

# **EXECUTIVE** Series 360 ES



Semi-micro

Analytical

Precision

EXECUTIVE

# Precisa 360 ES



With the 360 series, Precisa is setting new standards in the demanding area of high-end laboratory balances: innovative, high-tech instrumentation which includes the latest technical developments, unique performance features, best user-interface and the most modern design to establish the 360 series as the very bench-mark for modern laboratory technology. Those users who will not accept any compromise in their working environment may enjoy the reassuring certainty that for many years they can rely on an extremely accurate laboratory instrument which features the latest technology and renowned Swiss Quality. Day after day.



Paolo Fancelli, Designer

*Paolo Fancelli*



Compactly styled shape



Designed along smooth, flowing lines



Easy-to-read display

## Impressive design

The modern, slim design by designer Paolo Fancelli gives our compact, integrated technology an impressive form and positions the new series visually in a class of its own.

## High Precision technology

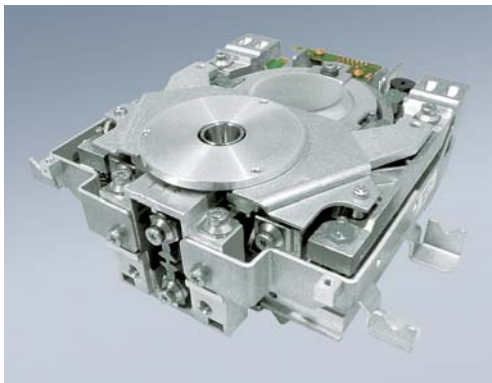
The 360 series owes its extremely high reliability and durability to the well-known competence of Precisa's engineering and development and, as a result, exceeds all established industry standards. The weighing cell is of the highest mechanical quality, operates extremely precisely; it can also be repaired easily and economically. In addition, our fully automatic, programmable time and temperature controlled calibration system ensures absolute accuracy. Previous calibration information is stored and can be printed upon demand. Adjustable environmental settings provide superior performance in difficult production environments or unstable laboratory conditions.

## Expanded weighing range

Precisa balances distinguish themselves through their high weighing ranges, as yet unsurpassed in the market. Milligram resolution balances with weighing ranges of over two kilograms, or balances with a weighing range of eight kilograms and a readability of one hundredth of a gram.

## Outstanding operating simplicity

Bright, high-contrast liquid crystal display with backlight, structured access to the menu with short text prompts offer an outstanding operating simplicity.



Pure Swiss precision at the heart of the balance



Round, ambidextrous draftshield for optimum conditions



Advanced, multipurpose connectivity

## Life-long reliability

The balances offer a high degree of protection against mechanical and electrical interference and operate with highest levels of precision from the initial weigh-in procedure through to the final result. The premium workmanship of our robust die-cast aluminium housing and chemically-resistant sealed keypad offers protection against spills, makes ES balances amazingly resistant to the ambient conditions of the surrounding environment.

## Innovative draftshield

The round, ambidextrous draftshield provides optimum conditions for fast high-precision measurements at a resolution of 0.01 mg and 0.1mg and is extremely easy to clean.

## Advanced functionality

A wide variety of specific applications is easily selectable and guarantees the highest degree of functionality. As a result, the 360 series provides an extremely broad spectrum of applications for almost any lab weighing demand. Among others are Minimum weight application, advanced Pipette calibration, Buoyancy correction and many more.

## Multipurpose connectivity

Standard USB and RS232 interfaces for fast and convenient connection to a desktop computer and Printer.



Options	360 ES
Protection IP65: protection against ingress of dust and low-pressure water jets, fitted at factory, not available for all types	350-8681
Set for EC / OIML verification, fitted at factory, not verified, available only for balances with EC (/ OIML) Type approval	350-8671
EC-Verification according to 90/384/ECC by Precisa (initial verification) available only for balances with EC (/ OIML) Type approval and SCS	350-8679

BUS Accessories	360 ES
Remote / secondary display free-standing with cable 1.5m	350-8504*
Remote / secondary display mounted to the wall with cable 3m	350-8516*
Interface 20mA current loop passive	350-8526*
Interface RS232 for data transmission: - to PC, Printer or Barcode-Printer - from Barcode Reader (350-8856) or Reference-Balance	350-8506*
Analog output -10V... +10V (Resolution 10mV)	350-8508*
Ethernet Interface, Wired	350-8573*
Ethernet Interface, Wireless	350-8588*
Signal Lamp, indicator with 3 lamps, green / red / yellow	350-8510*
Horn for Signal Lamp	350-8533*
Input / Output module with 6 TTL Inputs / 8 Relay Outputs	350-8509*
CCE-Bar code scanner BCS5040 with push button and plug to be connected to the Interface RS232 350-8506 (Connector DB25)	350-8856

