

FRAMES

BAR ENDS



SEATPOSTS

Honeywell

STEMS

FORKS

MORATI Titanium Bicycle Components

MORATI was founded in 1995. MORATI is a part of Honeywell Engines, Systems & Services – Mora Aerospace a.s. that has been working as Center of Excellence in specialization for hot bulb and stationary parts of turbine engines. This knowledge and experience has been in practice at MORA Aerospace for more than 50 years. The brand name MORATI is a result of demonstrated technical and technological creative work practices. Mora Aerospace and MORATI's knowledge in the sphere of metallurgy, shaping, welding or machining of refractory anticorrosive materials and high consistent titanium alloys, together with the companies Quality System complying Aerospace standards, has made MORATI famous and resulted in successful penetration into world of cycling.



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MORATI Titanium Bicycle Components

Range of MORATI products brings in many respects a new view of application titanium alloys in biking. Typical properties of titanium - excellent rate stiffness to weight, outstanding fatigue life time, corrosion resistance and especially brilliant elasticity or ability to absorb vibrations – these are only basic preconditions to using titanium in biking. The foundations of MORATI design conception are both understanding material properties and its potential and at the same time meeting different requirements for bike components. MORATI presents new original sophisticated solutions of particular design details of one design unit. The care that MORATI applies to production technology and quality brings new technical terms and nonstandard design solutions into the bike component market, and thus provides leading edge technological components over competitors, providing high use value. System conception of inspection processes developed from production systems in aviation industry, which MORATI is a part of, gives reliable warranty of quality. MORATI offers functional originality that is a source of new demonstrated conceptual advancements.

Motto: „Titanium – this is not only a sticker..“



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morati **AAV** *concept*

Active Absorption of Vibrations Rear stays titanium design



Excellent lightweight handle bars system with special vibrations absorption design

morati **stays**

preform & padding

Extra stiff MTB and Cyclocross seat stays



New system of bottom bracket design for MTB and Road frames with excellent lateral stiffness. New idea for effective softtail frames function.



Controlled Frame Stiffness - different conception of frame properties with the goal to increase lateral stiffness, at the same time assuring longitudinal comfort and vibration absorption.



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MORATI new creative development,
new technical terminology

MORATI bicycle frame HC1.1 has a sophisticated design that uses an oversize crossbar to assure high rigidity of the triangle base. The original design of the rear part of the frame - MORATI Stays - is unique by its stiffness and support for the rear brake pivots. It easily meets and exceeds the strict parameters required for the use of hydraulic brakes or V-brakes. Rear construction also enables use of International Standard disc brakes.

Geometry	XS	S	SM	M	L	XL
A Seat tube angle (degrees)	73°	73°	73°	73°	73°	73°
B Head tube angle (degrees)	71°	71°	71°	71°	71°	71°
C Size center to center (mm)	381	406	430	457	483	508
D Top tube lenght (mm)	543	550	560	568	575	585
E Seat tube lenght (mm)	431	456	480	507	533	558
F Chain stay lenght (mm)	425	425	425	426	425	425
G Wheel base (mm)	1043	1048	1056	1061	1065	1076
H Head tube length (mm)	100	100	100	106	116	142
I Weight (g)	1440 - 1590 according to modification					

Custom configurations are also available. The bottom bracket is 68 mm wide, with BSA thread and 1 1/8" head assembly. Compatible with seatposts dia 27-28 mm, aluminum seat post clamp delivered. The frame design allows using MORATI rigid titanium fork. Convectional top pull front derailleur compatible, clamp dia 31.8mm. Finish: Natural titanium colour, MORATI velvet finish.

