SERIES

390

SEMI-MICRO BALANCES
ANALYTICAL BALANCES

Precisa
THE BALANCE OF QUALITY

PRECISA DNA: SERIES 390.

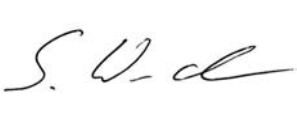
Precisa Gravimetrics provide 40 years of knowledge and experience in precision, balance technology and manufacturing. Made in Switzerland.

By owning an instrument by Precisa Gravimetrics you benefit from this unique and distinctive symbiosis. The Series 390 Precisa Gravimetrics uses the latest technology by bringing together design and functionality. Meeting the required needs at the right time and being prepared for future tasks, this is the series 390, this is the Precisa Gravimetrics DNA.

We hope you enjoy getting to know the unique series 390, and soon be the proud owner of a Precisa Gravimetrics AG series 390 analytical balance.

Precisa Gravimetrics AG

Steffen Wander
General Manager



Roger Grolimund
Head Research & Development

INTUITIVE - ERGONOMIC - EFFICIENT

With an easy to use menu, similar to the best smartphones, you will become familiar within seconds with your unique balance and exploit its full potential.

You can build your balance with those applications and features that suit your individual needs and requirements. We have four different Precisa 390 models: HF, HA, HE, HM.

Upgrades to the 390 series balances are always available, with various options, accessories and unique Precisa applications.

The draft shield windows are frameless and manufactured out of glass, offering you a barrier-free view and easier access into the weighing chamber. Removable glasses can be taken out for cleaning in seconds. Glass parts, all weighing pans and other components can be cleaned in a dishwasher.

Our new and brilliant balance series offers you best ergonomics, including an ultimate low weighing pan level, the lowest on the market!

Weighing processes can now be performed more comfortably, more ergonomically and with ease.

You can speed up your daily routine and help yourself perform the weighing tasks much easier by utilizing the integrated non-contact IR-sensors.

Thanks to the new load cell and the state of the art signal processing, the weighing results are shown unbelievably fast and visualized with our newly developed stability indication system. The new, by default built-in electronics, as well as all the optional accessories, will amaze you for years with the ultimate weighing accuracy.

Our user manual is built into the balance shown on the balance display and can be recalled and read at any time. Wherever you are with your balance, the user manual is always accessible to you.

We have expanded the same philosophy to cover everything in the balance series. We use colour coding throughout the instrument, starting from display, interface (UI) and mechanical components, that you know without hesitation where to open a clip or perform a software action, how to activate a draft shield movement or how to set remote the touchscreen.

FEATURES

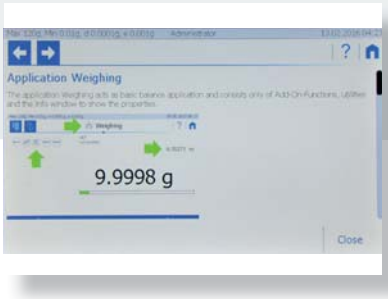
TOUCHSCREEN

All balance functions are available at your fingertips on this smart and bright colour display. According to the built-in colour logic, all the touch active surfaces – marked by a key or a selection – are drafted in blue.

The balance user interface is intuitively easy to operate. The operation model took inspiration from the best smartphones as well as absorbing the most elegant features – just for you.

Tap on the touch active, blue coloured button and surf with ease . There is no way to get lost because of the always available "Home" button, which takes you conveniently back to start.

- 7" anti-reflective display
- shock and scratch resistant
- approved to operate with standard laboratory gloves
- UV resistant
- no buffering effects
- frameless for perfect and easy cleaning



HELP

We want to make your life easier!

Our help is available at any time, whenever you need it! Just press the Help icon and you instantly have our built in user manual and relevant information available, with real context on the balance display.

No more wasting time searching the lost printed manual.

DRAFT SHIELD PERFECTION

This was one of the topics at the hearts of our Swiss engineering team. The new door automation system is simple, yet very impressive. Electronically powered side doors with timing tuned, high-efficiency motors, ensure a gentle, smooth and precise opening to a desired position. Together with the door design, this state of the art draft shield is optimized to prevent any interference when weighing in fume hoods or ventilated laboratory rooms.

