



PRECISION

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Technical Description

SADE SP tablet/capsule weight sorter

Models: SADE SP440, SP240 & SADE SP140

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SADE SP Series Tablet/Capsule Weight Sorters

Introduction

CI SADE SP weight sorters are designed for use in pharmaceutical production, quality control and research & development departments for the accurate weight sorting of batches of tablets or capsules. Each item is individually weighed and sorted into accept and reject categories.

SADE SP sorters are versatile units offering flexibility, accuracy and quality. They can handle both tablets and capsules of different shapes and sizes without the need for any change parts and can be quickly dismantled for cleaning and easily set-up for the next product.

The SADE SP units can send detailed statistical reports directly to a printer. Alternatively weight data and reports can be transferred to a PC using our optional program SP Connect.

First introduced in 1986 and with over five hundred units supplied to many international companies across the world, the CI SADE weight sorter has established a reputation for solid robust and consistent operation.

The latest SADE SP units incorporate the unique and flexible design of the previous models but we have introduced major improvements to enhance the quality, accuracy, speed and operation of the units.

The latest SP440, SP240, SP140 and SP-B40 Benchtop models have new generation electronics and the new CI Matrix 4 touch screen operating system. The improved user interface guides the operator intuitively through set up and operation. The new display provides real time data on the batch being processed. CI-Matrix 4 also has enhanced diagnostic features to allow monitoring of hardware components during operation.

This document provides information on the three floor standing units, the SADE SP440, SADE SP240 and SADE SP140. For details on our SADE SP-B40 Benchtop model please refer to the SP-B40 Technical Description or please contact CI Precision.

Applications

Production Areas

Batch Reclamation

Reclamation of weight acceptable product from weight rejected batches.

Batch Recovery

Recovery of product made during press run-in /run out times

Quality Control

100% weight sorting of certain products, for complete quality assurance.

Benefits

- Save valuable product that may otherwise be discarded
- Minimises wastage and the costs of discarding batches
- Rapid return on investment – the SADE SP can pay for itself in a short time

Research & Development – Clinical Trials

Uniformity of weight

Due to their ability to handle tablets and capsules of lots of different shapes and sizes the SADE SP units are ideal for the weight sorting of development or clinical trial batches.

Benefits

- Reclamation of good product from weight rejected batches
- Ensures consistency of weight needed for clinical trial batches
- Used for checking over encapsulation
- Saves manual checking



Features

sorts both tablets and capsules

With its unique design the SADE SP sorters are capable of sorting both tablets and capsules.

sorts different shapes and sizes

SADE SP sorters are easily adjusted to handle products of different shapes and sizes.

no change parts

No change parts are required for different shapes and sizes of product.

quick and easy clean down

The units are designed to be quickly and easily dismantled, cleaned and re-set.

minimal operator adjustment

The amount of operator adjustment between products is minimal.

24-hour operation

Bulk hoppers allow for long periods of unattended sorting, e.g. through the night.

accuracy

Incorporating our own CI MK6 weigh head, the SADE SP sorters can provide high accuracy sorting

consistent results

The design of the new feed and sort mechanism provides improved precision handling and consistent sorting accuracy.

statistical reports

Statistical data can be viewed on screen, reports can be printed directly via USB printer or saved to a PC with SP Connect.



control software

The new sophisticated CI Matrix 4 simplifies batch set up and operation.

improved user interface

New touch screen and improved user interface simplifies machine and batch set up.

real time display

The new display shows real time weight data

quality materials

Contact parts 316L stainless steel or FDA approved PEEK

material certification

Copies of certificates for the material used for the manufacture of the contact parts can be provided.

mobile stand

The solid stainless steel stand can be raised on castors for ease of mobility

validation documentation

Comprehensive validation support documentation is available and represents a saving in time and research for the customer.

data transfer

With our SP Connect program reports are automatically saved to a PC for long term storage plus weight data can be exported for further analysis.

enhanced diagnostics

Improved 'help' messages, minimises down time.

