Industrial scales Combics

Tailor-made solutions for demanding weighing tasks

GERMAN
QUALITY

German Quality

(!) Advantages

- Minimisation of production rejection using a resolution of up to 60,000 divisions

- Flexible configuration for all requirements

- Hygienic, robust design for use in industry

- "German Quality" guarantees reliable measuring results in the long term

The industrial scales series Combics combines precision with diversity for the pharmaceuticals, chemical and logistics industries. Choose the perfect complete scale for your specific requirements from an extensive range.

High-resolution complete scales for versatile applications

(!) For counting, manual formulation or checkweighing the guaranteed resolution of up to 60,000 divisions of the Combics provides precise measurement results which **minimise production rejection** and optimise your production costs.

(!) Choose the perfect complete scale for your application from three **indicator** performance levels, various **platforms** and **accessories**.

(!) The industrial scale series Combics stands for German Quality meaning **consistent measuring accuracy** and **reproducible measurement results in the long term.**

(!) The industrial scales have been developed for the most stringent hygiene standards in industrial application. Their robust design guarantees **reliability, consistency and durability.**

The industrial scales Combics are a combination of precision and diversity

Reliable measuring results in the long-term

All platforms of the industrial scales Combics are fitted with established, high-resolution strain-gauge technology. One or four integrated load cells ensure precise weighing results in the long term and thus guarantee long-term investment value.

Intuitive operation

Simple operation is the main focus for the three indicators of the industrial scales series Combics. The high-contrast display ensures good readability, while the arrangement of the keys according to the application level ensures intuitive operation. You can choose the perfect indicator for your application, minimise familiarisation time and losses in the value-creation process.

Smart software applications

Simple-to-use application programs for versatile applications, such as counting or checking, cover various weighing tasks. The complete documentation of the entire weighing process supports your quality management. A comprehensive range of interfaces to connect with your data management system and your process control enables optimum connectivity and integration into your system.

- **RS 232**
- **RS 485/422**
- **Analogue 4–20 mA**
- **Digital inputs and outputs**
- **Profibus DP**
- **Ethernet TCP/IP**