Our weighing chamber is designed in a way that neither powder nor liquids can contaminate the weighing system. The bottom plate is equipped with a tear-off edge preventing liquids to penetrate inside the casing. All draft shield parts, top and side glasses, weighing pan, can easily be removed without any tools and placed into your lab dishwasher.

The sophisticated door design without any guide rails or channels facilitates an affordable, easy to clean construction.

FEATURES

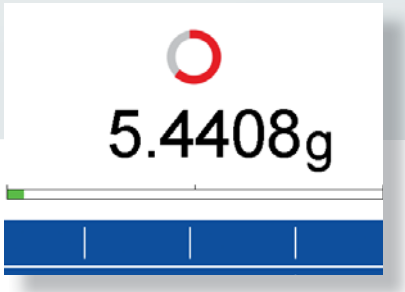
SLS

Self Linearization System

Is an innovative linearization and adjustment system, meaning you will always have a perfectly adjusted weighing scale at three main points, zero, 50% and 100% . The system operates automatically and detects all changes in the environment - and it can be activated manually at any time.

We have naturally - to confirm the weighing accuracy - designed the mechanical system in such a way that the internal weights are protected against liquid, dust and any foreign particles.

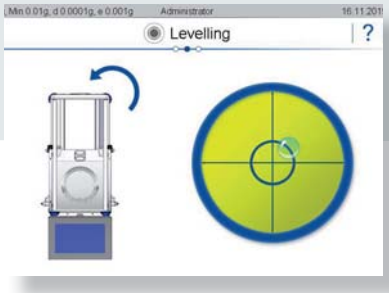
Our 390 series balances promises you the best possible accuracy and precision for years to come.



STABILITY-INDICATOR VISUALLY PREDICTIVE

Our new optical stability indicator provides visual indication of environment disturbances and provides real time information about the balance environment. The indicator displays how the weighing accuracy develops in your daily working environment and reduces potential uncertainties. The stability tracker display simlyl indicates to the balance user when the balance has high ambient stability and takes longer to change with greater instability.

You can now - by observing the orbital symbol - intuitively quickly predict a weighing result or wait until the completion of the circle so that the weighing result is definitely fixed.



ELECTRONIC LEVELLING IMPROVES PRECISION

A visual warning appears on the display if the instrument is tilted outside the internally stored levelling tolerances. To readjust the levelling, an electronic virtual guided levelling display will be activated and instruct you on how to get your instrument back to the correctly levelled position.

FEATURES

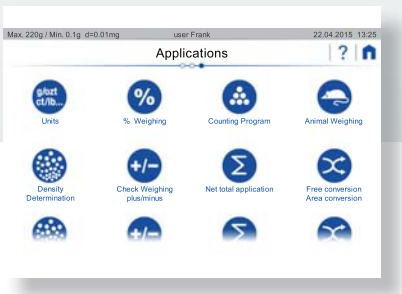
COMMUNICATION & INTERFACES

Series 390 is ready to follow your communication needs whether you are already working in a paperless lab with LIMS or not.

We have equipped the balance with all the standard interfaces that are common today
2 x USB type A (host)
1 x USB type B (device)
1 x 100M Ethernet

On the rear of the instrument an RS232 and USB type B interface are included. Therefore connecting your balance to a PC or RS232 printer for protocol printout is made easy.

Additional interfaces such as WIFI, Bluetooth etc. are available as accessories.

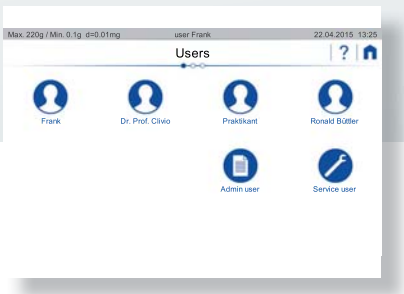


APPS

You can equip your series 390 balance with useful applications, similar to SmartPhones. Applications can be installed easily by any user with the appropriate authorization and you will not need any specialist.