\* needs Precisa BUS converter, 350-8664

SmartBox® Applications	360 ES
SmartBox® Counting	350-8511-011*
SmartBox® Finished Goods Packing Control, FPVO	350-8511-012*
CCE-Bar code scanner BCS5040 with push button and plug to be connected to the SmartBox® (Connector RJ45)	350-8531

\* needs Precisa BUS converter, 350-8664

Accessories	360 ES
Draft shield 360 EP automatic, height 260mm, only for 0.01mg and 0.1mg balances	350-8657
Draft shield 360 EP automatic, height 180mm, only for 0.01mg and 0.1mg balances	350-8658
Draft shield 360 ES manual, height 180mm, only for 0.01mg and 0.1mg balances	350-8660
Draft shield mg, glass with cover	320-8504
Podest for draft shield	350-8678
Hook for weighing below the balance	350-8527
Density kit for 0.01mg and 0.1mg balances Container size Ø= 75 mm, h= 100mm	350-8636
Density kit for solids only (w/o Glass body and Hook) for 0.01mg and 0.1mg balances. Container size Ø= 75 mm, h= 100mm	350-8637
Glass body 10ccm for density determination of liquids	350-7054
Downholder for samples with density < 1 g/cm3	350-7194
Evaporation trap for pipette calibration complete for 0.01mg and 0.1mg balances	350-8633
Adapter to assemble Eppendorf Humidity Trap for 0.01mg and 0.1mg balances	350-8634
Animal weighing bowl complete for 0.01g, 0.1g and 1g balances	350-8551
Diamond weighing pan	350-8322
Dust cover 360 for the whole balance, set of 20 pieces (SM, A balances)	350-8676
Dust cover 360 for the whole balance, set of 20 pieces (M, C, D, G balances)	350-8663
Anti-theft device	350-8555
Printer CBM910 230V - with cable and paper roll	350-8379
Printer CBM910 115V - with cable and paper roll	350-8380
Paper roll for Printer CMB910	350-8366
Ribbon for Printer CBM910	350-8367
Data cable DB9 Male / DB9 Female 1.5m (PC)	350-8672
Data cable DB9 Male / DB25 Male 1.5m (Printer)	350-8673
Cable for balance 360 used as reference balance	350-8661
External USV accu power pack for continuous operation	350-8662
Power supply / Adapter with Euro plug for balances with IP65 protection (80V - 240V)	350-8372

## Features and Applications



Swiss made.



Clock (Printout GLP/GMP, Auto-Cal etc.)



Density determination



Automatic Repeatability Test



LCD backlight (no backlight for 0,01 mg balances)



Below balance weighing



Check weighing plus/minus



Multi-level-backweighing



Fully automatic internal calibration system SCS



% weighing



Net total application  
Add-up summation  
Dosage program



Buoyancy Error  
Suppression Technology



Interface RS232 for PC printer



Units g, mg, ozt, lb, tael, etc.



Free conversion  
Area conversion  
(paper program)



Pipette calibration and evaporation trap



USB Device



Statistics



Dynamic Difference Weighing



Support IQ/OQ/PQ



Counting program



Recorder



Anti theft protection - password and mechanical



Animal Weighing



Minimum Sample Weight

## Precisa ES Series: Technical Specifications



### Semi-micro Balances 0.01 mg

Model	Capacity	Readability	Repeatability	Linearity	Pan Size (mm/inch)	Reponse time
ES 125SM	125 g	0.01 mg	0.02 mg ≤ 40 g 0.05 mg > 40 g	0.03 mg	Ø 80/3.1	8 s
ES 225SM-DR	102 g / 225 g	0.01 mg / 0.1 mg	0.02 mg ≤ 40 g 0.05 mg > 40 g	0.03 / 0.1 mg	Ø 80/3.1	8 / 3 s

