

the legend of tomorrow



GAMMA SCALE TM

Weighing Instruments

Sales & Service

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Website: www.gammascale.com



Uncompromising efficiency in the lab and production

"Thanks to the XS we can prepare up to 20% more samples every day. That makes our research results available sooner. The XS has paid for itself within a year."

Daniela Brändli, Switzerland

□ Built for trouble-free daily operation: long lasting qualities
 □ Precision with maximum speed: accurate results faster
 □ Absolute reliability: for process certainty
 □ Touchscreen display: for easy operation and convenient working
 □ FACT: fully automatic internal adjustment

The new Excellence XS will help you get your work done faster.

Designed for efficiency in everyday operation, it is easy to operate, and so rugged and accurate, that it not only optimizes the work process but also pays for itself. The Excellence XS is ideal for continuous operation and has all the qualities of a future legend.

Efficiency factor: high speed

The measuring performance of the Excellence XS is outstanding.

Thanks to the new MonoBlocHighspeed weighing cell with a separate processor as measurement accelerator, the weighing time can be reduced by up to 20%. The fully automatic internal adjustment function FACT also ensures precise results at all times. All of these add up to increased performance which quickly pays for itself.

Efficiency factor: reliability

The design says it all. The Excellence XS is made for hard work.

Built entirely of solid metal, it is resistant to corrosive chemicals and impervious to liquid and dust according to IP54 when in use. The outside reflects the inside: pure functionality with longlasting technology. Constructed for many years of trouble-free operation it ensures certainty of processes and deadlines.

Efficiency factor: ease of use

Operation to match the design: clear, simple, intuitive, and thanks to the touchscreen, fast and very convenient.



Does everything, has everything: including high-speed operation



□ Touchscreen display: for easy, intuitive operation
□ Graphical user guidance: for error free work
□ Standard applications built in: ready to use
□ Reports according to GxP: for seamless documentation
□ The Excellence line: many balances, one user-interface

Efficiency factor: touchscreen with araphical user auidance

Clarity for speed. The multilingual graphical user guidance on the display is self-explanatory and so easy that it automatically ensures error-free operation. The touch-screen brings convenience and speed: settings and changes are done at the touch of a fingertip. The alphanumeric keypad speeds

up input and simplifies documentation and reporting according to GxP.

The user interface is also identical to the Excellence analytical balances, which simplifies training. In short: The Excellence XS adds convenience to efficiency in every respect.

All clear on the printout

Flexible reports can be configured easily and the Excellence XS provides seamless and traceable documentation to GxP.

7. Jun 2004	4:21
Balance Typ	
WeighBridge	SNR:
	1125456789
Terminal SN	R: 1125456789
Substance	H2 S04
Lot	L-4298
Batch	B-5748
T	12.78 g
N	812.99 g
6	825.77 g
Claush	
Signature ,	

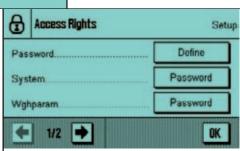
Clarity at a glance

Big number display with large figures for optimal readability – even under adverse conditions.



Password protection

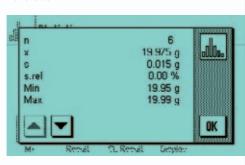
Once settings have been selected they can be protected from undesired changes.

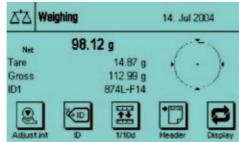




Statistics

The statistics program is individually configurable and makes evaluation simple and clear.





Gross, net or tare?

The XS makes it clear.

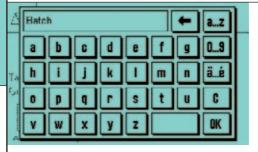
Applications included

The Excellence XS comes with all the applications needed for lab and production: percent weighing, statistics, formula weighing, piece counting, density determination and dynamic weighing.



Alphanumeric keypad

The alphanumeric keypad enables samples to be identified easily.