Your requirements today may not be the same as they may be in the future. You might need to find new working methods to make the work easier. There are affordable Precisa apps which can help you and make your life a lot easier.

This exclusive feature is available from Precisa Gravimetrics only.



USER MANAGEMENT

Your balance can be set and optimized for various users by using the built-in, extensive user management system.

A user profile is set just once. And when starting work with your balance, you just choose your own profile and the balance is ready for you, the way you need it, personalized with broad access rights, or just set with the basic operation facilities, like right or left handed user.

FEATURES

TLS

Touchless Sensors

are very helpful, when you perform daily routines with your balances, like opening a draft shield door, taring or zeroing the balance or performing a special function. You can set the built-in touchless sensors to activate those functions by a simple hand motion.
The sensors can be adjusted with three detection angles to follow your own, personal needs and tasks.

It is possible to upgrade balances which are not fitted with this feature at later stage.

ECS

Electrostatic Cancellation System

All electrostatic charges are neutralized quickly by our built-in AC pulse technique utilizing ion neutralizing system, which is engineered and manufactured together with Panasonic.

Operation is easy. Just by placing the sample into the weighing chamber, your sample is automatically neutralised when the draft shield is closed. No laborious search for an externally installed ionizer.

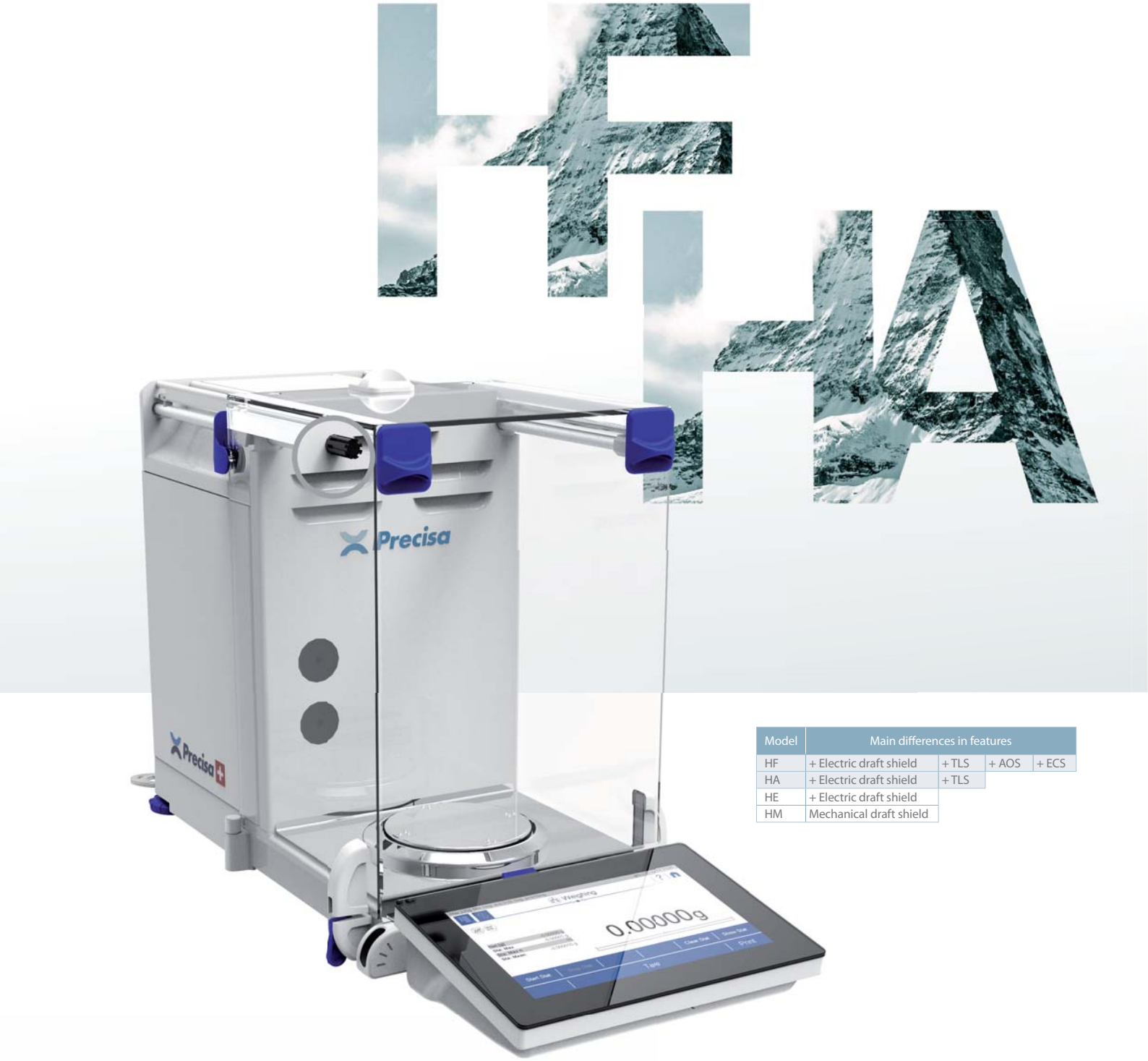
Retrofit installation of an ECS is possible by a local Precisa engineer.