SP LINK

SP Link allows for SADE SP units to be connected for faster sorting rates.



SADE SP Series Models

SADE SP440

The SADE SP440 combines four of our proven SADE SP sorting modules into one compact unit so will rapidly weight sort your batches of tablets, or capsules, into accept or reject categories.

The unit includes one control unit and one bulk hopper with single fill point so it is quick and easy to set up and use. The bulk hopper has a capacity of 150 litres so the unit can operate for long periods without the need for operator intervention saving time and funds.

With a sorting rate of up to 20-22,000 per hour, and its ability to work around the clock, the SADE SP440 is capable of sorting up to 500,000 per 24 hour period.

As a new feature we have included two accuracy settings, +/- 2mg and +/- 1mg so the user can select the accuracy required for the product they are sorting.

The SADE S440 ideal for the 100% weight sorting of batches for quality control.

SADE SP240

The SADE SP240 combines two sorting modules each fed by a 60 litre bulk hopper. It weight sorts to an accuracy of +/-1mg and offers a sorting rate of 9000 per hour and up to 210,000 in a 24 hour period. It can be used in Production areas for batch reclamation but is also suited for Research & Development departments needing to weight sort large batches for clinical trials. For increased sorting capacity and flexibility multiple SP240 units can be used with SP Link to form high throughput multichannel combinations. *(See separate data sheet for details of SP Link combinations)*

SADE SP140

The SP140 is the ideal unit for Research & Development departments for the weight sorting of clinical trial or development batches. It offers one weighing channel and is designed for 24 hour operation with long periods of unattended sorting using the SP Bulk Hopper. It offers a sorting rate of up to 4500 per hour and 105,000 over the 24 hour period.

SADE SP-B40 Benchtop

The SADE SP Series includes a neat and compact Benchtop model, the SP-B40. For more detailed information about this unit please refer to the 'SADE SP-B40 Benchtop Technical Description'.



Specification Details

Technical Details	Model		
	SADE SP440	SADE SP240	SADE SP140
Mounting	Floor standing	Floor standing	Floor standing
Number of weighing channels	4	2	1
Sorting Rate* *Varies per product and weighing environment	Up to 22,000 per hour	Up to 9,000 per hour	Up to 4500 per hour
24 hour operation	Up to 500,000 per 24 hour	Up to 210,000 per 24 hour	Up to 105,000 per 24 hour
SP Bulk Hopper Capacity	1 x 150 litres	2 x 60 litres	1 x 60 litres
Weight Range	0-2g	0-2g	0-2g
Product Size	Tablets: L≤24mm W≤20mm Capsules: 0,1,2,3,4,5 & 00	Tablets: L≤24mm W≤20mm Capsules: 0,1,2,3,4,5 & 00	Tablets: L≤24mm W≤20mm Capsules: 0,1,2,3,4,5 & 00
Balance Readability	0.1mg	0.1mg	0.1mg
Reproducibility	User selectable +/-2mg to 3SD or +/-1mg to 3SD	+/- 1mg to 3SD	+/- 1mg to 3SD
Zero System	Automatic	Automatic	Automatic
Contact Parts	Electro polished 316 stainless steel or PEEK (polyetheretherketone to FDA 21 CFR 177.2415)	Electro polished 316 stainless steel or PEEK (polyetheretherketone to FDA 21 CFR 177.2415)	Electro polished 316 stainless steel or PEEK (polyetheretherketone to FDA 21 CFR 177.2415)
Description of equipment	1 x Control unit 4 x Sorting modules 1 x Stand 1 x Hopper 1 x Hopper frame Stand can be raised on castors for mobility	1 x Control unit 2 x Sorting modules 1 x Stand 2 x Hopper 2 x Hopper frame Stand can be raised on castors for mobility	1 x Control unit 1 x Sorting module 1 x Stand 1 x Hopper 1 x Hopper frame Stand can be raised on castors for mobility
Data Output Connections	RJ45 Ethernet	RJ45 Ethernet 1x USB	RJ45 Ethernet 1 x USB
View & Print Statistical Reports	Statistical Reports, including sort counts and statistics can be viewed and printed as required	Statistical Reports, including sort counts and statistics can be viewed and printed as required	Statistical Reports, including sort counts and statistics can be viewed and printed as required
Dimensions (mm)	1148Dx1364Wx1493H	942Dx1098Wx1459H	942Dx808Wx1461H
Weight	257kg	152kg	96kg

Description of the Equipment

The SP User Interface and Control Unit

The SP User interface consists of a wipe clean touch screen display.

