

PRODUCT CATALOGUE

KAPPSTEIN BIKE TECHNOLOGY



E-MOBILITY

→ 7

DOPPIO
GEARBOX

→ 12

SF-HUB &
FRONTHUB

→ 18

CHAINRINGS

→ 22

SPROCKETS

→ 34

LOCKRINGS

→ 37

TECHNICAL
SPECS

→ 40





We are an innovative company from Gotha/Thuringia, which has specialized in the development of electric motors and premium bicycle components. Based on a longstanding experience in the E-Mobility field we are able to provide individual E-Mobility solutions for pedelecs and speed pedelecs.

With the production of the first Kappstein sprockets for our electric motors and a chainring for the Doppio, we quickly recognised the potential of our state-of-the-art machinery for the production of high-quality chainrings and sprockets for cycling. Meanwhile, we are in close contact with the FES [Institute for the Research and Development of Sports Equipment] as well as with professional athletes in order to continuously develop our products further.

Our latest development is the ProLine drive train. It combines high-precision manufacturing technology, innovative tooth design [round teeth design], special material tempering and drastic weight reduction – and all this for narrower 11-speed chains. The Proline setup is used by many professional track cyclists around the world including the German national track cycling team.

Apart from the electric bicycle segment, our expertise primarily lies in the development of innovative mechanical drive components. The centerpiece is our bottom bracket gearbox “Doppio”. Our engineers have successfully implemented a planetary gearing system with 6 planets into a very small space. The result is an extremely slim and lightweight 2-speed gearbox offering many possible combinations. A further attractive feature is the “Silent Freewheel Hub”, a rear wheel hub with an immediate frictional connection and an almost noiseless freewheel.

KA CLASSIC



The KA Classic is Kappstein's entry level motor for a high quality urban or city bike. The KA Classic [250 W, 36 V] is a high quality 40 Nm direct drive motor with an integrated motor controller and torque sensor. This makes the system compact, maintenance-free and easy to use. Furthermore, the motor provides an exceptionally smooth ride experience with a weight of only 4.2 kg. The KA Classic is the evolution of the Toprun system which has been one of the rear motor pioneers with systems supplied to the European market in large quantities already from the early 2000s onwards.

