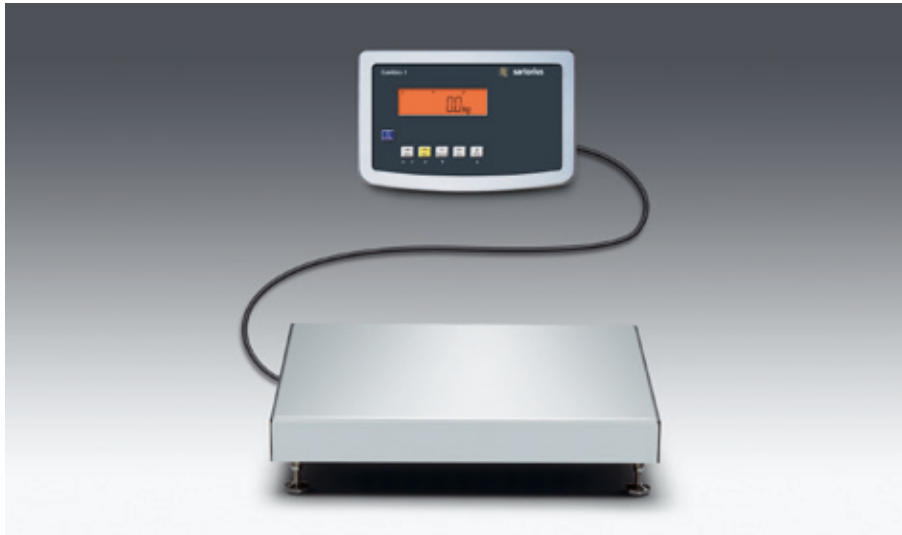




Combics stainless steel complete scales CAWS...



- Large choice of combination options with standard components
- High weight-bearing stainless steel construction together with high display accuracy
- High IP protection up to IP69K and an open design for easy cleaning
- Easy to operate
- Various interfaces RS232, RS485|422, analog, DIO, Profibus, Ethernet
- Prepared for use in Zones 2 and 22
- We provide certificates and documentation according to GMP, ISO, ATEX, OIML and FDA regulations

Combics provides support in all areas of your process chain, from manual formulations up to PC controlled production checks.

The modular system allows tailor-made configuration of the individual components for each area. We also produce individual complete solutions according to your specific applications.

Based on the specific requirements of various industries and the basic legal conditions, Sartorius has developed intelligent solutions for all weighing applications, from incoming goods through to production on a large technical scale. The Combics series supports the production of high-quality, appealing and safe products.

The unrivalled precision of Combics helps

- control flexible production
- reduce costs
- improve product quality
- raw materials to be used optimally
- increase output

A design made for longevity and flexibility stands for reliability.

The hygienic design of our solutions complies with today's extremely important hygiene regulations without compromise. The devices can be cleaned very easily and thus allow Combics to be used even under tough conditions and with high safety standards. The materials and surfaces used significantly contribute to minimizing contamination risks.

All Combics scales meet EHEDG specifications.

The easy to operate concept, in combination with the clearly labeled keys, helps prevent errors and makes it simpler for new users to learn how to use the scales.

The intelligent software guarantees optimum support in logging and documenting data. Comprehensive interfaces to data management systems and process controls allow optimum integration.

Typical weighing applications are supported by diverse software applications.

Additionally, we support you by qualifying according to your requirements. We provide certificates and documentation according to GMP, ISO, ATEX, OIML and FDA regulations.

General Specifications

Combination options

3 display and service units
10 weighing ranges from 3 kg to 3 t
13 platform dimensions

Material

Made completely from stainless steel 1.4301 (V2A), load plate and base frame optionally in electropolished stainless steel 1.4401 (V4A)

Display and control unit

Delivered optionally with screw-fixed sheet metal plate or support arm for fixing the device to the platform

Additional accessories

4 × height-adjustable feet
Leveling facility
Overload protection

Operating temperature range

-10°C to 40°C

Resolution (non-verifiable)

Depends on model:
1 × 30,000 d or 1 × 15,000 d

Resolution (verifiable, Class III)

Depends on model: 3,000 e or
2 × 3,000 e (MR | MI);
3 × 3,000 e (MR); 6,000 e

Weighing system

Stainless steel single-point C3 load cell,
or 4 C3 load cells

IP protection rating

Platform IP68, optional IP69K
display and operating unit IP69K

Data Interfaces

RS232

Optional

RS232

RS485/422

Analog output 0/4..20 mA, 0-10 V, 16-bit

Digital I | O (5 inputs and 5 outputs)