Always exactly right

□ Tailored excellence: a range of models for everyone and everything Easy cleaning: saves time and work Flexible interface options: for connection to the future □ Separate weighing platforms: for integration into automated systems



Efficiency factor: complete range

The right balance in the right place saves time and money. The Excellence XS range is comprehensive covering every need and offering optimal performance for every workplace. Standalone, networked, or integrated into automated sys-

Efficiency factor: fast cleaning

Not only is the surface of the Excellence XS resistant to dirt and acids, the design is also soil-resistant. Surfaces and edges are easy to clean. The inside is completely sealed. The Excellence XS allows you to spend time weighing - not cleaning.

Efficiency factor: seamless integration

The Excellence XS fits into every environment. It connects to everything and communicates on all channels - RS232, Ethernet, USB, PS/2, Bluetooth – as well as with all peripheral devices. It sends reports and documentation wirelessly to a PC or printer. It downloads updates via the Internet. The Excellence XS is future-compatible – another criterion for a long life.

tems.

Magnetism eliminated

The optional MPS weighing pan shields against magnetic forces and allows magnetic stirring rods to be used without affecting the results.

Stand

To save space and protect the display the terminal can be mounted on a stand.





Second interface

As well as an RS232 interface fitted as standard, the XS has an optional easily insertable second interface allowing six different connection possibilities. Select from Bluetooth, Ethernet, PS/2 or USB: the Excellence XS connects to them all.



Standard commercial keypads, printers, and barcode readers — wireless ones too — are easy to connect and use. For efficient data capture.





Bluetooth

Allows wireless communication between balance and printer up to a distance of 10 m. So you can place the printer wherever you want it — with no cable to worry about.



Fast cleaning

Rounded edges, flat surfaces and no corners where sample substances can collect. The XS has a soil-resistant design which makes it easy to clean.

Excellent value, complete range

Standard equipment

- Backlit graphical display with touchscreen operation
- FACT fully automatic temperature-controlled internal adjustment
- Overload protection
- Stainless-steel weighing pan with draft ring or draft shield depending on model
- Extendable safety feet for all 10 mg and 0.1 g models
- RS232C interface and two AUX outputs built in Slot for second selectable interface (6 options)
- Protective cover for terminal and weighing platform
- Feedthrough for below-the-balance weighing
- Power supply connection with AC/DC adapter
- Country-specific power cable

All models

- Can download software via the Internet
- · Can display different weighing units
- Can be tared over the entire weighing range
- Can be adapted to the environment
- Can be adapted to the weighing mode
- Have applications for statistics
- Have applications for piece counting
- Have applications for formula weighing
- Have applications for dynamic weighing
- Have applications for density determination
- Have applications for percent weighing
- Have alphanumeric identification, 3 IDs per sample
- Can create documentation according to GXP
- Can communicate in 7 languages: e, g, f, sp, i, jap, russ
- Are available in certified versions

