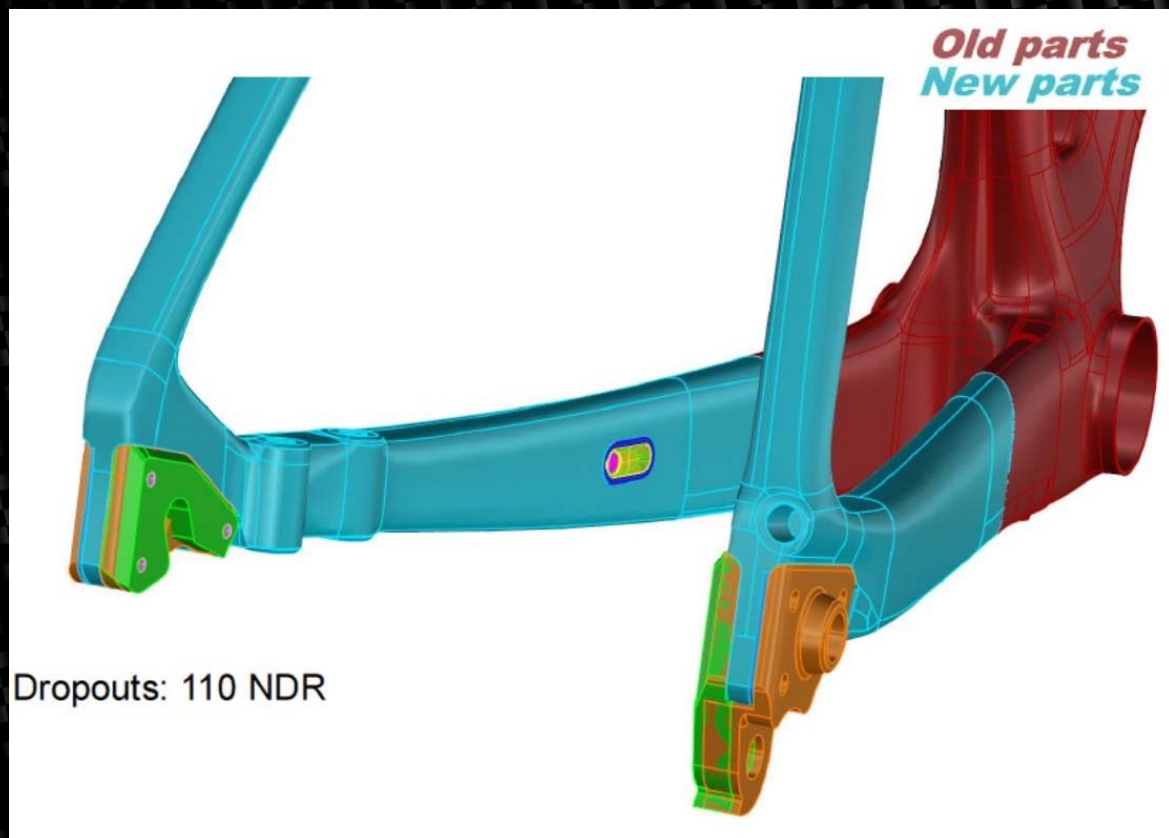
- ❖ 3 brakes system — D.M. on the chainstay, D.M. on the seat stays, 12mm Thru Axle disc brake. You can choose your preferred brake system option just by changing front fork & rear dropouts. The non-disc frameset version includes a special quick release which is a little bit longer than the standard one.

UPGRADES 2018

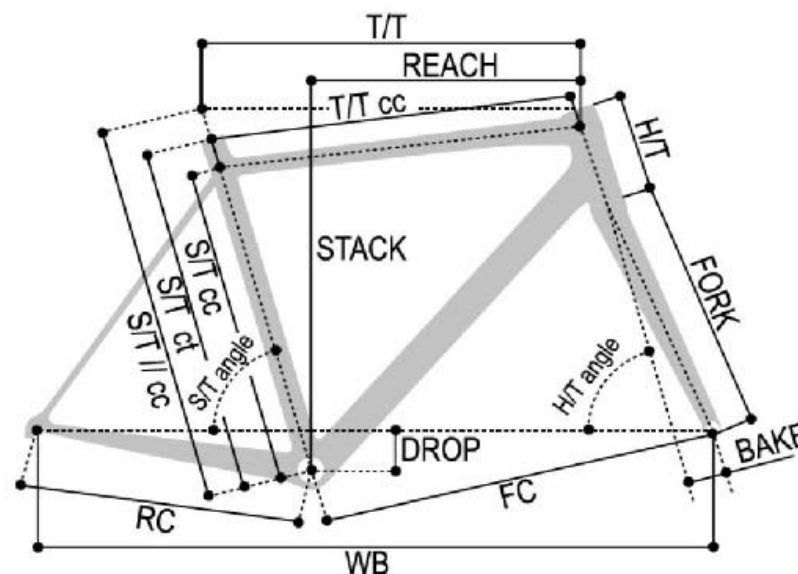
Direct mount brake option on the seat stays



Disc brake with 12mm thru axle option



	S/T ct	S/T ang	T/T	T/T cc	HT	HT ang	FC	RC	WB	DROP	STACK	REACH	SLOOP.
XS	460	75	512	497	108	71,5	572	403	965	70	507	375	85
S	490	74	529	513	125	72	577	406	973	70	525	378	76
M	520	73,5	549	534	143	73	584	407	981	70	545	388	69
L	550	73	566	550	169	73	596	409	994	70	570	392	66
XL	580	73	585	569	196	73,5	610	409	1009	70	598	403	65

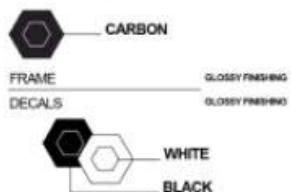




PAINT-SCHEME OPTIONS








ERAKLE AIR 2017 A7-116



THINKED, DESIGNED, DEVELOPED IN ITALY. PRODOLIO ITALIANO.



CARRERA
ERAKLE AIR 2017 A8-13

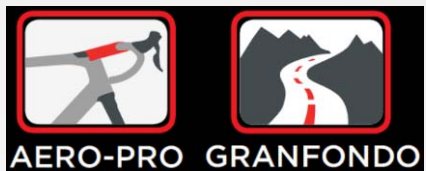
-  PANTONE 2035 C
- FRAME MATT FINISHING
- DECALS MATT FINISHING
-   BLACK
-  PANTONE 2035 C
-  PANTONE 7623 C



INTERNO CARRO
TUBI IN CARBONIO, FORCELLA IN ALLUMINIO, RUOTE IN ALLUMINIO



TD01-AIR





FULL CARBON

Full carbon bottom bracket and head tube bearings cups bring the finest quality, light weight and stiffness all in once. High modulus carbon fiber MRC MR 60 40T in 3K weave and optimal resin content ensure rock solid support to the BB and HT bearings.



LOCAL RELEVANCE LAY-UP

Where the stresses are tougher and complex an higher modulus carbon fiber composes the frame structure in order to properly respond to the specific local loads scheme.