MORATI HC 1.1 Ti Pro Race

frames



Hard Tail MTB frame



MORATI seatpost clamp



S-bend chainstays



MORATI stays



MORATI HC 1.2 Ti Pro Race

Soft Tail MTB Frame



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MORATI stays



MORATI B-B Box system



Disk Brake Version

The design of the frame HC1.2 is unique: It uses MORATI Stays design. Chain stays are assigned without bolt on the flexible titanium plate. The plate supports functionality of the chainstays flexibility with excellent stiffness solidity of the whole frame due to using original MORATI Bottom Bracket Box System design. Central part of the frame is unique designed, and this part emphasises exceptionally fine functionality and design.

Geometry	S	SM	M	L	XL
A Seat tube angle (degrees)	73°	73°	73°	73°	73°
B Head tube angle (degrees)	71°	71°	71°	71°	71°
C Size center to center (mm)	406	406	430	430	457
D Top tube length (s-s)	550	560	568	575	576
E Seat tube length (mm)	537	537	537	537	537
F Chain stay length (mm)	425	425	425	425	425
G Wheel base (mm)	1048	1058	1065	1073	1075
H Head tube length (mm)	100	100	106	116	142
I Weight (g)	1860 - 1980 according to modification				

The frame is available in two modifications of rear construction - with MORATI stays for using V-brake and disc brake International Standard, or for using disc brake International Standard only. Custom configurations are also available. The bottom bracket is 68 mm wide, with BSA thread and 1 1/8" head assembly. Compatible with seatposts dia 27-28 mm. Aluminum seat post clamp is delivered. Convectional top pull front derailleur compatible, clamp dia 31.8 mm.

Finish: Natural titanium colour, MORATI velvet finish.

Design of the frame HC1.3 improves basic properties of HC1.1 frame with using original MORATI Bottom Bracket Box design. This design together with bigger slopping assures higher lateral stiffness of the frame but it keeps excellent comfort for the rider at the same time, and it better absorbs rear wheel vibrations.

Geometry	S	SM	M	L	XL
A Seat tube angle (degrees)	73°	73°	73°	73°	73°
B Head tube angle (degrees)	71°	71°	71°	71°	71°
C Size center to center (mm)	381	406	430	457	483
D Top tube lenght (mm)	550	560	568	578	579
E Seat tube lenght (mm)	431	456	480	507	533
F Chain stay lenght (mm)	425	425	425	425	425
G Wheel base (mm)	1048	1058	1065	1073	1075
H Head tube length (mm)	100	100	106	116	142
I Weight (g)	1475 - 1690 according to modification				

The frame is available in two modifications of rear construction - with MORATI stays using V-brake and disc brake International Standard, or for using disc brake International Standard only. Custom configurations are also available. The bottom bracket is 68 mm wide, with BSA thread and 1 1/8" head assembly. Compatible with seatposts dia 27-28 mm. Aluminum seat post clamp delivered. The frame design allows using MORATI titanium rigid fork. Convectional pull front derailleur compatible, clamp dia 31.8 mm.

Finish: Natural titanium colour, MORATI velvet finish.

MORATI HC 1.3 Ti Pro Race

frames



Hard Tail MTB Frame



MORATI stays



MORATI
B-B Box system



MORATI seatpost
clamp



MORATI HC 1.4 Ti Pro Race

Hard Tail MTB Frame



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Rear Monostay



Frame End

MORATI B-B Box system
and CFS

Design of the frame HC1.4 profits from the advantages of the frame HC1.3 and from the new original MORATI CFS design that defines properties of frames in a new way. Usage of CFS system increases total lateral stiffness of the frame while keeping its brilliant longitudinal comfort. New compact rear construction with monostay increases its stiffness in combination with its original basic triangular structure, enabling maximum effective transfer of force from the rider to the bike, yet assuring ultimate riding comfort.

