

A&D INSPECTION

# AD-4961 SERIES CHECKWEIGHER



800.513.9918 | LINCsystems.com



## A&D has redefined checkweighing with unparalleled simplicity and best-in-class precision.

### » Best-in-class Precision

With a newly developed digital load cell and an ultra-high speed processing module, high level precision of 0.08g (3 $\sigma$ )\*<sup>1</sup> has been realized. With this high accuracy checkweigher, you can minimize the giveaway of materials above the specified weight and contribute to reductions in production costs.



### » 7 inch color touch panel

The display utilizes a high visibility touch panel color LCD with friendly Graphic User Interface (audio guidance support function included).

### » Image import from USB

Product images can be quickly uploaded to the checkweigher from a USB flash drive, making product identification and upload fast and simple.



USB flash drive



### » IP65

Protected from dust and water to IP65 standards. Hygienic design with the entire system washable.

### » Stores up to 1000 products

Products can be divided into 10 different groups with up to 100 products able to be recorded within each group.

### » Lightweight and compact design

With it's modular structure, the AD-4961 allows for rapid and simple installation or relocation.

### » Unique modular design

AD-4961 consists of four units: an infeed conveyor unit, a weighing conveyor unit, a control unit and a base unit, allowing fast and simple assembly. In the case of system shutdown, you do not need to wait for a service engineer to respond to the issue. Just simply replace the unresponsive module by yourself, so that you can shorten system downtime and maximize production efficiency.



Infeed Conveyor Unit



Weighing Conveyor Unit



Control Unit



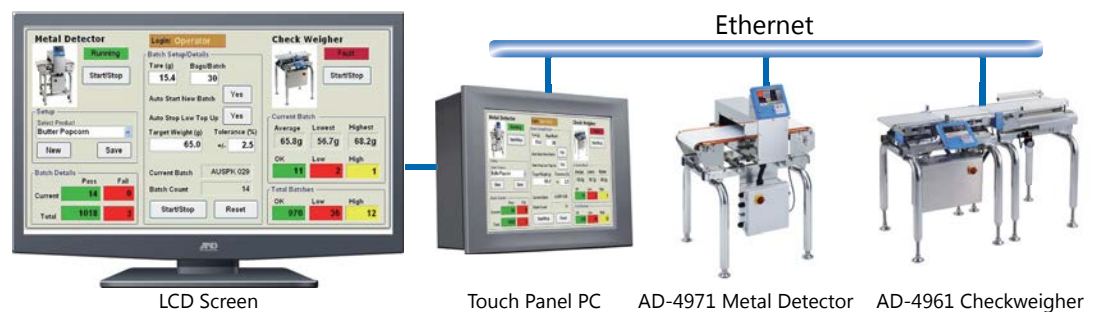
Base Unit

\*1 For AD-4961-2KD-2035. Depends on the shape and the condition of the product and installation environment.

## A&D's checkweigher can be used for connection and communication with external devices.

### » Modbus® communication

Equipped with Modbus RTU/Modbus TCP as standard. With Modbus communication, seamless connection can be easily achieved. Operations such as stopping and starting weighing, collecting data and changing product can all be set from an external device.



### » Various inputs / outputs

Rejector output, alarm output, metal detector input, RS-232C, TCP/IP and USB interface are equipped as standards. Storing data in a USB flash drive or outputting data to a printer is also possible.

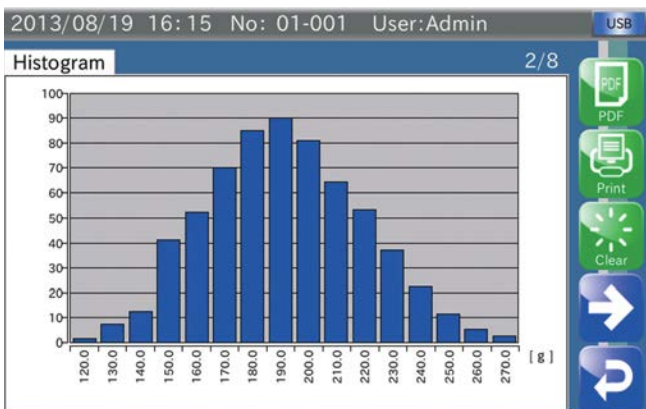
### » Graph printing to a printer

Histogram, X/R control charts and summary reports can be outputted to a PostScript printer via Ethernet.