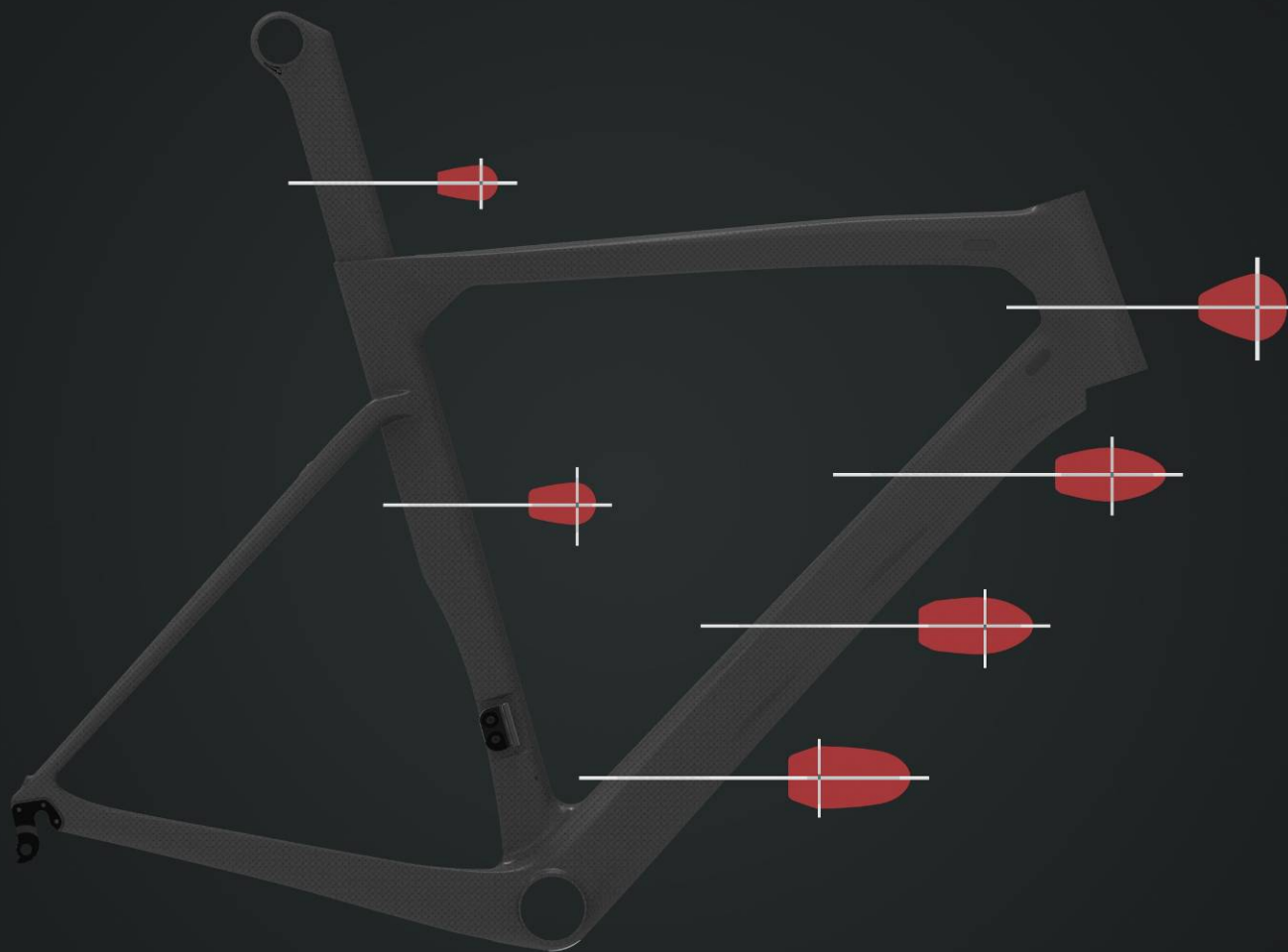
■ MRC MR 60 40T

■ TORAY T700 22T



DIRECT MOUNT BRAKES

Extraordinary brake power, enhanced modulation, fit wide tires clearance, all of this easy of maintenance and adjustment in a low-profile aerodynamic and lightweight package.



KAMMBACK

What's the KAMMBACK? While the realities of fluid dynamics dictates that a teardrop shape is the ideal aerodynamic form, by cutting off / flattening the streamlined end of the tear at an intermediate point most of the benefits of the teardrop shape are still effective without incurring such a large material, structural, and size problem. The airflow, once given the suggestion of the beginning of a turbulence-eliminating streamlined teardrop tail, tended to flow in an approximation of that manner regardless of the fact that the entire tail was not there. This is called the Kamm effect.

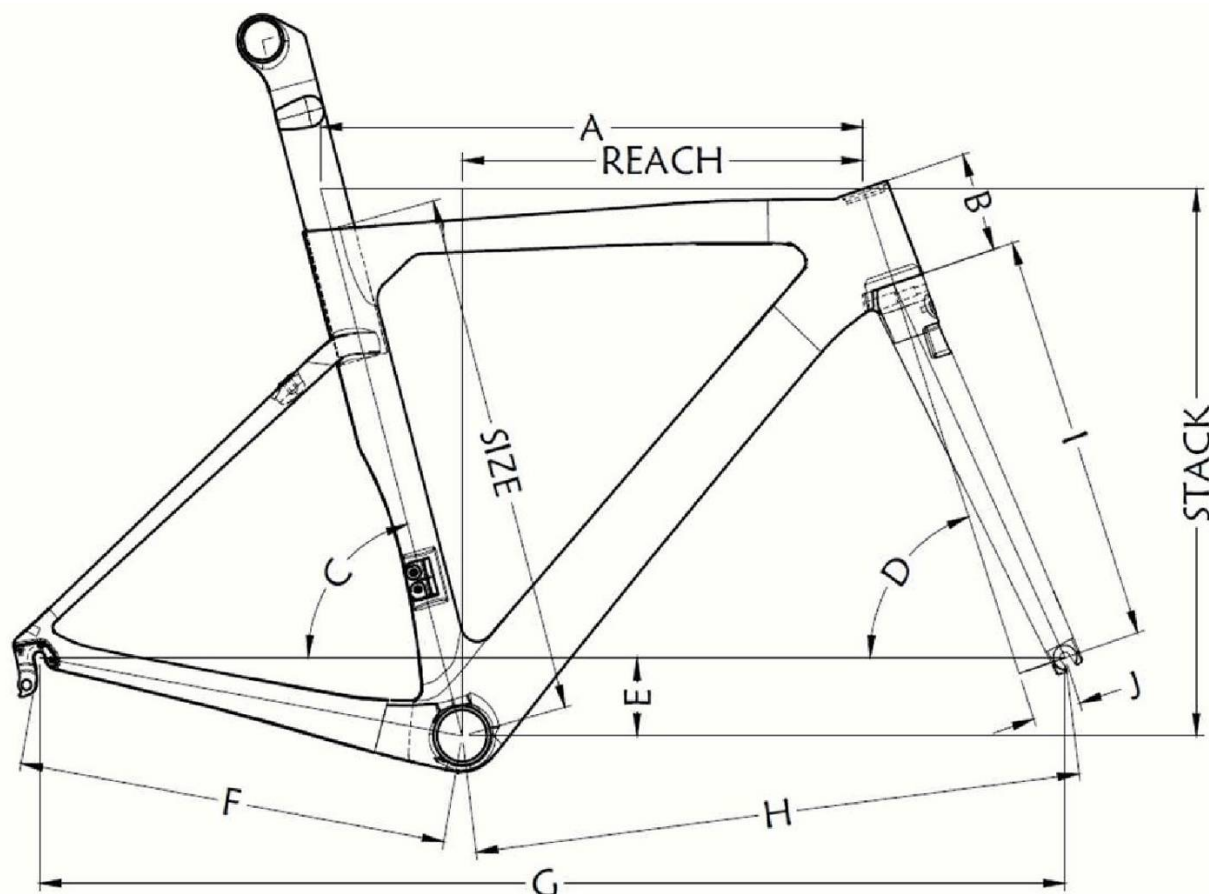


COMFORT CHAIN-STAYS

Thanks to a wider chain-stays cross section, the stiffness of the frame is mitigated by responsive chain-stays able to absorb and attenuate the vibrations of the toughest roads.

