

# Weight Calibration



## **ComparatorPac™**

Simple Calibration

Efficient Workflow

Reliable Results



**Safe and Simple Weight Calibration**  
with ComparatorPac™

**METTLER TOLEDO**

# Weight Calibration for Traceable Results



Balances should always be tested with calibrated weights you can rely on and trust. Calibrated weights are traceable to the International Prototype and ensure accurate weighing results.

METTLER TOLEDO's unmatched reputation is built upon years of experience as well as joint projects with leading institutes. The ComparatorPac offers a complete solution for weight calibration laboratories with the added benefit of a unique global support and service network.

## Calibration Process

Calibration Cycle	Type of Weight	Location
 25 years	International Prototype 1 kg	BIPM, Sèvres, France
 10 years	National Prototype 1 kg	CH, F, UK, USA, ... e.g. METAS, Bern, Switzerland
 5 years	Primary Standard 1 kg	CH, F, UK, USA, ... e.g. METAS, Bern, Switzerland
 1-2 years	<b>Your Calibration Laboratory</b>	<b>Regional, Local or Company in-house</b>
 1-2 years	Calibrated weights for routine test	Work area with SOP or regulation

Weight calibration ensures full traceability which is achieved through an unbroken chain of comparisons. All calibrations are traceable back to the International Prototype at the BIPM (Bureau International des Poids et Mesures) in Paris.

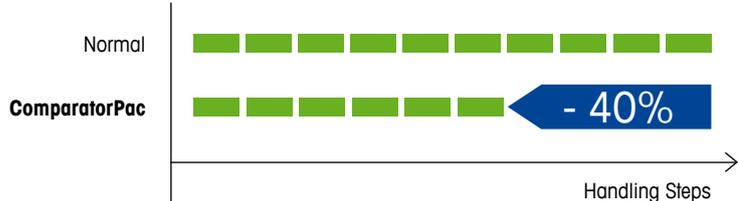
## ComparatorPac



With ComparatorPac you have a unique ready-to-start calibration solution consisting of:

- 3 Comparators to calibrate weights up to 20 kg
- OIML F1 reference weights from 1mg up to 20 kg
- PC Software to process calibration and print reports.

With a comprehensive portfolio of Comparators and Weights, the ComparatorPac can be adapted to individual needs.



**Weight Calibration Process**

Automated features eliminate many manual operations to increase the process speed by up to 40%. The whole calibration process is more secure and reliable.

**Calibration Range**

1 mg – 20 kg OIML F2 – M3 / NIST F / ASTM 4–7, CarePacs, Weight Sets and Grip Handle Weights



Your Benefits



simple calibration



efficient workflow



reliable results

# Simple Weight Calibration with One Touch

The calibration process is easily started with the One Touch icon on the balance and the built-in WeighCom software provides full step-by-step user guidance. Other innovative features such as sensor doors and LevelControl, as well as the ergonomic design and durability make daily manual calibrations as simple and efficient as possible.

## Comparator Balances



### XP205DR Comparator

- Calibration range OIML F2: 1 mg – 200 g
- Max. Load: 81/220 g
- Readability: 0.01/0.1 mg
- Repeatability: 0.015/0.06 mg
- Overload protection
- WeighCom One Touch Calibration
- Touchscreen operation
- LevelControl indicator
- Automatic draft shield doors



### XP2003S Comparator

- Calibration range OIML F2: 500 g – 2 kg
- Max. Load: 2300 g
- Readability: 1 mg
- Repeatability: 1 mg
- Overload protection
- WeighCom One Touch Calibration
- Touchscreen operation
- LevelControl indicator
- Adaptable draftshield

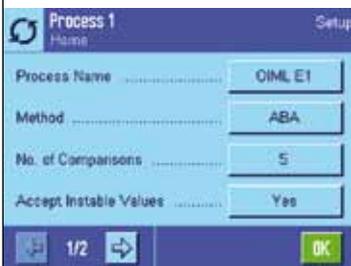


### XP32003L Comparator

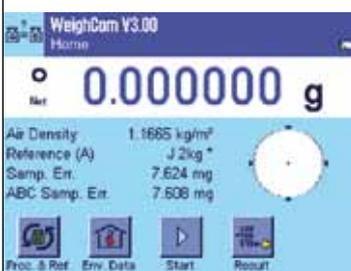
- Calibration range OIML F2: 5 kg – 20 kg
- Max. Load: 32100 g
- Readability: 5 mg
- Repeatability: 10 mg
- Overload protection
- WeighCom One Touch Calibration
- Touchscreen operation
- LevelControl indicator
- Robust weighing platform



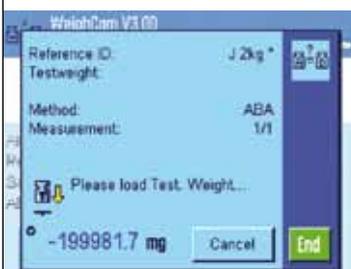
## One Touch Calibration



1. Define process



2. Start One Touch Calibration



3. On-screen guidance

A simple One Touch starts the calibration procedure; just follow the on-screen instructions and handle only the weights. No more operator or transcription errors; all results are stored and can be sent to a computer.