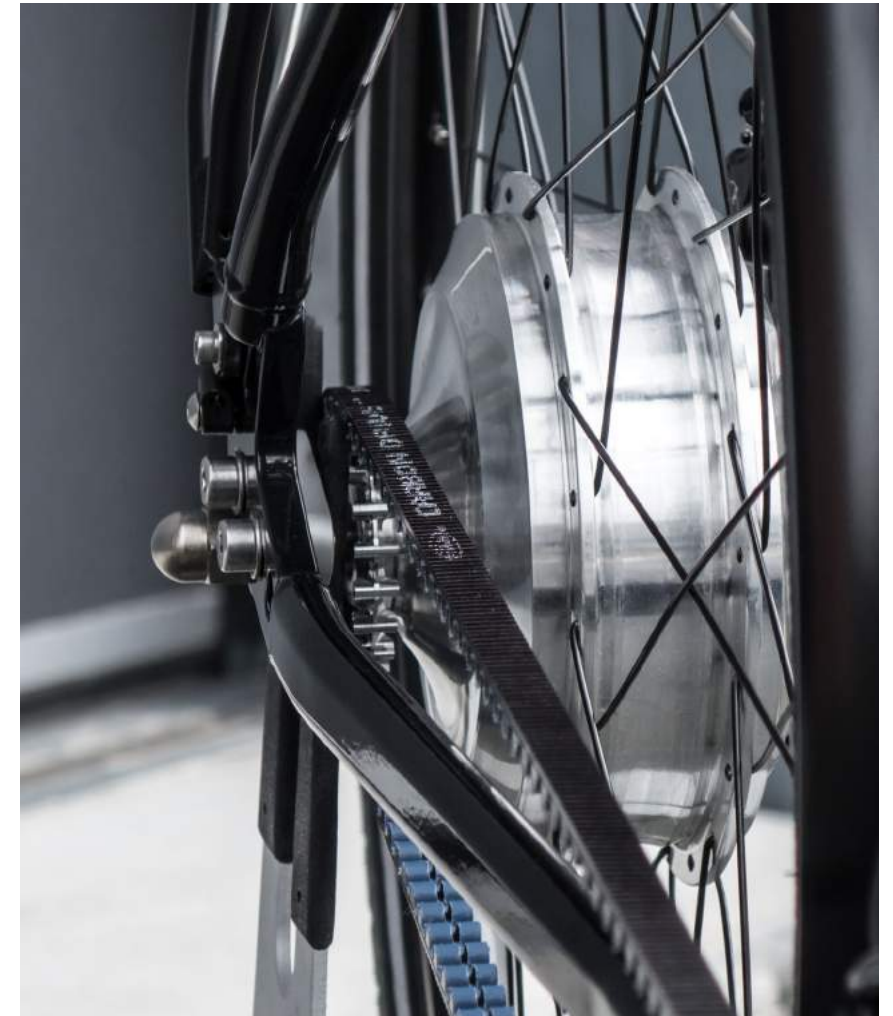
KA3S

This direct drive motor is based on the KA Classic and features the same highlights like the integrated controller and sensor as well as the smooth ride. Furthermore, it weighs in at only 4.9 kg and provides a clean look as no visible bolts are used on the outer casing.

The KA3S is suitable for both chain- and belt-driven bikes. Combining the KA3S with the Kappstein Doppio bottom bracket drive system doubles the available gears to six, making it optimal for nearly any terrain.



One motor, three gears. No matter if in the city, the country or in the hills, the KA3S is the right choice. This 40 Nm Motor (250 W, 36 V) contains a mechanical 3-speed gearing system that can be operated from the handle bar with a wire shifter.



B3



B3 MOTOR IN COMBINATION WITH BELT DRIVE FOR "LOGO E-BIKES"



With the goal of developing an extremely lightweight and above all compact wheel hub motor, Kappstein is introducing the new B3 motor [250 W, 36 V] weighing just 2.5 kg and with the diameter of a geared hub. This powerful lightweight is designed as a direct drive, making it much quieter than standard geared motors and providing a very smooth riding performance.

Despite its compact size, the motor features an internal controller and torque sensor. It's at its best when combined with Kappstein's Doppio bottom-bracket drive system. This enables the construction of an extremely lightweight electric bike with two or more gears using very compact and intelligently designed components. It's maintenance-free, permits 9-spline mounting for a cassette or sprocket and excels with superior heat dissipation.

DOPPIO GEARBOX

"NIGHTSHADE" BY "PINE" WITH KAPPSTEIN
DOPPIO AND AN INTERNAL GEARED HUB

The 2-speed bottom bracket gearbox "Doppio" is a compact, light and comfortable transmission unit located in the bottom bracket shell. Due to the extremely compact design, the entire gearbox is only about 200 g heavier than conventional bottom brackets.

The Doppio offers the rider a ratio of 1.57 in the heavier 2nd gear. This allows the number of gears to be increased with many possible combinations. Due to the compatibility with any conventional BSA/BSC bottom bracket with a width of 68–73 mm, a wide range of possibilities are available. A patented bolting system enables a problem-free installation without any alteration of the frame necessary.

The gear transmission is controlled by a Bowden cable with the help of a minimalistic shifter on the handlebar. The shifter is hardly noticeable and fits perfectly into a clean handlebar set-up. The Bowden cable on the gearbox is fixed with an innovative clamping mechanism specially developed for the Doppio.