AOS

Ambient Observation System

Various ambient air conditions affect the weighing result. Therefore meteorological factors such as air pressure, air humidity and air temperature are recorded with AOS. This is done in real time and inside the weighing chamber where the sample is placed. This important parameter supports the traceability and can also provide an indication of the ambient status. The information can be recorded, used just as an indication or as an additional parameter when calculating the weighing result with the app BEST.

Retrofit installation of an ECS is possible by a local Precisa engineer.

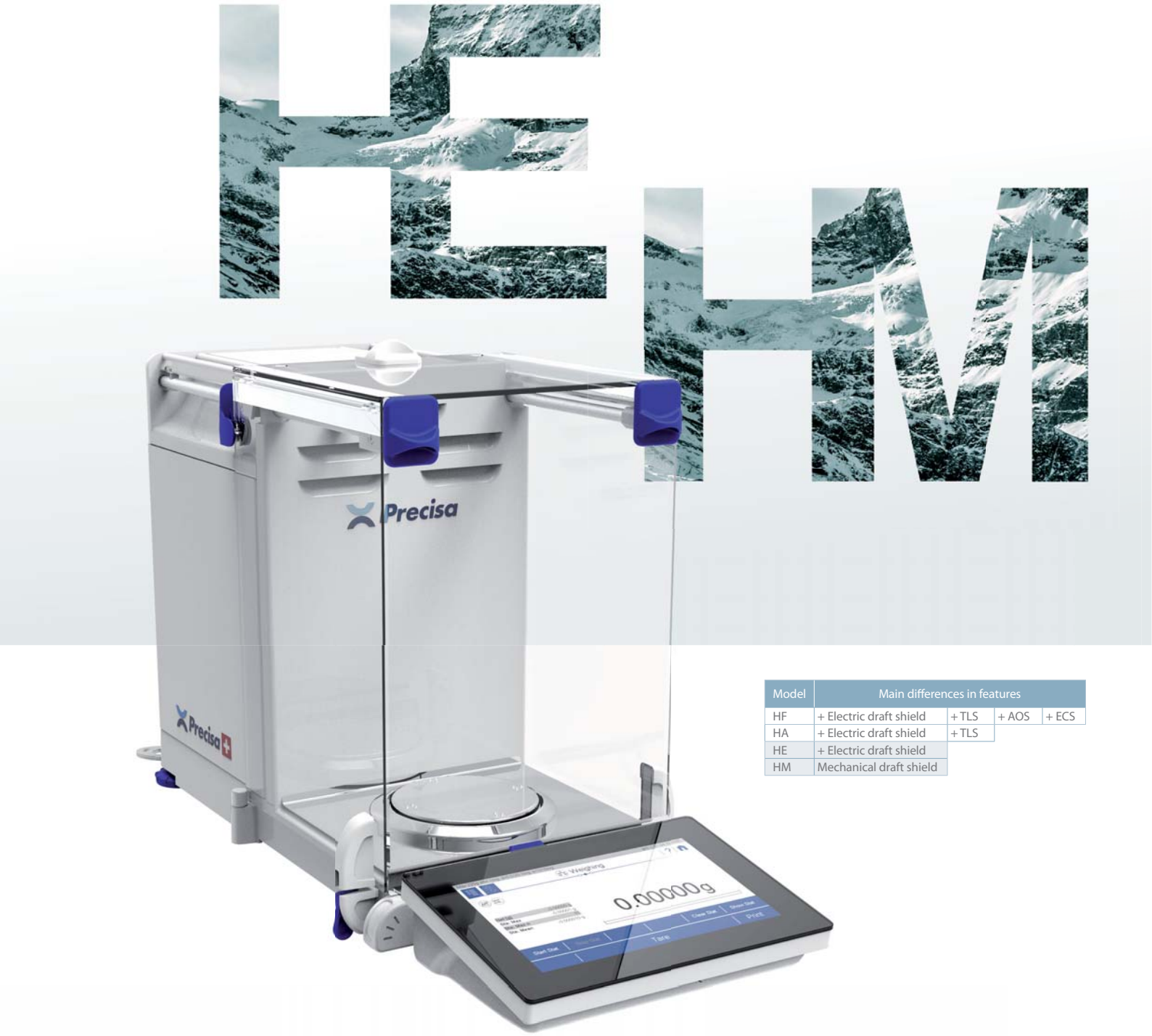


Model	Main differences in features			
HF	+ Electric draft shield	+ TLS	+ AOS	+ ECS
HA	+ Electric draft shield	+ TLS		
HE	+ Electric draft shield			
HM	Mechanical draft shield			

390 HF / HA

If you want to be prepared for all weighing challenges, choose the model HF. The top of the range, with all Precisa's High-End technologies. They have touchless sensors which are programmed with different functions including contactless draft shield opening, tare, print and other useful functions. The various applications make daily work easier and work perfectly together with ECS and AOS. ECS and AOS ensure the most reliable weighing results under all conditions and with traceability. Weighing at the peak of available technology, that's the HF.

The HA model is the complete 390 series balance and you can easily upgrade the unit with all available accessories. With the automated draft shield already installed, and the full set of applications you will feel ready for anything. This high-end instrument can be upgraded at any time with ECS and AOS systems by a Precisa trained service engineer.