## Unrivaled Quality



Durable MonoBloc technology for fast and accurate results, every day.



LevelControl alerts you when the balance is not correctly leveled, avoiding incorrect results.



Optional Bluetooth or Ethernet interface for flexible data transfer to PC or server.

# Efficient and Reliable Calibration with Quality Tools

**METTLER TOLEDO's weight references are of the highest product quality and are calibrated at our accredited Mass Laboratories to ensure accurate and reliable results.**

**Together with MCLink software, this complete solution provides automatic calculations and full traceability as well as functions for generating professional reports with minimum effort.**

## Weights



1 mg – 5 kg OIML F1



10 – 20 kg OIML F1

METTLER TOLEDO calibrated F1 OIML weights allow calibration of lower class weights on the XP Comparators from 1 mg – 20 kg.

► [www.mt.com/weights](http://www.mt.com/weights)

## Benefits



### Robust Design

Premium steel, with a high gloss corrosion resistant surface for longtime stability.



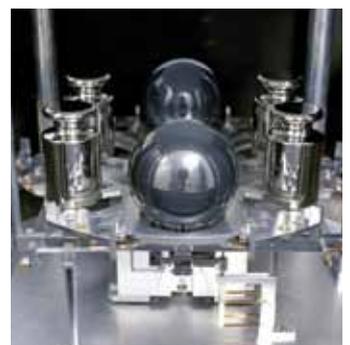
### Product Quality

Magnetization and susceptibility are strictly controlled to ensure compliance with standards.



### Durable Boxes

Impact resistant plastic boxes preserve the quality of the weights.



### Calibration Expertise

METTLER TOLEDO's 11 Mass Laboratories world-wide offer excellent service and support.



## MCLink Data Processing



### **Traceable Results**

Using MCLink, all weighing results can be sent directly to a PC or server where they are safely stored. Herewith, important calibration data is fully traceable and available at any time for quality or accreditation purposes.



### **Secure Calibrations**

MCLink stores predefined processes and weight references, allowing the start of a new calibration at a keystroke. The results of up to four Comparators are automatically stored and are calculated with air buoyancy to give final results.



### **Professional Reports**

MCLink automatically creates calibration reports at a keystroke. All parameters, processes used, references and results, with or without calculations, can be easily printed in a certificate for a professional sign-off.

# Expertise and Support that Takes You Further

Technical data	XP205DR Comparator	XP2003S Comparator	XP32003L Comparator
Maximum load – fine / full range	81 g / 220 g	2300 g	32.1 kg
Readability – fine / full range	0.01 mg / 0.1 mg	1 mg	5 mg
Repeatability at nominal load (5x ABA, measured at)	0.06 mg (200 g)	1 mg (2 kg)	10 mg (30 kg)
Repeatability at low load (5x ABA, measured at)	0.015 mg (10 g fine range)	0.8 mg (100 g)	5 mg (2 kg)
Settling time	4...6 s	3.5 s	8 ...12 s
Adjustment built-in	proFACT	proFACT	proFACT
Adjustment with external weight	≥ 20 g	≥ 500 g	≥ 5 kg
Admissible environmental conditions	temperature: 10...30 °C; max. temp. change: 0.5°C / 24h; relative humidity: 40 – 70 %		



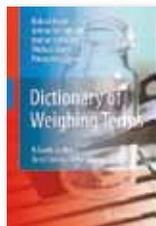
#### Tailored Services

All our Swiss trained service technicians use accredited methods to test and document comparator performance. The comparator lifetime is enhanced whilst ensuring accurate weighing results and minimum risk.



#### Worldwide Support

Need some technical advice, Mass Metrology theory training, or even consultation for a new Mass Laboratory set-up? We are your partner in metrology and want to see you profit from our metrology know-how.



#### Weighing Dictionary

METTLER TOLEDO worked collaboratively with the German national metrology institute (PTB) to produce this practical guide. Ideal for everyday use with over 1000 terms and helpful illustrations.

**Part no. 11116539**

[www.mt.com/comparators](http://www.mt.com/comparators)

For more information

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**GWP®**  
Good Weighing Practice™

The internationally recognized GWP® guidelines reduce weighing risks and help to:

- identify the correct balance for the weighing task
- reduce costs by optimizing testing procedures
- ensure compliance with regulations

► [www.mt.com/GWP](http://www.mt.com/GWP)