32 TEETH CHAINRING



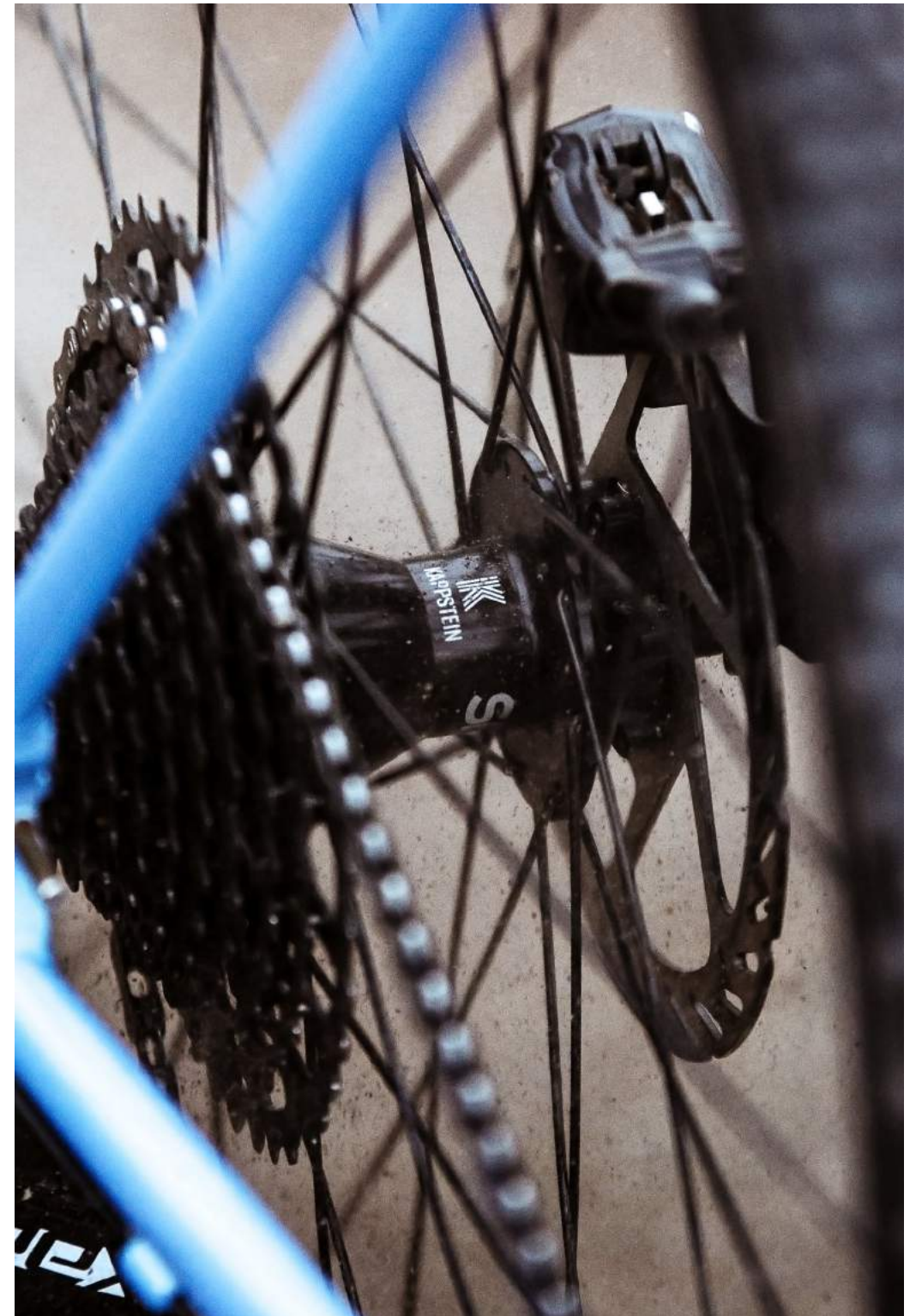
With 32 teeth and the 4 × 104 bolt circle, the chainring was specially developed for use with our Doppio bottom bracket gearing system. As it is CNC milled with a special design, it adapts perfectly to the Doppio's spider, ensuring an elegant look. Like all other chainrings, the 32 mm Doppio chainring is CNC milled and measured at our in-house production facility in Gotha.

SF-HUB



The SF-HUB has a noiseless freewheel and simultaneously excels with close to zero backlash. This instant engagement means that the energy that the rider applies to the pedals is transferred directly to the rear wheel without the annoying backlash. This is made possible due to a modified, innovative principle with regard to the conventional roller freewheel. An exceptional riding experience that will never cease to surprise every time.

Due to its compatibility with all common gear shift systems, various frame mounts and the 6-hole disc brake mount, there are hardly any limits to the available combinations.