Certificates included

Our entire range of Combics platforms is certified in accordance with GMP, ISO, ATEX, OIML and FDA. We can provide the certificates if required and for ensuring your quality management system.
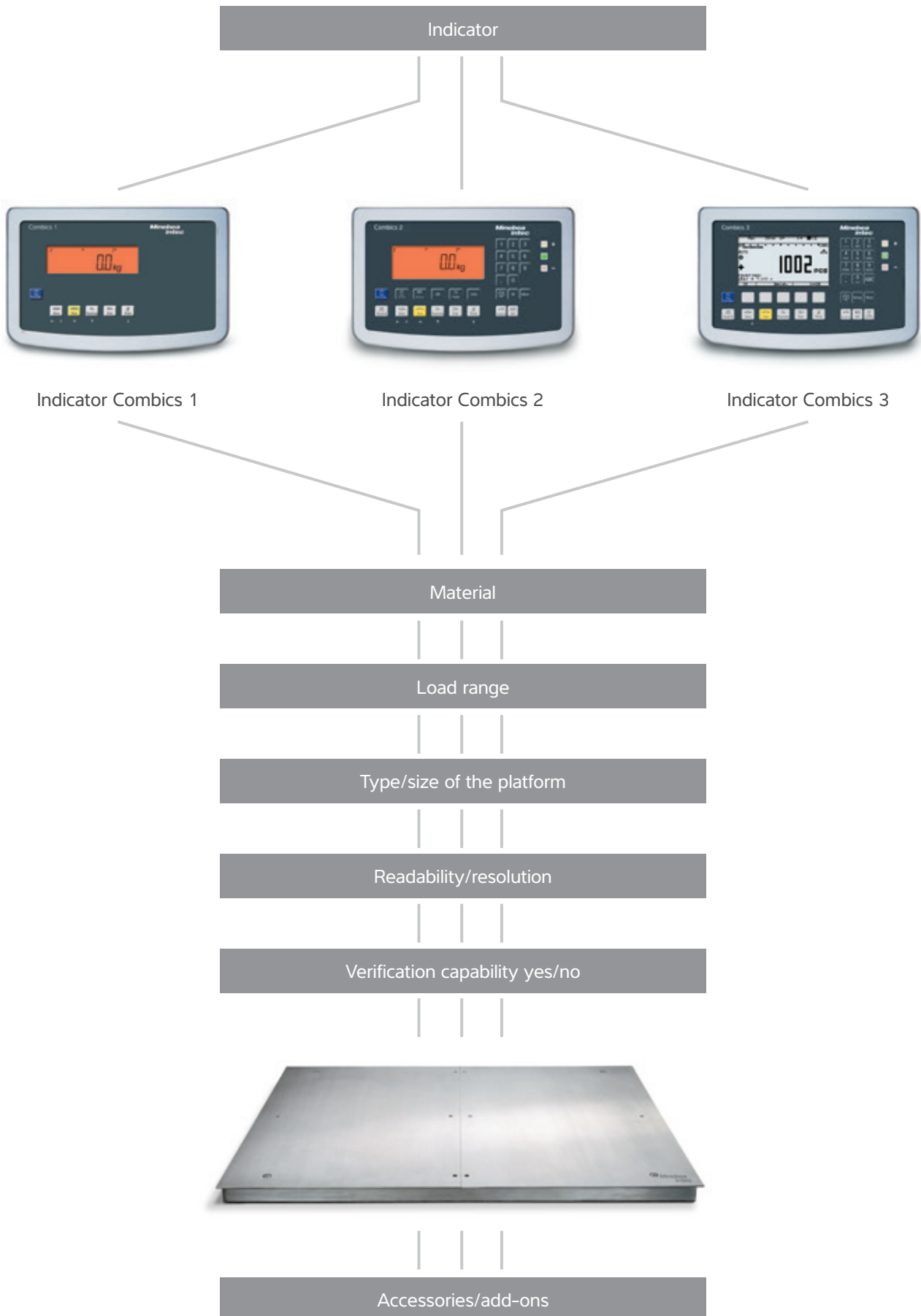
Ordering system legend					
Indicator	Material/Design	Number of load cells	Weighing range (kg)	Platform dimensions mm/order code	Resolution
CAW1	**P**	**1 –**	**60**	**FE –**	**S**

Example order code CAW1P1-60FE-S:

Part 1:	CAW1P	Display and control unit (indicator):	Application level 1, powder-coated
Part 2:	1-60FE	Platform:	60 kg, L = 500 mm + W = 400 mm
	-S	Resolution:	Readability, non-verifiable

You can configure the perfect industrial scale for your requirements.

The choice of indicators and platforms helps you to configure your industrial scale precisely to your requirements. A wide range of accessories covers every requirement.

Indicator

Indicator Combics 1

Indicator Combics 2

Indicator Combics 3

Material

Load range

Type/size of the platform

Readability/resolution

Verification capability yes/no

Accessories/add-ons

Display and control units (indicators)

Combics 1

Combics 2

Combics 3

Indicators (application level)

	Combics 1 – CAW1	Combics 2 – CAW2	Combics 3 – CAW3
Keyboard	6 keys	28 keys Numerical keyboard	30 keys Alphanumeric keyboard
Display	14 segments 20 mm weight readout	14 segments 20 mm weight readout plus application symbols	Graphic 20 mm weight readout plus application symbols
Applications			
Easy weighing	•	•	•
Data transfer to printer/PC	•	•	•
ISO test	•	•	•
Counting		•	•
Percentage weighing		•	•
Averaging		•	•
Checking/Classification		•	•
Totalising		•	•
Combination of 3 applications		•	•
Sample weight and counting to target value (from memory)		•	•
SQ Min	•	•	•
Identifier		•	•
Product data memory		•	•
Date/Time		•	•
Integrated red/green/yellow display		•	•
Internal Alibi memory (optional)		•	•

Resolution and verification capability (depending on readability)

| – L	15,000 d, divisions
– I	30,000 d, divisions
– S	60,000 d, divisions
– BCE	1 x 3000 e, verifiable divisions
– NCE	2 x 3000 e, verifiable divisions, multi-range, fixed fine control range