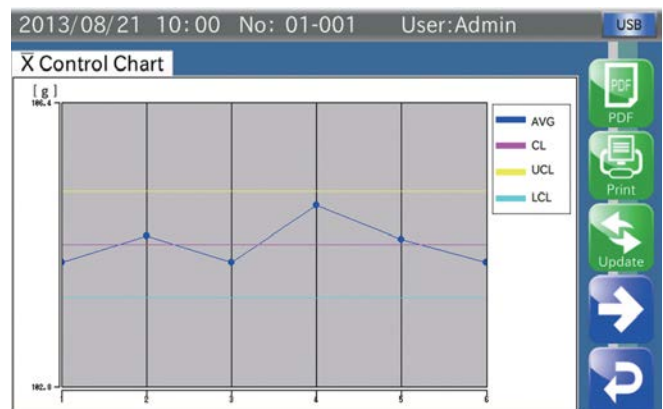
### » Data summary

Various summary data such as histograms (frequency including defects), X charts, R charts, total summaries, etc., are available. You can visually confirm fluctuation of weighing results and adjust your manufacturing machine accordingly.

### Histogram Display Screen



### X Chart Screen



# AD-4961-600-1224

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If you are looking for a mighty machine with a small form factor our 600g checkweigher is the right choice. This system can achieve speeds up to 400 pieces per minute and has an overall system length under 3 ft.

Capacity **600g**

Conveyor belt width **120mm**

## Specifications

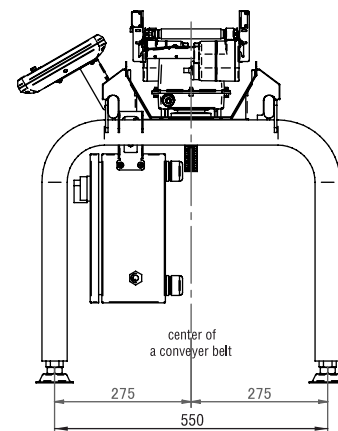
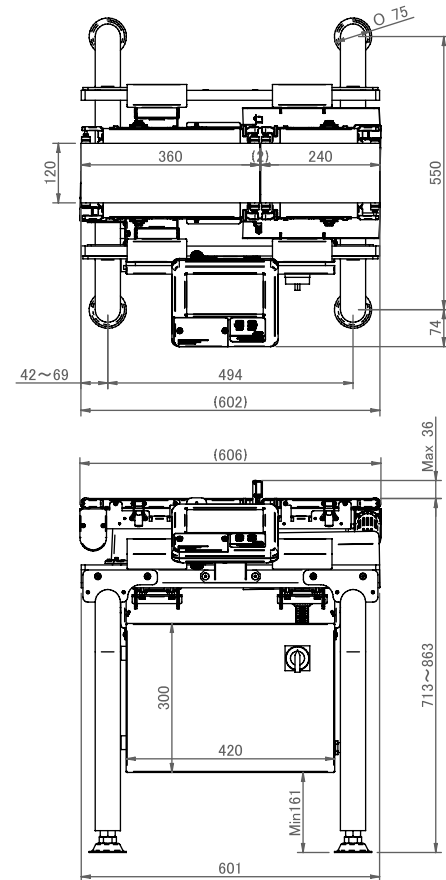
|  |  |
|--|--|
| Model                                  | AD-4961-600-1224   |
| Capacity                               | 600 g   1.3 lbs  |
| Resolution                             | 0.01 g   |
| Accuracy (3 $\sigma$ )*1               | 0.08 g   |
| Max. throughput                        | 400 pcs/min  |
| Conveyor belt width                    | 120 mm   4.7 in  |
| Conveyor length                        | 360 mm   14.2 in   |
| Transport medium                       | Urethane belt  |
| Conveyor belt speed                    | 15 ~ 120 m/min   49.2 ~ 393.7 ft/min   |
| Max. product dimensions                | Length: 22 ~ 200 mm Width: 120 mm<br>Length: 0.9 ~ 7.9 in Width: 4.7 in  |
| Weighing sensor                        | Strain gauge load cell   |
| Display                                | 7 inch touch panel color display (WVGA)  |
| Operation method                       | Touch panel (resistive film type), operation buttons   |
| Number of recorded items               | 1,000 items (10 groups x 100 items)  |
| Communication functions                | Modbus TCP / Modbus RTU / RS-232C / 485 (selectable) / TCP/IP (PostScript Printer) / USB (for PostScript printer, USB memory, data storage, image import use)**3 |
| External input                         | Non-voltage contact input 4 points   |
| External output                        | Relay output 8 points  |
| Dust / water resistance specifications | IP65   |
| Operation temperature / humidity range | -5 ~ 40°C / 23 ~ 104°F humidity below 85% (with no condensation)   |
| Power supply*4                         | Single phase AC100V -240V (+10% / -15%), 50/60Hz 180 VA  |
| External dimensions                    | Length: 660 mm / Width: 602 mm / Height: 713-860mm<br>Length: 26 in / Width: 23.7 in / Height: 28.1 - 33.9 in  |
| Weight*2                               | Approx. 35 kg / 77.2 lbs   |
| Material                               | Display: ABS resin   |
|  | Conveyor unit: Aluminum (alumite coating) and PP resin   |
|  | Control box: Stainless steel   |
|  | Base unit: Stainless steel   |