KAPPSTEIN FRONT HUB



The Kappstein front hub is the front wheel counterpart to the SF rear hub. It is based on the design of the rear wheel hub and therefore rounds off the entire bike's design perfectly. Due to the 6-bolt disc brake mount, compatibility with a range of axle types and the different installation widths, the Kappstein front hub can be used for various purposes.

RIDGE



The Ridge is the first Gravel chainring made by Kappstein. It differs especially in the teeth design. Since the Ridge was designed for the 1 × 11 drive train, we constructed a “narrow-wide design”, which is typical for this purpose. Alternating thicker and thinner teeth ensures that the chain stays where it belongs – on the teeth. It is available for bolt circle 5 × 110 mm, as well as for asymmetric standards such as 4 × 96 mm and 4 × 110 mm.



SF-HUB IN COMBINATION WITH RIDGE

ELITE CHAINRING

With chainrings of this size it is extremely important to guarantee the rigidity of the chainring when subjected to high loads. Due to special struts on the interior, it has been possible to achieve the necessary stiffness while simultaneously reducing weight. As the raw material we only use high-quality 7075 / T6 aluminium.

By applying a special hard-anodizing treatment, the surface of the chainring is up to three times harder than that of conventional aluminium chainrings.



The Elite Chainring was developed in cooperation with FES, the Institute for Research and Development of Sports Equipment. It was developed especially for the demanding requirements of professional track cyclists and their frames. Top athletes can use up to 63 T chain rings on their hunt for the best times.





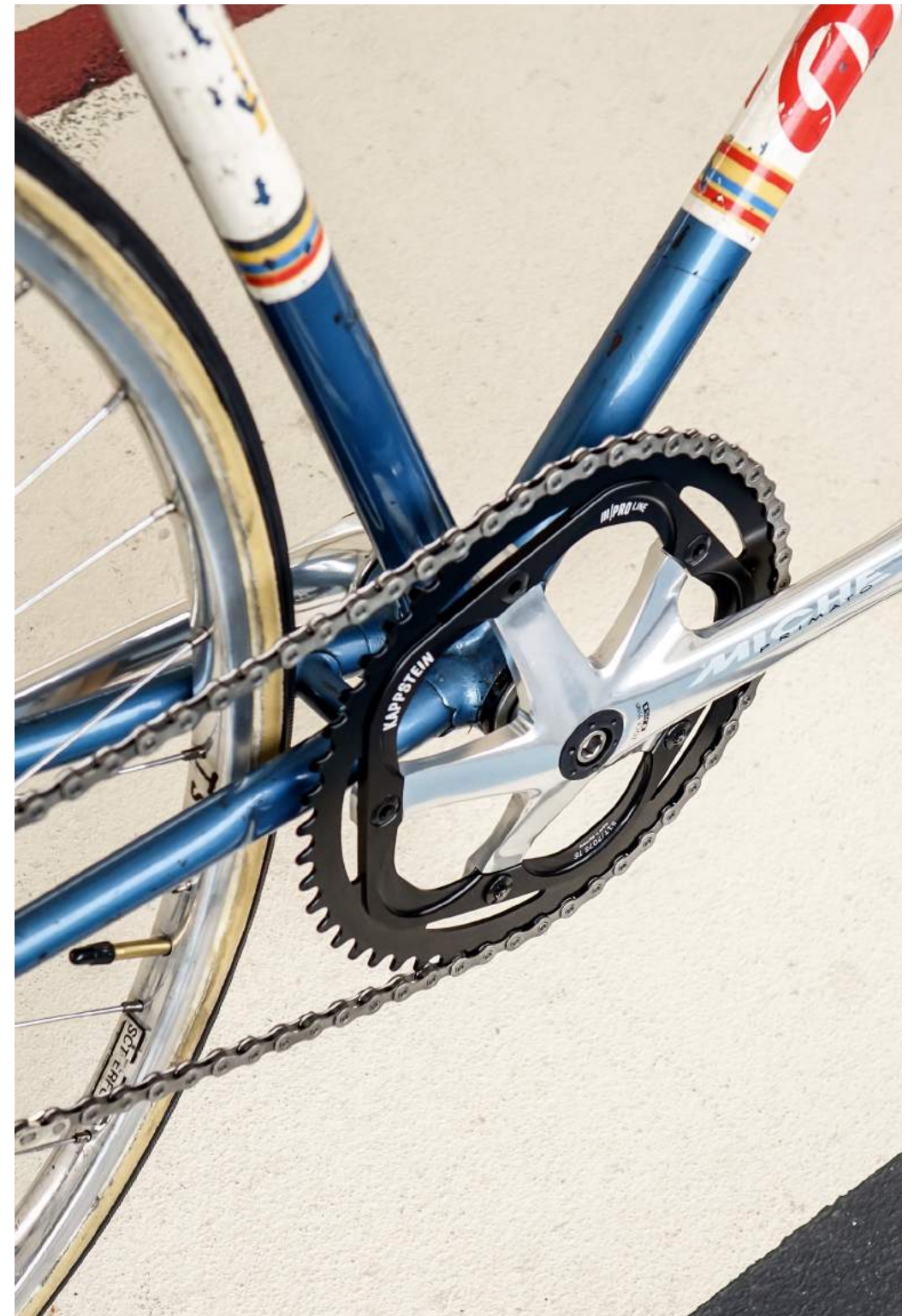
EUROPEAN CHAMPION IN KEIRIN 2018 STEFAN BÖTTCHER