Platforms
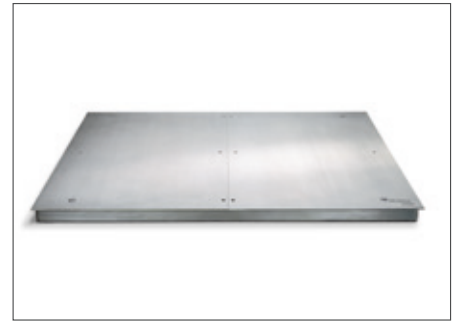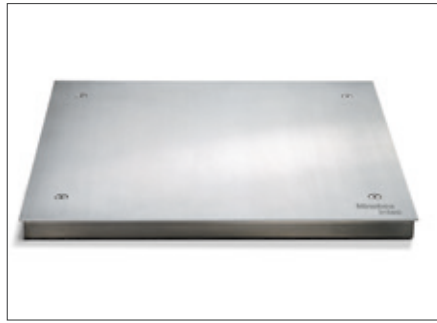
Examples of available platforms

Order code	Load range in kg	Readability in g non-verifiable 15,000 d - L	30,000 d - I	60,000 d - S	verifiable 3000 e - BCE	2 x 3000 e MR - NCE	Material E: Stainless steel; V: Galvanised; P: Powder-coated Load plate	Base	Length of platform cable in m
1-3DC	3	0.2	0.1	0.05	1	0.5/1	E	V	3
1–6DC	6	0.5	0.2	0.1	2	1/2	E	V	3
1-15DC	15	1	0.5	0.2	5	2/5	E	V	3
1-30ED	30	2	1	0.5	10	5/10	E	V	3
1-30FE	30	2	1	0.5	10	5/10	E	V	3
1-60ED	60	5	2	1	20	10/20	E	V	3
1-60FE	60	5	2	1	20	10/20	E	V	3
1-60GF	60	5	2	1	20	10/20	E	P	3
1-60IG	60	5	2	1	20	10/20	E	P	3
1-150FE	150	10	5	2	50	20/50	E	V	3
1-150GF	150	10	5	2	50	20/50	E	P	3
1-150IG	150	10	5	2	50	20/50	E	P	3
4-150II	150	10	5	–	50	20/50	P	P	6
4-150LL	150	10	5	–	50	20/50	P	P	6
4-150NN	150	10	5	–	50	–	P	P	6
1-300GF	300	20	10	5	100	50/100	E	P	3
1-300IG	300	20	10	5	100	50/100	E	P	3
4-300II	300	20	10	–	100	50/100	P	P	6
4-300LL	300	20	10	–	100	50/100	P	P	6
4-300NN	300	20	10	–	100	50/100	P	P	6
4-600II	600	50	20	–	200	100/200	P	P	6
4-600LI	600	50	20	–	200	100/200	P	P	6
4-600LL	600	50	20	–	200	100/200	P	P	6
4-600NL	600	50	20	–	200	100/200	P	P	6
4-600NN	600	50	20	–	200	100/200	P	P	6
4-600RN	600	50	20	–	200	100/200	P	P	6
4-600RR	600	50	20	–	200	100/200	P	P	6
4-600WR	600	50	20	–	200	100/200	P	P	6
4-1500-II	1500	100	50	–	500	200/500	P	P	6
4-1500LI	1500	100	50	–	500	200/500	P	P	6
4-1500LL	1500	100	50	–	500	200/500	P	P	6
4-1500NL	1500	100	50	–	500	200/500	P	P	6
4-1500NN	1500	100	50	–	500	200/500	P	P	6
4-1500RN	1500	100	50	–	500	200/500	P	P	6
4-1500RR	1500	100	50	–	500	200/500	P	P	6
4-1500WR	1500	100	50	–	500	200/500	P	P	6
4-3000II	3000	200	100	–	1000	500/1000	P	P	6
4-3000LI	3000	200	100	–	1000	500/1000	P	P	6
4-3000LL	3000	200	100	–	1000	500/1000	P	P	6
4-3000NL	3000	200	100	–	1000	500/1000	P	P	6
4-3000NN	3000	200	100	–	1000	500/1000	P	P	6
4-3000RN	3000	200	100	–	1000	500/1000	P	P	6
4-3000RR	3000	200	100	–	1000	500/1000	P	P	6
4-3000WR	3000	200	100	–	1000	500/1000	P	P	6