\*1 Depends on the shape and the condition of the product and installation environment.

\*2 Values for external dimensions and weight are for the standard condition without rejector.

\*3 UBS memory must be formatted to FAT32.

\*4 Please prepare a  $\Phi$  4-7 mm power cable



AD-4961-600-1224



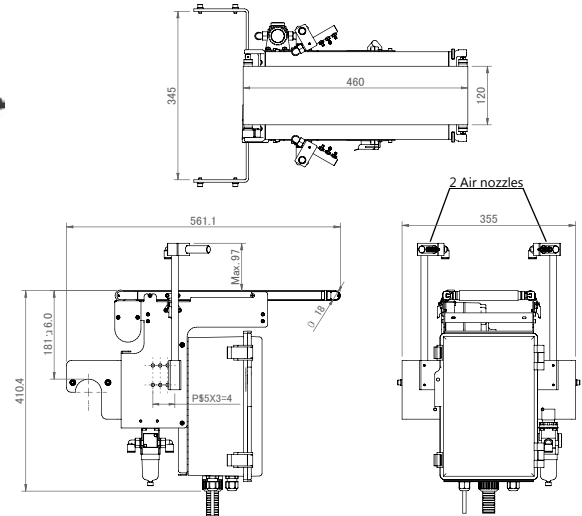
## Rejector for AD-4961-600-1224

\*Please supply an air compressor with  $\Phi$  10 mm air tube or 1/4" quick connect to be connected to the filter regulator of the rejector.  
Air supply: 72.5 psi, 2.6 NL/time

### Air Jet Rejector

#### AD-4984-1246

Screening capability  
400 pcs/min.



## Options for AD-4961-600-1224



Optional anti-static breeze break installed



### Anti-Static Breeze Break AD-4961-11-1224

Anti-static breeze break prevents air currents to the weighing conveyor and static electricity to achieve accurate weighing.

## Options for all AD-4961 models



Optional tower light and display stand installed



### Display Stand AD-4961-01

The display is attached on the opposite side from the standard display position, across from the user. The display is located approx. 310 mm (12 in.) above the conveyor belt



### Tower Light AD-4961-02

Highly visible three color LED tower. Easy configuration with the AD-4961 checkweigher using DO (Digital Output) map setting.