RUPHUS
PROLINE

RUPHUS
STANDARD



The Ruphus chainring is a perfect match for the Kappstein sprocket → p. 34. This stylish and very light chainring is CNC milled from a 5 mm thick 7075/T6 aluminium plate. Despite the low weight of only 99 grams [49 T], the Ruphus offers excellent rigidity and is therefore an obvious choice for anyone who values both design and performance.





WE ARE A LONGTIME SPONSOR OF THE PROFESSIONAL FIXED GEAR RACING TEAM "8BAR"



For anyone looking to benefit from the advantages of an 11-speed chain, the Ruphus ProLine is the right gear for your crank set. Compared with the standard version of the Ruphus, the ProLine features an additional coating. Due to the hard-anodizing treatment, the surface of the chainring is up to three times harder than that of conventional aluminium chainrings. As a result, the degree of hardness roughly corresponds to that of a Kappstein stainless steel sprocket.

REMUS



The Remus is the latest chainring in the Kappstein portfolio. Although it looks rather delicate due to its narrow struts, it is very stiff and thus defies all high demands in fixed gear use. It is the first Kappstein chainring that serves the 130 bolt circle widely used in the fixed scene. Optimized for singlespeed chains [1/2" x 1/8"] and available in 4 different colors - the perfect extension of the Kappstein product range!

SPROCKET PROLINE

SPROCKET STANDARD

The Sprocket ProLine combines all the advantages of the ProLine series and has been specially optimised for 11-speed chains. The narrower design makes it lighter than the standard sprocket. It also ensures improved power transmission and is thereby particularly wear-resistant as a result. The edged holes in the 15 T - 19 T sizes not only underline the design but also drastically reduce weight. A 16 teeth sprocket weighs just 49 grams.



With its "Round Teeth Design", the Sprocket realises a new design theory for bicycle sprockets. Compared to conventional teeth designs, the teeth appear slightly wider and less pointed. The rounded teeth ensure that the chain fits perfectly between the individual teeth. The result is optimum power transmission between the chain and the sprocket with reduced wear.



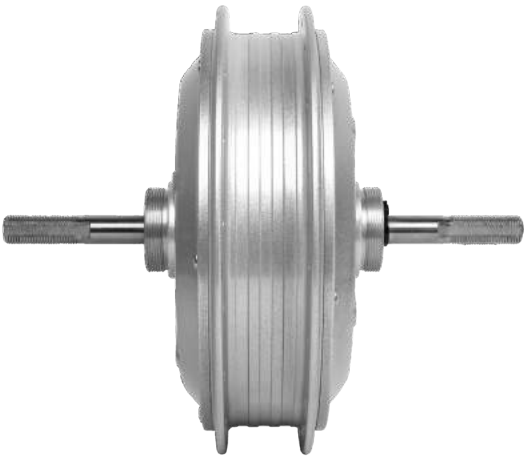
LOCKRING



The Kappstein Lockring is made of high quality 630 stainless steel. With a material thickness of 6.5 mm it is a wider lock ring. Despite its width, the lock ring weighs only 29 grams. Kappstein has designed an extra thick lock ring that is compatible with all hubs fitted with a BSA or ITA thread.