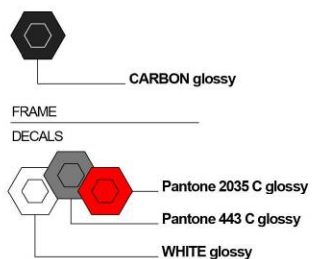
Y:X RATIO = 1,5




SIZE		A	B	C	D	E	F	G	H	I	J	TRAIL	REACH	STACK
Ref.	C-T	TT@0°	HT	ST°	HT°	BB drop	CS	WHEELS BASE	-	FORK STACK	RAKE			
XS	470	502	90	75	71,6	70	398	951	563	368	45	65,1	372	490
S	500	523	120	74,5	72	70	399	965	577	368	45	63,5	379	520
M	520	545	146	74	72,3	70	400	981	591	368	45	61,6	388	546
L	540	565	165	73,5	72,6	70	401	994	603	368	45	59,7	397	565
XL	570	585	190	73	73	68	402	1007	615	368	45	57,2	405	588



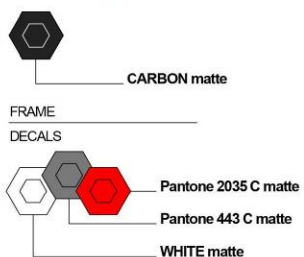





PAINT-SCHEME OPTIONS



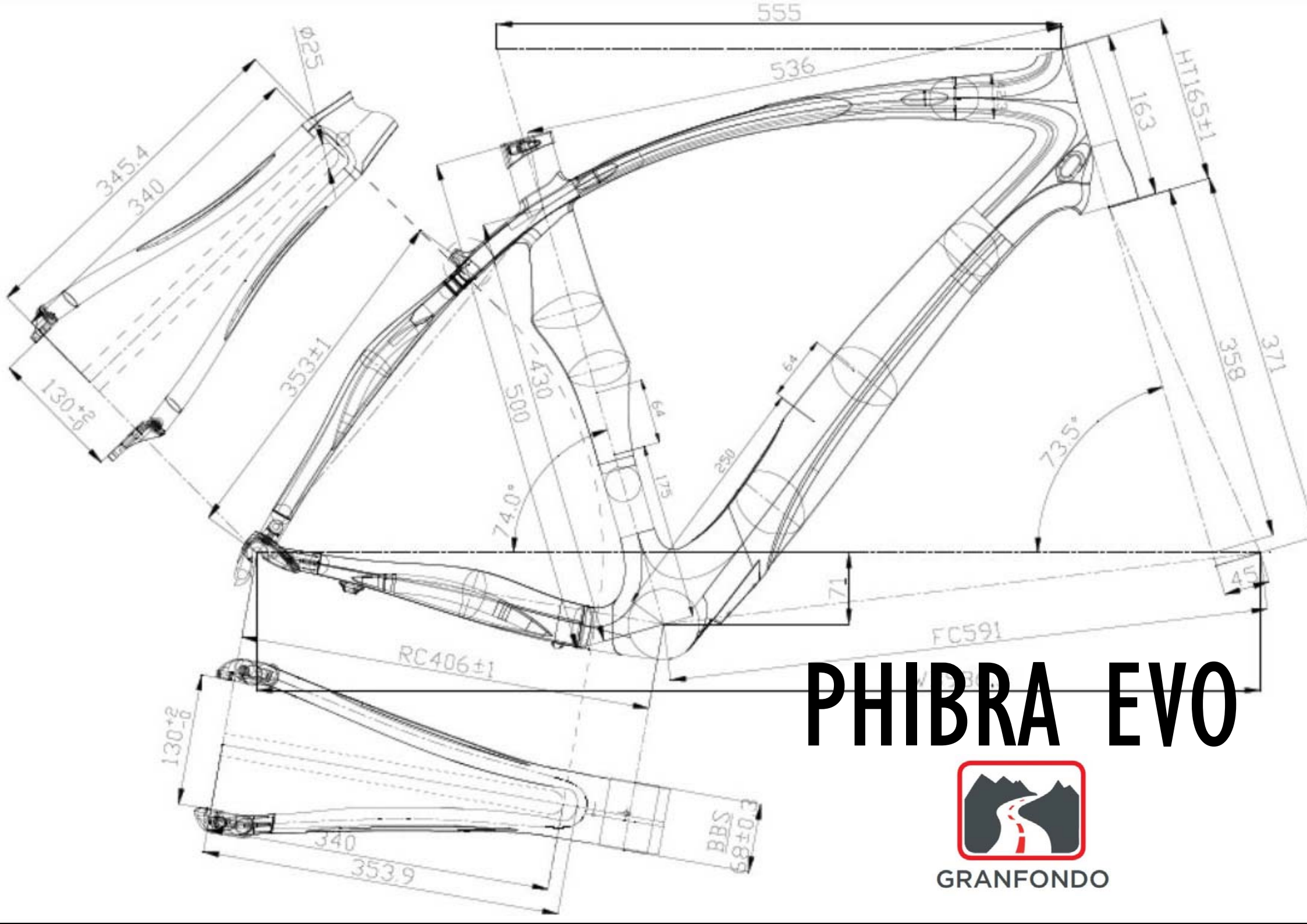
-  Pantone 2035 C matte
- FRAME
- DECALS
-  Black matte
-  Pantone 7629 C matte





-  CARBON glossy
- FRAME
- DECALS
-  Pantone 431 C glossy
-  WHITE glossy





PHIBRA EVO



GRANFONDO

MATERIALS AND PRODUCTION PROCESS FEATURES

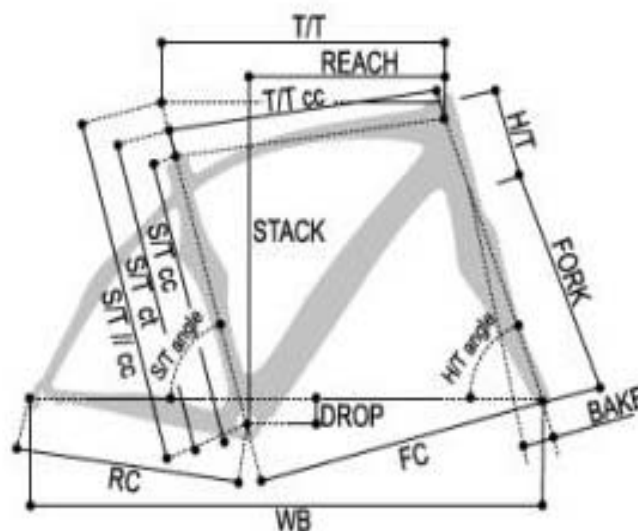
- ❖ 50% 30Tons High Modulus/High Strength T1000 Carbon Pre-Preg with Carbon Nanotube Matrix
30% 46Tons Ultra High Modulus HS40 Carbon Pre-Preg
10% 65Tons Super High Modulus Pitch Carbon Pre-Preg
10% Ultra High Strength Mutiple Axes Carbon Woven
- ❖ Assembly system 2B — Double Arc Block Phibra One derived. Phibra Evo is the evolution of the Phibra One which represents a true state-of-the-art product. The Phibra “family” can be now considered a unique combination of beauty & technology that comes straight from the innovative assembling system called “2B”. Thanks to this system Phibra One geometry could be made custom and the frame could still preserve the features of a monocoque one (stiffness, lightness, comfort, long life, reliability). Based on the original concept, Phibra Evo was born a few years ago but it is still built with the 2B assembling system.