Model	Main differences in features			
HF	+ Electric draft shield	+ TLS	+ AOS	+ ECS
HA	+ Electric draft shield	+ TLS		
HE	+ Electric draft shield			
HM	Mechanical draft shield			

390 HE / HM

With the series 390, you can enter the 390 Club with two models, HE and HM. With both models you get the most important features and functionalities as well as the option to personalize and upgrade the model HE. The electric draft shield can be easily opened by pressing a key and if you want to enjoy the comfort of the touchless sensor you can later install it. So count already with the HE for your daily weighing jobs and at an attractive price.

The HE model is also ready for being extended with all other applications that could be useful some day. Should you face problems with electrostatics, upgrading ECS and even AOS is possible,
The 390 HM, with manual draft shield opening is the economic version with the same measurement technology as the sister models HE, HA, HF.

FEATURES APPLICATIONS

Features series 390	HF	HA	HE	HM
Swiss made	✓	✓	✓	✓
Color touch screen	✓	✓	✓	✓
Self Linearization System	✓	✓	✓	✓
RS232 interface for PC / printer	✓	✓	✓	✓
USB device	✓	✓	✓	✓
Communication options (USB host, bluetooth, wireless etc.)	✓	✓	✓	✓
Support IQ/QQ/PQ	✓	✓	✓	✓
Anti-theft protection with password plus mechanical security	✓	✓	✓	✓
Direct tare and reference weigh entry (manually)	✓	✓	✓	✓
Clock (printout GLP/GMP, auto-cal etc.)	✓	✓	✓	✓
Below balance weighing	✓	✓	✓	✓
Easy alphanumeric input	✓	✓	✓	✓
Touchless sensors to operate draft shield, tare, print, ...	✓	✓	350-8047	-
Electrostatic Cancellation System	✓	390-8500 -001	390-8500 -001	-
Ambient Observation System	✓	390-8500 -002	390-8500 -002	-