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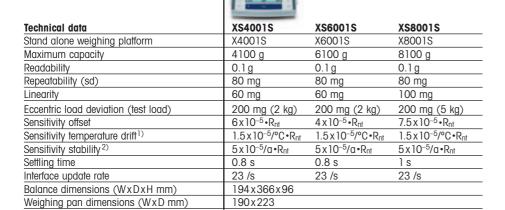
Technical data	XS203S	XS403S	XS603S	XS603SDR	XS1003S
Stand alone weighing platform	X203S	_	X603S	X603SDR	_
Maximum capacity	210 g	410 g	610 g	610 g	1100 g
Maximum capacity, fine range	_	_	_	120 g	_
Readability	1 mg	1 mg	1 mg	10 mg	1 mg
Readability, fine range	_	_	_	1 mg	_
Repeatability (sd)	0.9 mg	0.9 mg	0.9 mg	6 mg	0.8 mg
Repeatability, fine range (sd)	_	_	_	1 mg	
Linearity	2 mg	2 mg	2 mg	6 mg	2 mg
Eccentric load deviation (test load)	3 mg (100 g)	3 mg (200 g)	3 mg (200 g)	10 mg (200 g)	3 mg (500 g)
Sensitivity offset	2.5x10 ⁻⁵ •R _{nt}	1.5 x 10 ⁻⁵ • R _{nt}	7.5 x 10 ⁻⁶ • R _{nt}	1.5 x 10 ⁻⁵ • R _{nt}	5 x 10 ⁻⁶ • R _{nt}
Sensitivity temperature drift ¹⁾	5 x 10 ⁻⁶ /°C•R _{nt}	5 x 10 ⁻⁶ /°C•R _{nt}	2 x 10 ⁻⁶ /°C•R _{nt}	2 x 10 ⁻⁶ /°C•R _{nt}	2 x 10 ⁻⁶ /°C•R _{nt}
Sensitivity stability ²⁾	2.5x10 ⁻⁵ /a•R _{nt}	$2.5 \times 10^{-5} / a \cdot R_{nt}$	1x10 ⁻⁵ /a•R _{nt}	1x10 ⁻⁵ /a•R _{nt}	1x10 ⁻⁵ /a•R _{nt}
Settling time	1.5 s				
Interface update rate	23 /s				
Balance dimensions (WxDxH mm)	194x366x276				
Usuable height of draft shield (mm)	175				
Weighing pan dimensions (WxD mm)	127 x 127				



Technical data	XS802S	XS2002S	XS4002S	XS4002SDR	XS6002S	XS6002SDR
Stand alone weighing platform	_	X2002S	X4002S	_	X6002S	X6002SDR
Maximum capacity	810 g	2100 g	4100 g	4100 g	6100 g	6100 g
Maximum capacity, fine range	_	_	_	800 g	_	1200 g
Readability	10 mg	10 mg	10 mg	100 mg	10 mg	100 mg
Readability, fine range	ı	_	_	10 mg	_	10 mg
Repeatability (sd)	8 mg	8 mg	8 mg	60 mg	8 mg	60 mg
Repeatability, fine range (sd)	-	_	_	8 mg	_	8 mg
Linearity	20 mg	20 mg	20 mg	60 mg	20 mg	60 mg
Eccentric load deviation (test load)	20 mg (500 g)	30 mg (1 kg)	30 mg (2 kg)	100 mg (2 kg)	30 mg (2 kg)	100 mg (2 kg)
Sensitivity offset	7.5 x 10 ⁻⁵ • R _{nt}	2.5 x 10 ⁻⁵ • R _{nt}	1.5 x 10 ⁻⁵ • R _{nt}	1.5 x 10 ⁻⁵ • R _{nt}	1 x 10 ⁻⁵ • R _{nt}	$2.5 \times 10^{-5} \cdot R_{nt}$
Sensitivity temperature drift ¹⁾	3x10 ⁻⁶ /°C•R _{nt}	3x10 ⁻⁶ /°C•R _{nt}	3x10 ⁻⁶ /°C•R _{nt}	3x10 ⁻⁶ /°C•R _{nt}	3x10 ⁻⁶ /°C•R _{nt}	3x10 ⁻⁶ /°C•R _{nt}
Sensitivity stability ²⁾	2.5 x 10 ⁻⁵ /a•R _{nt}	$2.5 \times 10^{-5} / a \cdot R_{nt}$	$1.5 \times 10^{-5} / a \cdot R_{nt}$	$1.5 \times 10^{-5} / a \cdot R_{nt}$	$1.5 \times 10^{-5} / a \cdot R_{nt}$	$1.5 \times 10^{-5} / a \cdot R_{nt}$
Settling time	1.2 s	1.2 s	1.2 s	1.2 s	1.2 s	1.2 s
Interface update rate	23 /s	23 /s	23 /s	23 /s	23 /s	23 /s
Balance dimensions (WxDxH mm)	194x366x96					
Weighing pan dimensions (WxD mm)	170x205					

 R_{nt} = net weight sd = Standard deviation a = Year (annum)

¹⁾ In temperature range 10...30°C 2) Sensitivity drift over time with FACT self-adjustment switched on





Technical data	XS6001M	XS6001MDR	XS10001M	XS16001M	XS10000M	XS16000M
Stand alone weighing platform	_	_	-	-	_	-
Maximum capacity	6100 g	6100 g	10100 g	16100 g	10100 g	16100 g
Maximum capacity, fine range	_	1200 g	_	_	_	_
Readability	0.1 g	1 g	0.1 g	0.1 g	1 g	1 g
Readability, fine range	_	0.1 g	-	-	-	-
Repeatability (sd)	80 mg	600 mg	80 mg	80 mg	600 mg	600 mg
Repeatability, fine range (sd)	_	80 mg	_	_	_	_
Linearity	60 mg	600 mg	100 mg	200 mg	600 mg	600 mg
Eccentric load deviation (test load)	0.2 g (2kg)	1 g (2 kg)	0.2 g (5 kg)	0.2 g (5 kg)	1 g (5 kg)	1 g (5 kg)
Sensitivity offset	4 x 10 ⁻⁵ • R _{nt}	5 x 10 ⁻⁵ • R _{nt}	5 x 10 ⁻⁵ • R _{nt}	5 x 10 ⁻⁵ • R _{nt}	5 x 10 ⁻⁵ • R _{nt}	5 x 10 ⁻⁵ • R _{nt}
Sensitivity temperature drift ¹⁾	1.5 x 10 ⁻⁵ /°C • R _{nt}	1.5 x 10 ⁻⁵ /°C •R _{nt}	1.5 x 10 ⁻⁵ /°C • R _{nt}	1.5 x 10 ⁻⁵ /°C •R _{nt}	1.5 x 10 ⁻⁵ /°C •R _{nt}	1.5 x 10 ⁻⁵ /°C • R _{nt}
Sensitivity stability ²⁾	5x10 ⁻⁵ /a•R _{nt}	5x10 ⁻⁵ /a•R _{nt}	5x10 ⁻⁵ /a•R _{nt}	5 x 10 ⁻⁵ /a • R _{nt}	5 x 10 ⁻⁵ /a • R _{nt}	5x10 ⁻⁵ /a•R _{nt}
Settling time	1 s	1 s	1.2 s	1.2 s	1 s	1 s
Interface update rate	23 /s	23 /s	23 /s	23 /s	23 /s	23 /s
Balance dimensions (WxDxH mm)	240x393x110					
Weighing pan dimensions (WxD mm)	237 x 237					



Technical data	XS8001L	XS16001L	XS32001L	XS32001LDR	XS16000L	XS32000L
Stand alone weighing platform	_	X16001L	X32001L	_	_	X32000L
Maximum capacity	8100 g	16100 g	32100 g	32100 g	16100 g	32100 g
Maximum capacity, fine range	_	_	_	6400 g	_	_
Readability	0.1 g	0.1 g	0.1 g	1 g	1 g	1 g
Readability, fine range	_	_	_	0.1 g	_	_
Repeatability (sd)	80 mg	80 mg	80 mg	600 mg	600 mg	600 mg
Repeatability, fine range (sd)	_	_	_	100 mg	_	_
Linearity	200 mg	200 mg	300 mg	300 mg	600 mg	600 mg
Eccentric load deviation (test load)	0.3 g (5 kg)	0.3 g (5 kg)	0.3 g (10 kg)	1 g (10 kg)	1 g (5 kg)	1 g (10 kg)
Sensitivity offset	8x10 ⁻⁵ •R _{nt}	5 x 10 ⁻⁵ • R _{nt}	3 x 10 ⁻⁵ • R _{nt}	3x10 ⁻⁵ •R _{nt}	8x10 ⁻⁵ •R _{nt}	6x10 ⁻⁵ •R _{nt}
Sensitivity temperature drift 1)	1.5 x 10 ⁻⁵ /°C •R _{nt}	1.5 x 10 ⁻⁵ /°C •R _{nt}	1x10 ⁻⁵ /°C•R _{nt}	1x10 ⁻⁵ /°C •R _{nt}	1.5 x 10 ⁻⁵ /°C •R _{nt}	1.5 x 10 ⁻⁵ /°C • R _{nt}
Sensitivity stability ²⁾	5 x 10 ⁻⁵ /a • R _{nt}	5 x 10 ⁻⁵ /a •R _{nt}	3 x 10 ⁻⁵ /a • R _{nt}	3 x 10 ⁻⁵ /a • R _{nt}	5 x 10 ⁻⁵ /a • R _{nt}	5 x 10 ^{−5} /a • R _{nt}
Settling time	1.5 s	1.5 s	1.5 s	1.5 s	1.2 s	1.2 s
Interface update rate	23 /s	23 /s	23 /s	23 /s	23 /s	23 /s
Platform dimensions (WxDxH mm)	360x280x130					
Terminal dimensions (D mm)	124					
Weighing pan dimensions (WxD mm)	280x360					