- \* AD-4961-01 display stand is required to install this option.
- \* Dust and water resistance level is IP53.

### Leg Kit Extension AD-4961-LEG

Leg kit extension up to 40".



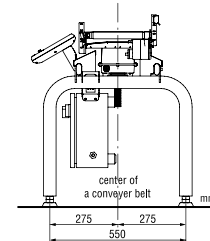
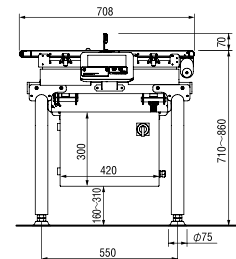
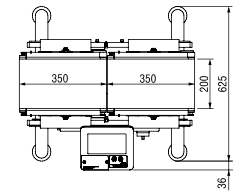
# AD-4961-2KD-2035

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Our 2000g checkweigher is very versatile featuring dual range capacity enabling high repeatability. This system can reach speeds of 320 pieces per minute giving our customers the throughput they need to accelerate productivity.

Capacity **2,000g**

Conveyor belt width **200mm**



AD-4961-2KD-2035  
Checkweigher with flipper rejector

## Specifications

|  |   |
|--|---|
| Model                                  | AD-4961-2KD-2035  |
| Capacity                               | 500 g / 2,000 g   1.1 lbs / 4.4 lbs   |
| Resolution                             | 0.01 g / 0.1 g  |
| Accuracy (3σ)*1                        | 0.08 g / 0.18 g   |
| Max. throughput                        | 320 pcs/min   |
| Conveyor belt width                    | 200 mm   7.8 in   |
| Conveyor length                        | 350 mm   13.7 in  |
| Transport medium                       | Urethane belt   |
| Conveyor belt speed                    | 15 ~ 120 m/min   49 ~ 393 ft/min  |
| Max. product dimensions                | Length: 30 ~ 300 mm Width: 200 mm   |
|  | Length: 1 ~ 11.8 in Width: 7.8 in   |
| Weighing sensor                        | Strain gauge load cell  |
| Display                                | 7 inch touch panel color display (WVGA)   |
| Operation method                       | Touch panel (resistive film type), operation buttons  |
| Number of recorded items               | 1,000 items (10 groups x 100 items)   |
| Communication functions                | Modbus TCP / Modbus RTU / RS-232C / 485 (selectable) / TCP/IP (PostScript Printer) / USB (for PostScript printer, USB memory, data storage, image import use)*3 |
| External input                         | Non-voltage contact input 4 points  |
| External output                        | Relay out 8 points  |
| Dust / water resistance specifications | IP65  |
| Operation temperature / humidity range | -5 ~ 40°C / 23 ~ 104°F humidity below 85% (with no condensation)  |
| Power supply*4                         | Single phase AC100V -240V (+10% / -15%), 50/60Hz 180 VA   |
| External dimensions                    | Length: 700 mm / Width: 660 mm / Height: 710-860 mm   |
|  | Length: 27.5 in / Width: 25.9 in / Height: 27.9 - 33.8 in   |
| Weight*2                               | Approx. 35 kg / 86 lbs  |
| Material                               | Display: ABS resin  |
|  | Conveyor unit: Aluminum (alumite coating) and PP resin  |
|  | Control box: Stainless steel  |
|  | Base unit: Stainless steel  |

\*1 Depends on the shape and the condition of the product and installation environment.  
\*2 Values for external dimensions and weight are for the standard condition without rejector.  
\*3 UBS memory must be formatted to FAT32.  
\*4 Please prepare a Φ 4-7 mm power cable

## Options for AD-4961-2KD-2035



Optional upper and lower breeze break installed



### Upper Breeze Break AD-4961-11

Anti-static breeze break prevents air currents to the weighing conveyor and static electricity to achieve accurate weighing. Clearance between the conveyor belt and the breeze break is 135 mm (5 in.)