KA CLASSIC

→ 7



black



silver

NOMINAL VOLTAGE 36 V	DIAMETER (PCD) 168,5 mm
NOMINAL CAPACITY 250 W	EFFICIENCY 85 %
WEIGHT 4,2 kg	AXLE M10 bolt on
O.L.D. 135 mm QR, 150 mm	BRAKE 6-bolt adapter
CONTROLLER internal controller	TORQUE 40 Nm
SPOKES 28, 32, 36	COMMUNICATION U-ART
PROTECTION CLASS IP55	SENSORS internal torque sensor
APPLICATION city, urban, trekking	MISCELLANEOUS E-switch, silent freewheel, no screws

KA3S

→ 8, 9



● silver

NOMINAL VOLTAGE 36 V	PROTECTION CLASS IP55
NOMINAL CAPACITY 250 W	DIAMETER [PCD] 183 mm
WEIGHT 4,9 kg	EFFICIENCY 85 %
GEAR RATIO 1 : 1,391 : 1,843	AXLE M10 bolt on
O.L.D. 135 mm QR, 150 mm	BRAKE 6-bolt adapter
CONTROLLER internal controller	TORQUE 40 Nm
TYPE BLDC direct drive motor	COMMUNICATION various options
SPOKES 28, 32, 36	SENSORS internal torque sensor
APPLICATION city, urban, trekking	MISCELLANEOUS no screws, silent freewheel, internal 3-speed gearbox, E-switch

B3

→ 10, 11



● black ● silver

NOMINAL VOLTAGE 36 V	PROTECTION CLASS IP55
NOMINAL CAPACITY 150 W / 350 W	DIAMETER [PCD] 110 mm
MAXIMUM OUTPUT 400 W	EFFICIENCY 86 %
WEIGHT 2,3 – 2,6 kg [s-pedelec]	AXLE M10 / thru axle
O.L.D. 135 mm quick release, 142 mm thru axle	SENSORS internal [torque, heat] / internal controller
TORQUE 20 - 25 Nm	COMMUNICATION various options
SPOKES 28, 32, 36	TYPE BLDC direct drive motor
APPLICATION urban, trekking	MISCELLANEOUS no screws / clean look

DOPPIO

→ 12 - 17



black

GEARS 2	Q-FACTOR 185 mm
GEAR RATIO 1 : 1,57	DRIVETRAIN belt / chain
BOTTOM BRACKET BSA / BSC	CHAINRING Kappstein 32 T
BOTTOM BRACKET WIDTH 68 - 73 mm	PLANETARY GEARS 6 [CNC-machined]
SHIFTER Kappstein shifter	CHAINLINE 43,5 for 68 mm, 46 for 73 mm
SHIFTING TYPE Bowden cable	SERVICE INTERVAL Approx. 5000 km or 2 years
CRANK Kappstein / JIS square [175 mm]	WEIGHT 735 g [4 × 104 mm], 695 g [5 × 65 mm], set: 1250 g [4 × 104 mm]
APPLICATION urban, trekking, e-bike	MISCELLANEOUS compatible with rear motors

SF-HUB

→ 18 - 20



black



silver

MATERIAL aluminum	SPOKES 32
INSTALLATION WIDTH 10 × 135 mm, 12 × 142 mm, 12 × 148 mm	DISC 6-bolt
AXLES thru axle, quick release	FREEWHEEL silent, instant engagement
FREEHUB BODY Shimano / SRAM 10/11-speed, Singlespeed, SRAM XD	
APPLICATION urban, road, trekking, e-bike, gravel	MISCELLANEOUS instant traction, noiseless freewheel, laser engraved logo