GENERAL FEATURES



- ❖ Frame weight 1035gr. size M
- ❖ Front fork CM30 carbon 60HM UD 1-1/8" — 1,5", 370gr.
- ❖ Integrated headset system 1-1/8" — 1,5"
- ❖ Bottom bracket press fit 30
- ❖ Integrated rear dropouts
- ❖ Internal cabling ready for electronic shifting — ICRS

	S/T ct	S/T ang	T/T	T/T cc	HT	HT ang	FC	RC	WB	DROP	STACK	REACH	SLOOP.
XS	460	75	523	507	125	72,3	580	404	974	67	525	382	100
S	480	74,5	536	519	140	73	582	405	976	71	545	385	100
M	500	74	555	536	165	73,5	591	406	986	71	571	391	100
L	520	73,7	565	546	185	73,5	598	407	994	71	590	392	100
XL	530	73	577	556	190	73,5	603	408	999	71	591	396	100





PAINT-SCHEME OPTIONS







- 
 BLACK matt
 PANTONE 10396 matt
- FRAME
 DECALS

 BLACK matt
 PANTONE 2035 C matt



THINKED, DESIGNED, DEVELOPED, IN ITALY. DROGOLIO ITALIANO.



PHIBRA EVO 2017 - A7-130

-  PANTONE 300 C glossy
 WHITE glossy
 FRAME
 DECALS
 BLACK glossy
 WHITE glossy
 PANTONE 3955 C glossy
 PANTONE 300 C glossy



INTERNO CARINO
THINKED, DESIGNED, DEVELOPED, IN ITALY. DRUGOLIO ITALIANO.

- FRAME**
- BLACK glossy
 - PANTONE 2035 C glossy
- DECALS**
- BLACK glossy
 - PANTONE 187 C glossy
 - PANTONE 2035 C glossy



SL7



SCALATORE



GRANFONDO



MATERIALS AND PRODUCTION PROCESS FEATURES

- ❖ 50% 30Tons High Modulus/High Strength T1000 Carbon Pre-Preg with Carbon Nanotube Matrix
30% 46Tons Ultra High Modulus HS40 Carbon Pre-Preg
10% 65Tons Super High Modulus Pitch Carbon Pre-Preg
10% Ultra High Strength Multiple Axes Carbon Woven
- ❖ The application of high-performance composite materials technology and special graphite fiber/epoxy, which is the same material system applies on the structures of Aeronautics, Aerospace (A380 & B787) and Automobile (Super Car).
- ❖ Advanced VaBM + EPS (Vacuum Bladder Moulding with EPU shell) process



It's clear enough that lightness and stiffness contradicts each other and the only way to put them together is the correct choice of the materials and the geometry of the carbon tubing.

Regarding the material, the choice of the carbon fibres is huge and sometimes very confusing. Nevertheless, because it's too important to consider the combination of the **stiffness/resistance/workability** features at a time, we narrowed it down to a selection of T800 e M46J fibres, made by Toray Industries inc. Still, it's not enough to study and choice the material. In order to make the best out from the carbon fibres in terms of mechanical performance, the moulding process has to be very accurate: the carbon layers have to be properly oriented and then compacted in order to create a solid laminate with no molecular porosity and **no heterogeneity**. How we could achieve that goal? The

EPS technology (Expandable Polystyrene Shell) makes it possible: during the "Cure Process" (this is when the resin dries and the laminate gets solid thanks to pressure&temperature) the orientation of the carbon weft doesn't change its original structure and the result is an excellent internal finishing of the carbon tube and above all a better quality of the frameset in terms of **performance and lightness**.



GENERAL FEATURES

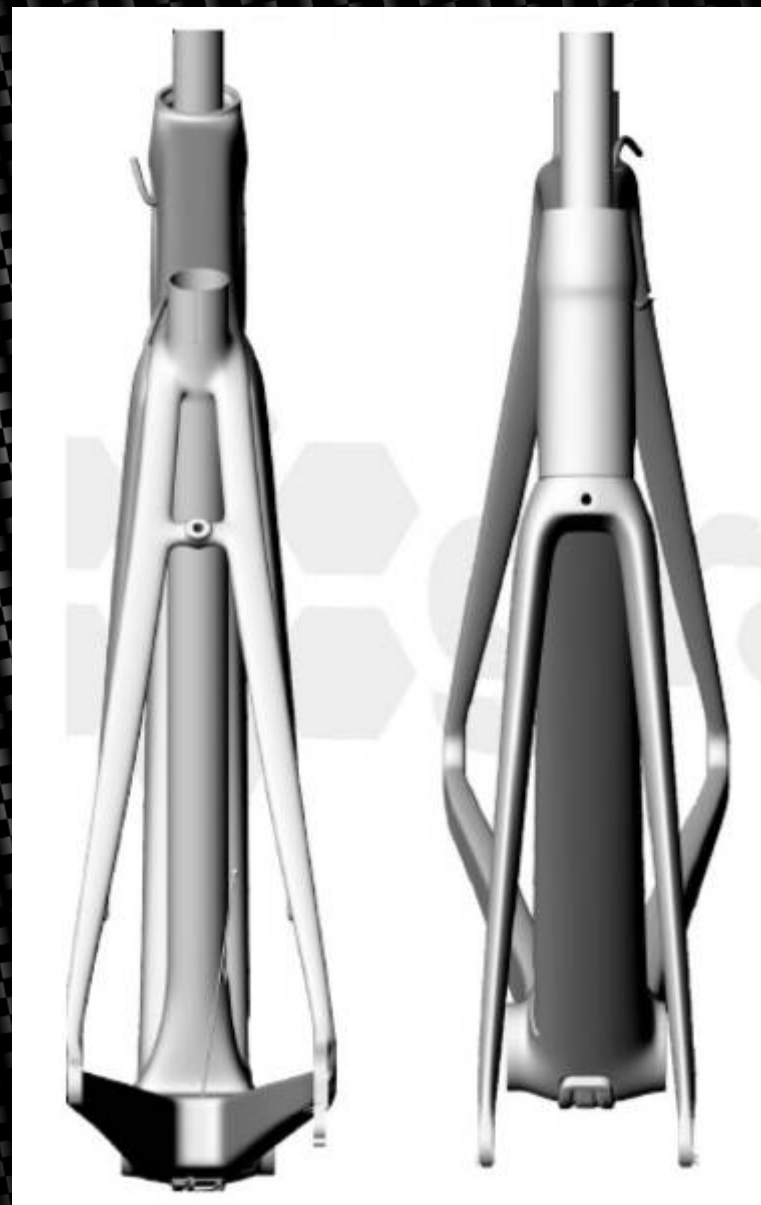
- ❖ Frame weight 890gr. size M
- ❖ Front fork FF43 carbon 60HM UD 1-1/8" — 1,4", 370gr.
- ❖ Integrated headset system 1-1/8" — 1,4"
- ❖ Bottom bracket press fit 86x41
- ❖ Integrated rear dropouts
- ❖ Internal cabling ready for electronic shifting — ICRS
- ❖ Integrated gear cable guide