\* Recommended use with the lower breeze break.  
\* This option is for AD-4961-2KD-2035.



### Lower Breeze Break AD-4961-12

Prevents air currents from underneath the system to ensure accurate weighing.

\* Recommended use with the lower breeze break.  
\* Material: Stainless steel  
\* This option is for AD-4961-2KD-2035.



### Cross Plate AD-4961-13

Eliminates gap between infeed conveyor and weighing conveyor and conveys product smoothly. Suitable for weighing small products.

\* Material: Stainless steel  
\* This option is for AD-4961-2KD-2035.



### Product guide AD-4961-14

Installed on both infeed and weighing conveyors. Adjust products to be conveyed on the center of both conveyors. Applicable product width is from 500 mm (19 in.) to 100 mm (4 in.)

\* This option is for AD-4961-2KD-2035.

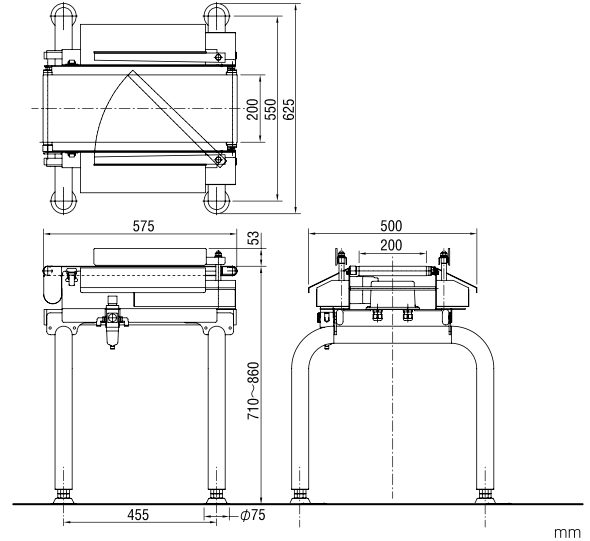
## Rejector for AD-4961-2KD-2035

\*Please supply an air compressor with  $\Phi$  6 mm air tube or 1/4" quick connect to be connected to the filter regulator of the rejector.  
Air supply: 72.5 psi, 0.1 NL/time

### Flipper Type Rejector

#### AD-4981-2057

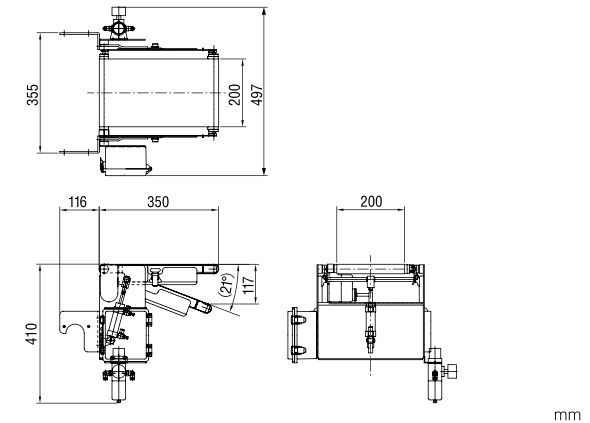
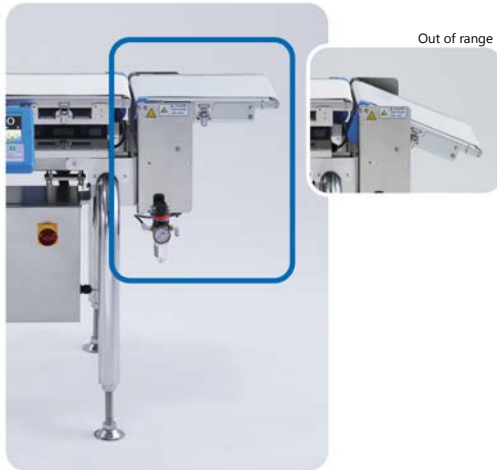
Screening capability  
120 pcs/min.