Dimensions

Display and control unit (indicator)
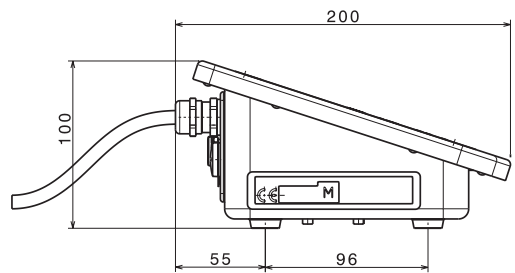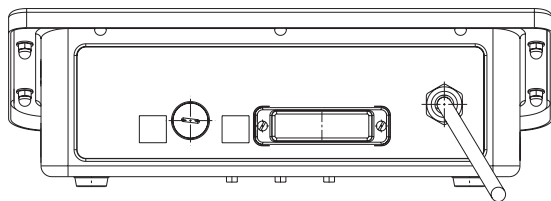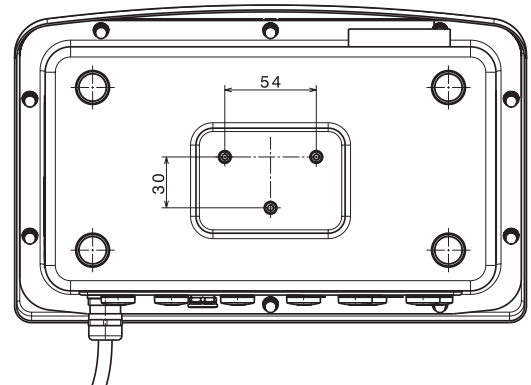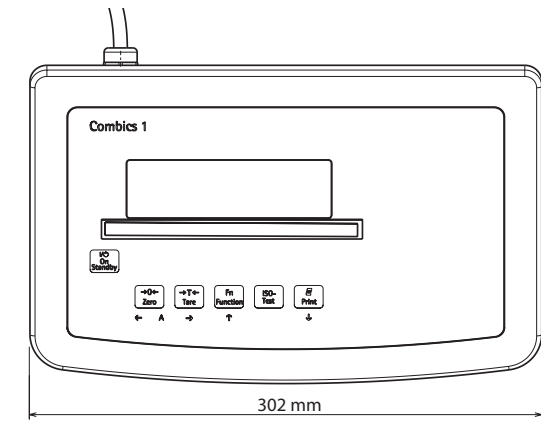
Platforms
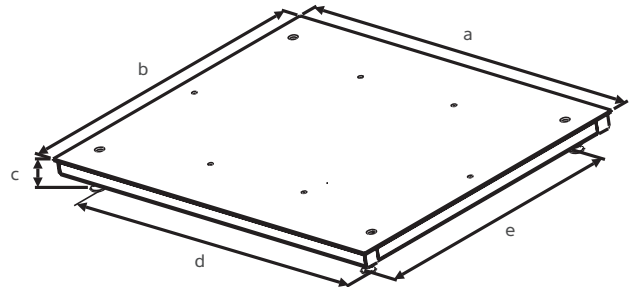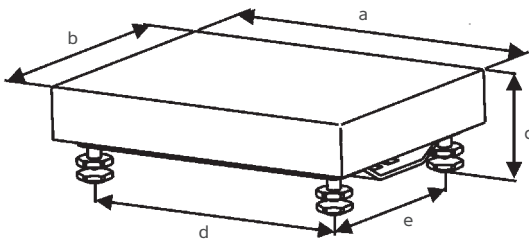
Version: ..DC, ..ED, ..FE, ..GF, ..IG

a	b	c	d	e	
(mm)	(mm)	(mm)	(mm)	(mm)	Version
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–

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

a	b	c	d	e	
(mm)	(mm)	(mm)	(mm)	(mm)	Version
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–

Further technical data, see data sheet for the platforms.

Options

The choice of different options enables the scale to be customised. If the option code is given when ordering, the scale will be delivered with the desired features. (It is possible to retrofit the options by ordering the relevant accessories.)