DESIGN AND TECHNICAL FEATURES

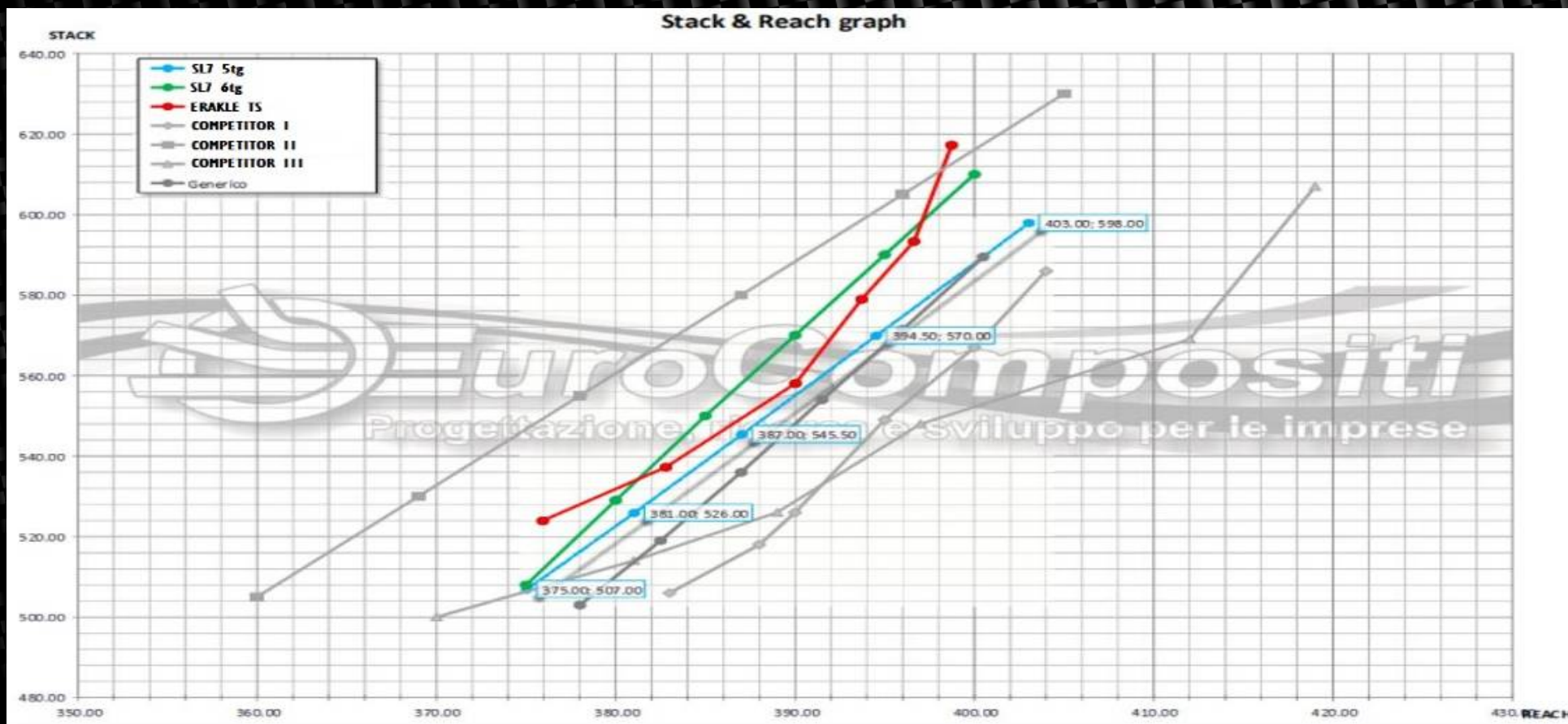
- ❖ Round shape of the carbon fiber tubes and cross sections with the ratio of the two orthogonal axes close to almost “one”. This helps a lot to obtain a higher Moments of Inertia which is necessary to calculate the tensional stiffness which, combined with the composite materials, enhances the global stiffness of the frameset (97N/mm as a result of the frame free lab-test).
- ❖ Bottom bracket position: SL7 has the proper compromise when we consider the drop measurement of the Bottom bracket. Just like in the racing motorbike, the center of gravity (barycenter) has to be as low as possible. Of course, because of the safety requirements ISO 4210, the drop measurements has a limitation and our engineers found the optimal drop which is about 268mm.
- ❖ Functional junction area I. The top tube/seat stays joint shows how the structural continuity is excellent in aesthetics terms but above all in terms of performance: the flattened and widened shape of each seat stay gives the frame a high responsiveness during the accelerations which is even more enhanced because of the top-end joint of the 2 seat stays: the distance in between has been made larger in order to increase the torsional stiffness

- ❖ Functional junction areas II. Chain stays/Down tube/Seat tube. The 2 seat stays are asymmetric as well as the down tube and the seat tube. These joints have been optimized thanks to the FEM (Finite Element Method)



GEOMETRY FEATURES

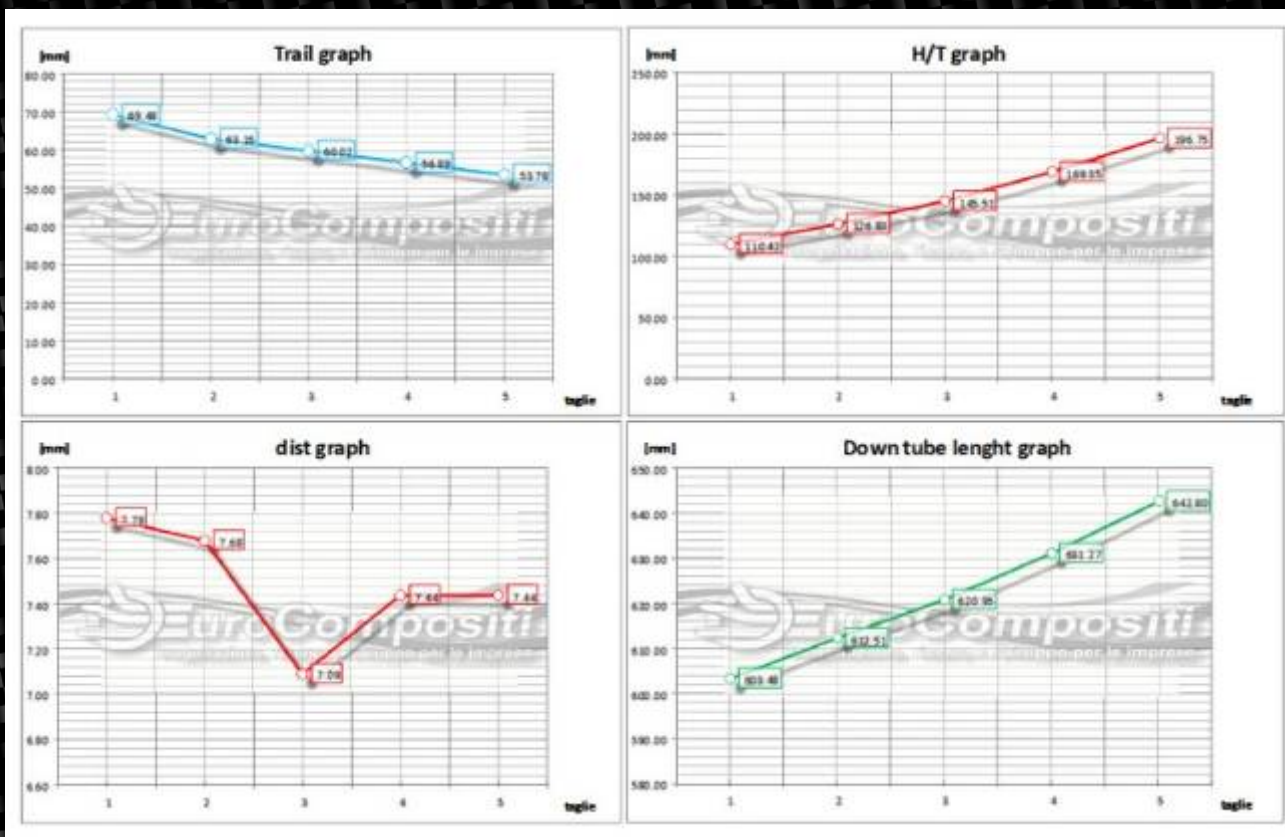
The SL7 geometry is based on the Stack and Reach system as you can learn from the graph below. Compared to the traditional bike size listing, the potential benefit is multi-fold.