The SP Weighing and Sorting Modules

The weighing and sorting modules for the SADE SP Series include:

Bowl Feeder & Bowl Vibrator

The bowl feeder is cast in electro polished 316 stainless steel. The low voltage bowl vibrator assembly ensures a smooth flow of product in the bowl.

Balance Head and Pan

For increased accuracy and faster response CI use their compact MK6 balance head in the SP Series. The stainless steel balance pan is of an aero dynamic design and easy to clean.

Optical Detectors

The feed of the tablets, or capsules, from the bowl onto the weigh pan and the pre-weighing feed gate are controlled by through-beam optical detectors. Auto-adjust and auto-clean functions help to keep the detectors free from the build up of dust. The detectors do not need to be adjusted between products keeping operator adjustment to a minimum.

Micro Pneumatics

The tablets, or capsules, are removed from the weigh pan by precision low pressure jets located within the sorting assembly. The air jets require no operator adjustment and the air pressure is kept constant by a pressure controller. Puff profiles automatically compensate for different target weights and empty capsule shells.

Chutes

The sort exit chutes are of a rounded design and easy to clean.

Draught Shield

The sorting platform is covered with a polycarbonate shield, which is easily removed for cleaning and set-up.

Mobile Stand (SP440, SP240 and SP140)

The control unit and the SP weighing and sorting platform are mounted on a sturdy stand which can be raised on castors for mobility.

The SP Bulk Hopper

SP bulk hoppers allow for long periods of unattended sorting e.g. through the night. Each hopper has a vibratory feed mechanism positioned at the base which provides a smooth and regular flow of product into the bowl feeder. A proximity switch automatically regulates the flow into the bowl feeder. The SP bulk hoppers for the SADE SP240 and SP140 have a two piece construction that makes handling for cleaning much easier and are supplied with lids. The large hopper for the SP440 is also designed in sections for ease of handling for cleaning.

The SP140 has one 60 litre hopper. The SP240 has two 60 litre hoppers.

The SP440 has one 150 litre hopper so can be filled from one single point.

Report Printer

The SADE SP Sorters can be connected directly to a local or network standard PCL3 compatible printer, using a USB connection. A basic printer is supplied for installation purposes. (see Printing Options for more details).

Set-up and Dismantling for Cleaning

Dismantling

Care has been taken with the design and manufacture of the SADE SP sorters to allow for quick and efficient strip down for cleaning. The unit can be easily dismantled with minimum use of tools. Thumb screws are used in preference to small fixings and screws.

Set-up

The unit is simple to reassemble and set up for the next product. The amount of operator adjustment needed between products is minimal.

Advice on dismantling and set-up is provided by our Customer Support Engineer during installation.

Dust

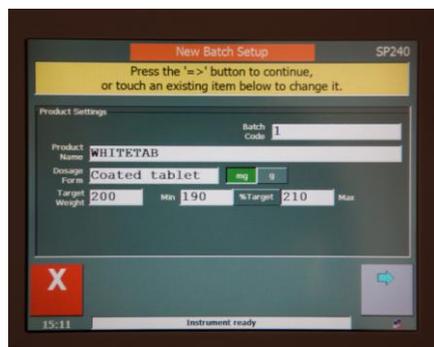
To help minimise the build up of dust we have incorporated several features. The hopper tray insert is perforated so allows dust to fall into a dust collection pot under the hopper. There is another dust collection pot located underneath the exit of the bowl feeder. A puff of air is regularly passed over the optical detector to minimise the build up of dust.