Accessories

Weight for tests and adjustments. Guaranteed traceability - **www.mt.com/weights**



Sensors	ErgoSens, infrared sensor for hands-free operation of the balance, freely positionable (0.6 m cable)	11132601
Weighing pans (S platform)	Magnetic Shield Protection weighing pan for 0.1 g models 190 x 223 mm	11132625
	Magnetic Shield Protection weighing pan for 10 mg models 170 x 205 mm	11132626
	Weighing pan 190 x 223 mm, incl. pan support	11132655
	Weighing pan 170 x 205 mm, incl. pan support and draught ring	11132660
Draft shield	Draft shield high for 1mg models, effective height 248 mm	11131651
S.a S	Draft shield made of plastic for 1 mg models (food industry), effective height 248 mm	11131652
	Draft shield for 0.1g and 10mg models (S platform), effective height 175 mm	11131653
	Draff shield for whole balance, size (W x D x H) 300 x 450 x 450 mm	11134430
Printer	BT-P42 printer with wireless connection to balance via Bluetooth wireless network	11132540
	RS-P42 printer with RS232C connecting cable to balance	229265
Optional interfaces	BT option: second interface Bluetooth, for connecting up to 7 peripheral devices	11132530
opnonaonacco	BTS-Option: Second interface Bluetooth, for control of 1 peripheral device	11132535
	Ethernet option: second interface Ethernet for connection to an Ethernet network	11132515
	PS/2 option: second interface for connection of commercial keyboards and barcode readers	11132520
	RS232C option: second interface for connection of a printer (RS-P42), computer or titrator	11132500
	LocalCan option: second interface for connection of up to five LC (LocalCan) based instruments	11132505
	MiniMettler option: second interface MiniMettler, for connection to older systems	11132510
eLink network interface	eLink IP65 EB01, Ethernet connection with IP65 protection	11120003
Protective covers	Protective cover for XS terminal	11106870
FIGIECTIVE COVETS	Protective cover for XS terminal for L balance	11132573
	Protective cover for XS-S balances	11132573
	Protective cover for XS-M balances	11132571
	Protective cover for XS-weighing platform for 10 mg and 0.1 g models (S platform)	11132372
Standa and wall mountings	Protective cover XS weighing platform for M platform Terminal stand for placement of the XP terminal 30 cm above the weighing pan, (S and M platform)	11132574 11132636
Stands and wall mountings		
	Terminal stand for placement of terminal 30 cm above the weighing pan (L platform)	11132653
IDE 4 AO adapter protection	Terminal wall mounting	11132665
IP54 AC adapter protection	IP54 AC adapter protection	11132550
Barcode scanner	RS232C barcode scanner	21900879
	AC adapter for barcode scanner 230V EUR	21900882
Maria de antication a	AC adapter for barcode scanner 115V USA	21900883
Various applications	LV11 small-items transporter for automatic loading of the balance with small items (filling-process control)	21900608
	Door to draft shield (ME No. 11131651) for LV11 (1mg models)	11132711
	Density determination kit for 1 mg models	11132680
	Thermometer for density determination, certified	11132685
And the off of our con-	Dynamic weighing kit for 10 mg and 0.1 g models	11132657
Antitheft device	Steel cord	11600361
	RS99-RS9, connecting cable to computer or RS-P42 printer (DB9m/DB9f, length 1 m)	11101051
	RS9-RS25, connecting cable to computer (IBM-XT compatible) (DB9m/DB9f, length 1 m)	11101052
	RS9-RS9, connecting cable to computer or RS-P42 printer, suitable for industrial balances	01050000
	(DB9m/DB9m, length 1 m)	21250066
	LC-RS9, connecting cable to PC such as IBM-AT and compatibles (DB9f, length 2 m)	229065
	LC-RS25, connecting cable to PC such as IBM-XT and compatibles (DB25, f/m, length 2 m)	229050
	LC-RS open, connecting cable to MTComBus system (length 4 m)	21900640
	LC-CL, connecting cable to instrument with METTLER TOLEDO CL interface (length 2 m)	229130
	LC-LCO3, extension cable for LocalCAN 0.3 m	239270
	LC-LC2, extension cable for LocalCAN 2 m	229115
	LC-LC5, extension cable for LocalCAN 5 m	229116
	LC-LCT, T-junction for LocalCAN	229118
	MM-RS9, connecting cable from MiniMettler option to RS232 instruments	210493
Terminal	Terminal extension cable, 4.5 m	11600517
LC switchbox	For connection of up to three balances simultaneously to one LC-P45 printer	229220
LC-I/O box	Relay interface for control of up to 8 external instruments from the balance	21202217
Foot switch	LC-FS foot switch with settable function for balances with LocalCan universal interface	229060
Auxiliary displays	BT-BLD (Bluetooth) auxiliary display, for benchtop mounting. Wireless connection from balance	
	to display by means of Bluetooth wireless network with backlit LCD display	11132555
	Auxiliary RS/LC-BLDS for mounting on benchtop or balance	
	Connection by means of RS232C cable with backlit LCD display	11132630
	LC-AD auxiliary display on benchtop stand with fluorescent display	229140
	LC-ADS auxiliary display on high benchtop stand with fluorescent display	229150
	RS/LC-BLD auxiliary display on benchtop stand with backlit LC display	224200
Transport case	Transport case for precision balance (10 mg/0.1 g models) with space for printer	11132595
Hook	Hooks affixed to bottom of balance (M and L platform)	11132565
Production certificate	Professional production certificate for XS balances	11106895

ServiceXXL

Because you want results, not promises.

ServiceXXL assures the daily operating certainty and constant performance of your balance for years. Our global service network employs 1200 highly trained and experienced service technicians to provide cost-effective service solutions. Our goal is to ensure the availability of your balances and guarantee full traceability of your results and processes.

In the area of Equipment Qualification (EQ) we offer the following services that guarantee full regulatory compliance:

DQ

make the right choice

- Define requirements
- Qualify supplier



The importance of the Design Qualification is often underestimated. Because we know the potential negative consequences, we have developed decision aids that make it easier for you to choose the right balance. Contact your sales representative and let yourself be guided through the DQ process.

IQ/OQ/PQ

ensure qualified installation

- Immediate start-up
- Assure operation according to requirements



With the IPac you ensure professional installation and Initial Qualification of your balance. IPacs are especially suitable for subsequent integration of your balance into an existing quality management system. In addition, activation of MinWeigh ensures that you always stay within defined limits.

MQ

protect your investment

- Optimize up-time
- Ensure accuracy and traceability



Regular servicing by a METTLER TOLEDO service technician guarantees high availability of your balance and seamless traceability of your measurement results. It also ensures that your balance documentation is regularly updated and that you benefit from effective control of costs.

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SHIMADZU TOSHIBA	CAS	setra	<u>ooron</u>	TANITA
SCAIME	ACCULAB	Transcell Technology	DETECTO.	SENSORTRONICS
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• Measurement Canada certified calibration weights • Professional on-site service



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