Options

	Platform dimensions A x B in mm													
		DC	ED	FE	GF	IG	II	LI	LL	NL	NN	RN	RR	WR
	Option	320 x 240	400 x 300	500 x 400	650 x 500	800 x 600	800 x 800	1000 x 800	1000 x 1000	1250 x 1000	1250 x 1250	1500 x 1250	1500 x 1500	2000 x 1500
Design of the load plate (only one choice possible)														
Stainless steel V2A	R1	✓	✓	✓	✓	✓	•	•	•	•	•	•	•	•
Miscellaneous														
Verified at the factory for the installation location (only for EEA)	F1	•	•	•	•	•	•	•	•	•	•	•	•	•

Interfaces

	Order number as option	Combics 1	Combics 2	Combics 3	Accessories order number
Interfaces					
COM 1: RS 232		Standard	Standard	Standard	
COM 2: RS 232		–	–	Standard	
UNICOM					
RS 232	A1	•	•	•	YDO02C-232
RS 422	A2	•	•	•	YDO02C-485
RS 485	A3	•	•	•	YDO02C-485
5 input/5 outputs, digital	A5	•	•	•	YDO02C-DIO
Analogue output	A9	•	•	•	YDO02C-AO
Profibus DP	B1	•	•	•	YDO02C-DP
Ethernet TCP/IP	B9	•	•	•	YDO02C-ETH
2nd weighing point/scale connection					
Analogue platform 10,000 e	A20		•	•	YDI02C-WPA
Interface RS 232 for digital platform	A62		•	•	YDI02C-WPD
Interface RS 485 for digital platform	A72		•	•	YDI02C-WPD
Equipment					
24 volt power supply	L8	•	•	•	YAS02MI
Internal Alibi memory	E 5		•	•	
Test protocol final production test (scale)	Z3	•	•	•	

Accessories/add-ons

Application kits for Combics 3 (instead of the basic applications stated above)

	Order number as option	Combics 1	Combics 2	Combics 3	Accessories order number
Dosing Basic – automatic one-component filling to target weight for filling or removal dosing with item counter, totalising and statistical function	H3			•	
Dosing Plus – as "Dosing Basic", plus: dosing optimisation, material and container weight monitoring, 100 product memory	H4			•	
Combination of the user programs: weighing, counting, neutral weighing, percentage weighing, animal weighing; checking, classifying (3 or 5 classes); totalising; up to 3 applications can be combined with each other	I2			•	

Cable for 2nd scale connection

	Order number as option	Combics 1	Combics 2	Combics 3	Accessories order number
IS platform connection cable to digital interface WP2 – 12-pin round socket	M97		•	•	YCC02-R12F6
Connection cable for EA/EB/LA/CP to digital interface WP2 – 25-pin D-SUB connector	M98		•	•	YCC02-D25M6
Connection cable for QA/QC/FB/FC to digital interface WP2 – 12-pin round connector	M99		•	•	YCC02-R12M6

Separable scale connection

	Order number as option	Combics 1	Combics 2	Combics 3	Accessories order number
Indicator WP1 and platform separable plug connection, socket on indicator (0.2 m), connector enclosed separately	X1	•	•	•	
Indicator WP2 and platform separable plug connection, socket on indicator (0.2 m), connector enclosed separately	X6		•	•	

Connection cable

	For COM1 and Unicom, 25-pin D-SUB connector on the Combics side	For COM2 (only with CAW3P), 9-pin D-SUB connector on the Combics side
Connection cable for printer YDP12/04/14/05 – 9-pin D-SUB connector, 6 m	YCC01-01CISLM3 (3 metres)	YCC04-D09M6
Connection cable for printer YDP20-0CE or PC – 9-pin D-SUB socket, 6 m	–	YCC04-D09F6
Connection cable for PC – 9-pin D-SUB socket, 2 m	7357314	YCC04-D09F6
Connection cable for digital Minebea Intec scales – 25-pin D-SUB connector, 3 m	YCCDI-01M3 (3 metres)	–
Connection cable for various accessories – 25-pin D-SUB socket, 2 m	7357312	–
Connection cable for digital Minebea Intec scales – 12-pin round connector	YCC01-02ISM3 (3 metres)	YCC04-R12M6 (6 metres)
Connection cable for various accessories – 12-pin round connector	YCC01-03CISLM3 (3 metres)	YCC04-R12F6 (6 metres)
Connection cable for various accessories and IS platform – 12-pin round connector	YCC01-03CISLM3 (3 metres)	YCC04-R12F6 (6 metres)
Connection cable with open cable ends, 6 m	YCC02-RELAIS01	YCC02-RELAIS02
Connection cable from RS232 data interface to USB interface on the PC – 25-pin D-SUB connector/USB plug, 2 m	YCC01-USBM2	–