### Conveyor Drop Rejector

#### AD-4982-2035

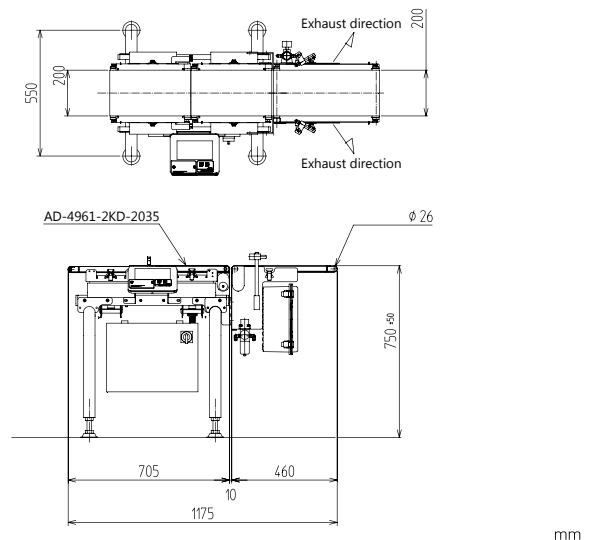
Screening capability  
150 pcs/min.



### Air Jet Rejector

#### AD-4984-2046

Air supply: 72.5 psi  
2.6 NL/time  
Screening capability  
320 pcs/min.



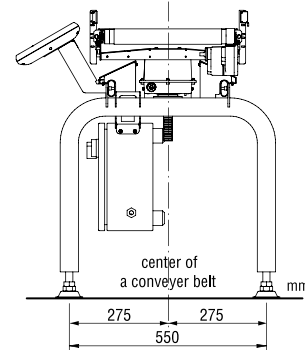
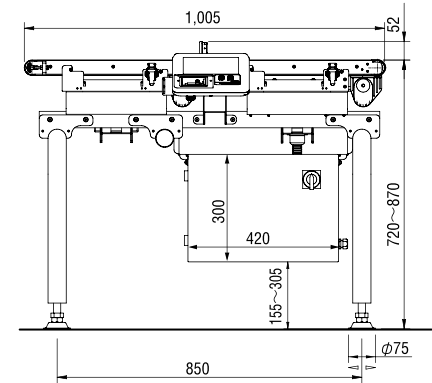
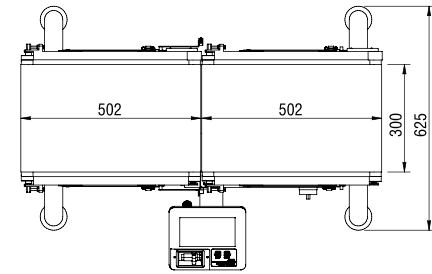
# AD-4961-6K-3050

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Our intermediate checkweigher with a capacity up to 6000g. This machine embodies the essential aspects needed in a checkweigher. The 6K offers high repeatability for bulk case weights and individual packages.

Capacity **6,000g**

Conveyor belt width **300mm**



## Specifications

|  |   |
|--|---|
| Model                                  | AD-4961-6K-3050   |
| Capacity                               | 6,000 g   13.2 lbs  |
| Resolution                             | 0.1 g   |
| Accuracy (3σ)*1                        | 1.0 g   |
| Max. throughput                        | 145 pcs/min   |
| Conveyor belt width                    | 300 mm   11.8 in  |
| Conveyor length                        | 500 mm   19.6 in  |
| Transport medium                       | Urethane belt   |
| Conveyor belt speed                    | 10 ~ 80 m/min   32.8 ~ 262.4 ft/min   |
| Max. product dimensions                | Length: 80 ~ 450 mm Width: 300 mm<br>Length: 3.1 ~ 17.7 in Width: 13 in   |
| Weighing sensor                        | Strain gauge load cell  |
| Display                                | 7 inch touch panel color display (WVGA)   |
| Operation method                       | Touch panel (resistive film type), operation buttons  |
| Number of recorded items               | 1,000 items (10 groups x 100 items)   |
| Communication functions                | Modbus TCP / Modbus RTU / RS-232C / 485 (selectable) / TCP/IP (PostScript Printer) / USB (for PostScript printer, USB memory, data storage, image import use)*3 |
| External input                         | Non-voltage contact input 4 points  |
| External output                        | Relay output 8 points   |
| Dust / water resistance specifications | IP65  |
| Operation temperature / humidity range | -5 ~ 40°C / 23 ~ 104°F humidity below 85% (with no condensation)  |
| Power supply*4                         | Single phase AC100V -240V (+10% / -15%), 50/60Hz 180 VA   |
| External dimensions                    | Length: 1005 mm / Width: 736 mm / Height: 720-870mm<br>Length: 39.5 in / Width: 28.9 in / Height: 28.3 - 34.2 in  |
| Weight*2                               | Approx. 50 kg / 110 lbs   |
| Material                               | Display: ABS resin<br>Conveyor unit: Aluminum (alumite coating) and PP resin<br>Control box: Stainless steel<br>Base unit: Stainless steel                      |

\*1 Depends on the shape and the condition of the product and installation environment.

\*2 Values for external dimensions and weight are for the standard condition without rejector.

\*3 USB memory must be formatted to FAT32.

\*4 Please prepare a Φ 4-7 mm power cable



AD-4961-6K-3050  
with optional display stand  
tower light and pusher rejector



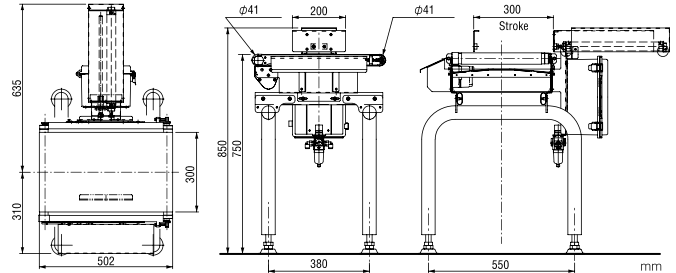
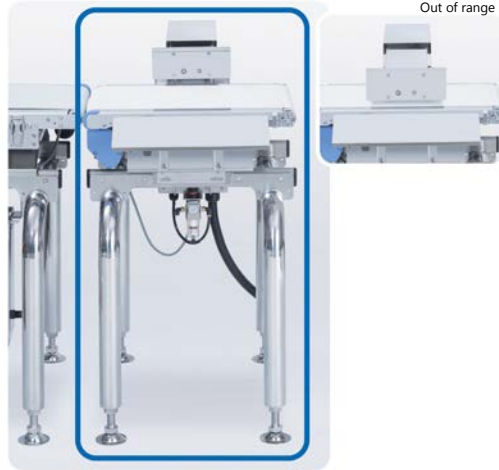
## Rejector for AD-4961-6K-3050

\*Please supply an air compressor with  $\Phi$  8 mm air tube or 1/4" quick connect to be connected to the filter regulator of the rejector.  
Air supply: 72.5 psi, 0.1 NL/time

### Pusher Rejector

#### AD-4983-3050

Screening capability  
60 pcs/min.



## Options for all AD-4961 models



#### Display Stand AD-4961-01

The display is attached on the opposite side from the standard display position, across from the user. The display is located approx. 310 mm (12 in.) above the conveyor belt



#### Tower Light AD-4961-02

Highly visible three color LED tower. Easy configuration with the AD-4961 checkweigher using DO (Digital Output) map setting.

\* AD-4961-01 display stand is required to install this option.  
\* Dust and water resistance level is IP53.

#### Leg Kit Extension AD-4961-LEG

Leg kit extension up to 40".

## Maintenance Kit for AD-4961 Series

The maintenance kit contains disposable parts that need to be replaced periodically. These maintenance parts are easy to replace, so system downtime can be minimized.



Replacing a belt

Replacing a gear

Replacing a conveyor

Replacing a gear motor

The maintenance kit contains:

- Qty: 1 - Weighing Conveyor Unit
- Qty: 1 - Infeed Conveyor Unit
- Qty: 1 - Photo Sensor without reflector
- Qty: 1 - Drive pulley (balance adjusted)

- Qty: 1 - Idle pulley (balance adjusted)
- Qty: 1 - Motor Unit (including a plastic gear)
- Qty: 5 - Plastic gears

» **Optimization of weighing configuration** By inputting throughput (products per minute) or belt speed (m.min), optimal weighing conditions can be automatically set. You can weigh products precisely without inputting various settings.

## » History function **Operational History**

The history of configuration changes can be recorded and displayed. Suitable for use in HACCP programs along with the weighing history function.

Users can be registered and their scope of permitted operations controlled according to 4 management levels.

- [ Operator ]
- [ Supervisor ]
- [ Quality Manager ]
- [ Administrator ]

By assigning each user to the appropriate level of access, inadvertent operations can be avoided. \*2

\*2 "Operator" is set when the power is turned on.

| Time            | User Name | No.   | Item             | Detail         |
|-----------------|-----------|-------|------------------|----------------|
| 2013/8/19 13:50 | Admin     | 1-001 | Stability Time   | 1.000 > 2.000  |
| 2013/8/19 15:50 | Admin     | 1-001 | Login            |                |
| 2013/8/19 15:51 | Admin     | 1-001 | Language         | 0 > 1          |
| 2013/8/19 15:58 | Operator  | 1-001 | Logout           |                |
| 2013/8/19 15:59 | Murata    | 1-001 | Login            |                |
| 2013/8/19 15:59 | Murata    | 1-001 | Target           | 57.00 > 100.00 |
| 2013/8/19 16:00 | Operator  | 1-001 | Logout           |                |
| 2013/8/19 16:00 | Nishimura | 1-001 | Login            |                |
| 2013/8/19 16:00 | Nishimura | 1-001 | Stability Wei... | 10.00 > 5.00   |
| 2013/8/19 16:00 | Operator  | 1-001 | Logout           |                |
| 2013/8/19 16:01 | Admin     | 1-001 | Login            |                |

## Weighing History

Weighing results are automatically recorded in a USB flash drive during weighing. Output data: Date, time, group, and product number, weight data and judgments.

Weighing history output example:

```

2014/10/3, 19:45:52, 40, 01-001, 100.05, 0K
2014/10/3, 19:45:56, 54, 01-001, 150.1, Over
2014/10/3, 19:46:00, 58, 01-001, 70.5, Under
2014/10/3, 19:46:04, 52, 01-001, 0.0, Detect Two
2014/10/3, 19:46:08, 56, 01-001, 0.0, Unsplit
2014/10/3, 19:46:12, 60, 01-001, 100.5, Metal
2014/10/3, 19:46:16, 54, 01-001, 105.1, Ext 1
2014/10/3, 19:46:20, 78, 01-001, 95.5, Ext 2
    
```



## USB Memory

Approx. 6MB memory size is required for 8 hours operation at the maximum throughput (320 pcs/min.)

Approx. 7GB memory size is required for 24 hours 365 days operation.

## Don't Forget about our Metal Detectors & Heavy Duty Checkweigher



| Group | No | Read | Edit | ← | → |
|-------|----|------|------|---|---|
| 1     | 1  |      |      |   |   |

2013/08/19 15:00 No: 07/01 User: Admin

|     |             |       |        |   |
|-----|-------------|-------|--------|---|
| 001 | A&D Noodle  | AD001 | 57.00  |   |
| 002 | A&D Yoghurt | AD002 | 400.00 | g |
| 003 | A&D Milk    | AD003 | 500.00 | g |
|     | A&D Snack   | AD004 | 280.00 | g |

Buttons: Read, Edit, ←, →



**AD-4971 Series  
Metal Detectors**



**AD-4961 Heavy Duty Checkweigher**



16540 Southpark Drive | Westfield, IN 46074

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