STACK — refers to the vertical distance between the bottom bracket and the head tube top. **REACH** — refers to the horizontal distance between these two points.

Basically when using this method X/Y coordinates are detected and the distance between them is calculated. The frame is considered in a coordinate system where the x-axis describes the horizontal distance, whereas the y-axis refers to the vertical distance. Now the bottom bracket can be defined exactly by its X/Y position. The same is true for the position of the head tube top. The difference of the respective x-values gives the **REACH** value while the difference of the y-values results in the **STACK** value.

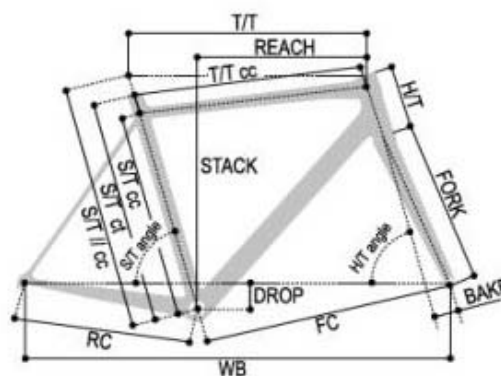
This method improves the comparability of geometries if the construction of the frames differs. The current triathlon machines with their shortened rear end, the integrated seat posts and stems are the





best example for the usefulness of the Stack & Reach method. The fewer adjustment possibilities the frame offers, the more important is a match between frame-geometry and rider-anatomy. An example: If we detect that the present frame is too long during a triathlon fitting we can calculate the recommended reach value for a new frame. Additionally, the stack value helps determining the matching saddle/ handlebar differential, so that few spacers need to be used. Important to note: The Stack & Reach values must not be regarded in isolation. The cockpit with the components handlebar form (having its own additional reach), stem-length and -angle should necessarily be considered when recommending a new frame or fitting an existing one.

	S/T cc	S/T ct	S/T ang	T/T	T/T cc	HT	HT ang	FC	RC	WB	DROP	STACK	REACH	SLOOP.
XS	410	460	75	513	497	110	71	577	403	969	70	507	375	85
S	440	490	74	532	516	125	72	580	406	976	70	526	381	77
M	470	520	73,50	549	533	145	72,50	588	407	985	70	545	387	70
L	500	550	73	568	553	170	73	598	409	997	70	570	394	66
XL	530	580	73	585	569	195	73,50	610	409	1009	70	598	403	65





PAINT-SCHEME OPTIONS



SL 2016 A7-121

SL7

CARRERA
carrera-podium.it



PANTONE 2035 C glossy

FRAME

DECALS



PANTONE 10077 C glossy

WHITE glossy



THINKED, DESIGNED, DEVELOPED, IN ITALY OFFICINALE ITALIANO



ERO I



SPORT



GRANFONDO



MATERIALS AND PRODUCTION PROCESS FEATURES (EROI)

- ❖ 75% 24Tons Intermediate Modulus with High Strength UTS50 Carbon Pre-Preg
- ❖ 20% 30Tons High Modulus with High Strength IMS60 Carbon Pre-Preg
- ❖ 5% 3K High Impact Strength Carbon Pre-Preg)

MATERIALS AND PRODUCTION PROCESS FEATURES (EROI disc)

- ❖ 70% 24Tons Intermediate Modulus with High Strength UTS50 Carbon Pre-Preg
- ❖ 25% 30Tons High Modulus with High Strength IMS60 Carbon Pre-Preg
- ❖ 5% 3K High Impact Strength Carbon Pre-Preg

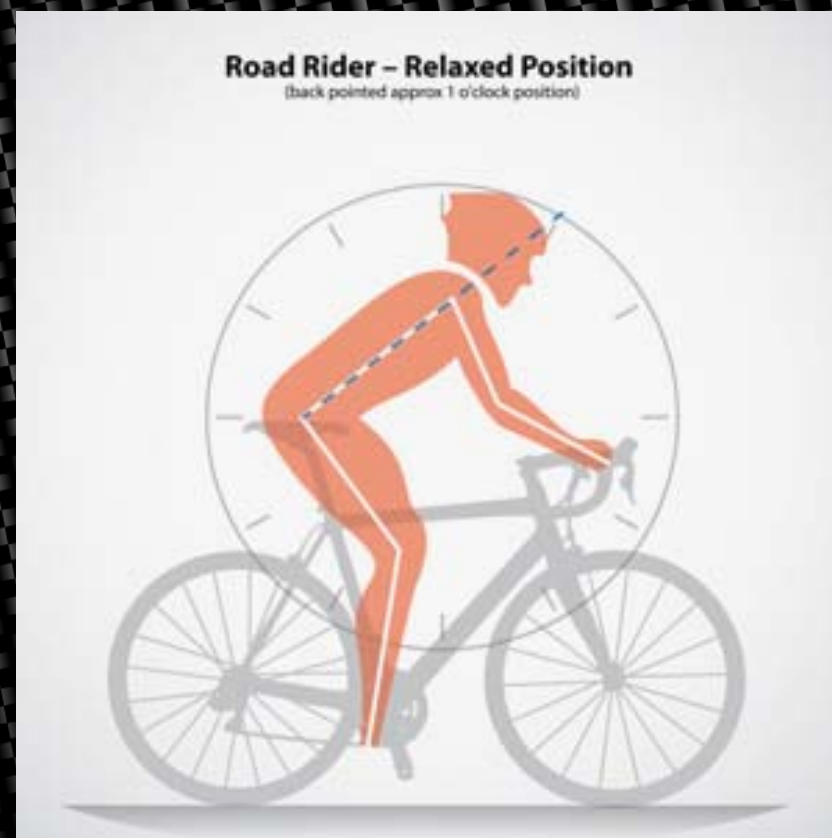
GENERAL FEATURES

- ❖ Frame weight 1020gr. size M
- ❖ Front fork FF06 SHM UD 1-1/8" — 1,5"
- ❖ Integrated headset system 1-1/8" — 1,5"
- ❖ Bottom bracket BSA
- ❖ Integrated rear dropouts
- ❖ Internal cabling ready for electronic shifting — ICRS

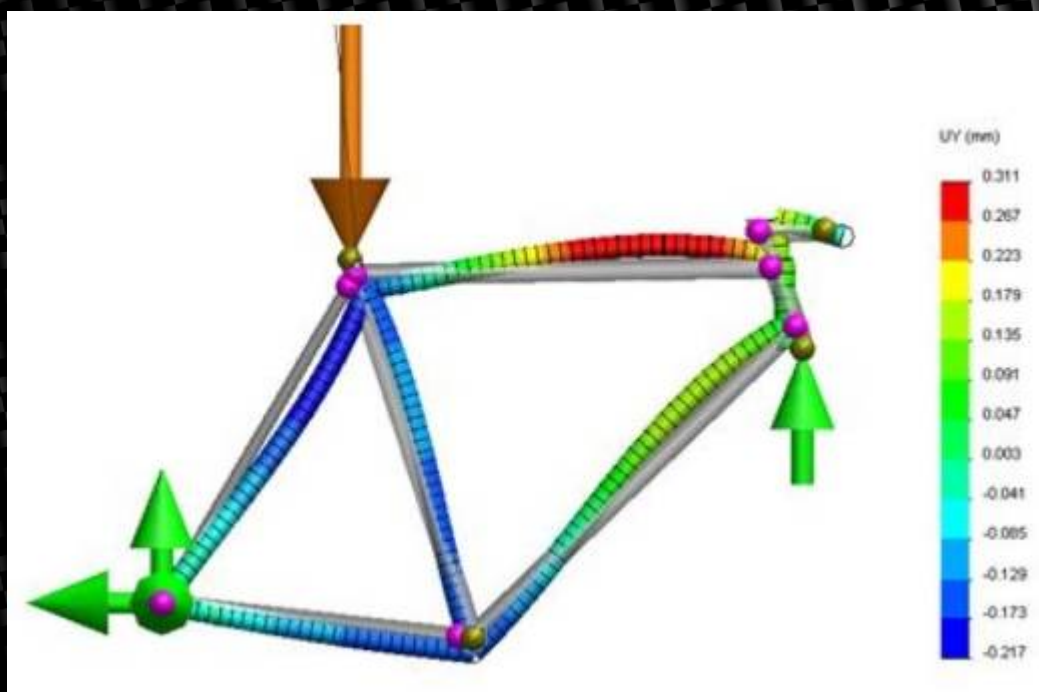
DESIGN AND GEOMETRY

EROI is just a more comfortable version of a race-oriented race bike with the following distinguishing features:

- ❖ **RELAXED GEOMETRY.** The longer wheelbase makes EROI more stable, and the higher handlebar position reduces the strain on your back and neck. The wheelbase is longer, both to create space for the wider tyres and also to produce a more stable ride, especially useful over choppy surfaces.

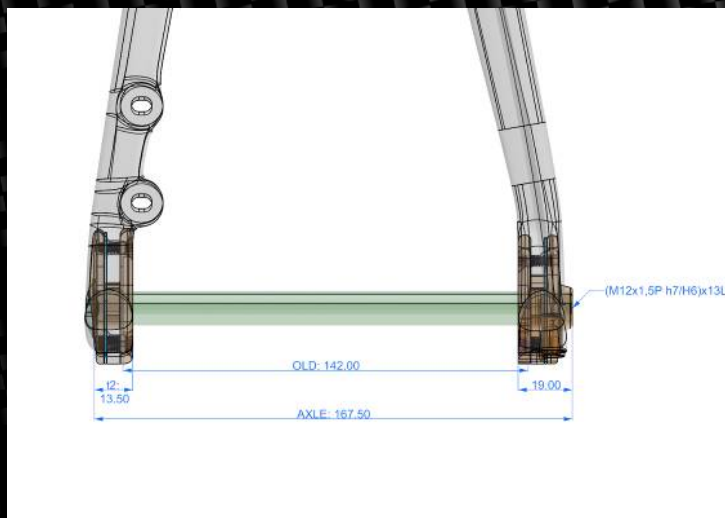


- ❖ Frame tuned to smooth the ride. EROI is designed to provide a smooth ride, through the carbon fibre layup as well as tube shaping. The "Vertical Compliance" - frame's ability to cope with the harshness associated with stiff carbon frames - is achieved in a few different ways:

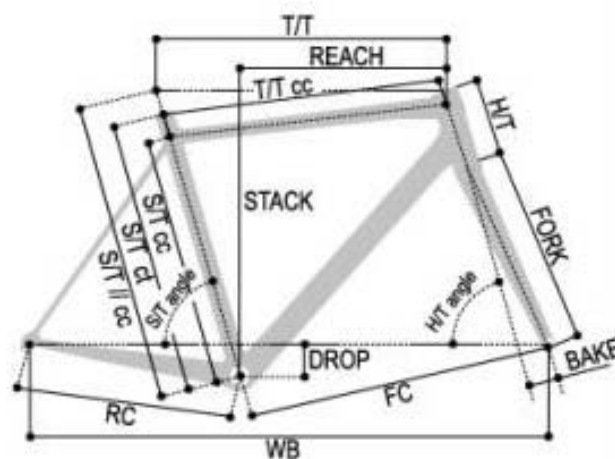


- A. Specific layering of the carbon fibers
- B. Thin seat stays
- C. Degree of flex in the rear triangle

- ❖ Capacity for wider tyres (25mm+)
- ❖ Disc brake (thru axle) version. The traditional EROI has been upgraded with the thru axle disc brake version. Increased stopping power, better all-weather performance and lower maintenance - sportive bikes as these are the sort of bikes likely to encounter a myriad of weather and road conditions.



	S/T ct	S/T ang	T/T	T/T cc	HT	HT ang	FC	RC	WB	DROP	STACK	REACH	SLOOP.
XXS	420	75	489	506	115	71	582	408	978	75	516	367	159
XS	460	74,9	497	515	125	71,5	576	410	975	73,5	530	371	134
S	490	74,2	512	533	150	72	584	411	984	72	554	376	131
M	520	73,55	528	551	175	72	596	413	998	72	578	380	127
L	550	73	545	569	200	72	608	413	1011	72	602	384	124
XL	580	72,5	562	587	225	72	621	415	1025	72	626	389	120





PAINT-SCHEME OPTIONS



BLACK glossy

FRAME

DECALS



PANTONE 381 C glossy

PANTONE 304 C glossy

PANTONE 2024 C glossy





WHITE glossy

FRAME
DECALS







PANTONE 286 C glossy




PANTONE 299 C glossy

PANTONE 2035 C glossy



-  BLACK matt
 FRAME
 DECALS
 PANTONE 10399 matt
 WHITE matt
 PANTONE 2035 C matt



-  BLACK glossy
 FRAME
 DECALS
 WHITE glossy
 PANTONE 10399 C glossy



VELENO TS



MATERIALS AND PRODUCTION PROCESS FEATURES

- ❖ 55% 30Tons High Modulus/High Strength T1000 Carbon Pre-Preg with Carbon Nanotube Matrix
20% 40Tons Ultra High Modulus HR40 Carbon Pre-Preg
10% 60Tons Super High Modulus XN-60 Carbon Pre-Preg
5% Ultra High Strength Mutiple Axes Carbon Woven
10% High Impact Strength Liquid Crystal Polymer Composite Woven
- ❖ The application of high-performance composite materials technology and special graphite fiber/epoxy, which is the same material system applies on the structures of Aeronautics, and Automobile (Super Car).
- ❖ Advanced VaBM + EPU (Vacuum Bladder Moulding with EPU shell) process.

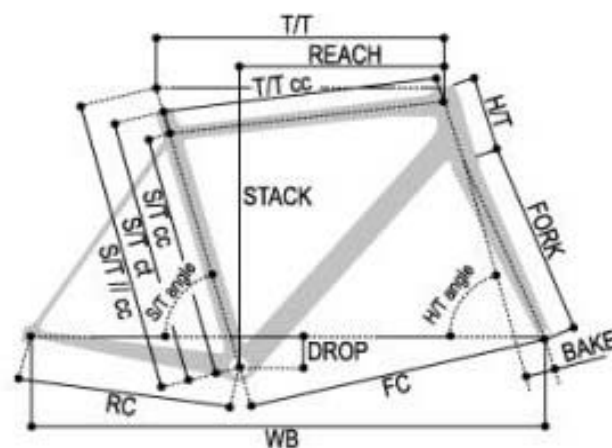
GENERAL FEATURES

- ❖ Frame weight 950gr. size M
- ❖ Front fork FF43 60HM UD 1-1/8" — 1,4"
- ❖ Integrated headset system 1-1/8" — 1,4"
- ❖ Bottom bracket Press Fit 86x41
- ❖ Integrated rear dropouts
- ❖ Internal cabling ready for electronic shifting — ICRS

DESIGN AND GEOMETRY

- ❖ Special Head Tube design with super high stiffness and excellent riding controllability.
- ❖ Enlarge the dimension of **Thin-Walled Down Tube Design** for increasing the Rigidity and Stability of the whole Front Triangle.
- ❖ Internal cable routing system design for the compatible with mechanical and Di2 Shifting system.
- ❖ **Asymmetric Bottom Bracket Shell Design**, increase the Torsional Rigidity at the Driving Side for high pedalling efficiency.
- ❖ Aerodynamics/Low drag shape design for excellent Riding Comfortable and High Power transmission efficiency design.
- ❖ Optimal Composite Structural Design for Extreme High **STW** (Stiffness to Weight) value.