Software

Description	Order code
SartoCollect	YSC03

Printer

Description	Order code
Data printer with date, time and statistics program	YDP20-OCE
Strip/label printer, 60 mm paper width	YDP05
Strip/label printer, 108 mm paper width	YDP14IS-OCEUV
Thermal transfer printer, 108 mm paper width	YDP14S-OCEUVTH

Other accessories

Description	Order code
Barcode reader with PS/2 connector	YBR05PS2
Dust covers for display unit (2 items)	YDC01CI
Plug and socket connection kit to connect analogue platforms to indicators (separable connection)	YAS99I
Cable gland (PG) for cables with diameter 4.5 to 9 mm, M16 x 1.5	YAS04CIS
Kit for control panel installation	YAS07CI
Stainless steel cable terminal box to connect up to 4 load cells in one platform or for external installation, PR6130/64S	940536130642
Relay box to connect scales to external controls, with 4 (5) relay outputs (250 V/3A) and 1 optocoupler input (0–30 V)	YSB01
Digital input and output module to connect from Combics 3 to external controls with 8 open collector outputs (50 mA) and 7 TTL-compatible inputs (0–30 V)	YSB02
Relay box to connect from Combics 3 to external controls	VF3033
IP65 kit for cable connections (D-SUB 25), 3 covers	YAS01CISL

Mechanical accessories

Wall bracket and column to fix indicator to platform, for platform dimensions: *3

Description	Order code
Stainless steel column, 320 x 240 mm, column height 330 mm	YDH01CWS
Stainless steel column, 400 x 300 mm and 500 x 400 mm, column height 500 mm	YDH02CWS
Stainless steel column, 500 x 400 mm, column height 750 mm	YDH03CWS
Stainless steel wall bracket, angled (also for use in Zones 1, 2, 21, 22)	YDH01CIS
Stainless steel wall bracket, tilting indicator (also for use in Zones 1, 2, 21, 22)	YDH02CIS
Stainless steel wall bracket (also for use in Zones 1, 2, 21, 22)	YDH04CIS
Indicator platform bolting plate (base-mounted display) made from stainless steel 1.4301(V2A) only for the platform dimensions 400 x 300 mm (ED) and 500 x 400 mm (FE) *3	YDH12CWS

Floor stand

Description	Order code
Floor-mounted column, painted, height 1.1 m (also for use in Zones 1, 2, 21, 22)	YDH03CIP
Stainless steel floor-mounted column, height 1.1 m (also for use in Zones 1, 2, 21, 22)	YDH03CIS
Floor-mounted accessories	
Column supports made from stainless steel (4 supports)	YBP03CIS
Plate for attaching a printer for floor-mounted column or bench stand	YPP01CWS
Barcode reader holder, attach to: floor-mounted support, bench stand	YBH01CWS

Drive-on ramp, painted, for platform dimensions: *3

Description	Order code
800 x 600 mm (ramp dimensions: 1200 x 600 mm)	YAR01CWP
800 x 800 mm, 1000 x 800 mm (ramp dimensions: 1200 x 800 mm)	YAR06CWP
1000 x 1000 mm, 1250 x 1000 mm (ramp dimensions: 1200 x 1000 mm)	YAR02CWP
1250 x 1250 mm, 1500 x 1250 mm (ramp dimensions: 1200 x 1250 mm)	YAR03CWP
1500 x 1500 mm (ramp dimensions: 1200 x 1500 mm)	YAR04CWP
2000 x 1500 mm (ramp dimensions: 1200 x 1500 mm)	YAR05CWP