Profibus DP

Ethernet TCP | IP and Modbus TCP

PS/2

2nd inbuilt A | D converter

Built-in Alibi memory

Optional

130,000 data records

Load plate

optional

with tread plate

lift-up design

Comprehensive range of accessories

Drive-on ramps

Frames for pit installation

Roller conveyor

Benches

Power supply

100 – 240 V AC (-15% | +10%), 50 – 60 Hz,
max. 17 W | 23 VA

Optional

15.5-24 VDC (±10%), max. 12 W

13-17 VAC (±10%), 50 – 60 Hz, max. 12 W

Battery operation

Optional

Internal rechargeable battery in indicator
housing
(different housing dimensions)

Ex-proof approval

Optional for use in Zones 2 and 22

ATEX: II 3G Ex nA IIC T4 Gc

II 3D Ex tD IIIC T80°C Dc

Interference emission

Acc. to EN 61326-1, Class B (IEC 61326-1)

Electrical safety

Acc. to EN 61010-1 (IEC 61010-1)

EN60950 (IEC950)

Interference immunity

Acc. to EN 61326-1,
industrial areas (IEC 61326-1)

Applications	Material Design	Number of load cells	Weighing capacity (kg)	Platform dimension mm Order code	Resolution
CAW1	S	1 -	60	FE -	L

Example of order code CAW1S1-60FE-L:

Part 1:	CAW1S	Display and control unit:	Application: Weighing only
Part 2:	1-60FE	Platform:	60 kg, L = 500 mm × W = 400 mm
	-L	Resolution:	5 g readability, non-verifiable

Display and control unit (Part 1)



Application levels

	Combiics 1	Combiics 2	Combiics 3
Keyboard	6 keys	28 keys numerical keypad	30 keys alphanumeric keypad
Display	14 segments 20 mm weight display	14 segments 20 mm weight readout plus application icons	Graphics 20 mm weight readout plus application icons

Applications

Basic weighing	•	•	•
Data transfer to printer PC	•	•	•
ISO test	•	•	•
Counting		•	•
Weighing in percent		•	•
Averaging		•	•
Checking Classification		•	•
Totalizing		•	•
Combination of 3 applications		•	•
Weighing and counting to target value (from the memory)		•	•
SQ Min	•	•	•
Identifiers		•	•
Product data memory		•	•
Date Time		•	•
Integrated red green yellow display		•	•
Built-in alibi memory (optional)		○	○

Platform (Part 2)



Order code	Load range in kg	Readability in g							Material E: Stainless steel	Length Platform Cables in m	
		not verifiable		verifiable							
		15,000d	30,000d	3,000e	2 × 3,000e MR	2 × 3,000e MI	3 × 3,000e MR	6,000e			
- L	- I	- BCE	- NCE	- MCE	- UCE	- RCE	Load plate	Base frame			
1-3DC	3	0.2	0.1	1	0.5 1	0.5 1	-	-	E	E	3
1-6DC	6	0.5	0.2	2	1 2	1 2	0.5 1 2	-	E	E	3
1-15DC	15	1	0.5	5	2 5	-	1 2 5	-	E	E	3
1-30ED	30	2	1	10	5 10	5 10	2 5 10	-	E	E	3
1-30FE	30							-	E	E	3
1-60ED	60	5	2	20	10 20	10 20	5 10 20	-	E	E	3
1-60FE	60							-	E	E	3
4-60GF	60						-	10	E	E	3
4-60IG	60						-	10	E	E	3
1-150FE	150	10	5	50	20 50	20 50	10 20 50	-	E	E	3
4-150GF	150						-	20 *1	E	E	3
4-150IG	150						-	20 *1	E	E	3
4-150II	150						-	-	E	E	6
4-150LL	150						-	-	E	E	6
4-150NN	150						-	-	E	E	6
4-300GF	300	20	10	100	50 100	50 100	20 50 100	50	E	E	3
4-300IG	300								E	E	3
4-300II	300						-		E	E	6
4-300LL	300						-		E	E	6
4-300NN	300						-		E	E	6

Continued on next page...