Geometry	S	SM	M	L	XL
A Seat tube angle (degrees)	73°	73°	73°	73°	73°
B Head tube angle (degrees)	71°	71°	71°	71°	71°
C Size center to center (mm)	381	406	430	457	483
D Top tube lenght (mm)	550	560	568	578	579
E Seat tube lenght (mm)	477	477	477	533	533
F Chain stay lenght (mm)	425	425	426	425	425
G Wheel base (mm)	1048	1058	1065	1073	1075
H Head tube length (mm)	102	102	106	116	140
I Weight (g)	1475 - 1690 according to modification				

The frame is available in two modifications of rear construction - with MORATI stays using V-brake and disc brake International Standard, or for using disc brake International Standard only. Custom configurations are also available. The bottom bracket is 68 mm wide, with BSA thread and 1 1/8" head assembly. Compatible with seatposts dia 27-28 mm. Aluminum seat post clamp delivered. The frame design allows using MORATI titanium rigid fork. Convectional pull front derailleur compatible, clamp dia 31.8 mm.

Finish: Natural titanium colour, brilliant polish & velvet finish.

MORATI bicycle frame CR.1.1 has a sophisticated design that uses an over size crossbar to assure high rigidity of the triangle base. The design of the rear part of the frame - MORATI stays - is unique by its stiffness and support for the rear brake pivots. It easily meets and exceeds the strict parameters required for the use of hydraulic brakes or V-brakes. The frame in combination with MORATI fork has high ability to copy terrain and thus overcome roughness of the ground easily.

Geometry	520	540	560	580
A Seat tube angle (degrees)	74°	74°	74°	74°
B Head tube angle (degrees)	72°	72°	72.5°	73.5°
C Size center to center (mm)	520	540	560	580
D Top tube length (mm)	530	540	560	570
E Seat tube length (mm)	570	590	610	630
F Chain stay length (mm)	425	425	425	425
G Wheel base (mm)	1002	1013	1029	1030
H Head tube length (mm)	105	137	155	180
I Weight (g)	1530 - 1650 according to modification			

Custom configurations are also available. The bottom bracket is 68 mm wide, with BSA thread and 1 1/8" headassembly, 1" available. Compatible with seatposts dia 27-28mm. Aluminum seat post clamp is delivered. The frame design allows using MORATI rigid titanium fork. Top pull or road front derailleurs compatible, clamp dia 31.8 mm, version with FD boss also available, disc brake modification available.

Finish: Natural titanium colour, MORATI velvet finish.

MORATI Titanium Bicycle Components

MORATI CR 1.1 Ti Pro Race

frames

FRAMES



Cyclocross Frame



Bottom Bracket Shell



MORATI stays



MORATI seatpost clamp



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MORATI SC 1.1 Ti Pro Race

Road Frame



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Bottom bracket
shell

Frame end

MORATI seatpost
clamp

MORATI frame SC1.1 is typical by using oversize down tube assuring unusual stiffness. This design assures the efficient power transfer in combination with unique ability to absorb vibrations, low weight, excellent durability and comfort, especially in combination with MORATI fork.

Geometry	50	52	54	56	58	60
A Seat tube angle (degrees)	74.2°	73.8°	73.6°	73.4°	73.4°	72.8°
B Head tube angle (degrees)	72°	72°	72°	72.5°	73°	73.2°
C Size center to center (mm)	500	520	540	560	580	600
D Top tube length (mm)	528	540	550	560	574	585
E Seat tube length (mm)	550	570	590	610	630	650
F Chain stay length (mm)	406	406	406	406	406	406
G Wheel base (mm)	979	988	996	1000	1010	1012
H Head tube length (mm)	101	120	140	157	176	193
I Weight (g)	1360 - 1580 according to modification					

The geometry and design resulted from own development which combines the current design approaches with experience of professional racers, who are continuously our main source of improvements.

Custom configurations are also available. The bottom bracket is 68 mm wide, with BSA thread, IT thread also available. 1 1/8" head assembly, 1" also available. Compatible with seatposts dia 27-28 mm. The frame is delivered with Aluminum seat post clamp and with FD boss, w/o FD boss also available - front derailleur, clamp dia 31.8 mm.

Finish: Natural titanium colour, MORATI velvet finish.

Construction of the frame SC1.2 is based on using well-trying MORATI constructional elements - oversize down tube, semi sloping of top tube, bottom bracket box system and MORATI AAV concept. Using these constructional elements gives outstanding characteristics to the frame - both it gives to the frame maximum lateral stiffness and it gives maximal comfort to the rider as a result of high ability to absorb vibrations caused by roughness of the road. These properties are emphasized at combination with MORATI fork.

Geometry	52	54	56	58	60
A Seat tube angle (degrees)	73.54	73.5°	73.2°	73.2°	73.2°
B Head tube angle (degrees)	72°	72°	72.5°	73°	73.5°
C Size center to center (mm)	520	540	560	580	600
D Top tube length (mm)	540	550	560	575	588
E Sloping angle (degrees)	2.3°	2.4°	2.4°	2.4°	2.4°
F Chain stay length (mm)	406	406	406	406	406
G Wheel base (mm)	977	987	990	1000	1009
H Head tube length (mm)	117	140	155	173	191
I Weight (g)	1450 - 1610 according to modification				

Custom configurations are also available. The bottom bracket is 68 mm wide, with BSA thread, IT thread also available, 1-1/8" head assembly, 1" also available. Compatible with seatposts dia 27-28 mm. The frame is delivered with Aluminum seat post clamp and with FD boss, w/o FD boss also available - for front derailleur, clamp dia 31.8 mm.

Finish: Natural titanium colour, MORATI velvet finish.

MORATI Titanium Bicycle Components

MORATI SC 1.2 Ti Pro Race

frames

FRAMES



Road Frame



MORATI
B-B Box system



MORATI
frame end



MORATI monostay



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MORATI SC 1.3 Ti Pro Race

Road Frame



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MORATI
B-B Box system

Frame end

Seat monostay
and CFS

Design of the frame SC1.3 profits from the advantages of the frame SC1.2, B-B Box, MORATI AAV Concept and also from a new CFS MORATI design which defines properties of frames in a new way. Usage of CFS system has increased total lateral stiffness of the frame, while keeping its brilliant longitudinal comfort and ability to absorb vibrations. These new properties of the new frame enable maximum effective transfer of force from the rider to the bike, yet assuring ultimate riding comfort. Variation for disc brake emphasizes complexity of this frame. The properties of the frame are surmounted by combination with MORATI fork.

Geometry	52	54	56	58	60
A Seat tube angle (degrees)	73.54	73.5°	73.2°	73.2°	73.2°
B Head tube angle (degrees)	72°	72°	72.5°	73°	73.5°
C Size center to center (mm)	520	540	560	580	600
D Top tube lenght (mm)	540	550	560	575	588
E Sloping angle (degrees)	2.3°	2.4°	2.4°	2.4°	2.4°
F Chain stay lenght (mm)	406	406	406	406	406
G Wheel base (mm)	977	987	990	1000	1009
H Head tube length (mm)	117	140	155	173	191
I Weight (g)	1450 - 1610 according to modification				

Custom configurations are also available. The bottom bracket is 68 mm wide, with BSA thread, IT thread also available, 1-1/8" head assembly. Compatible with seatposts dia 27-28 mm. The frame is delivered with Aluminum seat post clamp and with FD boss, w/o FD boss also available - for front derailleur, clamp dia 31.8mm.

Finish: Natural titanium colour, brilliant polish & velvet finish.

MTB - MORATI HC, C-cross - MORATI CR and Road - MORATI SC forks bring the latest ideas to the world of rigid forks by design, material and properties. Their stiffness, flexibility and unique ability to absorb shocks and vibrations rank them among world class. The fork combined with MORATI frame creates the optimal means for top performance.

Fork	Rake fork (mm)	Weight (g)	Steer tube
MTB-MORATI HC	42	cca 640	A-head 1 1/8"
C-cross-MORATI CR	40	cca 590	A-head 1 1/8"
Road-MORATI SC	40	cca 560	A-head 1 1/8"
Road-MORATI SC	40	cca 550	A-head 1"

MTB forks are designed for frames that are designed for XC suspension forks. MTB and C-cross forks are produced in the version with pivots for V-brake including CANTI lever brake or with boss for disc brake International Standard. Disc brake version for Road fork is also available. All forks are produced in A-head version 1 1/8" or 1". Custom modifications also available.

Material: The forks are hand made of titanium alloys Ti3Al,2.5V and Ti6Al,4V.

Finish: Natural titanium colour, MORATI velvet finish.

Light-Weight Forks



MTB, Cyclocross, Road

FORKS

FORKS



CNC machining detail



Brake pivots



Crown



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Seatposts, Stems

MTB, Road



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Head tube clamp CNC



Bar clamp



Seat clamp

Titanium stems and seatposts are not only the addition to other MORATI products, but they bring the excellent aerospace quality to the area of smaller components. The original concept enables user to let the dreams about high-tech components come true. The high quality of MORATI stems and seatposts is assured by subjecting all products to chromatic crack detection to check for microscopic fissures, as well as the use of X-ray for verification of all exposed construction elements.

STEM	MTB 1 1/8"	ROAD 1"
Extension L (mm)	110 - 140	80 - 140
Raise (°)	+ 5°	- 17°
Weight (g)	150 - 195	150 - 195

SEATPOST	MTB	ROAD
Lenght (mm)	360	250
Weight (g)	cca 250	cca 200

Design

Stems are ahead-type produced in two basic types: MTB 1 1/8" and Road 1". Custom configurations are also available. Bar clamp diameter is 25.4 mm for MTB, 25.8 mm for ROAD. Seatposts are produced with diameter 27-27.2 mm.

Material: The components are hand made of titanium alloys Ti 3AL,2.5V and Ti 6AL,4V.

Finish: Natural titanium colour, MORATI velvet finish.

The MTB bicycle bars line brings, except of standard model, new look at the bar design and functionality.

Unique light MORATI design of the bars "M" replaces classic system of components. Excellent material properties of titanium in combination with using original M-bars design assure optimum absorption of vibrations, which assures above standard stiffness of the set stem-arms/bars that is necessary for perfect bike steering.

Original design of bar ends provides pleasant ergonomical hold which is appreciated especially on long routes. Its low weight gives an excellent precondition for assembly both with Classic bars and M-bars.

Design

MORATI Classic bars are 560/580 mm wide, with 25.4 mm Aluminum central reduction.

Weight: cca 180 g, bend 5°.

M-bars are 560 mm wide, weight: 310 -350 g, Raise +5 °, bend 5 °

Extension: 110, 120, 130 and 140 mm.

A-head type 1 1/8"

Bar ends: Weight cca 115 g, dia 22.2 mm.

Material: Bars are hand made of titanium alloys Ti 3AL,2.5V and Ti 6AL,4V.

Finish: Natural titanium colour, MORATI velvet finish.

MORATI Titanium Bicycle Components

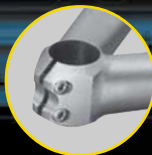
Classic, M-bars, Bar ends

HANDLEBARS

HANDLEBARS



Handlebars



Original CNC clamp



Ergonomical bar ends



Adapter for computer



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Geometry

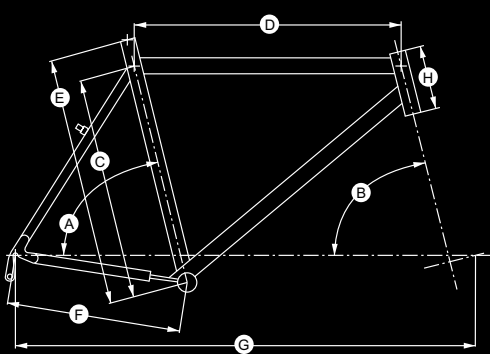
MORATI bicycle frames are compatible with the worldwide standard of part and component sizes. Custom configurations are also available.