RIDGE

→ 22, 23



- black
- gold
- red
- blue

BOLT CIRCLE DIAMETER 5 × 110 mm, 4 × 96 mm, 4 × 110 mm	CHAIN 1/2" × 11/128" [1 × 11 drive train]
TEETH 42 T narrow wide	COATING anodized

MATERIAL
7075/T6 aluminium

APPLICATION
gravel 1 × 11

MISCELLANEOUS
"Round-Teeth-Design",
CNC-machined

100 % MADE IN GERMANY

ELITE CHAINRING

→ 24 - 26



- nature
- black

BOLT CIRCLE DIAMETER 5 × 144 mm	CHAIN 1/2" × 11/128" [11-speed chain]
TEETH 49 T - 63 T	COATING hard anodized & PTFE

MATERIAL
7075/T6 aluminium

WEIGHT
151 g [56 T]

APPLICATION
track cycling, fixed gear,
single speed

MISCELLANEOUS
"Round-Teeth-Design",
CNC-machined

100 % MADE IN GERMANY

RUPHUS
PROLINE

→ 28 - 31

RUPHUS
STANDARD



- black
- silver

BOLT CIRCLE DIAMETER 5 × 144 mm	CHAIN 1/2" × 11/128" [11-speed chain]
TEETH 47 T , 49 T – 52 T	COATING hard anodized

MATERIAL
7075/T6 aluminium

- black

BOLT CIRCLE DIAMETER 5 × 144 mm	CHAIN 1/2" × 1/8" [standard track chain]
TEETH 47 T, 49 T – 52 T	COATING anodized

MATERIAL
7075/T6 aluminium

APPLICATION track cycling, fixed gear, single speed	MISCELLANEOUS "Round-Teeth-Design", CNC-machined
--	---

100 % MADE IN GERMANY

REMUS

→ 32, 33



- black
- gold
- red
- blue

BOLT CIRCLE DIAMETER 5 × 130 mm	CHAIN 1/2" × 1/8" [standard track chain]
TEETH 49 T	COATING anodized

MATERIAL
7075/T6 aluminium

APPLICATION single speed, fixed gear, courier	MISCELLANEOUS "Round-Teeth-Design", CNC-machined
--	---

100 % MADE IN GERMANY

SPROCKET PROLINE

→ 34 - 36

SPROCKET STANDARD



● silver
raw

TEETH 12 T - 18 T	WEIGHT 42 g [16 T]
MATERIAL 630 stainless steel,	THREAD BSA/BSC 1.37" × 24 TPI
CHAIN 1/2" × 11/128" [11-speed chain]	

● silver
raw

TEETH 12T - 19T	CHAIN 1/2" × 1/8" single chain
MATERIAL 630 stainless steel	THREAD BSA/BSC 1.37" × 24 TPI

APPLICATION track cycling, fixed gear, singlespeed	MISCELLANEOUS "Round-Teeth-Design", CNC-machined, laser engraved
---	---

100 % MADE IN GERMANY

LOCKRING

→ 37



● silver
raw

MATERIAL 630 stainless steel	TEETH > 12
THREAD BSC/BSA ISO standard 1,29" × 24 TPI	WEIGHT 21,1 g [ITA], 23,1 g [BSA]
THREAD ITA 1,32" × 24 TPI [left-hand thread]	

APPLICATION track cycling, fixed gear	MISCELLANEOUS CNC-machined laser engraved
---	--

100 % MADE IN GERMANY



Kappstein GmbH & Co. KG
Südstraße 15, Gebäude 14
99867 Gotha, Germany

+49 3621 739544-0
info@kappstein.de

www.kappstein.de

Graphic Design by Alice Kuczminski

Photo credits:

3, 14, 19, 20, 23, 50 → Katja Sturm /
bildersommer-photography
24 → Marc Jurczyk
25, 26 → Drew Kaplan Photography
30, 31 → Joshua Meissner

Printed by fehldruck GmbH, Erfurt

Thanks to BIEHLER Sportswear GmbH
& Co. KG for providing us cyclingwear.

© 2019 Kappstein GmbH & Co. KG. All
rights reserved. Reproduction only by
permission of the publisher. All rights
to the original texts © the publishers.