Order code	Load range in kg	Readability in g							Material E: Stainless steel	Length Platform Cables in m	
		not verifiable		verifiable							
		15,000d	30,000d	3,000e	2 × 3,000e MR	2 × 3,000e MI	3 × 3,000e MR	6,000e			
- L	- I	- BCE	- NCE	- MCE	- UCE	- RCE	Load plate	Base frame			
4-600IG	600	50	20	200	100 200	100 200	50 100 200	100	E	E	6
4-600II	600						-		E	E	6
4-600LI	600						-		E	E	6
4-600LL	600						-		E	E	6
4-600NL	600						-		E	E	6
4-600NN	600						-		E	E	6
4-600RN	600						-		E	E	6
4-600RR	600						-		E	E	6
4-600WR	600						-		E	E	6
4-1500-II	1500	100	50	500	200 500	200 500	100 200 500	200 *1	E	E	6
4-1500LI	1500								E	E	6
4-1500LL	1500								E	E	6
4-1500NL	1500								E	E	6
4-1500NN	1500								E	E	6
4-1500RN	1500								E	E	6
4-1500RR	1500								E	E	6
4-1500WR	1500						-		E	E	6
4-3000II	3000	200	100	1000	500 1000	500 1000	200 500 1000	500	E	E	6
4-3000LI	3000								E	E	6
4-3000LL	3000								E	E	6
4-3000NL	3000								E	E	6
4-3000NN	3000								E	E	6
4-3000RN	3000								E	E	6
4-3000RR	3000								E	E	6
4-3000WR	3000								E	E	6

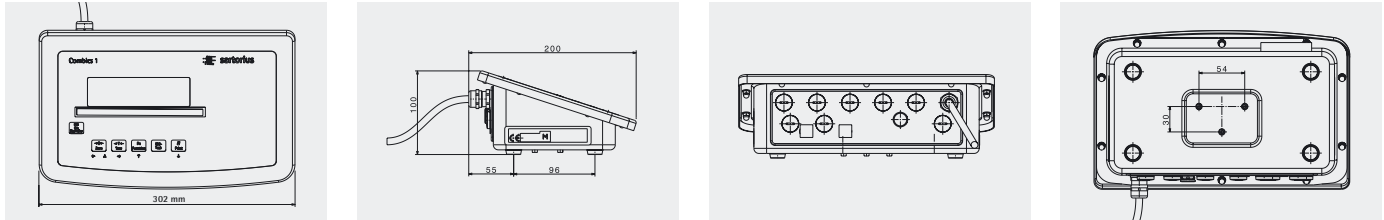
* 1 load range at -RCE (6,000e): 120 or 1,200 kg

Resolution (depending on readability)

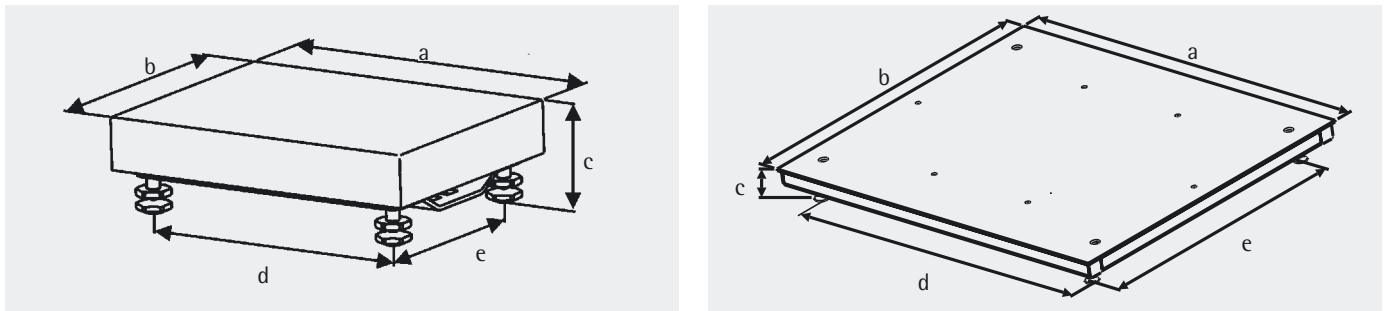
- L	15,000 d, steps
- I	30,000 d, steps
- BCE	1 × 3,000 e, verifiable increments
- NCE	2 × 3,000 e, verifiable increments, multi-range, fine range only for spec. capacity level
- MCE	2 × 3,000 e, verifiable increments, multi-interval, fine range can be continuously used
- UCE	3 × 3,000 e, verifiable increments, multi-range, fine range only for spec. capacity level
- RCE	1 × 6,000 e, verifiable increments