Operation

Starting a new batch

The SADE SP sorters are designed to be simple to set-up and operate. To start a new batch the user will be guided through the batch setup, entering the required details. The batch set up is saved and approved. Once approved, details cannot be altered. The operator can then start sorting.

The SADE SP sorters offer a quick set up mode but also have a library that allows details of Products used regularly to be securely stored. When setting up a new Batch using Library mode the operator has only to select the appropriate Product Code and enter the Batch Code. All other details are automatically entered from the library settings.



Mechanical Operation

The tablets or capsules are manually loaded into the bulk hopper and the sorter set to run. From the hopper, product moves into the bowl via the hopper vibrator tray. This flow is regulated by the proximity detector situated in the bowl feeder. The bowl feeder vibrates the product around the bowl and, by the use of deflector plates, the items are positioned in line ready to drop into the pre-weighing feed gate. As each item falls into the pre-weighing feed gate a detector beam is broken. This triggers the bowl to stop vibrating ensuring that only one item falls into the gate. If the balance pan is clear, the feed gate opens to allow the item onto the pan for weighing. The feed gate closes and the next item is fed into the gate whilst the item on the pan is being weighed. Once the weighing cycle has completed the item is either blown into the accept

container or blown in to the reject container. Suitable containers will need to be provided and positioned appropriately.

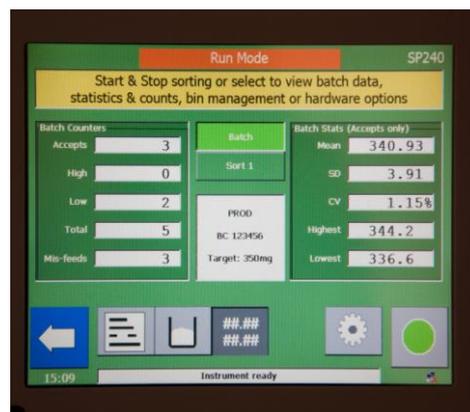
Statistics and Counts

The SADE SP calculates statistical information about the products being sorted.

This includes the mean weight, SD, CV, range, total number of items sorted, number of accepts, number of high rejects, number of low rejects and miss-feeds.

This information can be viewed on screen in real time during operation or printed.

A batch can be separated into multiple sort runs. The statistics are maintained for each individual sort and the complete batch.



Completion of Sort

When the sort is complete the user can terminate the sort and print reports.

Batch results have to be deleted before starting the next batch.

Statistical Reports

Batch and Sort reports can be printed using a suitable printer. The information includes:

- Date & Time
- Operator Name
- Batch Code
- Product Name
- Target Weight
- Dosage Form
- Sort limits
- Accepts Count
- Reject Count
- Rejects (above target weight range)
- Rejects (below target weight range)
- Total Counts
- Misfeeds
- Mean
- SD
- CV
- Target Based Histogram

If a local PCL printer is connected to the SADE SP sorter then a batch report, showing the statistical information and a basic histogram, can be produced.

Other reports can be printed including calibration history, product and method library details and system settings.

Auto print options can be set to automatically print reports e.g. at batch termination, start of new sort, calibration, etc.

Printing Options

A basic printer is supplied for installation purposes (DeskJet PCL3 compatible).

The SADE SP unit can also be configured to work with a network printer (PCL3 compatible) via the network cable.

If required printouts can also be transferred on to an USB memory device and copied on to a PC. In this way reports are produced in HTML format but are similar in appearance to the standard printouts. The files can be manually renamed and converted into pdf format.

Using our SP Connect program enhanced colour reports can be transferred to a PC for storage and printing (for more details on SP Connect please refer to the Options section of this document).

Operating Software

The SADE SP sorters are now controlled by the new sophisticated CI-Matrix 4 operating system. The new user interface, via a full touch screen controller, guides the operator intuitively through both machine and batch set up. It also provides real time on screen monitoring of the batch being processed.

CI-Matrix 4 also has enhanced diagnostic features to allow monitoring of hardware components during operation.

Modes of Operation

Sorting

The Sorting mode will individually weigh and sort product into accept and reject categories, providing sort and batch reports including statistical analysis of the sort.

Sampling

As well as weight sorting the SADE SP unit offers a sampling mode of operation so can be used for the weighing and analysing of batch samples up to 1000. In sampling mode a list of the individual weights can be printed.

Limits

The SADE SP provides the user with a comprehensive range of Limit types.

Min/Max

The user sets an upper and lower sort limits. The values can be chosen or calculated as a percentage of the target weight. This limit type is primarily associated with weight sorting.

%A&%B

%A&%B limits are set as a % from the target weight and allows only a fixed percentage of samples to be between the A and B limit. %A&%B limits are primarily associated with sampling but can be used for weight sorting

T1/T2/T3

These limits allow for three limit values and they are set as a % from the target weight. For example T1 5%, T2 10% and T3 15%. The user selects the limit points that they wish items to be rejected e.g. T3. These limits can be used for both weight sorting and sampling.

Fixed Quantity Sorting

The SADE SP unit can be configured to sort a pre- specified number of accepts.

Bin Counts

The SADE SP can be set to stop sorting when the accept. or reject, containers reach a specified number to allow for emptying.

Statistical Results

Statistical results can be produced for the 'Accepts' only for the 'Accepts and Rejects'.

Balance Head

CI MK6 Balance Head

The SADE SP Sorters incorporate the MK6 balance head, which is of CI's own design and manufacture. This is a highly accurate robust balance specifically designed for fast response dynamic weighing.

Calibration and Auto Zero

Auto Zero

The SADE SP sorters have an automatic zero function that is performed at the beginning of each batch or sort. In addition the SADE SP monitors the zero periodically during operation and will automatically re-zero if required.

Calibration

The SADE SP sorters have been designed to offer easy and accurate calibration. The operator is guided through the calibration process and a record of the calibration can be printed. The system can be configured to prompt the operator to conduct calibration at regular intervals using one or two calibration weights. The calibration status is included in the Batch or Sort report. If a calibration is due or a calibration check has failed the unit cannot be operated until a successful calibration has been achieved.

A 1g (F1) and 500mg (F1) Calibration Weight are supplied with the unit.

An option to purchase a full set of UKAS certified calibration weights can be provided on request.

A calibration certificate is supplied with each unit.

Calibration Checks

The system allows a simple calibration check routine. The system can be configured to require a calibration check at pre-set intervals or before the start of each batch.

Calibration checks are made using a single weight that is normally different to those used in calibration. A report of the calibration check can be printed. If the calibration check fails then the unit stops sorting and prompts the operator to conduct calibration.

Alarm Conditions

There are visible and audible alarms which are triggered by the conditions including:

- Balance Over/under range
- Zero Failure: balance fails to zero
- Bowl time-out: bowl empty of product
- Feed gate errors
- Optical detector errors
- Printing errors
- Air pressure out of range: the air pressure within the unit is monitored digitally and an alarm is triggered if pressure is out of range.
- Calibration and calibration check errors
- Calibration weight eject warning
- Accept or Reject container count reached
- Sort Limit reached

Security

The SADE SP unit provides a flexible range of security options for identifying operators and controlling access.

User ID

With User ID's enabled each user can be provided with a user ID which must be entered to logon to the unit. All reports are identified with the logged on user ID who performed the operation.

User Passwords

With passwords enabled, a password is required at log on.

User Access

Access to functions within the program can be controlled by setting up users and configuring their access rights. The SP sorter includes three preloaded users, the Master, a Supervisor and an Operator. Only the Master can set up, edit and delete users.

Material Specification

Contact Parts

All contact parts are manufactured in electro polished 316L stainless steel or in food grade PEEK (polyetheretherketone to FDA 21 CFR 177.241).

Non Contact Parts

Non-contact parts are in 304 stainless steel, polycarbonate, acetal, hard anodised aluminium or other appropriate materials. Stainless steel contact parts are engraved for identification.

Material Specification

A Material Specification, that lists the contact parts and the material they are manufactured from is supplied in the Technical Folder. For Material Certification is also available. Please refer to the Options section of this document.

Contact Part Sets

Each SADE SP unit is supplied with one set of contact parts. Additional sets can be supplied and save time by keeping the unit operational whilst the other set is cleaned.

Construction Compliance with GMP Standards

Draught and Product Shield

For increased GMP compliance the weighing and sorting platform is covered by a polycarbonate shield. This will protect the product from any debris falling into it and minimise the effect of external air turbulence on the weigh pan. The shield can be easily removed for cleaning.

Electrical Compliance

The unit is in compliance with national and international statutory standards with respect to noise, guarding of dangerous parts, electrical standards, and levels of protection (hazardous areas). An EC Certificate of Compliance is issued with each unit. The electrical signal, power, continuity and earthing tests are dealt with in the Final Test Schedule.

Software Compliance with Regulatory Standards

All CI Precision (CI Electronics / Systems Limited) software has been programmed to the coding standards laid down in the CI Quality Manual. This manual has been based on the GAMP (Good Automated Manufacturing Practice) standards.

Where the CI Quality Manual does not provide sufficient guidance for a particular area then the GAMP guide will be followed.

The operating software used in the SADE SP is not designed for long term storage of results. All batch data is deleted prior to starting a new batch. Long term storage of data and reports can be achieved with the SP Connect option. (please refer to the Options section of this document).

Traceability

Module & Machine Serial Numbers

CI keeps track of SADE SP units and their associated modules/sub assemblies via a Machine Record. CI labels all SADE SP units with a unique Serial Number. SADE SP modules and sub-assemblies associated with the unit are also labelled with unique numbers. This information is recorded on the Machine Record.

CI provides full traceability from parts received and manufactured through to delivery of the SP Units. This information assists customer support and servicing.

User Manual

Each SADE SP is supplied with a User Manual giving details of set up and normal operation of the unit.

The User Manual also provides detailed instructions on using the advanced features of the CI-Matrix 4 operating software, including details of the Library, Security System, Print and Calibration setting options.

Options

Technical & Validation Documentation

CI can supply comprehensive Validation Support Documents for the SP Series. The information contained in the optional documents represents a great saving in time and research for the customer.

Machine Technical Folder

Each SP Series SADE can be supplied with a Machine Technical Folder containing machine specific information including the following documents:

- Technical Specification
- Machine Build Record

- Machine Configuration (Default Factory Settings)
- SP Parts List
- Final Test Specification
- Final Test Results
- Calibration Certificate
- Material Specification
- Conformity Certificate
- CE Certificate

Validation Support DVD - Design and Functionality

This DVD has the generic design validation information for the model including full Functional Design Specifications, FAT Specifications and results for both the SADE SP Series and the operating software together with up-to-date copies of the change control, software release notes and software revision history.

IQ/OQ template

This option provides the customer with an IQ/OQ template to the CI standard. The document is in MS Word format and can be used as a basis for customer's own OQ.

Material Certification Folder

We can supply copies of certificates for the 316L stainless steel used in the manufacture of the contact parts to standard EN10202 3.1b.

The Material Certification folder contains:

- A check list for the SADE SP contact parts
- Copies of the Material Certificates relevant to the SADE SP tablet/capsule weight sorter contact parts

Spares Packs

Two spares pack options are available:

Full Spares Pack

Includes the following:

- MK6 Balance Head (inc. fixing screws & washers)
- Balance Pan
- Fuse Pack
- Set of bowl driver rubber feet and bowl driver vibration mounting rubbers
- Down chute fixing knob (bottom)
- Chute fixing knob (front)
- Thickness blade & thickness blade fixing knob
- Diameter blade & diameter blade fixing knob
- Bowl top fixing bolt
- Central pillar labyrinth
- Transit bolt
- Hopper slide gate thumb screw
- Dust extraction insert thumb screw
- Assortment of M4 and M3 bolts & washers
- Gate

- Gate actuator
- Gate cylinder
- Gate cylinder, elbow and straight fitting
- Polyurethane tube (2mm O/D)

Mini Spares Pack

We can also offer a mini Spares pack that includes a spare balance pan and various fixings.

- Balance Pan
- Set of bowl driver feet and vibration mounting rubbers
- Chute and Down Chute Fixing Knobs
- Bowl Top Fixing Bolt
- Fixing Knob for Thickness Blade or Diameter Blade
- Thumb Screw for Hopper Slide Gate or Dust Extraction Insert
- Various Fasteners
- Gate
- Gate actuator
- Gate cylinder
- Gate cylinder, elbow and straight fitting
- Polyurethane tube (2mm O/D)

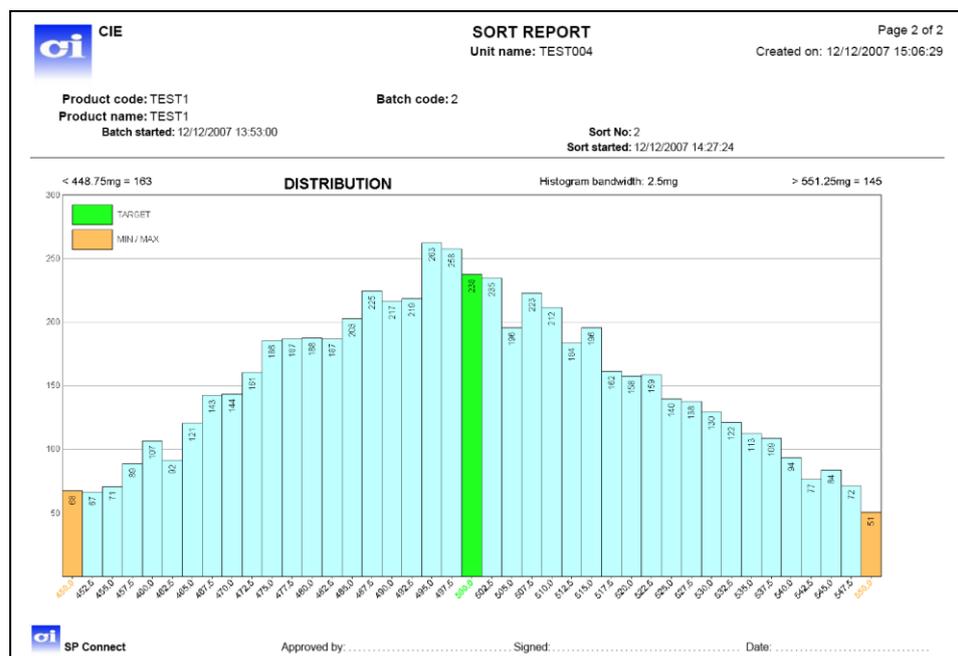
Optional Data Output to a PC

SP Connect

SP Connect is an optional software program that enables you to transfer reports and data from your CI SP unit on to a PC.

With SP Connect enhanced colour reports are automatically saved as secure pdf files for ease of long term storage.

You can also export weight data, including individual weights into an Excel spread sheet for further analysis.



Configuration

Direct Connection

The PC operating SP Connect can be connected directly to one CI unit using a crossover cable and RJ45 connection

Router

SP Connect can be set up to run with a router. One or multiple CI units can be connected

Network Server

SP Connect can be set up to run across the network, allowing multiple Matrix devices to connect to a PC with SP Connect via a server.

SP Link

SP Link allows multiple units to be linked together to provide higher sorting capacities.

The additional units are set to SP Link mode and connected to the main SADE SP controller using an SP Link cable.

The main SADE SP will take over control of the additional weighing channels and provide a single consolidated record of the results of the sorting operation.

Each SADE can be returned to independent operation by simply deselecting SP Link mode and removing the SP Link cable. This provides greater flexibility in sorting capacity and reduces the risk of downtime.

SP Link applies to SADE SP440 and SADE SP240 units.

Testing

Pre-delivery testing

The units are fully tested pre-installation in accordance with our Final Test Schedule. The Final Test Schedule and Final Test result sheet are supplied within the Machine Technical Folder.

Installation and Training

Installation Requirements

In order to meet the performance criteria outlined above then the equipment must be installed in an environment suitable for high accuracy weighing.

We will offer specific advice on this, but generally the weighing unit must be located on solid foundations. Air movement, mechanical vibration, temperature changes and humidity levels should be kept within reasonable levels.

Installation Procedure

The SADE SP unit will be delivered to the customer's site via road or airfreight. On notification of its arrival we arrange for one of our customer support engineers to visit, unpack and assemble the unit and conduct the installation.

A CI Installation Qualification procedure is followed. A copy of the Installation Qualification Document and Test Results are supplied to the customer. It is assumed that any Operational

Qualification procedures will be conducted by the customer. An IQ/OQ template document can be purchased as an optional item.

On-Site Training

During the Installation the engineer provides training on:

- Positioning the Unit
- Operation Procedures
- Cleaning Procedures
- Routine Maintenance

The training is designed for operators and first line maintenance engineers.

SADE SP Sorters Training Certificates can be issued on request.

Installation and training is usually carried out in one working day. This can be extended by request but additional days on site will be charged for at our normal rate.

Services Required

SADE SP tablet & capsule weight sorter

Air Supply:	Clean, dry compressed at 3 to 5 bar (43 to 73 Psi)
Air Pipe Dimensions:	6mm (outside diameter) 4mm (inside diameter)
Air Consumption:	SP140, approx 3 litres per hour SP240, approx 6 litres per hour SP440, approx 12 litres per hour
Supply Voltage:	110 - 230 VAC single phase
Power Sockets:	Two, 1 for SADE SP unit and 1 for the printer
Frequency:	50 - 60 Hz
Product:	Small quantity of tablets or capsules

Air Connection

The unit is supplied with a length of 6mm (outside diameter) flexible pipe. We ask for the customer to provide a fixing to attach this to their compressed air outlet. The supplied air should not exceed 5 bar pressure.

Printer

A basic printer will be supplied with the SADE SP unit for installation purposes.

Location of SADE SP weight sorter

In order to meet the performance criteria outlined in our technical data sheets the SADE tablet/capsule weight sorter must be installed in an environment suitable for high accuracy weighing. The SADE must be located on solid foundations. Air movement, mechanical vibration, temperature changes and humidity levels should be kept to a minimum.

SP Connect – Data Output

If the optional SP Connect program has been ordered then the customer is required to provide a PC which needs to:

be operating with Windows 2000, Windows XP, Windows 7 and Vista.

have a network connector for communication with the sorter
have a CD drive to read the installation disk
at least 50mb of available hard disk space
1 GB of system memory
128 MB of graphics memory (minimum)

Installing the software will require administrator access rights.

After Sales Support

We maintain a Customer Support Department and have qualified personnel available for full technical support.

CI also offer Service and Calibration Visits or comprehensive Service Agreements, details of which can be supplied on request.

This Service and Calibration Visit includes for one of our Customer Support Engineers to visit your site to service the SADE SP unit to our Routine Service Schedule and issue a traceable Calibration Certificate.

Routine Service Schedule

Comprehensive examination of the unit
Removal of parts for examination and test
Withdraw balance head and remove cover and examine mechanism
Check operation of control unit - keyboard, display etc.
Calibrate the unit and check linearity
Perform repeatability test

Calibration Certificate

A traceable Calibration Certificate will be issued

Training

Our engineer can also offer training on aspects of the machine if required.

Topics can include:

- Set-up
- Operation
- Dismantling for cleaning
- Calibration

Any component parts required will be charged for at CI list prices.

Distributed by:

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