Material: The frames are made of Titanium alloys Ti 3AL,2.5V and Ti 6AL,4V.

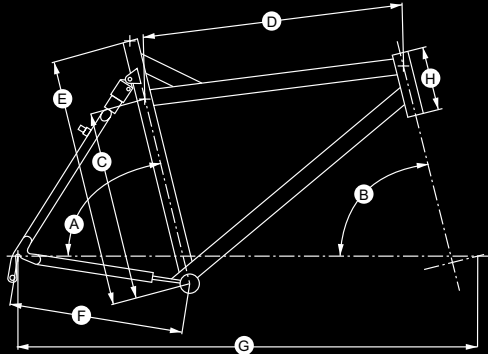
Finish: Natural titanium colour, MORATI velvet finish or Brilliant polish & velvet finish.

- Please, be careful while choosing the right fork, before all a suspension fork in case of MTB frame. MTB frames are designed for XC - for suspension forks with optimum travel upto 80 mm.
- Frames and forks in modification for disc brake are in International Standard design.
- If you have any doubts with your choice the right frame, contact our seller.

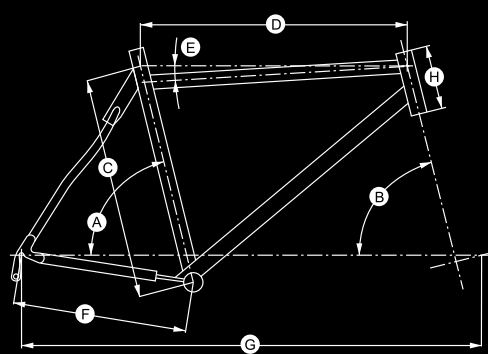
Hard Tail MTB frame HC 1.1/1.3/1.4
Road frame SC 1.1
Cyclocross frame CR 1.1



Soft Tail MTB frame HC 1.2



Road frame SC 1.2/1.3



Product line and product dimensions are subject to change.





References

REFERENCES

MORATI components took part in the following excellent sport results



MTB World Cup - men

1. M.Martinez	1997
1. M.Martinez	1998
2. Ch.Dupouey	1997
4. L.Dubau	1997

MTB World Championship - men

1. Ch.Dupouey	1998
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MTB World Championship - men 23

1. M.Martinez	1998
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MTB Europe Championship - men 23

1. M.Martinez	1998
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Road Cycling World Championship - women

3. H.Kupfelnagel	1998
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Cyclocross World Championship - men

5. R.Simunek	1998
5. J.Pospisil	2001

Cyclocross World Championship - men 23

1. B.Wellens	1999
1. S.Vanthourenhout	2001
3. D.Kasek	2001

World Championship Trial 26" - juniors

7. Siriski	2002
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Cyclocross World Championship - juniors

1. M.Bina	2001
2. R.Simunek jr.	2001
3. J.Kunta	2001

Cyclocross World Cup - men

6. R.Simunek	1998
7. R.Simunek	1999
9. J.Pospisil	2001
10. J.Pospisil	1998

MTB Czech Cup - men

1. M.Kankovsky	1998
1. L.Kondis	1999

MTB Czech Cup - women

1. K.Neumannova	1998
2. K.Hanusova	1999
3. K.Neumannova	1999

MTB Czech Championship - men

1. R.Korinek	1998
1. L.Kondis	1999
2. R.Korinek	1999

MTB Czech Championship - women

1. K.Neumannova	1998
1. K.Neumannova	1999
1. K.Hanusova	2001
2. K.Neumannova	2001
3. K.Hanusova	1999

Cyclocross Czech Championship - men

1. J.Pospisil	1996
1. R.Simunek	1997
1. R.Simunek	1998
1. J.Pospisil	1999



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