Dimensions

Display and control unit:



Platforms:



Design: ..DC, ..ED, ..FE, ..GF, ..IG

a	b	c	d	e	Design
(mm)	(mm)	(mm)	(mm)	(mm)	
320	240	70...89	264	184	...DC-
400	300	94...108	344	244	...ED-
500	400	94...108	443	343	...FE-
650	500	146 ± 3	530	430	...GF-
800	600	146 ± 3	680	530	...IG-

Design: ..II, ..LI, ..LL, ..NL, ..NN, ..RN, ..RR, ..WR

a	b	c	d	e	Design
(mm)	(mm)	(mm)	(mm)	(mm)	
800	800	90 ± 2	604	604	...II-
1000	800	90 ± 2	804	604	...LI-
1000	1000	90 ± 2	804	804	...LL-
1250	1000	90 ± 2	1054	804	...NL-
1250	1250	90 ± 2	1054	1054	...NN-
1500	1250	90 ± 2	1304	1054	...RN-
1500	1500	90 ± 2	1304	1304	...RR-
2000	1500	100 + 5	1804	1304	...WR-

For additional specifications, see the respective platform data sheet.

Options

The choice of many different options allows the scales to be customized to suit the user's specific applications. If the option code is given with the order, the scales are delivered with the required features. (Options can be retrofitted by ordering the respective accessories).

	Order number as option	Combics 1	Combics 2	Combics 3	Accessories Order number
Interfaces					
COM 1: RS232		Standard	Standard	Standard	
COM 2: RS 232		-	-	Standard	
UNICOM					
RS 232	A1	•	•	•	YD002C-232
RS 422	A2	•	•	•	YD002C-485
RS 485	A3	•	•	•	YD002C-485
Digital 5 inputs 5 outputs	A5	•	•	•	YD002C-DIO
Analog output	A9	•	•	•	YD002C-AO
Profibus – DP	B1	•	•	•	YD002C-DP
Ethernet TCP/IP	B9	•	•	•	YD002C-ETH
2nd weighing point Scale connection					
Analog platform 10,000e	A20		•	•	YDI02C-WP10
RS 232 interface for digital platform	A62		•	•	YDI02C-WPD
RS 485 interface for digital platform	A72		•	•	YDI02C-WPD
Equipment					
24-volt AC adapter	L8	•	•	•	
Built-in alibi memory	E 5		•	•	
ATEX zones 2 and 22 protection class	Y2	•	•	•	
Test record, manufacturer's final inspection					
Final inspection test report (scale)	Z3	•	•	•	

	Order number as option	Combics 1	Combics 2	Combics 3	Accessories Order number
Application kits for Combics 3 (instead of the above basic applications)					
Basic filling – Automatic single-component filling to target weight in filling or dispenser proportioning applications with transaction counter, totalizing and statistics functions	H3			•	
Filling with extras – like „Basic Filling“, but also includes: Filling optimization, material and container weight monitoring, data memory for 100 products	H4			•	
Combination of user programs: weighing, counting, neutral measurement, weighing in percent, animal weighing, checkweighing, classification (3 or 5 classes); totalizing; up to three applications can be combined with one another	I2			•	
Separable scale connection					
Separable plug-in connection between indicator WP1 and platform, socket on indicator (0.2 m), plug included separately	X1	•	•	•	
Separable plug-in connection between indicator WP2 and platform, socket on indicator (0.2 m), plug included separately	X6		•	•	
Cable for 2nd balance connection					
Connection cable IS platform to digital interface WP2 – 12-pin round plug socket	M97		•	•	
Connection cable for EA EB LA CP to digital interface WP2 – 25-pin D-SUB plug	M98		•	•	
Connection cable for QA QC FB FC to digital interface WP2 – 12-pin round plug socket	M99		•	•	
Connection cable for YBR03FC barcode scanner for internal, separate connection – 5-pin DIN socket, 1 m (for CAW2/3S only)	M8		•	•	YCC02-BR02
Connection cable					
	Unicom	COM1	COM2 for Combics 3 only		
Connection cable for YDP12/04/14 printer – 9-pin D-SUB plug, 6 m	M33	M3	M23		YCC02-D09M6
Connection cable for YDP20-OCE printer or PC, – 9-pin D-SUB socket, 6 m	–	M9	–		YCC02-D09F6
Connection cable for PC – 9-pin D-SUB socket	M34	M4	M24		YCC02-D09F6
Connection cable for dig. Sartorius balances, – 25-pin D-SUB plug, 6 m	M32	M2	M22		YCC02-D25M6
Connection cable for various accessories – 25-pin D-SUB socket, 6 m	–	M1	–		YCC02-D25F6
Connection cable for dig. Sartorius balances, – 12-pin round plug, 6 m	M35	M5	M25		YCC02-R12M6
Connection cable for various accessories – 12-pin round socket, 6 m	–	M6	–		YCC02-R12F6
Connection cable for various accessories and the IS platform, – 12-pin round socket, 6 m	M37	M7	M27		YCC02-R12F6
Connection cable with open cable ends, 6 m	M12	–	M12		YCC02-RELAIS02
Ethernet connection cable with RJ45 plug, 7 m	M38	–	–		YCC02-RJ45M7

Accessories

Software

SNLE Sartorius Nice Label Express Software	YAD02IS
WinScale for Windows	YSW03
SartoCollect	YSC02

Printer

Data printer with date, time and statistics program	YDP20-OCE
Strip label printer, 60 mm paper width	YDP04IS-OCEUV
Strip label printer, 108 mm paper width	YDP14IS-OCEUV
Thermal transfer printer, 108 mm paper width	YDP14S-OCEUVTH

Other accessories

Barcode scanner with 5-pin DIN plug	YBR03FC
Control display Red Green Red	YRD14Z
Dust covers for display unit (2 pieces)	YDC01CI
Plug and socket kit to connect analog platforms to indicators (separable connection)	YAS99I
Cable gland for cables with diameter 4.5 to 9 mm, M16 × 1.5	YAS04CIS
Kit for control panel installation	YAS07CI
Junction box, stainless steel, to connect up to 4 load cells in one platform or for external assembly, PR6130 64S	940536130642
Relay box to connect scales to external control units, with 4 (5) relay outputs (250 V/3 A) and 1 optocoupler input (0 – 30 V)	YSB01
Digital input output module to connect Combics 3 to external control units, with 8 open collector outputs (50 mA) and 7 TTL-compatible inputs (0 – 30 V)	YSB02
Relay box to connect Combics 3 to external control units	VF3033

Description	Order designation
Electrical accessories	
Plug and socket kit to connect analog platforms to indicators (separable connection)	YAS99I
Connection cable to platforms, junction box or weighing devices, 8 × 0.5 mm ² , approx. 8 mm outer diameter, shielded, sold by the meter for customers to cut to size *3	69Y01100
Mechanical accessories	
Screw-fixed sheet metal plate for the indicator platform (separate display), stainless steel 1.4301(V2A) only for platform dimensions 400 × 300 mm (ED) and 500 × 400 mm (FE) *3	YDH12CWS
Brackets for wall mounting	
Bracket for wall mounting, stainless steel (also for use in Zones 1, 2, 21, 22)	YDH01CIS
Bracket for wall mounting, stainless steel, tiltable indicator (also for use in Zones 1, 2, 21, 22)	YDH02CIS
Floor-mounted column	
Floor-mounted column, painted, height 1.1 m (also for use in Zones 1, 2, 21, 22)	YDH03CIP
Floor-mounted column, stainless steel, height 1.1 m (also for use in Zones 1, 2, 21, 22)	YDH03CIS
Floor-mounted column accessories	
Column supports in stainless steel (4 supports)	YBP03CIS
Plate for attaching a printer to the floor-mounted column or bench stand	YPP01CWS
Mount for barcode scanner, to be attached to: floor-mounted column, bench stand	YBH01CWS
Stand, stainless steel to fix the indicator to the platform, for platform dimensions: *3	
320 × 240 mm, stand height 330 mm	YDH01CWS
400 × 300 mm und 500 × 400 mm, stand height 500 mm	YDH02CWS
500 × 400 mm, stand height 750 mm	YDH03CWS
Drive-on ramp, stainless steel for platform dimensions: *3	
800 × 600 mm (ramp dimensions: 1200 × 600 mm)	YAR01CWS
800 × 800 mm, 1,000 × 800 mm (Ramp dimensions: 1,200 × 800 mm)	YAR06CWS
1,000 × 1,000 mm, 1,250 × 1,000 mm (ramp dimensions: 1,200 × 1,000 mm)	YAR02CWS
1,250 × 1,250 mm, 1,500 × 1,250 mm (ramp dimensions: 1,200 × 1,250 mm)	YAR03CWS
1,500 × 1,500 mm (ramp dimensions: 1,200 × 1,500 mm)	YAR04CWS
2,000 × 1,500 mm (ramp dimensions: 1,200 × 1,500 mm)	YAR05CWS
Drive-on ramp, stainless steel (tread plate) for platform dimensions: *3	
800×600 mm (ramp dimensions: 1200 ×600 mm)	YAR01CWST
800 ×800 mm, 1,000 × 800 mm (ramp dimensions: 1,200 ×800 mm)	YAR06CWST
1,000 ×1,000 mm, 1,250 × 1,000 mm (ramp dimensions: 1,200 ×1,000 mm)	YAR02CWST
1,250 ×1,250 mm, 1,500 × 1,250 mm (ramp dimensions: 1,200 ×1,250 mm)	YAR03CWST
1,500 ×1,500 mm (ramp dimensions: 1,200 ×1,500 mm)	YAR04CWST
2,000 ×1,500 mm (ramp dimensions: 1,200 ×1,500 mm)	YAR05CWST