Applications series 390	HF	HA	HE	HM
Units g, mg, ozt, lb, tael, etc.	✓	✓	✓	✓
Percent weighing	✓	✓	✓	✓
Piece counting	✓	✓	✓	✓
Animal weighing	✓	✓	✓	✓
Dynamic difference weighing	✓	✓	✓	✓
Free conversion Area conversion	✓	✓	✓	✓
Statistics	✓	✓	✓	✓
Recorder	✓	✓	✓	✓
Minimum sample weight	✓	✓	✓	✓
Automatic repeatability test	✓	✓	✓	✓
Maintenance Service Package	✓	✓	✓	✓
Net total application: Add up summation (Dosing program)	✓	✓	✓	✓
Checkweighing	✓	✓	✓	✓
Density determination	✓	✓	390-8609	390-8609
Buoyancy error suppression technology	✓	✓	390-8611	390-8611

OPTIONS ACCESSORIES

Options series 390	HF	HA	HE	HM
Initially verified according to 2014/31/ECC by Precisa, available for balances with EC (/OIML) type approval	350-8930	350-8930	350-8930	350-8930
TLS Touchless sensors to operate draft shield, tare, print, ...	✓	✓	350-8047	-
ECS Electrostatic Cancellation System & AOS Ambient Observation System all-round care package	✓	390-8500-000	390-8500-000	-
ECS Electrostatic Cancellation System	✓	390-8500-001	390-8500-001	-
AOS Ambient Observation System	✓	390-8500-002	390-8500-002	-
Extension cable Ethernet only	390-8501-001	390-8501-001	390-8501-001	390-8501-001
Extension cable USB host (type A) only	390-8501-002	390-8501-002	390-8501-002	390-8501-002
Extension cable USB device (type B) only	390-8501-003	390-8501-003	390-8501-003	390-8501-003
Extension cable USB host double (2 type A) only	390-8501-004	390-8501-004	390-8501-004	390-8501-004
Extension cable Ethernet + USB host (type A)	390-8501-021	390-8501-021	390-8501-021	390-8501-021
Extension cable Ethernet + USB device (type B)	390-8501-031	390-8501-031	390-8501-031	390-8501-031
Extension cable Ethernet + USB host double (2 type A)	390-8501-041	390-8501-041	390-8501-041	390-8501-041
Extension cable USB host (type A) + USB host (type A)	390-8501-022	390-8501-022	390-8501-022	390-8501-022
Extension cable USB host (type A) + USB device (type B)	390-8501-032	390-8501-032	390-8501-032	390-8501-032
Extension cable USB device (type B) + USB host double (2 type A)	390-8501-043	390-8501-043	390-8501-043	390-8501-043

Applications series 390	HF	HA	HE	HM
Density determination	✓	✓	390-8609	390-8609
BEST Buoyancy error suppression technology	✓	✓	390-8611	390-8611

Accessories series 390	HF	HA	HE	HM
Hook for weighing below the balance	350-8527	350-8527	350-8527	350-8527
Data cable DB9 m / RJ45, crossed, length 1.5m, (from reference to counting balance)	350-8661	350-8661	350-8661	350-8661
Density kit, for 0.01mg and 0.1mg balances, container size Ø = 75mm, h = 100mm	350-8719	350-8719	350-8719	350-8719
Density kit solids only (without glass body and hook), for 0.01mg and 0.1mg balances, container size Ø = 75mm, h = 100mm	350-8720	350-8720	350-8720	350-8720
Glass body for density determination of liquids, V = 10cm^3	350-7054	350-7054	350-7054	350-7054
Downholder for samples with $\rho < 1 g/cm^3$	350-7194	350-7194	350-7194	350-7194
Evaporation trap for pipette calibration, for 0.01mg and 0.1mg balances	350-8717	350-8717	350-8717	350-8717
Adapter for Eppendorf evaporation trap, for 0.01mg and 0.1mg balances	350-8718	350-8718	350-8718	350-8718
Printer CBM910 230V - with cable and paper roll	350-8379	350-8379	350-8379	350-8379
Printer CBM910 115V - with cable and paper roll	350-8380	350-8380	350-8380	350-8380
Paper roll for printer CMB910	350-8366	350-8366	350-8366	350-8366
Ribbon for printer CMB910	350-8367	350-8367	350-8367	350-8367
Data cable DB9 m / DB9 f, length 1.5m, (to PC)	350-8672	350-8672	350-8672	350-8672
Data cable DB9 m / DB25 m, length 1.5m, (to printer)	350-8673	350-8673	350-8673	350-8673
USB cable A-B, length 1.5m	PN 3950-125	PN 3950-125	PN 3950-125	PN 3950-125
HID cable, RS232 / USB (x: 0=e, 1= d, 2=f)	350-8816-x00	350-8816-x00	350-8816-x00	350-8816-x00
UPS (uninterruptible power supply), external	350-8662	350-8662	350-8662	350-8662
Bowl for diamonds (carat bowl)	350-8322	350-8322	350-8322	350-8322