Drive-on ramp, painted (tread plate) for platform dimensions: *3

Description	Order code
800 x 600 mm (ramp dimensions: 1200 x 600 mm)	YAR01CWPT
800 x 800 mm, 1000 x 800 mm (ramp dimensions: 1200 x 800 mm)	YAR06CWPT
1000 x 1000 mm, 1250 x 1000 mm (ramp dimensions: 1200 x 1000 mm)	YAR02CWPT
1250 x 1250 mm, 1500 x 1250 mm (ramp dimensions: 1200 x 1250 mm)	YAR03CWPT
1500 x 1500 mm (ramp dimensions: 1200 x 1500 mm)	YAR04CWPT
2000 x 1500 mm (ramp dimensions: 1200 x 1500 mm)	YAR05CWPT

*3 suitable for use in zones 2 + 22

Painted pit frames for platform dimensions

Description	Order code
800 x 600 mm	YEG01CWP
800 x 800 mm	YEG08CWP
1000 x 800 mm	YEG07CWP
1000 x 1000 mm	YEG02CWP
1250 x 1000 mm	YEG03CWP
1250 x 1250 mm	YEG09CWP
1500 x 1250 mm	YEG04CWP
1500 x 1500 mm	YEG05CWP
2000 x 1500 mm	YEG06CWP

Painted roller conveyor for platform dimensions

Description	Order code
320 x 240 mm	YRC01DCA
400 x 300 mm	YRC01EDA
500 x 400 mm	YRC01FEA
650 x 500 mm	YRC01GFP
800 x 600 mm	YRC01IGP

Painted bench for platform dimensions: *3

Description	Order code
Painted bench, for platform dimensions 400 x 300 mm, setting range 645–685 mm	YWT01CWP
Painted bench, for platform dimensions 500 x 400 mm, setting range 655–695 mm	YWT02CWP
Painted bench, for platform dimensions 650 x 500 mm, setting range 642–702 mm	YWT03CWP
Painted bench, for platform dimensions 800 x 600 mm, setting range 642–702 mm	YWT04CWP

Other mechanical accessories

Description	Order code
Stainless steel bench support for mounting the indicator, adjustable height *3	YDH01WTCWS
Wheel set (2 wheels with steering and braking function) for bench *3	YRO01WTCW
Floor fixing set (2 x stainless steel plates, 4 x stainless steel floor anchors) for all platforms with 4 load cells *3	YFP01CWS
Fastening kit for locking the two feet of the platform to the ramp and for all applications with pit installation from size 800 x 800 mm	YFP02CWS

*3 suitable for use in Zones 2 + 22

General technical data

Possible combinations	3 display and control units 10 load ranges of between 3 kg and 3 t 13 platform dimensions
Material	Display unit stainless steel, platform galvanized steel or powder-coated Colour: NCSS3502-B (RAL7040) Load plate, stainless steel 1.4301 (up to 800 x 600 mm) Load plate, powder-coated steel (from 800 x 800 mm)
Display and control unit	Provided, optionally with bolting plate or column to mount on the platform
Miscellaneous	4 x height-adjustable levelling feet Levelling equipment Overload protection
Operating temperature range	-10°C to +40°C
Resolution (non-verifiable)	Depending on model: 1 x 30,000 d, 1 x 15,000 d or 1 x 60,000 d
Resolution (verifiable, Class III)	Depending on model: 3000 e or 2x3000 e (MR)
Weighing system	One or four load cells C3
IP protection rating	Platform IP65, display and control unit IP44, optional IP65
Data interfaces	RS 232 (standard) Optional: RS 232 RS 485/422 Analogue 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 built-in A/D converter
Internal Alibi memory	Optional 130,000 data sets
Load plate	Optional with painted tread plate in stainless steel 1.4301 (from 800x800 mm)
Comprehensive accessories	Drive-on ramps Cables Frame for pit installation Printers Roller conveyors Wall brackets Benches Software Stands
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
Emissions	In accordance with EN 61326-1, Class B (IEC 61326-1)
Electrical safety	In accordance with EN 61010-1 (IEC 61010-1) EN60950 (IEC950)
Immunity to interference	In accordance with EN 61326-1, industrial areas (IEC 61326-1)