*3 suitable for use in Zones 2 + 22

Description	Order designation
Drive-on ramp, stainless steel V4A for platform dimensions: *3	
800 × 600 mm (ramp dimensions: 1,200 × 600 mm)	YAR01CWS4
800 × 800 mm, 1,000 × 800 mm (ramp dimensions: 1,200 × 800 mm)	YAR06CWS4
1,000 × 1,000 mm, 1,250 × 1,000 mm (ramp dimensions: 1200 × 1,000 mm)	YAR02CWS4
1,250 × 1,250 mm, 1,500 × 1,250 mm (ramp dimensions: 1200 × 1,250 mm)	YAR03CWS4
1,500 × 1,500 mm (ramp dimensions: 1,200 × 1,500 mm)	YAR04CWS4
2,000 × 1,500 mm (ramp dimensions: 1,200 × 1,500 mm)	YAR05CWS4
Frame for pit installation, stainless steel for platform dimensions: *3	
800 × 600 mm	YEG01CWS
800 × 800 mm	YEG08CWS
1,000 × 800 mm	YEG07CWS
1,000 × 1,000 mm	YEG02CWS
1,250 × 1,000 mm	YEG03CWS
1,250 × 1,250 mm	YEG09CWS
1,500 × 1,250 mm	YEG04CWS
1,500 × 1,500 mm	YEG05CWS
2,000 × 1,500 mm	YEG06CWS
Roller conveyor, stainless steel for platform dimensions:	
320 × 240 mm	YRC01DCS
400 × 300 mm	YRC01EDS
500 × 400 mm	YRC01FES
650 × 500 mm	YRC01GFS
800 × 600 mm	YRC01IGS

*3 suitable for use in Zones 2 + 22

Description	Order designation
Bench, stainless steel, for platform dimensions: *3	
Bench, stainless steel, for platform dimensions 400 × 300 mm, Adjustment range 645 – 685 mm	YWT01CWS
Bench, stainless steel, for platform dimensions 500 × 400 mm, adjustment range 655 – 695 mm	YWT02CWS
Bench, stainless steel, for platform dimensions 650 × 500 mm, adjustment range 642 – 702 mm	YWT03CWS
Bench, stainless steel, for platform dimensions 800 × 600 mm, adjustment range 642 – 702 mm	YWT04CWS
Other mechanical accessories	
Column for bench, stainless steel, for attaching indicator, adjustable height *3	YDH01WTCWS
Wheel set (2 castors with steering and braking functions) for bench *3	YRO01WTCW
Set of floor fasteners (2 × stainless steel plates, 4 × stainless steel floor anchors) for all platforms with 4 load cells*3	YFP01CWS
Fastening kit for locking the two feet of the weighing platform to the ramp and for all applications with pit installation from size 800 × 800 mm	YFP02CWS

*3 suitable for use in Zones 2 + 22

Sartorius Weighing Technology GmbH
Weender Landstrasse 94-108
37075 Goettingen, Germany

Telephone +49.551.308.0
Fax +49.551.308.3289

info.mechatronics@sartorius.com
www.sartorius-mechatronics.com

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