Model	Capacity	Readability	Repeatability (load > 50%)	Min. weight (1%, k = 2, load > 50%)	Linearity	Pan Size (mm)	Class /„e"	Response time	Item no.
H_ 125SM	125 g	0.01 mg	0.010 mg	2.0 mg**	0.06 mg	Ø 80	I / 1 mg	8 s	390-9104-00x*
H_ 125SM-FR	61 g / 125 g	0.01 mg / 0.1 mg	0.010 mg 0.040 mg	2.0 mg**	0.06 mg / 0.1 mg	Ø 80	I / 1 mg	8 / 2 s	390-9106-00x*
H_ 225SM-DR	102 g / 225 g	0.01 mg / 0.1 mg	0.010 mg 0.040 mg	2.0 mg**	0.06 mg / 0.2 mg	Ø 80	I / 1 mg	8 / 2 s	390-9107-00x*
H_ 225SM-FR	61 g / 225 g	0.01 mg / 0.1 mg	0.010 mg 0.040 mg	2.0 mg**	0.06 mg / 0.2 mg	Ø 80	I / 1 mg	8 / 2 s	390-9108-00x*

Dimensions (WxLxH) 234x510x310 mm
Draft shield inside dimensions (WxLxH) 180x150x240 mm

Net weight 13.0 kg
Sensitivity drift (10 .. 30°C) 1.5 ppm / °C

Model	Capacity	Readability	Repeatability (load > 50%)	Min. weight (1%, k = 2, load > 50%)	Linearity	Pan Size (mm)	Class /„e"	Response time	Item no.
H_ 120A	120 g	0.1 mg	0.04 mg	8.2 mg**	0.1 mg	Ø 90	I / 1 mg	2 s	390-9257-00x*
H_ 220A	220 g	0.1 mg	0.04 mg	8.2 mg**	0.2 mg	Ø 90	I / 1 mg	2 s	390-9258-00x*
H_ 320A	320 g	0.1 mg	0.04 mg	8.2 mg**	0.2 mg	Ø 90	I / 1 mg	3 s	390-9259-00x*
H_ 520A	520 g	0.1 mg	0.06 mg	12 mg**	0.4 mg	Ø 90	I / 1 mg	4 s	390-9260-00x*

Dimensions (WxLxH) 234x510x310 mm
Draft shield inside dimensions (WxLxH) 180x150x240 mm

Net weight 13.0 kg
Sensitivity drift (10 .. 30°C) 1.5 ppm / °C

Common specifications					
Floating display	Temperature range	Line voltage, tolerance	Stability settings	Power consumption	Frequency
adjustable	5 .. 40°C	100-240 VAC, -10%/+10%	adjustable	18 VA	50 - 60 Hz

* -00x = HM: -001 / HE: -002 / HA: -003 / HF: -009
** USP Min. weight (0.1%, k=2, load > 50%) = Min. weight x 10

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ISO 9001 BUREAU VERITAS Certification
N° CH8636934

Precisa THE BALANCE OF QUALITY

350-8179-000c1