Dimensions (WxLxH) 240x360x345 mm  
Draft shield inside dimensions Ø140x230 mm

Net weight 6.6 kg  
Sensitivity drift (10...30°C) 1.5 ppm / °C



### Analytical Balances 0.1 mg

Model	Capacity	Readability	Repeatability	Linearity	Pan Size (mm/inch)	Reponse time
ES 120A	120 g	0.1 mg	0.1 mg	0.2 mg	Ø 90/3.5	2 s
ES 220A	220 g	0.1 mg	0.1 mg	0.2 mg	Ø 90/3.5	2 s
ES 320A	320 g	0.1 mg	0.1 mg	0.2 mg	Ø 90/3.5	3 s
ES 420A	420 g	0.1 mg	0.15 mg	0.4 mg	Ø 90/3.5	3 s
ES 520A	520 g	0.1 mg	0.15 mg	0.4 mg	Ø 90/3.5	4 s
ES 420A-FR	120 g - 420 g	0.1 mg / 1 mg	0.15 / 1 mg	0.3 / 1 mg	Ø 90/3.5	3 s

Dimensions (WxLxH) 240x360x345 mm  
Draft shield inside dimensions Ø140x230 mm

Net weight 6.6 kg  
Sensitivity drift (10...30°C) 1.5 ppm / °C



### Precision Balances 1 mg

Model	Capacity	Readability	Repeatability	Linearity	Pan Size (mm)	Reponse time
ES 320M	320 g	1 mg	1 mg	1.5 mg	135 x 135	1.5 s
ES 620M	620 g	1 mg	1 mg	1.5 mg	135 x 135	1.5 s
ES 920M	920 g	1 mg	1 mg	1.5 mg	135 x 135	2 s
ES 1220M	1220 g	1 mg	1 mg	2 mg	135 x 135	2 s
ES 2220M	2220 g	1 mg	1 mg	2 mg	135 x 135	3 s
ES 620M-FR	120 g - 620 g	1 mg / 10 mg	1 mg / 0.01g	1.5 mg / 0.01g	135 x 135	1.5 s
ES 1220M-FR	240 g - 1220 g	1 mg / 10 mg	1 mg / 0.01g	1.5 mg / 0.01g	135 x 135	2 s

Dimensions (WxLxH) 240x360x124 mm  
Draft shield inside dimensions (WxLxH) 170x170x35 mm

Net weight 5.5 to 5.7 kg  
Sensitivity drift (10...30°C) 2.0 ppm / °C



### Precision Balances 0.01 g

Model	Capacity	Readability	Repeatability	Linearity	Pan Size (mm)	Reponse time
ES 1200C	1200 g	0.01 g	0.01 g	10 mg	200 x 200	1.5 s
ES 2200C	2200 g	0.01 g	0.01 g	15 mg	200 x 200	1.5 s
ES 4200C	4200 g	0.01 g	0.01 g	15 mg	200 x 200	1.5 s
ES 6200C	6200 g	0.01 g	0.01 g	15 mg	200 x 200	1.5 s
ES 8200C	8200 g	0.01 g	0.01 g	15 mg	200 x 200	1.5 s
ES 6200C-FR	2200 g - 6200 g	0.01 g / 0.1 g	0.01 g / 0.02 g	15 mg / 0.02 g	200 x 200	1.5 s
ES 8200C-DR	3200 g / 8200 g	0.01 g / 0.1 g	0.01 g / 0.03 g	15 mg / 0.05 g	200 x 200	1.5 s

Dimensions (WxLxH) 240x360x91 mm  
No draft shield

Net weight 5.1 to 5.6 kg  
Sensitivity drift (10...30°C) 2.0 ppm / °C



### Precision Balances 0.1 - 1 g

Model	Capacity	Readability	Repeatability	Linearity	Pan Size (mm)	Reponse time
ES 6200D	6200 g	0.1 g	0.05 g	0.1 g	200 x 200	1 s
ES 8200D	8200 g	0.1 g	0.1 g	0.15 g	200 x 200	1 s
ES 12200D	12200 g	0.1 g	0.1 g	0.15 g	200 x 200	2 s
ES 12200G	12200 g	1 g	0.5 g	0.5 g	200 x 200	1.5 s

Dimensions (WxLxH) 240x360x91 mm  
No draft shield

Net weight 5.6 kg  
Sensitivity drift (10...30°C) 2.0 ppm / °C

### Common Specifications

Floating display	Temperature range	Line voltage, Tolerance	Stability settings	Power consumption	Frequency
adjustable	0 .. 40 °C	115V / 230V, +15% / - 20%	adjustable	12 VA	50 - 60 Hz