	S/T ct	S/T cc	S/T ang	T/T	T/T cc	HT	HT ang	FC	RC	WB	DROP	STACK	REACH	SLOOP.
XS	470	420	74,5	514	506	108	72	573	406	963	70	512	372	50
S	500	450	74,5	525	514	113	72	576	406	974	70	517	382	40
M	530	490	74,5	538	528	143	72,9	583	406	980	70	549	386	40
L	550	490	73,5	554	542	158	73	589	406	985	70	563	387	40
XL	580	530	73	570	557	193	73	599	408	998	70	597	387	40




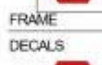





PAINT-SCHEME OPTIONS





CARRERA
VELENO TS 2017 - A7-135

-  PANTONE 2035 C matte
-  CARBON matte
- FRAME
- DECALS
-  PANTONE 10077 C
-  PANTONE 2035 C matte
-  BLACK matte



THINKED, DESIGNED, DEVELOPED, IN ITALY. ORGOGLIO ITALIANO.



R&D by PODIUM



This is the technological heart of the Company. It is completely dedicated to the industrial innovation studies that help improving of the Carrera products as well as creating new ones. It's thanks to the R&D that the manufacturing process keeps up with the last generation technology.

All the Carrera models come from the mind and the heart of our professional designers. Everything arises from a simple sketch that is actually the beginning of a long engineering work.

The R&D is also in charge to check the quality of all the Carrera products and the QC Dept is one important branch. Everyday, all the framesets are checked and tested by our stress-test machineries that eventually give the approval in terms of Safety first of all and then Performance:

❖ Stiffness & strength testing

- A. H/D torsional stiffness
- B. Rear stays lateral stiffness
- C. BB torsional stiffness
- D. Frontal strength



❖ FATIGUE TESTING

- A. Pedaling fatigue (Force 1200N — 100,000 cycles)
- B. Horizontal fatigue (Force +/- 600N — 100,00 cycles)
- C. S/T vertical fatigue (Force 1200N — 50,000 cycles)



❖ **IMPACT TESTING**

- A. Falling mass (22.5kg — height 360mm)
- B. Falling frame (H/T 10kg, S/T 30kg, BB 50kg — Drop height 360mm)



ISTITUTO MALIGNANI - UDINE

Podium R&D has a partnership with ISTITUTO MALIGNANI which is lab that conducts different type of lab-tests on different materials. From 1976, this Institute is officially accredited by the Italian Ministry of Infrastructure and Transport

ISTITUTO MALIGNANI
Laboratorio Prove Materiali

Rapporto di prova: P2/ 109 / 16 pag. 2 di 4

Verbale di accettazione: **P2 - 3014** Data di fine delle prove: **22/07/2016**

Componente: Telaio
Prova: Prova d'urto (massa in caduta)
Rif. norma: ISO 4219-6 (4.1)
Costruttore: PODIUM srl
Modello: Telaio Podium-Carrera mod. AR91
Esito delle prove: Nessuna frattura o fessura visibile
Cedimento permanente rilevato: 0 mm < 30 mm

Requisiti: Incidente da corsa
Massa battente: 22,5 kg
Altezza di caduta: 212 mm
Fascella: Fascella fornita dal costruttore assieme al telaio

Componente: Gruppo telaio e forcella assemblate
Prova: Prova d'urto (telaio in caduta)
Rif. norma: ISO 4219-6 (4.2)
Costruttore: PODIUM srl
Modello: Telaio Podium-Carrera mod. AR91
Esito delle prove: Nessuna frattura o fessura visibile
Cedimento permanente rilevato: 0 mm < 30 mm

Requisiti: Incidente da corsa
Massa battente: 30 kg (assetto sella)
30 kg (testa di sterzo)
50 kg (movimento centrale)
Altezza di caduta: 200 mm
Fascella: Fascella fornita dal costruttore assieme al telaio

Tolleranze secondo ISO 4152 (p.1.4)
Stampe visioni eseguite da personale certificato secondo ISO 9172 livello 2

Ing. Maurizio Milano
Responsabile attività coll.
Podium R&D

Ing. Michele Comaroli
Condirettore del laboratorio

ISTITUTO MALIGNANI
Laboratorio Prove Materiali

Rapporto di prova: P2/ 109 / 16 pag. 4 di 4

Verbale di accettazione: **P2 - 3014** Data di fine delle prove: **22/07/2016**

Componente: Telaio
Prova: Prova di fatica con una forza verticale
Rif. norma: ISO 4219-6 (4.5)
Costruttore: PODIUM srl
Modello: Telaio Podium-Carrera mod. AR91
Esito delle prove: Nessuna frattura o fessura visibile

Requisiti: Incidente da corsa
Fascella: Fascella fornita dal costruttore assieme al telaio
Forza verso il basso applicata: 1200 N
Spazio del carotaggio della sella: 70 mm
Numero dei cicli di prova: 50000
Frequenza: < 10 Hz
Aumento della flessione di picco durante la prova inferiore al 20% dei valori iniziali

Tolleranze secondo ISO 4152 (p.1.4)
Stampe visioni eseguite da personale certificato secondo ISO 9172 livello 2

Ing. Maurizio Milano
Responsabile attività coll.
Podium R&D

Ing. Michele Comaroli
Condirettore del laboratorio

ISTITUTO MALIGNANI
Laboratorio Prove Materiali

RAPPORTO DI PROVA: P2/ 109 / 16 pag. 1 di 4

Verbale di accettazione: **P2/3014**
del: 13/1/2016
Data di emissione: 22/7/2016

Provenienza dei provini

Ditta: PODIUM srl
Via Statale, 62 Calcinate 25011 BS

Campioni: Telaio Podium-Carrera mod. AR91

Provenienza: ddt. n. 383 del 08/07/2016

Richiedente: Luciano Bracchi

Declarazioni:
I risultati della prova condotta nel presente verbale confermano integralmente le dichiarazioni presentate.
Il presente certificato di prova non può essere fornito parzialmente senza autorizzazione del laboratorio.
La presente ditta ed il presente certificato di prova sono di proprietà esclusiva del laboratorio (semplice di appartenenza).
Questo documento, se ne fonde con esso, il cui produttore fornisce all'ingegnere informazioni tecniche e tecniche degli art. 21 del D.lgs. n. 81/2008 e
accettando le condizioni e i regolamenti.

Per la responsabilità a tutto tempo sono a tutti i sensi:
Ing. Michele Comaroli
Direttore del laboratorio

Per la responsabilità a tutto tempo sono a tutti i sensi:
Ing. Michele Comaroli
Direttore del laboratorio

ISTITUTO STATALE DI ISTRUZIONE SUPERIORE «ARTURO MALIGNANI» - Laboratorio Prove Materiali
33100 Udine (UD), viale Leonardo da Vinci s. 10 tel. 0432/432911 fax 0432/543420 e-mail: labprovemal@malignani.it www.malignani.it/0432
L'istituto è autorizzato a rilasciare certificati di prova secondo le norme ISO 9172 e ISO 9176
e norme della legge 1/2001 (art. 1) con il M. 1/2001 (art. 1) e 2/2001 (art. 1)



Podium R&D checks and tests all the frame on a daily basis to order to release not only an excellent product in terms of safety but also in terms of performance. Here are some examples that show how high-level is the performance on our product:



