

THE ASTRONOMICAL COLLECTION

2023 - 2024



CHRISTIAAN VAN DER KLAUW®

ASTRONOMICAL WATCHES

ASTRONOMY, TIME IN ITS PUREST FORM





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ATELIER CHRISTIAAN VAN DER KLAAUW
IN 'HET ARSENAAL' IN THE CITY NAARDEN, THE NETHERLANDS



CVDK PLANETARIUM EISE EISINGA LIMITED EDITION



ETERNAL FASCINATION



THE MANAGING BOARD OF CHRISTIAAN VAN DER KLAAUW: PIM KOESLAG, MARIA REINTJES AND DANIËL REINTJES



We will always remember our childhood and the unspoiled fascination with discovering the world around us. As children we have looked at the stars without fully comprehending what we saw, but the beauty of our skies has stayed our source of inspiration.

Christiaan van der Klaauw Astronomical Watches is the only atelier in the world that is totally dedicated to designing and manufacturing exclusive hand-made astronomical watches. We combine the best in classical watchmaking with designs that emphasize the beauty of each astronomical complication. Our specialized instrumentmakers and watchmakers turn each Christiaan van der Klaauw watch into a stunning piece of mechanical perfection and a worthy tribute to the eternal fascination with the skies around us.

In the more than 48 years that has passed since the first Christiaan van der Klaauw clock started ticking, we have gradually introduced new astronomical complications, leading to the comprehensive collection of models you will find in this catalogue.

We hope you will enjoy owning your watch as much as we did manufacturing it.

PIM KOESLAG
TECHNICAL DIRECTOR
& MASTER WATCHMAKER

DANIËL REINTJES
C.E.O & CREATIVE DIRECTOR

MARIA REINTJES
MARKETING DIRECTOR



MERCURY

VENUS

EARTH

MARS

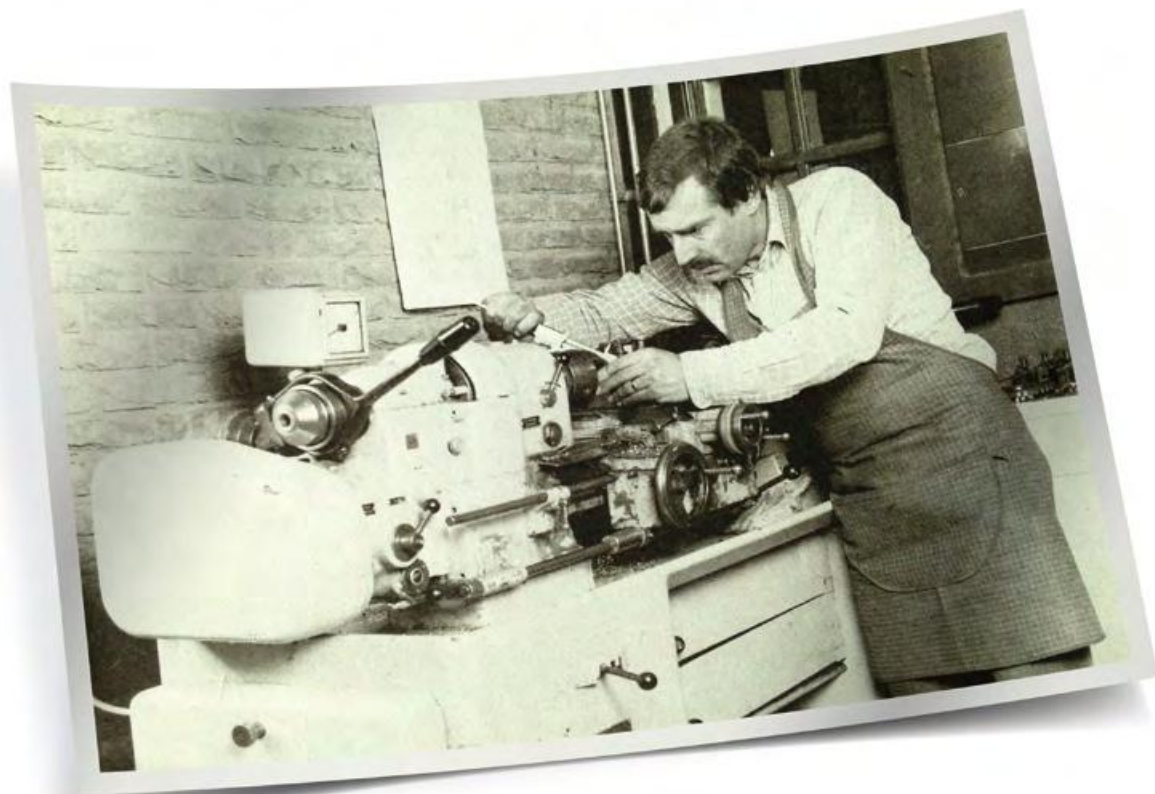
JUPITER

SATURN



MORE THAN 48 YEARS

OF ASTRONOMICAL COMPLICATIONS



MR. CHRISTIAAN VAN DER KLAUW



In 2022, we celebrated the fact that Christiaan van der Klaauw presented his first astronomical clock 48 years ago; 26 years ago he produced his first wristwatch with astronomical complications. It is a celebration in its purest form, with a balanced collection of unique astronomical watches. Christiaan van der Klaauw (1944) was born in Leiden, the city where the Netherlands' greatest scientist of all times, namesake and inspiration Christiaan Huygens started his studies in 1645. Van der Klaauw attended the School for Instrument Makers (LiS) in Leiden, the curriculum was established in 1901 at the initiative of Prof. Dr. Heike Kamerlingh Onnes.

1974

'CVDK SCHIPPERS STOELKLOK'
WITH MOON PHASE,
LIMITED 200 PIECES



1976

CVDK FRIESE STOELKLOK'
WITH MOON PHASE,
LIMITED 500 PIECES



1978

THE NEW
ATELIER IN JOURE,
FRIESLAND,
THE NETHERLANDS





INSTRUMENTS

When Kamerlingh Onnes was appointed professor in experimental physics in 1882 it was common practice for the physicists to make their own instruments. The scientist considered this nonsensical and initiated the founding of the LiS. This trade school describes instrument makers as 'handymen, puzzle solvers and inventors who use their technical knowledge and creativity to make just

1980

'CVDK CARILLON
KALENDERKLOK'
WITH 3D REAL MOON PHASE
AND DECLINATION OF THE SUN,
LIMITED 200 PIECES



1982

'CVDK PLANETARIUM
STOELKLOK'
IN CELEBRATION OF
THE 200TH ANNIVERSARY OF
THE PLANETARIUM FRANEKER,
FRIESLAND, THE NETHERLANDS,
LIMITED 50 PIECES



1983

'CVDK GLOBEKLOK'
WITH REAL MOON PHASE,
LIMITED 35 PIECES



1986

'CVDK STOELKLOK'
WITH ROTATING
SUN AND MOON,
LIMITED 5 PIECES



1988

'CVDK PLANISPHERE KLOK',
WITH ROTATING SUN
AND MOON PHASE,
LIMITED 24 PIECES



1989

'CVDK PLANETO ASTROLABIUM',
WITH A 3D PLANETRIUM, ASTROLABE
AND PLANISPHERE OF NORTHERN
AND SOUTHERN HEMISPHERE,
LIMITED 40 PIECES



BECOMES AN HONORARY MEMBER
OF THE PRESTIGIOUS SWISS AHCI



about anything conceivable'. This certainly applied and applies to Van der Klaauw who, in the course of his training, acquired practical experience at the Leidse Sterrewacht, the world's oldest university-affiliated observatory, which was established in 1633. In this magical world of stars and planets Christiaan van der Klaauw's love of astronomy burgeoned.



CELESTIAL BODIES

Good instrument makers are able to make what their eyes can see and are certainly capable of making timepieces. The idea of combining the mathematically predictable movements of celestial bodies with a clock was an idea that was certainly not unique to Van der Klaauw. Astronomical clocks had

1991



'CVDK PLANETARIUM'
TABLECLOCK WITH
PLANETARIUM AND
PLANISPHERE,
LIMITED 3 PIECES

1992



'CVDK PENDULE VARIABLE'
TABLECLOCK WITH ROTATING
SUN AND MOON AND ASTROLABE,
LIMITED 24 PIECES

AWARDED IN BASEL
WITH THE GOLDEN MEDAL

1995



'CVDK KEPLER'S PLANETARIUM'
TABLECLOCK, PLANETARIUM
WITH ECCENTRIC ORBITS,
LIMITED 24 PIECES

1996



'CVDK SATELLITE DU MONDE'
VAN DER KLAUW'S
FIRST WRIST WATCH

1999



'CVDK PLANETARIUM'
THE SMALLEST MECHANICAL
PLANETARIUM IN THE WORLD

NOMINATED IN 2001
FOR THE CHRONOS
INNOVATIONPREIS

2000



'CVDK MILLENIUM 2000'
NOMINATED IN 2001
FOR THE CHRONOS
INNOVATIONPREIS



been made thousands of years earlier and the Netherlands had the Friesian Eise Eisinga (1744-1828), a virtuoso who had built a highly accurate planetarium in a house in Franeker. After Christiaan van der Klaauw had completed a clock maker's course as well he moved from Leiden to Joure in 1967, where he started working for a producer of Friesian grandfather clocks.



INDEPENDENT WATCHMAKER

In 1974 Van der Klaauw started his own business and presented his first clock, with astronomical complications. It was the start of an exceptional story that made him one of the best clockmakers in the world, saw him receive (in 1989) an honorary membership of the Swiss Académie Horlogère des Créateurs Indépendants (AHCI), whose members include watchmaking greats such as Vincent

2001

'CVDK ARIADNE'



2002

'CVDK ECLIPS'



2003

'CVDK ASTROLABIUM'



2004

'CVDK MONDIAL'



2005

'CVDK REAL MOON'



2006

'CVDK VENUS'



Calabrese, George Daniels, François-Paul Journe and Franck Muller. In 1992, he won the award for the most innovative movement design for his Pendule Variable in Basel, Switzerland. Two years later he started with his first wrist watch, the CVDK Satellite du Monde - with astronomical complications, of course. The watch showed the time, day and date, as well as the moon phase, day and night indicator



and the place on earth where it is exactly noon at the time you are looking at your watch. It remains an amazing and elegant watch even today. In 1999 he presented the masterpiece CVDK Planetarium, equipped with the smallest mechanical planetarium in the world. Making wrist watches was the start of a new phase in the life of the Netherlands' most important watch maker.

2008



NEW MODERN
ATELIER IN HEERENVEEN,
FRIESLAND,
THE NETHERLANDS

2009



AFTER 10 YEARS
OF FRIENDSHIP AND
WORKING TOGETHER,
MR. DANIËL REINTJES
BECAME THE SUCCESSOR
OF MR. VAN DER KLAUW
TOGETHER WITH
MARIA REINTJES

2010



'CVDK RETRO MOON'
AWARDED
WATCH OF THE YEAR 2011

NEW ERA

In 2009, a new era began for Christiaan van der Klaauw. He was succeeded by the Dutch designer Daniël Reintjes. Daniël Reintjes had known Christiaan for many years, ever since he had asked him to produce watches for his own designer label 'Dark Rush'. He got on extremely well with the watchmaker he respected so highly and brought designer Maria Reintjes van Laar into the project as fellow shareholder and together started repositioning the brand.



'CVDK ORION'
NOMINATED EUROPEAN
WATCH OF THE YEAR 2012

2011



'CVDK RETRO MOON'
AWARDED
WATCH OF THE YEAR 2011
INNOVATION AWARD



'CVDK REAL MOON 1980'
AWARDED EUROPEAN
WATCH OF THE YEAR 2012





DANIËL & MARIA REINTJES

The new directors decided to focus exclusively on astronomical watches; the phrase 'astronomical watches' was added to the brand name and models with new, beautiful astronomical complications were added. This new direction was immediately awarded by winning the 'Watch of the Year Award' in 2011, and the European Watch of the Year Award in 2012, 2014 and 2016.

'CVDK CERES 1974'



2012

'CVDK REAL MOON 1980'
AWARDED EUROPEAN
WATCH OF THE YEAR 2012
READERS AWARD



'CVDK REAL MOON JOURE'
THE MOST ACCURATE
3D MOON PHASE
IN THE WORLD

NOMINATED EUROPEAN
WATCH OF THE YEAR 2013



But the astronomical new direction and creations were not about to stop here - ultimately creating the *Haute Horlogerie* recognition by the Fondation Haute Horlogerie (FHH) and winning the most prestigious watch prize in the the world, the *Grand Prix d'Horlogerie de Genève* (GPHG) - in the future ahead.



'CVDK PLANETARIUM TAFELHORLOGE'
TABLECLOCK WITH A 3D PLANETRIUM,
LIMITED 24 PIECES

2013

'CVDK NEW
PLANETARIUM'
NOMINATED EUROPEAN
WATCH OF THE YEAR 2013



2014



COLLABORATION WITH VAN CLEEF & ARPELS
'THE MIDNIGHT PLANETARIUM
POETIC COMPLICATION'

A PLANETARIUM MODULE DEVELOPED
BY CHRISTIAAN VAN DER KLAUW
EXCLUSIVELY FOR VAN CLEEF & ARPELS



SUPERIOR SIMPLICITY

All watches feature the same, round case design. Each of our watches is instantly recognisable, with the hour indexes above an imaginary horizon, the astronomical complication normally situated at the 6 o'clock position, a radiantly decorated dial and a transparent caseback with a beautiful CVDK rotor. And finally a stylised picture of the sun with 12 claws (Klaauw = claw) at 12 o'clock, the sun's zenith.



'CVDK
REAL MOON
JOURS 40Y'



'CVDK
HYPERNOVA'



'CVDK
REAL MOON
JOURS'

AWARDED EUROPEAN
WATCH OF THE YEAR 2014
READERS AWARD

2015

'CVDK
REAL MOON
TIDES'



2016

'CVDK
SUPERNOVA'



'CVDK TITAN PERPETUAL'



'CVDK REAL MOON TIDES'

AWARDED EUROPEAN
WATCH OF THE YEAR 2016



HAUTE HORLOGERIE

Christiaan van der Klaauw is listed since 2016 as '*Haute Horlogerie*' on the White Paper list of the respected *Fondation de la Haute Horlogerie (FHH)* in Switzerland. The FHH did research on 600 watch brands for 3 years - done by 46 experts - with 29 distinguishing criteria. Only 64 luxury brands in the world qualify and can claim the respected term of '*Haute Horlogerie*'.



COLLABORATION WITH VAN CLEEF & ARPELS

In 2014 the legendary maison Van Cleef & Arpels presented the mesmerizing timepiece *'Midnight Planétarium Poetic Complication'* at the SIHH in Geneva. In 2018 the Maison astonished the world again by presenting the extraordinary timepiece *'Lady Arpels Planétarium'*.



LISTED AS 'HAUTE HORLOGERIE'
ON THE WHITE PAPER LIST OF THE FONDATION
DE LA HAUTE HORLOGERIE (FHH) IN SWITZERLAND
ONLY 645 LUXURY WATCH BRANDS CAN CLAIM
THE TERM OF 'HAUTE HORLOGERIE'

'CVDK REAL MOON JOURS
ZODIAC SIGN SCORPIO'

CUSTOM MADE
HAND ENGRAVED ZODIAC SIGN
ONE OFF IN THE WORLD



2017

'CVDK REAL MOON
STELLA NEBULA'

COLLABORATION WITH THE
STELLA POLARE GALLERY IN TOKYO
A CUSTOM MADE COLLECTION
CONTAINING THE RARE PRE-HISTORIC
AMMOLITE STONE



'CVDK PLANETARIUM
ZODIAC SIGN SAGITTARIUS'

CUSTOM MADE
HAND ENGRAVED ZODIAC SIGN
ONE OFF IN THE WORLD



'CVDK REAL MOON JOURS
HORIZON'

OIL PAINTING
LIMITED 8 PIECES



2018



WINNER OF THE GPHG 2018

VAN CLEEF & ARPELS
'THE LADY ARPELS PLANÉTIARIUM'
COLLABORATION VAN CLEEF & ARPELS
AND CHRISTIAAN VAN DER KLAAUW



Both Haute Horlogerie masterpieces are equipped with a complex Planetarium module developed in Switzerland by Christiaan van der Klaauw, exclusively for Van Cleef & Arpels. Winner of the prestigious *Grand Prix d'Horlogerie de Genève (GPHG)* in 2018 in Geneva in the category Ladies' Complication.



IN THE WORLD

In 2024 we will celebrate our 50-year anniversary. Until today, Christiaan van der Klaauw Astronomical Watches is the only atelier in the world that is completely devoted to the design and the production of exclusive, hand-made astronomical watches.

2019



CVDK WATCH CONFIGURATOR

CREATE AND ORDER
YOUR OWN DESIGNED
CHRISTIAAN VAN DER KLAUW
TIMEPIECE



2020

CVDK PLANETARIUM
Eise Eisinga
LIMITED EDITION

'CVDK PLANETARIUM
EISE EISINGA'

6 LIMITED EDITIONS

COLLABORATION WITH THE
'ROYAL EISE EISINGA PLANETARIUM'
THE OLDEST STILL WORKING
PLANETERARIUM IN THE WORLD



WINNER OF THE GPHG, THE GRAND PRIX D'HORLOGERIE DE GENÈVE

Christiaan van der Klaauw won the *Grand Prix d'Horlogerie de Genève (GPHG)* in 2021. Known as the most prestigious Watch Award in the world, the 'Oscars' of watchmaking. The Calendar and Astronomy Watch Prize was awarded to the Christiaan van der Klaauw *CVDK Planetarium Eise Eisinga*. This Haute Horlogerie masterpiece contains the smallest mechanical Planetarium in the world, showing real time the orbits of Mercury, Venus, Earth, Mars, Jupiter and Saturn around the Sun.



2021

'CVDK REAL MOON TIDES
INTER SCALDES EDITION'

HAUTE CUISINE
MEETS HAUTE HORLOGERIE

3 STAR MICHELIN EDITION



WINNER OF THE GPHG 2021

CALENDAR AND ASTRONOMY
'CVDK PLANETARIUM EISE EISINGA'

IT CONTAINS THE SMALLEST
MECHANICAL PLANETARIUM IN THE WORLD





PIM KOESLAG

Master watchmaker Pim Koeslag has acquired a majority stake in CVDK on the 1st of June 2022. Koeslag joined the existing managing board as Technical Director, along with Daniël Reintjes (CEO/Creative Director) and Maria Reintjes (Marketing Director) who retained a share in the company.

Pim Koeslag was born in 1981 in Almelo, The Netherlands. At the age of 18, he attended watch-making school in Amsterdam, where he won the prize for the best watchmaker at school. This success gave him the opportunity to do an extensive training at Patek Philippe in Geneva. After his training he

2022

'CVDK REAL MOON JOURE
GREEN METEORITE'



CVDK PLANETARIUM
Dunes of Mars
LIMITED EDITION

'CVDK PLANETARIUM
DUNES OF MARS'
6 LIMITED EDITIONS



started working at Frederique Constant as Technical Director. During this 20-year period as Technical Director, he developed no fewer than 30 calibres, among them a tourbillon, a minute repeater and a chronograph. Koeslag was also responsible for starting the luxury brand Ateliers deMonaco where he held the position of CEO.

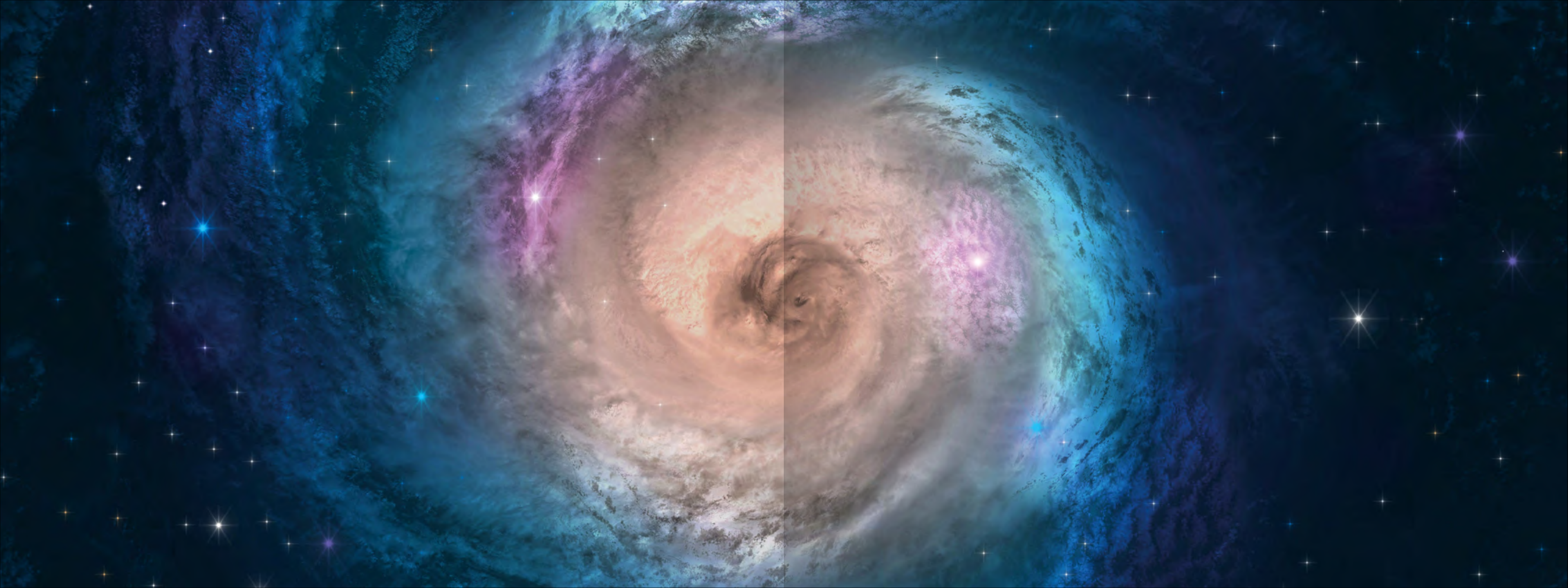
After living and working in Geneva for over 20 years, the Koeslag family returned to the Netherlands. Right at the same time when Daniël and Maria Reintjes were looking to reinforce the company to prepare for the next phase for Christiaan van der Klaauw Astronomical Watches. This solid new managing board will guarantee continuity of the company in the future with many more astronomical masterpieces ahead.



ON THE 1ST OF JUNE 2022 MASTER WATCHMAKER
PIM KOESLAG ACQUIRED A MAJORITY STAKE IN CVDK.
HE JOINED THE EXISTING MANAGING BOARD
AS TECHNICAL DIRECTOR, ALONG WITH
DANIËL REINTJES (CEO/CREATIVE DIRECTOR) AND
MARIA REINTJES (MARKETING DIRECTOR)
WHO RETAINED A SHARE IN THE COMPANY



FALL 2022,
THE NEW LOCATION OF THE
ATELIER CHRISTIAAN VAN DER KLAAUW
IN 'HET ARSENAAL' IN THE CITY NAARDEN,
THE NETHERLANDS



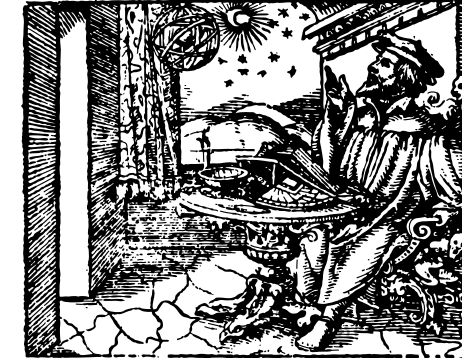


THE TAMED UNIVERSE



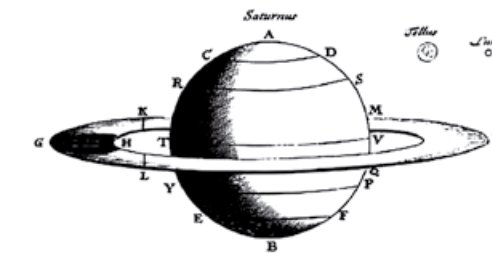
ASTROLABE

Since the dawn of mankind the sun and the moon have been a dominant but little-understood phenomena. Today we know that the Earth revolves around the sun and the moon around the Earth. Clear lights were dominated by a bright, starry sky, because there was no light pollution and the Milky Way was clearly visible as a bright band of stars. Only in modern times did it become clear that the Milky Way is nothing more than part of the enormous solar system to which our sun also belongs.



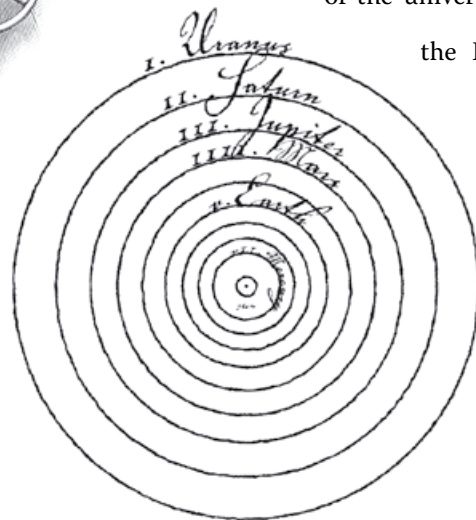
People started to interpret groups of stars that were close to each other in the firmament (but that in reality rarely had anything to do with each other) as constellations. Amidst the stable picture of constellations there were some individual stars. Only much later did it become evident that these 'wandering stars' are the planets which, like the Earth, revolve around the sun. Planets themselves do

not emit light but reflect the light from the sun. The brightest were the Morning and Evening Star, of which it was discovered only much later that they are one and the same planet: Venus. The weaker 'star' Mercury was mentioned by the Babylonians as early as 3000 BC. Mars (the red planet), Jupiter and Saturn were also recognised in Ancient times. All these planets are visible with the naked eye. Weaker planets were observed thanks to the development of the telescope: Uranus in 1781, Neptune in 1846 and Pluto in 1930. However, in 2006 Pluto was downgraded to a dwarf planet, of which more were found, even further away than Pluto.





NIKOLAAS COPERNICUS



HELIOCENTRIC

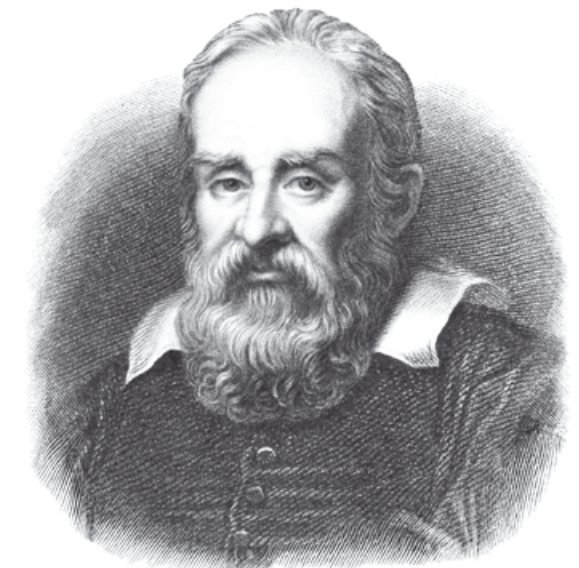
Thanks to the old Greeks like Plato, Aristotle and Ptolemaeus we knew how all of these celestial bodies moved in relation to each other: the Earth - they thought - was the centre of the universe and the other celestial bodies revolved around the Earth, the geocentric model. The ruling classes elevated this standpoint to a dogma, which made it hazardous to suggest a different model, as Galileo discovered to his detriment. However, the truth could not remain suppressed forever and the heliocentric model - which is mostly

ARISTOTLE



JOHANNES KEPLER

associated with the names of Copernicus (1473-1543) and Johannes Kepler (1571-1630) - eventually became universally accepted: the planets, and therefore the Earth as well, revolve around the sun. The trajectory of the Earth (and of the other planets) is not perfectly circular, but the deviation is minor. The movements of the celestial bodies are described by elementary laws of physics and can be duplicated with the aid of cog wheels.

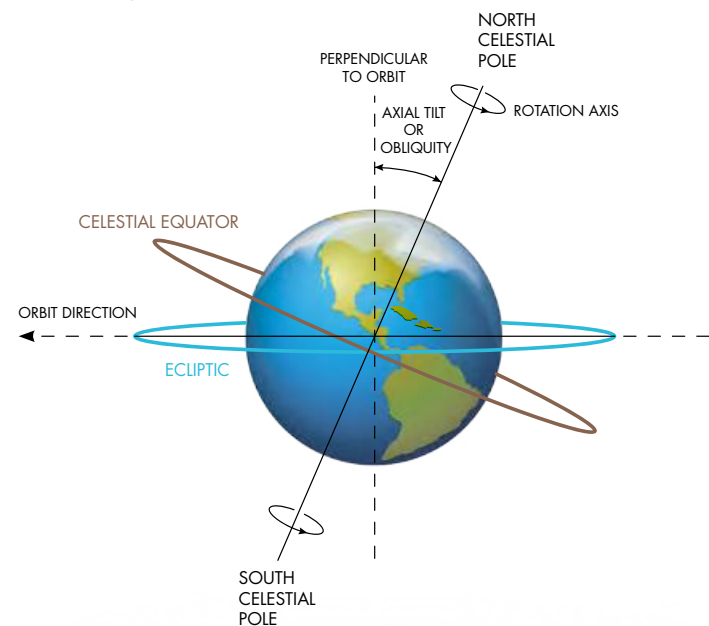


GALILEO GALILEI





AXIAL TILT OF THE EARTH



COMPLEX

The trajectories of all the planets are roughly in the same sphere because the planets were all formed from a flat 'disc' of matter that revolves around the sun. This disc is also referred to as the ecliptic plane or 'the ecliptic'. The Earth's rotational axis is inclined at an angle of 23.5° to this plane as is, therefore, the plane through the Earth's equator. The Earth's relation to the ecliptic is like that of a spinning top that isn't standing straight and - like this spinning top - gravity is making it wobble; the Earth's rotational axis slowly traces out a cone shape under the influence of the sun's gravitational pull. This phenomenon is called 'precession'.

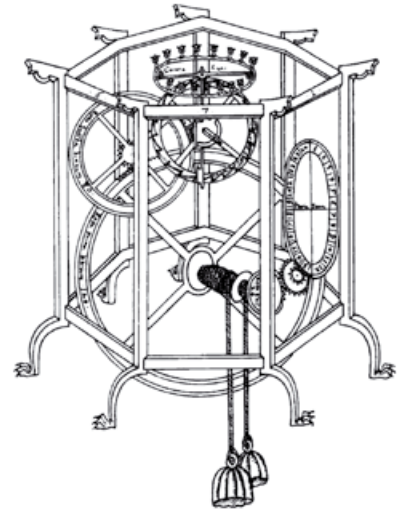


This precession affects two ways of measuring the time. In the solar time that is generally used the duration of a day and night (by definition 24 hours) is determined by the time between the 2 subsequent points when the sun is at its zenith. In sidereal time ('star time') 24 hours are measured by the time that lapses between two consecutive passages of the same star along a fixed meridian. Because of the precession, a sidereal day is not exactly identical to a solar day and is 23.9344699 hours, or 23 hours 56 minutes and 4.0916 seconds.



ZODIAC SIGNS ON THE ST MARK'S CLOCK IN VENICE, ITALY

The dates on which winter turns to summer and summer turns to winter are called the 'equinoxes'. These twice-yearly events are also the time when the Earth's axis does not point to the sun or away from the sun. At these times the days and nights are equal in length. The precession of the Earth's rotational axis also shifts the equinoxes over a period of around 20,000 years. Along the ecliptic you can picture the Zodiac, consisting of the 12 star signs that are known more because of astrology than for their astronomical significance.



ASTRARIUM OF
GIOVANNI DONDI
DELL'OROLOGIO

ANCIENT TIMES

The history of movements starts with movements for church clocks, and even for those, astronomical complications were first incorporated a long time ago. The best described planetarium clock (also referred to as 'astrarium') from this period, which had no fewer than 107 cog wheels, was built in Italy by Giovanni Dondi dell'Orologio also known as Giovanni de'Dondi (1330-1388).

Far back in history churches already had clocks, because it was considered very important that the various church services were held at the right times. Whereas the first clocks only had



a single hand for the hours, a minutes hand was soon to follow. The movements were subsequently expanded with a range of complications, including astronomical ones.

Of course, there is the wonder from the Netherlands, the planetarium of Eise Eisinga in the little town Franeker, the oldest functioning planetarium in the world. Eisinga, a wool carder, built the planetarium in 1774-1781 using 10,000 hand-forged nails as cogs. Today, Mercury, Venus, the Earth, Jupiter and Saturn still revolve around the sun at the correct times. The planetarium is powered by a pendulum clock and 9 weights.



DANIËL REINTJES AND THE INCREDIBLE ASTRONOMER HANS NOORDMANS (1929-2014)
AT THE EISE EISINGA PLANETARIUM



POCKET AND WRIST WATCHES

An astronomical clock is a clock which, in addition to the time of day, gives astronomical information. This may be the position of the sun or moon, the moon phase, the sidereal time or even a revolving star chart. An interesting detail is the fact that astronomical clocks normally use the geocentric model, often with the Earth in the centre of the dial.

The ecliptic dial is the projection of the ecliptic plane, shown off-centre on the dial and appears to be distorted, as a result of the angled position of the Earth's rotational axis compared to the ecliptic plane. The ecliptic dial makes one revolution



every 23 hours, 56 minutes and 4.0916 seconds (in other words, one sidereal day). The complications used in astronomical clocks form the basis for smaller astronomical movements, initially in clocks, then in pocket watches and finally in wrist watches.

It was a logical progression that movement makers would try to reduce astronomical complications to such an extent that they would fit inside a watch case. A tourbillon may be complicated, but many astronomical complications could only be made by the very best watchmakers and brands. Because of their size, pocket watches were most suitable; the more sizeable the better. But in the end, the world's best watchmakers succeeded

in compressing astronomical complications into movements small enough to be used in wrist watches.

Christiaan van der Klaauw is one of these pioneers.

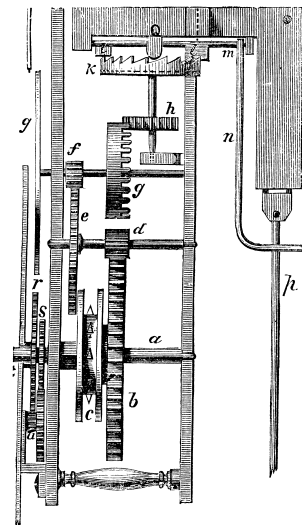
BEAUTY

With an astronomical watch, a watch brand proves that its watchmakers have mastered the most difficult complications. For the aficionado the most important thing is how incredibly clever these complications are and, equally important, how beautiful they often are. At Christiaan van der Klaauw, inspired design and classic watchmaking are combined to create works of eternal beauty.





PENDULUM CLOCK



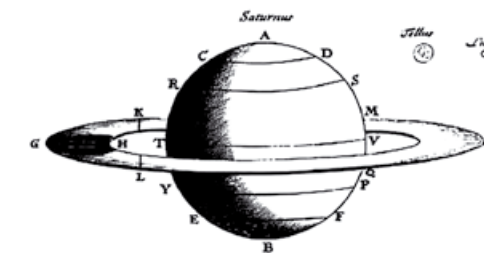
DUTCH STARS ARE MAPPING THE UNIVERSE



Maybe it has been the Dutch skies made famous by the painters during the Golden Age.

Maybe a history of non-conformist thinking is the key, or the fact that the first patent for a telescope was granted in the Netherlands in 1608 to Dutch/German optician Hans Lipperhey (Galileo Galilei improved Lipperhey's invention one year later). But whatever the reason, it is a fact the Netherlands have produced a disproportionate number of world class astronomers and astrophysicists. Every Christiaan van der Klaauw watch pays tribute to the Dutch contributions to astronomy.

CHRISTIAAN HUYGENS ,
INVENTOR OF THE PENDULUM MOVEMENT



HANS LIPPERHEY - INVENTOR OF THE TELESCOPE,
LATER IMPROVED BY GALILEO GALILEI

In the 17th and 18th century Dutch astronomers played a major part in expanding our knowledge of the skies. Leiden University founded the world's first astronomical observatory in 1633, Utrecht followed suit in 1644 (at the moment the Netherlands feature approximately 30 public observatories). Pieter Keyser (1540-1596) was the first to map a number of constellations of the southern hemisphere. Christiaan Huygens (1629-1695) discovered - among many other things - the rings and the major moon of Saturn (Titan). This universal genius was also of great importance to the development of clocks and watches with his invention of the pendulum movement. Maarten van den Hove (1605-1639)



FREDERIK KAISER,
CALCULATED THE ROTATION TIME OF MARS



developed an accurate method to calculate the diameter of a planet. Eise Eisinga (1744-1828) built the oldest still working planetarium in the world.

In the 19th and 20th century Dutch astronomers continued to play a leading role. Frederik Kaiser (1808-1872) calculated the rotation time of Mars and became an internationally acknowledged expert on astronomical position-finding. Willem Julius (1860-1925) was one of the founders of modern solar physics research. Willem de Sitter (1872-1934) was the first to develop a cosmological model of an expanding universe. De Sitter's student Adriaan Blaauw (1914-2010) became world



EISE EISINGA, BUILT THE OLDEST STILL
WORKING PLANETARIUM IN THE WORLD



ADRIAAN BLAAUW,
EUROPEAN SOUTHERN OBSERVATORY IN CHILE



famous for his study of young, hot stars and played an important role in establishing the European Southern Observatory in Chile. The new observatory of Groningen University (opened in 2008) is named after him.

The name of Gerard Peter Kuiper (1905-1973), who undertook game changing studies of the moon and discovered the moons Miranda (Uranus) and Nereid (Neptunus) is immortalized by the Kuiper Belt, a disc of comets at a relatively short distance from the sun. The Oort cloud has been named after Jan H. Oort (1900- 1992) who suggested comets come from a spherical shell surrounding the solar system. Oort is one of the pioneers of radio astronomy, proved the milky way is a fast rotating disc



Author: Gelderen, Hugo van / Anefo

GERARD PETER KUIPER, 'KUIPERBELT'

Author: ESO/H.I.Heyer



Author: Joop van Bilsen



JAN H. OORT,
PROVED THE MILKY WAY IS A FAST
ROTATING DISC WITH TWO SPIRAL ARMS

with two spiral arms and calculated the centre of the milky way to be in the Sagittarius constellation.

Bart Jan Bok (1906 - 1983) suggested in 1947 that small dark globules of interstellar gas and dust were imploding on their way to form new stars. The globules were later named Bok Globules. Tom Gehrels (1925 - 2010) discovered thousands of planetoids and comets, working closely together with fellow Dutchman Kees van Houten and his wife Ingrid. He was one of the initiators of the Spacewatch project. Henk van de Hulst (1918 - 2000) was one of the team members that charted neutral hydrogen in our milky way system, establishing its spiral structure. Ed van den Heuvel (1940)

gained his reputation with studies of the formation and evolution of compact objects such as neutron stars and

black holes. Maarten Schmidt (1929) discovered the distance between earth and the quasars.

And then there are the Dutch physicists who have made important contributions to astronomy, such as 1902 Nobel Prize winners Pieter Zeeman and Hendrik Lorentz who developed the theory of electromagnetic radiation (a precursor to the theory of special relativity from Einstein). Johannes van der Waals was awarded the 1910 Nobel Prize in physics for his outstanding work



HEIKE KAMERLING ONNES,
NOBEL PRIZE WINNER FOR
PRODUCING LIQUID HELIUM

on the equation of state for gases and liquids. Heike Kamerling Onnes (the initiator of the instrument making school that taught Christiaan van der Klaauw his art) received the 1913 Nobel Prize for producing liquid helium. Nicolaas Bloembergen won the 1981 Nobel Prize in physics for his work in nonlinear optics.

And the Netherlands continue to produce new stars in the field of astronomy, thanks to excellent universities that often have been teaching astronomy for many centuries. Christiaan van der Klaauw Astronomical Watches would not exist without this magnificent heritage.



CVDK VENUS





CHRISTIAAN VAN DER KLAAUW

THE ATELIER

In the modern atelier of Christiaan van der Klaauw Astronomical Watches in the city Naarden - The Netherlands, every watch is made with great care and passion. The mechanical masterpieces, from the *'Planetarium'* to the *'Orion'* are all designed and manufactured in this atelier. With unprecedented precision, the masters of Christiaan van der Klaauw make every watch - one by one - by hand.

Our atelier is officially listed as *'Haute Horlogerie'* on the White Paper list of the *Fondation de la Haute Horlogerie* (FHH) in Switzerland. Only 64 watch brands can claim the term of *'haute horlogerie'*.





The main characteristic of the watches made by Christiaan van der Klaauw is the astronomical complication. Every watch has one or more complications that originate from astronomy. Our watchmakers turn complex astronomical complications into astonishing works of art.

All these beautiful timepieces are made with great attention for detail and only the finest and best materials are used for our collection. We produce in such small quantities per year that each watch can be seen as a limited edition. All watches are therefore numbered.

In 2024 we will celebrate our 50-year anniversary. Until today, Christiaan van der Klaauw Astronomical Watches is the only atelier in the world that is completely devoted to the design and the production of exclusive, hand-made astronomical watches.





CVDK LOGO (ZONNENKLAAUW, SUN WITH 12 CLAWS),
ON THE 12 O'CLOCK POSITION

INDEXES ABOVE THE HORIZON

RAYS OR STARRY DIAL

ASTRONOMICAL COMPLICATION ON THE 6 O'CLOCK POSITION

ROUND CASE, CVDK LOGO ENGRAVED ON THE LEFT SIDE

TRANSPARANT CASEBACK WITH A BEAUTIFULLY CRAFTED ROTOR

THE CVDK SIGNATURE





COLLECTION OF ASTRONOMICAL MASTERPIECES

Space may be without limits, but the number of watches we produce for this collection certainly is limited. They offer classic astronomical complications, all designed and hand-made in our own workshop, but also feature innovative ways to show the phases of the moon, the position of the planets and the height of the sun in relation to the horizon. It is this breathtaking combination of traditional watchmaking with timeless design that gives each watch in this collection its inimitable beauty.



THE MASTERPIECE PLANETARIUM

This is the ultimate way to carry the universe closely to your heart. Our in-house designed module gives you the smallest mechanical heliocentric planetarium in the world. It displays real time the solar orbits of Mercury, Venus, Earth, Mars, Jupiter and Saturn. It also shows you the minutes, hours, date and month. The result is a magnificent spectacle that continues to fascinate in all its complex mechanical beauty.





This is astronomical watchmaking at the highest level, intricately designed and executed. Our Planetarium is one of the most complicated watches in our collection, a fitting tribute to the grand masters of planetarium design such as Nicolaas Copernicus, Johannes Kepler, Christiaan Huygens and Eise Eisinga.

TIME OF FULL ORBIT OF **MARS** AROUND THE SUN 686.98 DAYS

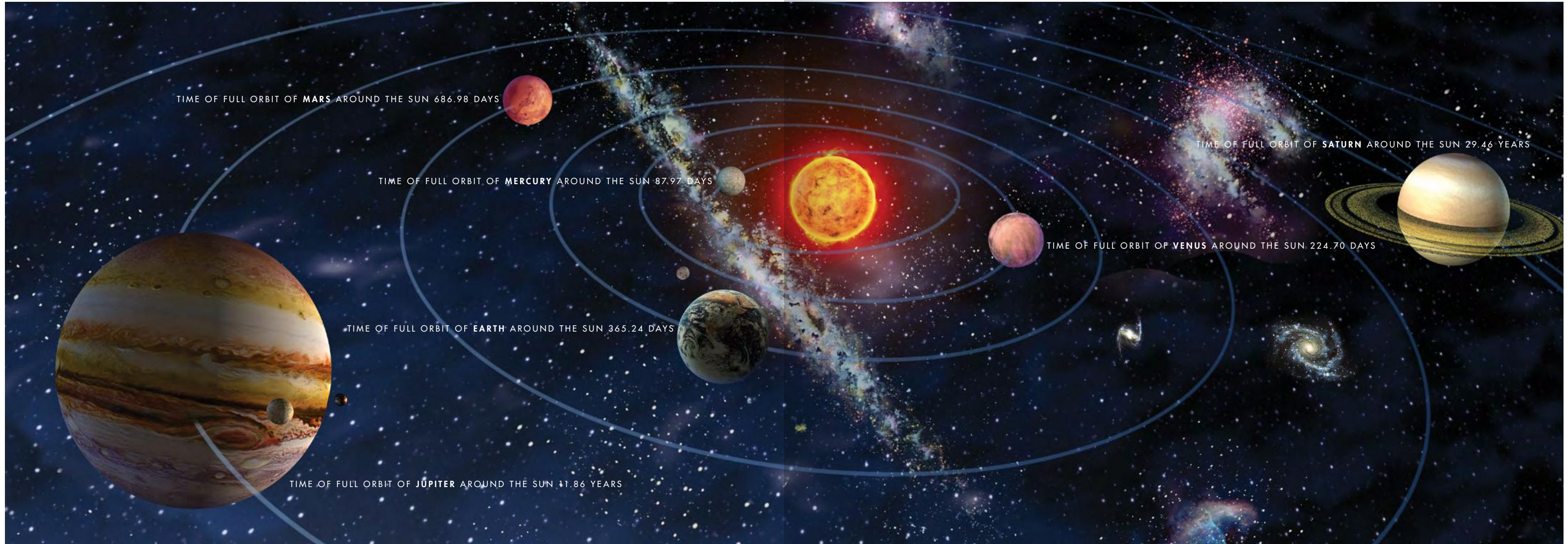
TIME OF FULL ORBIT OF **MERCURY** AROUND THE SUN 87.97 DAYS

TIME OF FULL ORBIT OF **EARTH** AROUND THE SUN 365.24 DAYS

TIME OF FULL ORBIT OF **JUPITER** AROUND THE SUN 11.86 YEARS

TIME OF FULL ORBIT OF **VENUS** AROUND THE SUN 224.70 DAYS

TIME OF FULL ORBIT OF **SATURN** AROUND THE SUN 29.46 YEARS





CVDK PLANETARIUM CKPT3304

Movement: CVDK7386, automatic winding, 35 jewels, twin barrel, power-reserve; 96 hour max., complication; CVDK Planetarium module.

Functions: Hours, minutes, complication; date, month, Planetarium; the watch is equipped with the smallest mechanical Planetarium in the world, showing the orbits of Mercury, Venus, Earth, Mars, Jupiter and Saturn around the Sun.

Case: High quality steel, ø 40 mm, sapphire crystal, sapphire crystal case-back.

Dial: Aventurine glass (goldfluss) creating a star filled sky with white rhodium plated indexes, rhodium plated Planetarium with coloured Sun and Earth.

Strap: Black leather.

Buckle: Logo engraved steel folding clasp.



CVDK PLANETARIUM CKPT3344

Movement: CVDK7386, automatic winding, 35 jewels, twin barrel, power-reserve; 96 hour max., complication; CVDK Planetarium module.

Functions: Hours, minutes, complication; date, month, Planetarium; the watch is equipped with the smallest mechanical Planetarium in the world, showing the orbits of Mercury, Venus, Earth, Mars, Jupiter and Saturn around the Sun.

Case: High quality steel, ø 40 mm, sapphire crystal, sapphire crystal case-back.

Dial: Black with white rhodium plated indexes, rhodium plated Planetarium with coloured Sun and Earth.

Strap: Black leather.

Buckle: Logo engraved steel folding clasp.



CVDK PLANETARIUM CKPT1124

Movement: CVDK7386, automatic winding, 35 jewels, twin barrel, power-reserve; 96 hour max., complication; CVDK Planetarium module.

Functions: Hours, minutes, complication; date, month, Planetarium; the watch is equipped with the smallest mechanical Planetarium in the world, showing the orbits of Mercury, Venus, Earth, Mars, Jupiter and Saturn around the Sun.

Case: Rose gold, ø 40 mm, sapphire crystal, sapphire crystal case-back.

Dial: Silver with blue indexes, rhodium plated Planetarium with coloured Sun and Earth.

Strap: Black leather.

Buckle: Logo engraved rose gold buckle.



CVDK PLANETARIUM CKPT7724

Movement: CVDK7386, automatic winding, 35 jewels, twin barrel, power-reserve; 96 hour max., complication; CVDK Planetarium module.

Functions: Hours, minutes, complication; date, month, Planetarium; the watch is equipped with the smallest mechanical Planetarium in the world, showing the orbits of Mercury, Venus, Earth, Mars, Jupiter and Saturn around the Sun.

Case: White gold, ø 40 mm, sapphire crystal, sapphire crystal case-back.

Dial: Silver with blue indexes, rhodium plated Planetarium with coloured Sun and Earth.

Strap: Black leather.

Buckle: Logo engraved white gold buckle.



CVDK PLANETARIUM CKPT2225

Movement: CVDK7386, automatic winding, 35 jewels, twin barrel, power-reserve; 96 hour max., complication; CVDK Planetarium module.

Functions: Hours, minutes, complication; date, month, Planetarium; the watch is equipped with the smallest mechanical Planetarium in the world, showing the orbits of Mercury, Venus, Earth, Mars, Jupiter and Saturn around the Sun.

Case: Platinum, ø 40 mm, sapphire crystal, sapphire crystal case-back.

Dial: Silver with blue indexes, rhodium plated Planetarium with coloured Sun and Earth.

Strap: Brown leather.

Buckle: Logo engraved platinum buckle.



CVDK PLANETARIUM ROTOR

The rotor is engraved with planets, stars and the 'Sun with 12 Claws', the logo of Christiaan van der Klaauw.

Each model is also available
with a diamond set bezel.



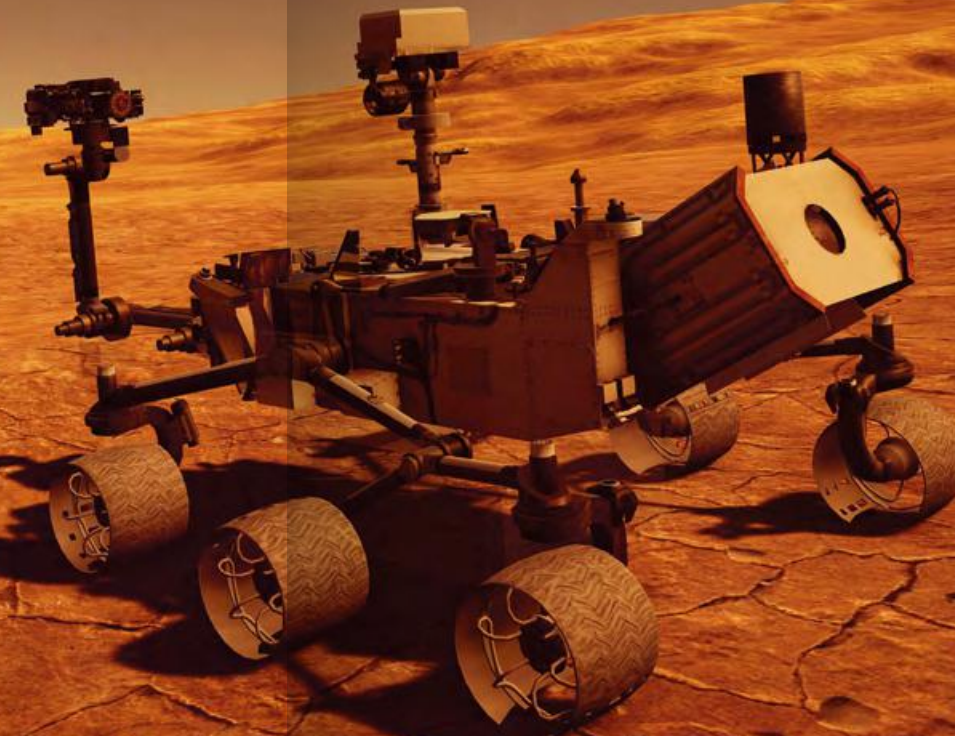
A TRIBUTE TO MARS...

Mankind has always been fascinated with the mysteries of our Universe. Christiaan van der Klaauw proudly presents a beautiful tribute to our planet Mars, the fourth planet in our Solar System. The mesmerizing *CVDK Planetarium Dunes of Mars* features the smallest mechanical Planetarium in the world, made with a specially created CVDK signature Aventurine Glass dial in red - portraying Mars its red sandy grounds.

Mars, known as the Red Planet, is a mostly dry and dusty place. A variety of colors can be seen on the surface, including the predominant rusty red the planet is known for. This rusty red color is iron oxide, just like the rust that forms here on Earth when iron oxidizes - often in the presence of water. Like Earth, Mars has seasons, polar ice caps, volcanoes, canyons, and weather.

Mars is one of the easiest planets to spot in the night sky - it looks like a bright red point of light. It has two moons named Phobos and Deimos and one day on Mars takes a little over 24 hours. It makes a complete orbit around the Sun (a year in Martian time) in 687 Earth days, which can be seen in real time on our Planetarium dial. Despite being inhospitable to humans, robotic explorers - like NASA's new Perseverance rover - are serving as pathfinders to eventually get humans to the surface of this mysterious and intriguing Red Planet.

Source: <https://www.jpl.nasa.gov/edu/teach/activity/exploring-the-colors-of-mars>
Source: <https://solarsystem.nasa.gov/planets/mars/overview/>





CVDK PLANETARIUM CKPM3305
Dunes of Mars

Movement: CVDK7386, automatic winding, 35 jewels, twin barrel, power-reserve; 96 hour max., complication; CVDK Planetarium module.

Functions: Hours, minutes, complication; date, month, Planetarium; the watch is equipped with the smallest mechanical Planetarium in the world, showing the orbits of Mercury, Venus, Earth, Mars, Jupiter and Saturn around the Sun.

Case: High quality steel, ø 40 mm, sapphire crystal, sapphire crystal case-back.

Dial: Aventurine Glass in red with white rhodium plated indexes and hands, rhodium plated Planetarium with coloured Sun, Earth and Mars.

Strap: Brown leather.

Buckle: Logo engraved steel folding clasp.

Limited Edition: 6 watches in high quality steel.



CVDK PLANETARIUM CKPM1105
Dunes of Mars

Movement: CVDK7386, automatic winding, 35 jewels, twin barrel, power-reserve; 96 hour max., complication; CVDK Planetarium module.

Functions: Hours, minutes, complication; date, month, Planetarium; the watch is equipped with the smallest mechanical Planetarium in the world, showing the orbits of Mercury, Venus, Earth, Mars, Jupiter and Saturn around the Sun.

Case: Rose gold, ø 40 mm, sapphire crystal, sapphire crystal case-back.

Dial: Aventurine Glass in red with white rhodium plated indexes, rose gold plated hands, rhodium plated Planetarium with coloured Sun, Earth and Mars.

Strap: Brown leather.

Buckle: Logo engraved rose gold buckle.

Limited Edition: 6 watches in rose gold.



CVDK PLANETARIUM CKPM7705
Dunes of Mars

Movement: CVDK7386, automatic winding, 35 jewels, twin barrel, power-reserve; 96 hour max., complication; CVDK Planetarium module.

Functions: Hours, minutes, complication; date, month, Planetarium; the watch is equipped with the smallest mechanical Planetarium in the world, showing the orbits of Mercury, Venus, Earth, Mars, Jupiter and Saturn around the Sun.

Case: White gold, ø 40 mm, sapphire crystal, sapphire crystal case-back.

Dial: Aventurine Glass in red with white rhodium plated indexes and hands, rhodium plated Planetarium with coloured Sun, Earth and Mars.

Strap: Brown leather.

Buckle: Logo engraved white gold buckle.

Limited Edition: 6 watches in white gold.





THE MASTERPIECE

REAL MOON JOURE

This classical beauty represents a special interpretation of our rotating 3-dimensional real moon indicating the true moon phase. The moon rotates around the earth every 29,5305889 days. Our hand-made 3D miniature moon indicates the moon phase so accurately that it deviates only one day in 11,000 years. It is the most accurate 3D moon phase indicator ever incorporated in a mechanical watch movement. The watch also shows the time. And who needs more?







CVDK REAL MOON JOURE CKR/3324

Movement: CVDK7382, automatic winding, 35 jewels, twin barrel, power-reserve; 96 hour max., complication; CVDK Real Moon Joure module.
Functions: Hours, minutes, complication; 3D moon phase; the watch is equipped with the most accurate 3D moon phase in the world.
Case: High quality steel, ø 40 mm, sapphire crystal, sapphire crystal case-back.
Dial: Silver with white rhodium plated indexes.
Strap: Black leather.
Buckle: Logo engraved steel folding clasp.



CVDK REAL MOON JOURE CKR/3344

Movement: CVDK7382, automatic winding, 35 jewels, twin barrel, power-reserve; 96 hour max., complication; CVDK Real Moon Joure module.
Functions: Hours, minutes, complication; 3D moon phase; the watch is equipped with the most accurate 3D moon phase in the world.
Case: High quality steel, ø 40 mm, sapphire crystal, sapphire crystal case-back.
Dial: Black with white rhodium plated indexes.
Strap: Black leather.
Buckle: Logo engraved steel folding clasp.



CVDK REAL MOON JOURE CKR/3304

Movement: CVDK7382, automatic winding, 35 jewels, twin barrel, power-reserve; 96 hour max., complication; CVDK Real Moon Joure module.
Functions: Hours, minutes, complication; 3D moon phase; the watch is equipped with the most accurate 3D moon phase in the world.
Case: High quality steel, ø 40 mm, sapphire crystal, sapphire crystal case-back.
Dial: Aventurine glass (goldfluss) creating a star filled sky with white rhodium plated indexes.
Strap: Black leather.
Buckle: Logo engraved steel folding clasp.

Each model is also available
with a diamond set bezel.



CVDK REAL MOON JOURE CKR/3894

Movement: CVDK7382, automatic winding, 35 jewels, twin barrel, power-reserve; 96 hour max., complication; CVDK Real Moon Joure module.
Functions: Hours, minutes, complication; 3D moon phase; the watch is equipped with the most accurate 3D moon phase in the world.
Case: High quality steel, diamond set in high quality steel bezel, ø 40 mm, sapphire crystal, sapphire crystal case-back.
Dial: Mother-of-pearl with blue indexes.
Strap: Black leather.
Buckle: Logo engraved steel folding clasp.



CVDK REAL MOON JOURE CKR/1124

Movement: CVDK7382, automatic winding, 35 jewels, twin barrel, power-reserve; 96 hour max., complication; CVDK Real Moon Joure module.
Functions: Hours, minutes, complication; 3D moon phase; the watch is equipped with the most accurate 3D moon phase in the world.
Case: Rose gold, ø 40 mm, sapphire crystal, sapphire crystal case-back.
Dial: Silver with blue indexes.
Strap: Black leather.
Buckle: Logo engraved rose gold buckle.



CVDK REAL MOON JOURE CKR/7724

Movement: CVDK7382, automatic winding, 35 jewels, twin barrel, power-reserve; 96 hour max., complication; CVDK Real Moon Joure module.
Functions: Hours, minutes, complication; 3D moon phase; the watch is equipped with the most accurate 3D moon phase in the world.
Case: White gold, ø 40 mm, sapphire crystal, sapphire crystal case-back.
Dial: Silver with blue indexes.
Strap: Black leather.
Buckle: Logo engraved white gold buckle.

WHEN THE UNIVERSE MEETS THE MOST ACCURATE 3D MOON PHASE IN THE WORLD...

A magical gathering between the oldest known magma from space and the most accurate 3D moon phase in the world. Christiaan van der Klaauw proudly presents the *CVDK Real Moon Joure Green Meteorite*. Meteorites that fall to Earth represent some of the original, diverse materials that formed planets billions of years ago. Our beautiful Haute Horlogerie Real Moon Joure contains a specially made Green Meteorite dial bearing *the most accurate 3D moon phase in the world* ever incorporated in a mechanical watch.





CVDK REAL MOON JOURE CKRJ33G4
Green Meteorite

Movement: CVDK7382, automatic winding, 35 jewels, twin barrel, power-reserve; 96 hour max., complication; CVDK Real Moon Joure module.
Functions: Hours, minutes, complication; 3D moon phase; the watch is equipped with the most accurate 3D moon phase in the world.
Case: High quality steel, ø 40 mm, sapphire crystal, sapphire crystal case-back.
Dial: Green Meteorite with white rhodium plated indexes.
Strap: Black leather.
Buckle: Logo engraved steel folding clasp.



CVDK REAL MOON JOURE CKRJ11G4
Green Meteorite

Movement: CVDK7382, automatic winding, 35 jewels, twin barrel, power-reserve; 96 hour max., complication; CVDK Real Moon Joure module.
Functions: Hours, minutes, complication; 3D moon phase; the watch is equipped with the most accurate 3D moon phase in the world.
Case: Rose gold, ø 40 mm, sapphire crystal, sapphire crystal case-back.
Dial: Green Meteorite with white rhodium plated indexes and rose gold plated hands.
Strap: Black leather.
Buckle: Logo engraved rose gold buckle.



CVDK REAL MOON JOURE CKRJ77G4
Green Meteorite

Movement: CVDK7382, automatic winding, 35 jewels, twin barrel, power-reserve; 96 hour max., complication; CVDK Real Moon Joure module.
Functions: Hours, minutes, complication; 3D moon phase; the watch is equipped with the most accurate 3D moon phase in the world.
Case: White gold, ø 40 mm, sapphire crystal, sapphire crystal case-back.
Dial: Green Meteorite with white rhodium plated indexes.
Strap: Black leather.
Buckle: Logo engraved white gold buckle.

THE MASTERPIECE
REAL MOON JOURE
Green Meteorite

*Each model is also available
with a diamond set bezel.*





THE MASTERPIECE REAL MOON TIDES

The CVDK Real Moon series, known for the Real Moon Joure and the Real Moon 1980, was extended with a new unique masterpiece, the CVDK Real Moon Tides. This completes the Real Moon trilogy.

Next to a rotating miniature moon it carries a complication showing you the sea level tides in a way that has never been seen in a mechanical watch before. Tides are the rise and fall of sea levels caused by the combined effects of gravitational forces exerted by the Moon, Sun, and rotation of the Earth.





There are multiple types of sea tides. In most locations you will find the 'principal lunar semi-diurnal' sea tide. Its period for one rise and fall of the sea level is about 12 hours, 25 minutes and 14 seconds. Waves move up and down in a special window to make this beautiful phenomenon visible.

At the 6 o'clock position our unique rotating 3-dimensional real moon - indicating the true moon phase - is shown. The moon rotates around the earth every 29,530,588.9 days. Our hand-made 3D miniature moon indicates the moon phase so accurately that it deviates only one day in 11,000 years. It is the most accurate 3D moon phase in the world ever incorporated in a mechanical watch.



CVDK REAL MOON TIDES CKRS3324

Movement: CVDK7383, automatic winding, 35 jewels, twin barrel, power-reserve; 96 hour max., complication; CVDK Real Moon Tides module.
Functions: Hours, minutes, complication; Tides indicator, 3D moon phase; the watch is equipped with the most accurate 3D moon phase in the world.
Case: High quality steel, ø 40 mm, sapphire crystal, sapphire crystal case-back.
Dial: Silver with blue indexes.
Strap: Black leather.
Buckle: Logo engraved steel folding clasp.



CVDK REAL MOON TIDES CKRS3304

Movement: CVDK7383, automatic winding, 35 jewels, twin barrel, power-reserve; 96 hour max., complication; CVDK Real Moon Tides module.
Functions: Hours, minutes, complication; Tides indicator, 3D moon phase; the watch is equipped with the most accurate 3D moon phase in the world.
Case: High quality steel, ø 40 mm, sapphire crystal, sapphire crystal case-back.
Dial: Aventurine glass (goldfluss) creating a star filled sky with white rhodium plated indexes.
Strap: Black leather.
Buckle: Logo engraved steel folding clasp.



CVDK REAL MOON TIDES CKRS1124

Movement: CVDK7383, automatic winding, 35 jewels, twin barrel, power-reserve; 96 hour max., complication; CVDK Real Moon Tides module.
Functions: Hours, minutes, complication; Tides indicator, 3D moon phase; the watch is equipped with the most accurate 3D moon phase in the world.
Case: Rose gold, ø 40 mm, sapphire crystal, sapphire crystal case-back.
Dial: Silver with blue indexes.
Strap: Black leather.
Buckle: Logo engraved rose gold buckle.



CVDK REAL MOON TIDES CKRS7804

Movement: CVDK7383, automatic winding, 35 jewels, twin barrel, power-reserve; 96 hour max., complication; CVDK Real Moon Tides module.
Functions: Hours, minutes, complication; Tides indicator, 3D moon phase; the watch is equipped with the most accurate 3D moon phase in the world.
Case: White gold, diamond set in white gold bezel, ø 40 mm, sapphire crystal, sapphire crystal case-back.
Dial: Aventurine glass (goldfluss) creating a star filled sky with white rhodium plated indexes.
Strap: Black leather.
Buckle: Logo engraved white gold buckle.



CVDK REAL MOON TIDES CKRS7725

Movement: CVDK7383, automatic winding, 35 jewels, twin barrel, power-reserve; 96 hour max., complication; CVDK Real Moon Tides module.
Functions: Hours, minutes, complication; Tides indicator, 3D moon phase; the watch is equipped with the most accurate 3D moon phase in the world.
Case: White gold, ø 40 mm, sapphire crystal, sapphire crystal case-back.
Dial: Silver with blue indexes.
Strap: Brown leather.
Buckle: Logo engraved white gold buckle.



CVDK REAL MOON TIDES ROTOR

The rotor is engraved with planets, stars and the 'Sun with 12 Claws', the logo of Christiaan van der Klaauw.

Each model is also available with a diamond set bezel.





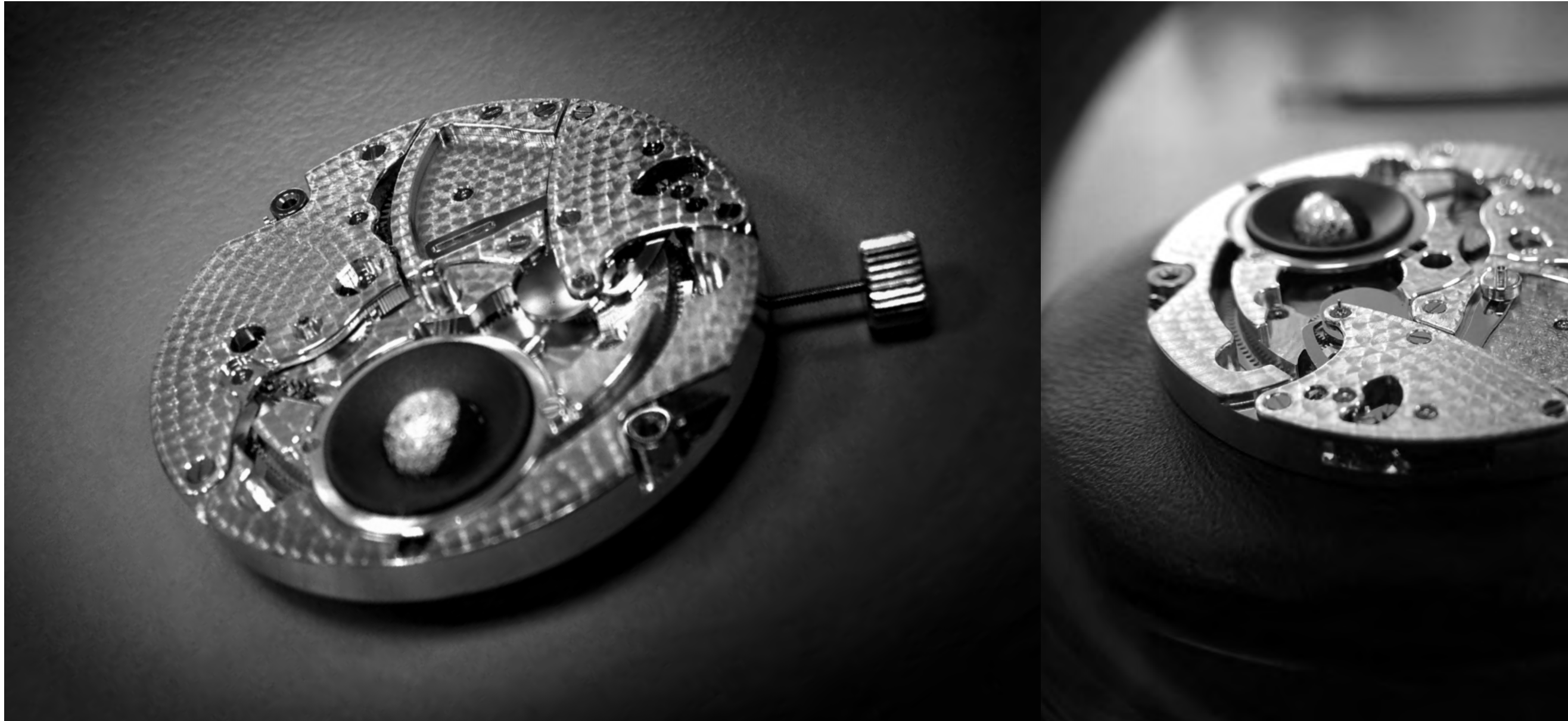


THE MASTERPIECE REAL MOON 1980

Taking center-stage at the 6 o'clock position, the unique 3-dimensional real moon shows the moon phase in a very accurate way. But from a technical viewpoint the mechanical indication of the declination of the sun, plus the solar and lunar eclipses, is extremely interesting too.

The declination of the sun is shown at the 12 o'clock position. The height of the Sun in relation to the horizon can be read by means of a fine moving symbol of the sun, the Christiaan van der Klaauw brand logo. At the start of the summer, the sun symbol is at its highest position and at the start of winter, the sun





symbol is at its lowest position. The 3 o'clock position is reserved for the Eclipse hand. When the Eclipse hand moves within the indication marks, there is an eclipse of the Sun or the Moon somewhere on the Earth. The Real Moon 1980 also shows the date (day and month) at the 9 o'clock position.

With this very complicated masterpiece - that was awarded European Watch of the Year in 2012 - Christiaan van der Klaauw Astronomical Watches proves once again its authority on astronomical watches.



CVDK REAL MOON 1980 CKRL3344

Movement: CVDK7384, automatic winding, 35 jewels, twin barrel, power-reserve; 96 hour max., complication; CVDK Real Moon 1980 module.
Functions: Hours, minutes, complication; date, month, 3D moon phase, declination of the sun, eclipse hand; indicates both solar and lunar eclipse.
Case: High quality steel, ø 40 mm, sapphire crystal, sapphire crystal case-back.
Dial: Black with white rhodium plated indexes.
Strap: Black leather.
Buckle: Logo engraved steel folding clasp.



CVDK REAL MOON 1980 CKRL3304

Movement: CVDK7384, automatic winding, 35 jewels, twin barrel, power-reserve; 96 hour max., complication; CVDK Real Moon 1980 module.
Functions: Hours, minutes, complication; date, month, 3D moon phase, declination of the sun, eclipse hand; indicates both solar and lunar eclipse.
Case: High quality steel, ø 40 mm, sapphire crystal, sapphire crystal case-back.
Dial: Aventurine glass (goldfluss) creating a star filled sky with white rhodium plated indexes.
Strap: Black leather.
Buckle: Logo engraved steel folding clasp.



CVDK REAL MOON 1980 CKRL1124

Movement: CVDK7384, automatic winding, 35 jewels, twin barrel, power-reserve; 96 hour max., complication; CVDK Real Moon 1980 module.
Functions: Hours, minutes, complication; date, month, 3D moon phase, declination of the sun, eclipse hand; indicates both solar and lunar eclipse.
Case: Rose gold, ø 40 mm, sapphire crystal, sapphire crystal case-back.
Dial: Silver with blue indexes.
Strap: Black leather.
Buckle: Logo engraved rose gold buckle.



CVDK REAL MOON 1980 CKRL7725

Movement: CVDK7384, automatic winding, 35 jewels, twin barrel, power-reserve; 96 hour max., complication; CVDK Real Moon 1980 module.
Functions: Hours, minutes, complication; date, month, 3D moon phase, declination of the sun, eclipse hand; indicates both solar and lunar eclipse.
Case: White gold, ø 40 mm, sapphire crystal, sapphire crystal case-back.
Dial: Silver with blue indexes.
Strap: Brown leather.
Buckle: Logo engraved white gold buckle.

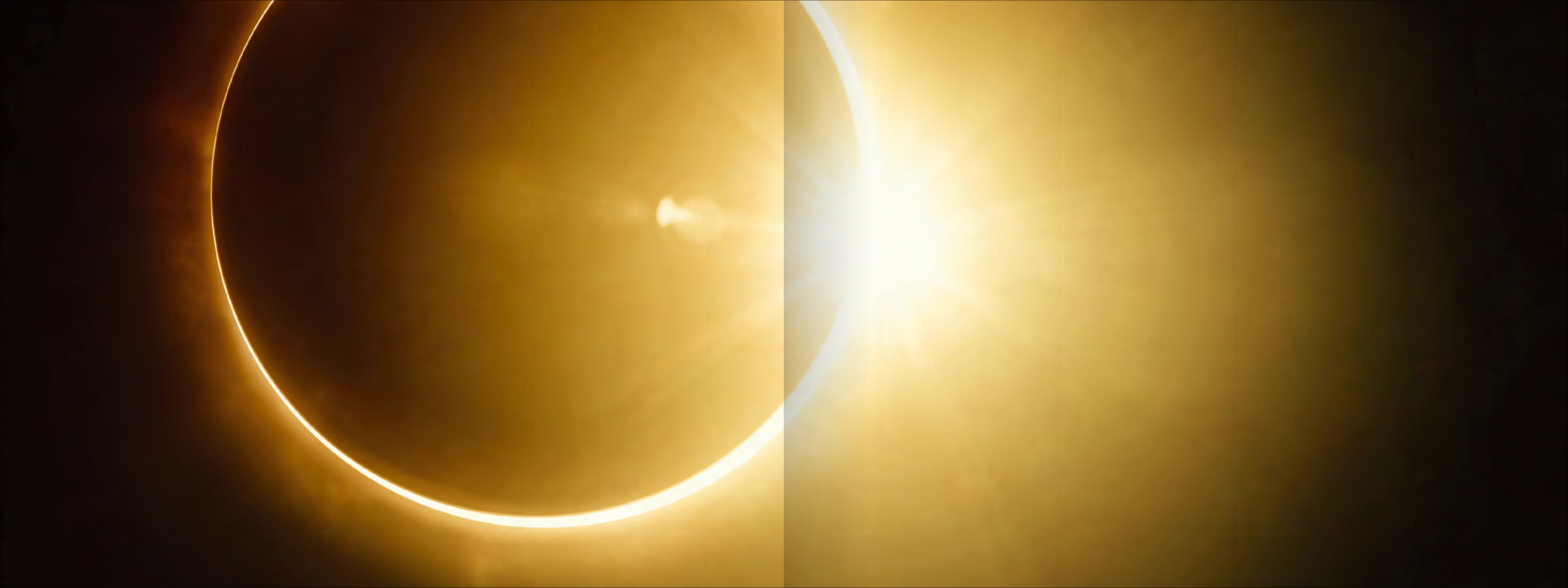


CVDK REAL MOON 1980 ROTOR

The rotor is engraved with planets, stars and the 'Sun with 12 Claws', the logo of Christiaan van der Klaauw.

Each model is also available
with a diamond set bezel.







THE MASTERPIECE TITAN PERPETUAL

The CVDK Titan Perpetual is a tribute to the Dutch astronomer Mr. Christiaan Huygens who discovered the rings and the largest moon of Saturn named 'Titan' in 1655. This universal genius was also of great importance to the development of clocks and watches with his invention of the pendulum movement.

It is equipped with a perpetual calendar module and a beautiful moon phase indicator made out of mother of pearl and aventurine glass. The perpetual calendar always shows you the correct number of days of the month, even a display of the leap year is integrated. Furthermore it carries a hand-made Christiaan van der Klaauw micro-rotor. Thanks to the special positioning of this micro-rotor a unique and clear view of the technical movement of the watch is provided.





CVDK TITAN PERPETUAL CKTT3324

Movement: CVDK8801, automatic winding, 29 jewels, power-reserve 42 hour max.

Functions: Hours, minutes, complication; day, date, month, leap year indicator, moon phase.

Case: High quality steel, ø 44 mm, sapphire crystal, sapphire crystal case-back.

Dial: Silver with blue indexes, moon phase made out of Mother of pearl and Aventurine glass (goldfluss).

Strap: Black leather.

Buckle: Logo engraved steel folding clasp.

Each model is also available with a diamond set bezel.



CVDK TITAN PERPETUAL ROTOR

The rotor is an engraved micro-rotor.

The sapphire crystal case-back has a beautiful engraving of the universal genius Mr. Christiaan Huygens.



The Titan Perpetual is a tribute to the Dutch astronomer Christiaan Huygens who discovered the rings and the largest moon of Saturn named 'Titan' in 1655. This universal genius was also of great importance to the development of clocks and watches with his invention of the pendulum movement.



COLLECTION OF THE STARS

Leave it to Christiaan van der Klaauw to take astronomical watches into the future.

In this collection you will find watches that turn astronomical complications into astonishing works of art. A retrograde moon phase indication, a celestial planisphere, a dazzling show of the moon's position in relation to the sun, it has all been made possible by the talented watchmakers at Christiaan Van der Klaauw Astronomical Watches.



COMPLICATION ORION

The Orion is a striking example of the way we have been integrating astronomical complications and design. It is equipped with a so-called planisphere, a rotating starry sky that turns around every 23 hours, 56 minutes and 4.0916 seconds (sidereal day), giving you the correct view of the stars and constellations above you as seen from most positions on the northern hemisphere.





CVDK ORION CKOR3326

Movement: CVDK1072, automatic winding, 25 jewels, power-reserve; 42 hour max., complication; CVDK Orion module.

Functions: Hours, minutes, seconds, complication; rotating celestial map (Planisphere) with Zodiac sign indicator.

Case: High quality steel, ø 40 mm, sapphire crystal, sapphire crystal case-back.

Dial: Silver with blue celestial map and blue indexes.

Strap: Blue leather.

Buckle: Logo engraved steel folding clasp.



CVDK ORION CKOR1126

Movement: CVDK1072, automatic winding, 25 jewels, power-reserve; 42 hour max., complication; CVDK Orion module.

Functions: Hours, minutes, seconds, complication; rotating celestial map (Planisphere) with Zodiac sign indicator.

Case: Rose gold, ø 40 mm, sapphire crystal, sapphire crystal case-back.

Dial: Silver with blue celestial map and blue indexes.

Strap: Blue leather.

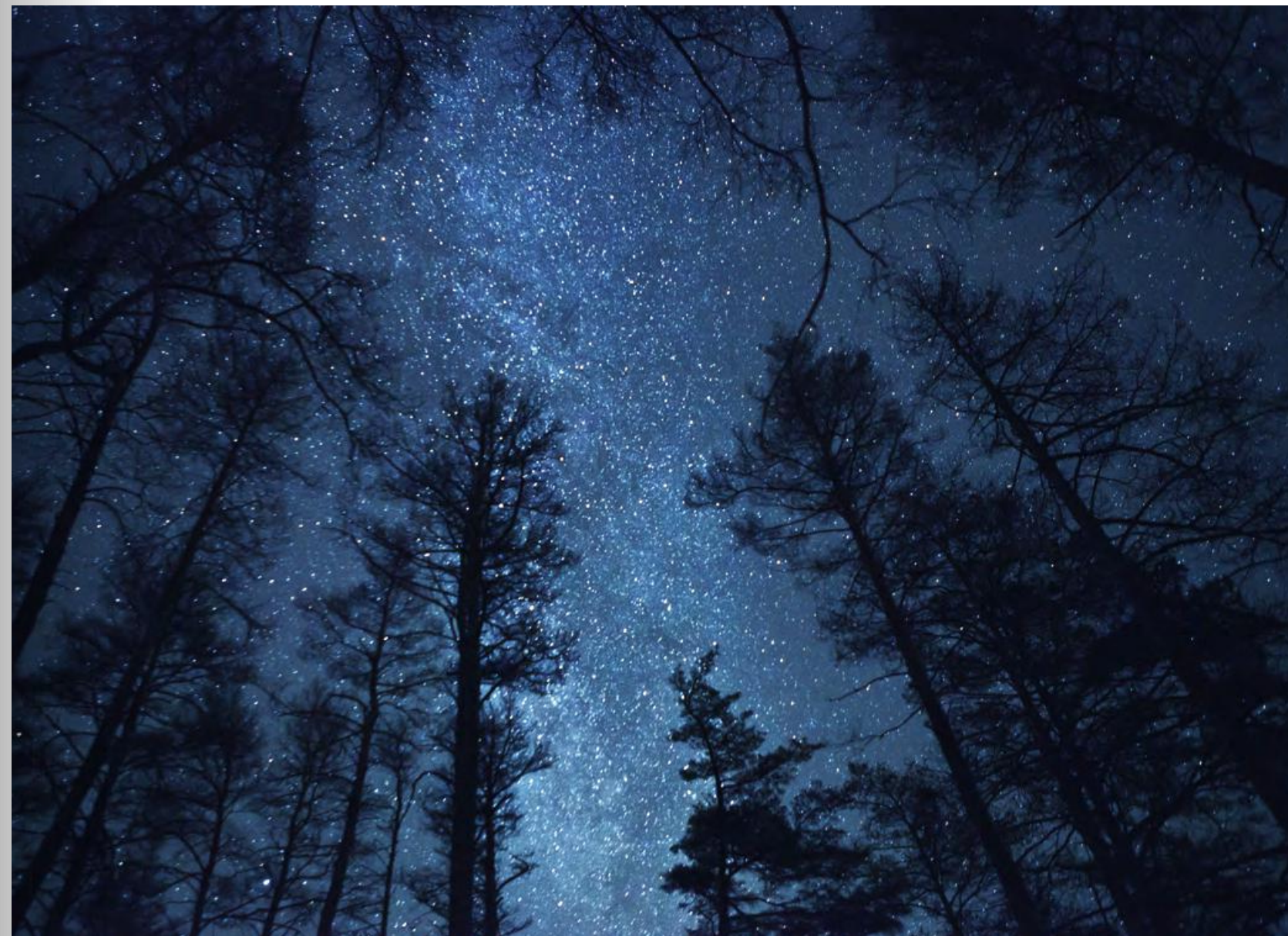
Buckle: Logo engraved rose gold buckle.



CVDK ORION ROTOR

The rotor is based on the 'Sun with 12 Claws', the logo of Christiaan van der Klaauw.

Each model is also available with a diamond set bezel.





COMPLICATION

HYPERNOVA

The beautiful CVDK Hypernova combines a full chronograph with a day/night indication, an ingenious date display and a beautiful super luminova moon phase indication.

The super luminova moon phase can be read at the 6 o'clock position. When the Moon is left of the centre, it is in its first quarter. When the Moon is in the centre, it is full Moon and right of the centre, it is in its last quarter. If the Moon is not visible, it is new Moon. The CVDK Hypernova was the first watch featuring our extra-large case, measuring 44 mm in diameter.



CVDK HYPERNOVA *CKHN3326*

Movement: CVDK7759, automatic winding, 25 jewels, power-reserve; 48 hour max.
Functions: Hours, minutes, complication; small seconds, day/night indication, day, date, month, super luminova moon phase, chronograph; 12-hour counter, 30-minute counter, seconds counter.
Case: High quality steel, ø 44 mm, sapphire crystal, sapphire crystal case-back.
Dial: Silver with blue indexes, super luminova.
Strap: Blue leather.
Buckle: Logo engraved steel folding clasp.

CVDK HYPERNOVA *CKHN3366*

Movement: CVDK7759, automatic winding, 25 jewels, power-reserve; 48 hour max.
Functions: Hours, minutes, complication; small seconds, day/night indication, day, date, month, super luminova moon phase, chronograph; 12-hour counter, 30-minute counter, seconds counter.
Case: High quality steel, ø 44 mm, sapphire crystal, sapphire crystal case-back.
Dial: Stone washed blue with white rhodium plated indexes, super luminova.
Strap: Blue leather.
Buckle: Logo engraved steel folding clasp.

CVDK HYPERNOVA *CKHN3344*

Movement: CVDK7759, automatic winding, 25 jewels, power-reserve; 48 hour max.
Functions: Hours, minutes, complication; small seconds, day/night indication, day, date, month, super luminova moon phase, chronograph; 12-hour counter, 30-minute counter, seconds counter.
Case: High quality steel, ø 44 mm, sapphire crystal, sapphire crystal case-back.
Dial: Black with white rhodium plated indexes, super luminova.
Strap: Black leather.
Buckle: Logo engraved steel folding clasp.

CVDK HYPERNOVA *CKHN3335*

Movement: CVDK7759, automatic winding, 25 jewels, power-reserve; 48 hour max.
Functions: Hours, minutes, complication; small seconds, day/night indication, day, date, month, super luminova moon phase, chronograph; 12-hour counter, 30-minute counter, seconds counter.
Case: High quality steel, ø 44 mm, sapphire crystal, sapphire crystal case-back.
Dial: Grey with white rhodium plated indexes, super luminova.
Strap: Brown leather.
Buckle: Logo engraved steel folding clasp.



CVDK HYPERNOVA ROTOR

The rotor is based on the 'Sun with 12 Claws', the logo of Christiaan van der Klaauw.







COMPLICATION

ARIADNE

Classic astronomical watch making at its very best, combined with a sporty design. This chronograph with seconds, minute and hour counter is accompanied by a full date indication and 24 hour indicator. The position of the Moon can be read at the 6 o'clock position. When the Moon is left of centre, it is in its first quarter. When the Moon is in the centre, it is full Moon and right of centre, it is in its last quarter. If the Moon is not visible, you see a beautiful starry sky in the window, it is new Moon.





CVDK ARIADNE CKAR3335

Movement: CVDK7758, automatic winding, 25 jewels, power-reserve; 48 hour max.

Functions: Hours, minutes, small seconds, 24-hour indication, day, date, month, moon phase, chronograph; 12-hour counter, 30-minute counter, seconds counter.

Case: High quality steel, ø 40 mm, sapphire crystal, sapphire crystal case-back.

Dial: Silver with blue indexes.

Strap: Brown leather.

Buckle: Logo engraved steel folding clasp.

*Each model is also available
with a diamond set bezel.*



CVDK ARIADNE CKAR3366

Movement: CVDK7758, automatic winding, 25 jewels, power-reserve; 48 hour max.

Functions: Hours, minutes, small seconds, 24-hour indication, day, date, month, moon phase, chronograph; 12-hour counter, 30-minute counter, seconds counter.

Case: High quality steel, ø 40 mm, sapphire crystal, sapphire crystal case-back.

Dial: Navy blue with white rhodium plated indexes.

Strap: Blue leather.

Buckle: Logo engraved steel folding clasp.



CVDK ARIADNE CKAR3344

Movement: CVDK7758, automatic winding, 25 jewels, power-reserve; 48 hour max.

Functions: Hours, minutes, small seconds, 24-hour indication, day, date, month, moon phase, chronograph; 12-hour counter, 30-minute counter, seconds counter.

Case: High quality steel, ø 40 mm, sapphire crystal, sapphire crystal case-back.

Dial: Anthracite with white rhodium plated indexes.

Strap: Black leather.

Buckle: Logo engraved steel folding clasp.



CVDK ARIADNE ROTOR

The rotor is based on the 'Sun with 12 Claws', the logo of Christiaan van der Klaauw.





THE CVDK LADY ORION STARDUST

The CVDK Lady Orion Stardust has our famous signature dial made from *Aventurine Glass* creating a star filled sky. We are known worldwide for our beautiful and mesmerizing Aventurine Glass dials. Why is an Aventurine Glass dial so special? It changes through light. It can be subtle and dark, it can be a little sparkly, and it can be just amazingly alive with an incredible depth, creating a true almost three-dimensional starry sky. It changes constantly through light on your wrist.



AVAILABLE ON REQUEST: A FULL DIAMOND SET CASE AND BEZEL


CVDK LADY ORION STARDUST CKOD3304

Movement: CVDK2868, automatic winding, 25 jewels, power-reserve; 38 hour max.,
Case: High quality steel, ø 32 mm, sapphire crystal, sapphire crystal case-back.
Dial: Aventurine glass (goldfluss) creating a star filled sky.
Strap: Black leather.
Buckle: Logo engraved steel folding clasp.


CVDK LADY ORION STARDUST CKOD3804

Movement: CVDK2868, automatic winding, 25 jewels, power-reserve; 38 hour max.,
Case: High quality steel, diamond set in high quality steel bezel, ø 32 mm, sapphire crystal, sapphire crystal case-back.
Dial: Aventurine glass (goldfluss) creating a star filled sky.
Strap: Black leather.
Buckle: Logo engraved steel folding clasp.


CVDK LADY ORION STARDUST CKOD1104

Movement: CVDK2868, automatic winding, 25 jewels, power-reserve; 38 hour max.,
Case: Rose gold, ø 32 mm, sapphire crystal, sapphire crystal case-back.
Dial: Aventurine glass (goldfluss) creating a star filled sky.
Strap: Black leather.
Buckle: Logo engraved rose gold buckle.

Each model is also available with a full diamond set case and bezel.


CVDK LADY ORION STARDUST CKOD1804

Movement: CVDK2868, automatic winding, 25 jewels, power-reserve; 38 hour max.,
Case: Rose gold, diamond set in rose gold bezel, ø 32 mm, sapphire crystal, sapphire crystal case-back.
Dial: Aventurine glass (goldfluss) creating a star filled sky.
Strap: Black leather.
Buckle: Logo engraved rose gold buckle.


CVDK LADY ORION STARDUST CKOD7704

Movement: CVDK2868, automatic winding, 25 jewels, power-reserve; 38 hour max.,
Case: White gold, ø 32 mm, sapphire crystal, sapphire crystal case-back.
Dial: Aventurine glass (goldfluss) creating a star filled sky.
Strap: Black leather.
Buckle: Logo engraved white gold buckle.


CVDK LADY ORION STARDUST CKOD7804

Movement: CVDK2868, automatic winding, 25 jewels, power-reserve; 38 hour max.,
Case: White gold, diamond set in white gold bezel, ø 32 mm, sapphire crystal, sapphire crystal case-back.
Dial: Aventurine glass (goldfluss) creating a star filled sky.
Strap: Black leather.
Buckle: Logo engraved white gold buckle.



COLLECTION OF THE ATELIER

*If you have ever dreamt of owning a completely unique astronomical watch,
the Collection of the Atelier makes this dream come true. Your personal wishes are used as a grid
for our watchmakers to compose your personal watch: the materials, complications, dials,
rotors and finish may all be selected in accordance with your personal wishes.
Every Christiaan van der Klaauw astronomical watch is rare, but with this collection
you will have a chance to own a unique one.*



CUSTOM MADE



CVDK REAL MOON JOURE
DIAMOND MOON
Custom Made

CVDK REAL MOON JOURE
SOUTH AMERICA SKULL
Custom Made

CVDK PLANETARIUM
ZODIAC SIGN
SAGITTARIUS
Custom Made

CVDK REAL MOON TIDES
INTER SCALDES EDITION
Custom Made

CVDK REAL MOON JOURE
ZODIAC SIGN
SCORPIO
Custom Made



EXAMPLES OF CUSTOM MADE TIMEPIECES AND PIECE UNIQUES



CVDK VENUS
Custom Made

CVDK REAL MOON
STELLA NEBULA
Custom Made

CVDK PLANETARIUM
GREEN METEORITE
Custom Made

CVDK ASTROLABIUM
Custom Made

CVDK REAL MOON JOURE
RUSH HOUR AT THE MOON
Custom Made



*Create and order your
own designed timepiece*
WITH THE CVDK WATCH CONFIGURATOR

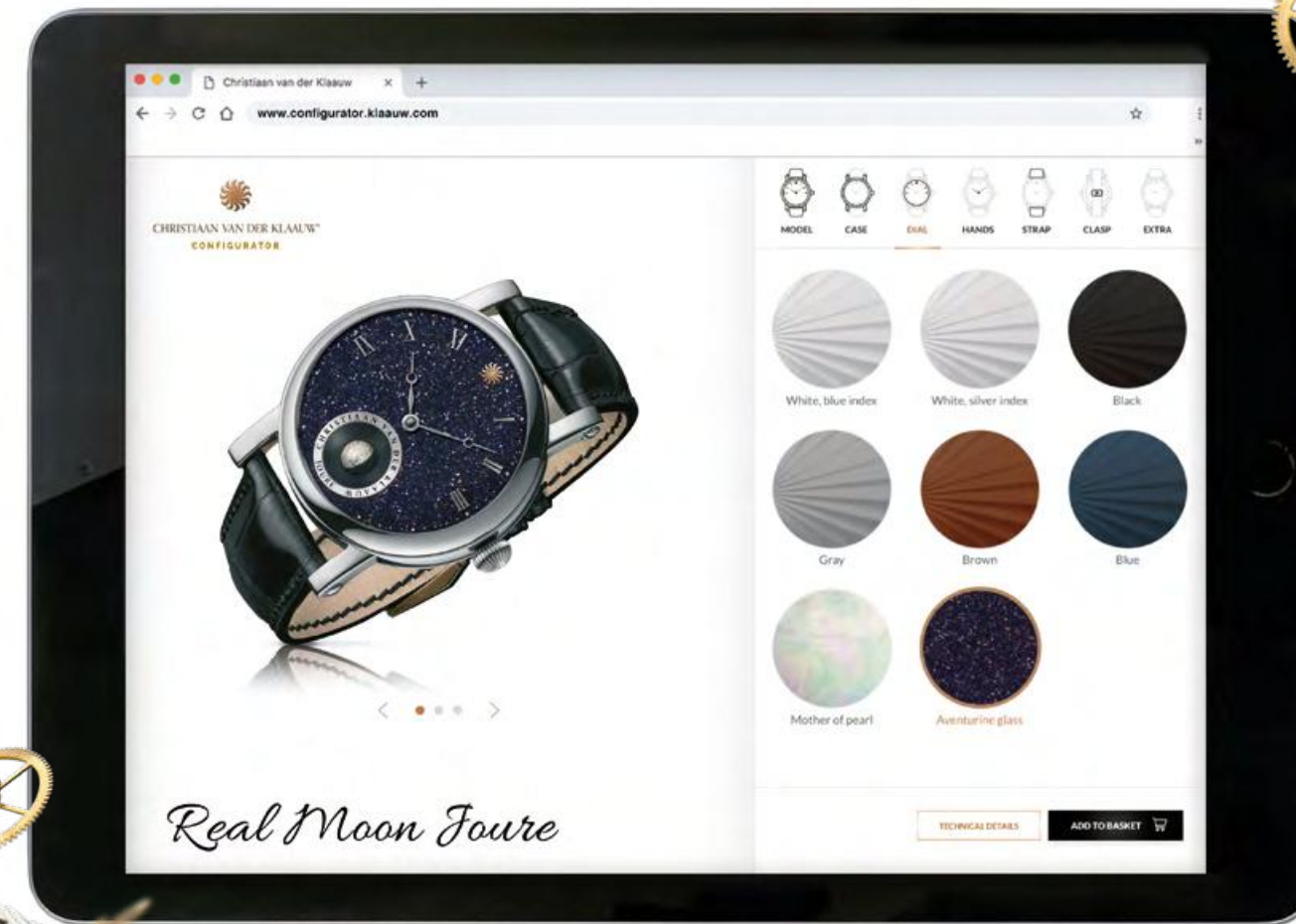


Every Christiaan van der Klaauw watch is rare, but with our CVDK Watch Configurator you will have the unique chance to own your own bespoke astronomical watch. You can create not only a bespoke CVDK watch but even create CVDK watch combinations that have never been made at our atelier before. Choosing from the smallest mechanical Planetarium in the world to the most accurate 3D moon phase in the world - and everything in between.

Pick your astronomical complication and start to compose and create your own personal watch with the case, bezel, dial, hands, clasp and strap. What would your ultimate CVDK timepiece look like? *Try and enjoy!*



www.configurator.klaauw.com







WINNER



GPHG

GRAND PRIX D'HORLOGERIE DE GENÈVE

2021

Calendar and Astronomy
Watch Prize

Winner of the most prestigious watch award in the world.
The **Grand Prix d'Horlogerie de Genève (GPHG)**.

Calendar and Astronomy Watch Prize is awarded to
Christiaan van der Klaauw CVDK Planetarium Eise Eisinga.

It contains the smallest mechanical Planetarium in the world,
showing real time the orbits of Mercury, Venus, Earth,
Mars, Jupiter and Saturn around the Sun.



WINNER

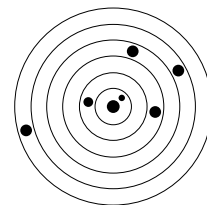


THE OLDEST WORKING PLANETARIUM IN THE WORLD
MEETS THE SMALLEST MECHANICAL PLANETARIUM IN THE WORLD...





THE MASTERPIECE PROJECT



CVDK PLANETARIUM

Eise Eisinga

LIMITED EDITION

A magical gathering between the oldest working Planetarium in the world and the smallest mechanical Planetarium in the world. Christiaan van der Klaauw and the Royal Eise Eisinga Planetarium proudly present the *CVDK Planetarium Eise Eisinga Limited Edition* watch. Art and science captured in an enchanting way in a hand-painted masterpiece. In a very limited edition of only 6 steel, 6 bicolor, 6 white gold, 6 rose gold and 6 platinum watches. Each of the 6 watches will bear its own unique planet name. This beautiful Haute Horlogerie masterpiece contains the smallest mechanical Planetarium in the world showing real time the orbits of Mercury, Venus, Earth, Mars, Jupiter and Saturn around the sun.







CVDK PLANETARIUM *Eise Eisinga Limited Edition*

Movement: CVDK7386, automatic winding, 35 jewels, twin barrel, power-reserve; 96 hour max., complication; CVDK Planetarium module.
Functions: Hours, minutes, complication; date, month, Planetarium; the watch is equipped with the smallest mechanical Planetarium in the world, showing the orbits of Mercury, Venus, Earth, Mars, Jupiter and Saturn around the Sun.
Case: Rose gold, ø 40 mm, sapphire crystal, sapphire crystal case-back.
Dial: Oil painted dial made by the artist Gaël Colon, rose gold plated indexes. Planetarium with customized colored hand painted planets.
Strap: Black leather.
Buckle: Logo engraved rose gold buckle.
Limited Edition: 6 unique watches in steel, bicolor, rose gold, white gold and platinum. Each uniquely engraved with the name of one of the 6 planets: Mercury, Venus, Earth, Mars, Jupiter or Saturn.



CVDK PLANETARIUM ROTOR

The rotor is engraved with planets, stars and the 'Sun with 12 Claws,' the logo of Christiaan van der Klaauw.
 Each case is uniquely engraved with the name of one of the 6 planets: Mercury, Venus, Earth, Mars, Jupiter or Saturn.





OUR UNIVERSE

The Atelier produces only a limited number of watches every year. In this way, the artists of Christiaan van der Klaauw Astronomical Watches can give every watch the attention it deserves. This attention is reflected in the beauty and quality of the watch. All watches are made by hand and subjected to countless quality tests. Christiaan van der Klaauw are therefore so convinced of the quality of their products, that they provide a three-year warranty on the movement and the case.





All Christiaan van der Klaauw watches are delivered in an exclusive luxurious watch box. For the Collection of the Astronomical Masterpieces the watch box is also fitted with a Swiss Kubik winder. This winder, which can be removed from the box, will ensure that your astronomical complication stays accurate.

Christiaan van der Klaauw Astronomical Watches is only on sale at authorised retailers. These retailers have to meet stringent requirements with respect to service, advice and exclusivity. Visit our website www.klaauw.com, to find out where you can find your masterpiece.



COLLABORATION WITH VAN CLEEF & ARPELS

LADY ARPELS PLANÉTIARIUM

In 2018, the legendary Van Cleef & Arpels is turning its gaze toward the sky to unveil a version of the Midnight Planétarium™ watch specially designed for women. Expressing the Poetry of Time® by Van Cleef & Arpels, this creation once again conveys the celestial ballet with an exclusive new module, developed in Switzerland in collaboration with Christiaan van der Klaauw. While Mercury, Venus and Earth rotate around the sun at their actual speeds, the diamond Moon completes its sparkling orbit in 29.53 days.

Winner of the prestigious Grand Prix d'Horlogerie de Genève (GPHG) in 2018 in Geneva in the category Ladies' Complication.







Van Cleef & Arpels
LADY ARPELS™ PLANÉTIARIUM
POETIC COMPLICATIONS

Movement: Self-winding mechanical movement with a Christiaan van der Klaauw Planetarium module developed exclusively for Van Cleef & Arpels.
Functions: A miniature representation of the movement of 3 planets and the Moon around the sun and their position at any given time. Mercury, Venus, Earth and the Moon.
Case: 38-mm case in white gold set with diamonds, bezel set with diamonds and crown set with a diamond.
Dial: Aventurine, Sun in pink gold, shooting star in rhodium-plated gold, Mercury in pink mother-of-pearl, Venus in green enamel, Earth in turquoise, Moon in diamond.
Strap: Blue glitter alligator strap.



Van Cleef & Arpels
LADY ARPELS™ PLANÉTIARIUM
POETIC COMPLICATIONS

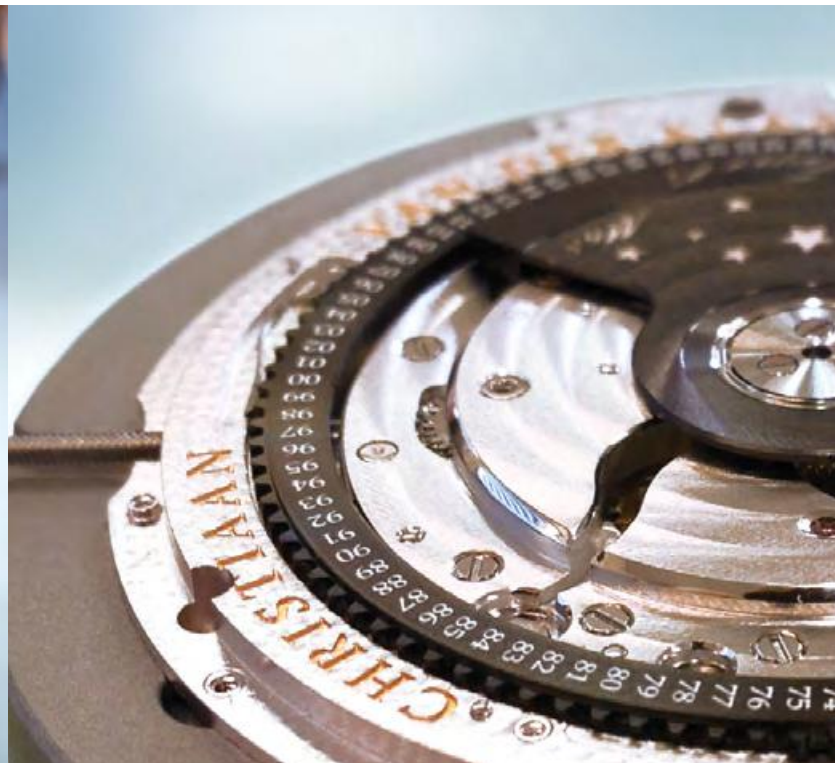
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Dial: Aventurine, Sun in pink gold, shooting star in rhodium-plated gold, Mercury in pink mother-of-pearl, Venus in green enamel, Earth in turquoise, Moon in diamond.
Strap: White gold bracelet set with diamonds.

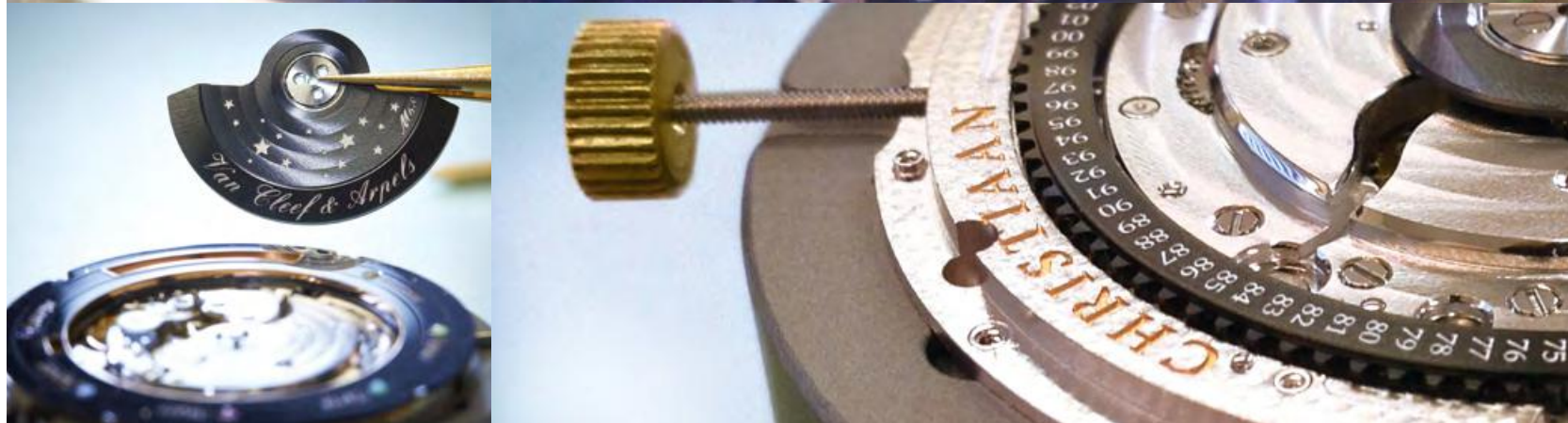
COLLABORATION WITH VAN CLEEF & ARPELS

MIDNIGHT PLANÉTIARIUM POETIC COMPLICATION

In 2014 the legendary Van Cleef & Arpels presented the astonishing timepiece Midnight Planétarium Poetic Complication™, at the SIHH in Geneva. This masterpiece has a self-winding mechanical movement of great complexity: equipped with an exclusive Planetarium module developed in partnership with Christiaan van der Klaauw Astronomical Watches, it contains 396 separate parts.







Van Cleef & Arpels
MIDNIGHT PLANÉTARIUM POETIC COMPLICATION™

Movement: Self-winding mechanical movement with a Christiaan van der Klaauw Planetarium module developed exclusively for Van Cleef & Arpels.
Functions: A miniature representation of the movement of six planets around the sun and their position at any given time. Earth, Mercury, Venus, Mars, Jupiter and Saturn.
Case: Pink gold case, 44mm diameter.
Dial: Pink gold, aventurine, serpentine, chloromelanite, turquoise, red jasper, blue agate and sugilite.
Strap: Black alligator bracelet.
Buckle: Pink gold folding buckle.



TERMINOLOGY

ALBEDO

Planets emit no light. Their 'albedo' is the ratio between the light they reflect and that incident from the Sun.

ANCHOR (PALLET FORK)

Part of the escapement that regulates a controlled unwinding of the power from the mainspring true the gear train.

ANTI-SHOCK SYSTEM

Spring-loaded bearing that protects the pivots of the balance wheel axis against a light shock. This reduces the chance of the pivots breaking.

APHELION

That point of a planet's, comet's or planetoid's elliptical orbit at which it is farthest from the Sun.

APOGEE

The point farthest from the Earth reached by the Moon in its orbit.

ASTEROIDS

Rocky bodies between 1 km and 700 km in diameter, the paths of which around the Sun lie mostly between Mars and Jupiter.

ATMOSPHERE

The mass of gas enveloping a celestial body, which is held in place by gravity.

AURORA

An atmospheric light phenomenon caused by the energy radiation from the Sun that excites gases in the highest parts of the atmosphere.

AUTOMATIC WATCH

A self-winding watch that is kept fully wound, during wearing of the watch, by an oscillating weight (mass) that moves on an axis and is pulled down by gravity. This motion is transferred true a sequence of wheel to wind the mainspring.

AZIMUTH

A co-ordinate employed to define the position of celestial bodies.

BALANCE SPRING

Also called hairspring, is a flat and thin spirally wound spring attached between axis of the balance wheel and stud fixed on the balance bridge. The timing of the movement is done by lengthening (slower) or shortening (faster) the hairspring using the compass.

BALANCE WHEEL

Part of the escapement that regulates the timekeeping.

CAL. (OR CALIBRE)

Other term for movement.

CARAT

1 carat = 1/24 th part of pure gold in an alloy. An 18-carat gold alloy contains 18/24 ths of pure gold = 75 % pure gold.

CHROMOSPHERE

That part of the Sun's atmosphere that lies between the photosphere (the light-giving part) and the corona.

CHRONOGRAPH

An instrument for accurately measuring and recording time intervals.

CHRONOMETER

A certified movement that meets the timekeeping standards set by the Contrôle Suisse de Chronomètres (COSC).

COMET

A lump of material that revolves around the Sun in an elliptical, parabolic or hyperbolic orbit. The tail of the comet is always turned away from the Sun.

COMPASS

Two pin where the balance spring move between. This is use for the timing of the movement. Also see Balance spring or fine adjustment.

COMPLICATION

A functionality other than that for the time indication.

CONSTELLATIONS

A configuration of stars, mainly used to identify given areas in the heavens. There are 88 constellations.

CROWN (OR WINDING CROWN)

The crown is a part on the outside of the watch case that is used to adjust the watch to the right settings. In a mechanical watch is also used for winding the mainspring.

DECLINATION

A co-ordinate employed to fix the positions of celestial bodies.





ECLIPSE

The total or partial obscuring of one celestial body by another. This term is used in the system of Earth, Sun and Moon. For other celestial bodies we use the term covering.

ECLIPTIC

The yearly apparent path of the Sun along the celestial sphere.

ECCENTRICITY OR OFF-CENTRING

A mathematical term used to define the form of an orbit. A circular orbit has an eccentricity of zero. The Earth's orbit is almost circular: its eccentricity is 0.017.

ECLIPSE OF THE MOON

This takes place when there is a full Moon and the Moon is in the umbria of the Earth.

ESCAPEMENT

The balance wheel, anchor and escape wheel together are called the Escapement and regulates the running and time keeping of a movement

FINE ADJUSTMENT

Mechanism employed to precisely adjust the running of a watch.

GEAR TRAIN

A sequence of wheels that transfer the power from the mainspring to the escape-ment.

GMT

The abbreviation for Greenwich Mean Time. It is one of the time standards.

GPHG

Grand Prix d'Horlogerie de Genève (GPHG) . Known as the most prestigious Watch Award in the world, the 'Oscars' of watchmaking.

GUILLOCHE

Decorate metal components by hand with patterns of fine, intertwined lines.

HELIOCENTRISM

Is the astronomical model in which the Earth and planets revolve around the Sun at the center of the Solar System. Heliocentrism was opposed to geocentrism, which placed the Earth at the center.

HAUTE HORLOGERIE

The Fondation Haute Horlogerie (FHH) is based in Switzerland. It defines and qualifies luxury brands as 'Haute Horlogerie' (high-end horology).

HYPERNOVA

A Hypernova is a type of star explosion with an energy substantially higher than that of standard Supernova.

INNER PLANET

A planet closer to the Sun than the Earth (Venus and Mercury).

JEWELS

Synthetic rubies used as bearings for the pivots of the gear wheels in a movement in order to reduce friction and wear.



KEPLER'S LAWS

Kepler's laws of planetary motion are:

1. The planets describe ellipses with the Sun at a focus.
2. The line from the Sun to any planet describes equal areas in equal times.
3. The squares of the periodic times of the planets are proportional to the cubes of their mean distances from the Sun.

KLAAUWENZON

Logo of Christiaan van der Klaauw Astronomical Watches. Consists of 12 claws (In the Dutch language Klaauw means claw), where the 12 claws represent the hours. Together they form the Sun, humanity's most important star.

LIBRATION

An up and down and backwards and forwards movement that is connected to the revolution of the Moon around the Earth.

LIGHT-YEAR

The distance covered by light in one year. A unit to measure the distances to the stars. One light year is 9460 thousand million kilometres (about 5878 thousand million miles).

LMST

Local Mean Solar Time.

LUNETTE

The rim of the watch holding the glass.



MAGNITUDE (OF A STAR)

The apparent magnitude of a star is a measure of its brightness, as seen from the Earth. Bright stars are said to be of the first magnitude. The weakest stars that can be seen with the naked eye are of the sixth magnitude.

MICRON

Unit of measurement: 1 micron = 1/1000 mm.

MOON

The natural satellite of the Earth. The Moon is relatively such a large satellite that the Earth and Moon seem to form a double planet. It orbits the Earth in 29,5305889 days.

MOON PHASE

Mechanical representation of the phases of the Moon.

NADIR

The point of the celestial sphere that is directly opposite the Zenith and vertically downward from the observer.

NODE

The ecliptic plane is the plane through the Sun and the Earth moving around it. The orbital planes of other celestial bodies that also orbit the Sun are not in the ecliptic plane but are at an angle to this plane. The intersections of the planes with the ecliptic plane are called nodes.

NOVA

These are stars that suddenly become much brighter. Their brightness returns to normal after several days or after several years. Astronomers believe that nova are old stars that expand when they emit large quantities of energy.

NUTATION

A slight nodding of the Earth's axis superimposed on its normal precession.

OCCULTATION

The eclipsing of one celestial body by another, usually much larger one.

ORBIT

The path followed by a celestial body.

OUTER PLANETS

The planets whose orbits lie outside that of the Earth.

PARALLAX

An angle used to measure the distances of stars. It is the half angle between the Earth on one side of its orbit, the star, and the Earth on the other side of its orbit.

PARSEC

A unit of distance used in astronomy and based on parallax. If the parallax angle is one second (1/3600 of a degree), the distance is said to be 1 parsec (1 parsec = 3.26 light-years).

PERIGEE

The point nearest to the Earth in the orbit of the Moon.



PERPETUAL CALENDER

In watchmaking, 'perpetual calendar' describes a calendar mechanism that correctly displays the date on the watch 'perpetually', taking into account the different lengths of the months as well as leap days.

PLANISPHERE

It is a star chart that turns around every 23 hours, 56 minutes and 4,091 seconds, giving you the correct view of the stars and constellations.

PERIHELION

That point in the orbit of a planet or comet that is nearest to the Sun.

PHOTOSPHERE

The luminous surface layer of the Sun.

POLARIS

Or Pole star, which is near enough to the Earth's north celestial pole to mark it for rough observations.

POWER RESERVE

The time a watch needs to run when fully wound and not being worn.

PRECESSION

Because the Earth is not completely spherical, its axis also rotates. This is termed precession.

RETROGRADE HAND

A hand that, after going through one cycle, jumps back to the beginning of the cycle to start again.



ROTATION

The rotating whirling motion of a celestial body about its own axis.

ROTOR

Also called oscillating weight. A moving mass that keeps the movement fully wound. Also see Automatic watch

SAPPHIRE GLASS

A watch glass made from synthetic sapphire. This is harder and more scratch resistant than mineral glass.

SATELLITE

A celestial body that orbits a planet.

SIDEREAL PERIOD

This is the period of revolution of one celestial body about another, with reference to the stars.

SIDEREAL DAY

A sidereal day is approximately 23 hours, 56 minutes, 4.0916 seconds, corresponding to the time it takes for the Earth to complete one rotation relative to the vernal equinox.

SOLAR SYSTEM

The Sun together with the planets and other celestial bodies.

SPRING

A coil or strip of metal that can be tensioned so as to store the energy needed to run a watch or clock movement.

STAR

A large, hot, gaseous body such as the Sun, which emits light.

SUN

The star nearest to the Earth and the source of nearly all of the Earth’s energy.

SUNSPOT

A transient dark marking on the visible surface of the Sun, which is two thousand degrees cooler than the rest of the Sun.



SUPERNOVA

A supernova is a stellar explosion that briefly outshines an entire galaxy, radiating as much energy as the Sun or any ordinary star is expected to emit over its entire life span, before fading from view over several weeks or months.

SYNODIC PERIOD

The time taken for a celestial body from the solar system to make an orbit of the Sun, as seen from Earth.

TIDES

Tides are the rise and fall of sea levels caused by the combined effects of gravitational forces exerted by the Moon, Sun, and rotation of the Earth.

TIME ADJUSTMENT

Using a mechanism to precisely adjust the timing of the movement by lengthening (slower) or shortening (faster) the hairspring using the compass. Also see Balance spring and Compass.

TITAN

Titan is the largest moon of Saturn and was discovered in 1655 by the Dutch astronomer Mr. Christiaan Huygens.

TOURBILLON WATCH

A watch fitted with a device for countering the effects of gravity on its movement.

ZENITH

The point on the celestial sphere vertically above the observer’s head.

ZODIAC

The belt of stars through which the ecliptic passes centrally. There are twelve important signs of the Zodiac.



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