

# GSPV/RSPV/RF CONVEYORS

Translation of the original operating instructions

## General information

**Copyright** These instructions are protected by copyright. None of this information may be reproduced, distributed, used to the advantage of our competitors or made accessible to third parties either completely or in part.

**Technical changes** Subject to modifications for the purpose of technical improvement.

**Product documentation** This is the translation of the original operating instructions. It contains the following parts:

Part 1: Operating instructions; target group: operating personnel, kitchen directors.

Part 2: Service information; target group: service personnel

**Typographical conventions**  Important **note** on special features or special cases.

**i** **Explanatory information** in chapters or sections containing instructions.

 **Cross reference** to a chapter, section or external document.

✓ **Requirement** which must be fulfilled before the subsequent steps can be carried out.

► **Action** or activity which must be carried out.

---

---

### Unit variant XYZ

A section identified in this way applies only to a particular **unit variant** or unit option.

---

---

### Warnings

#### **Signal word!**

##### **Type and source of danger**

Possible consequences of non-compliance with the warnings.

► Measures to avoid dangers and the consequences thereof.

---

The signal word (caution, warning, danger) informs of the level of danger.

**Caution** warns of possible light bodily injuries and damage to property.

**Warning** warns of possible serious bodily injury.

**Danger** warns of possible highly severe/fatal bodily injury.

---

---

# Part 1: Operating Instructions

<b>Part 1: Operating instructions</b>	Target group . . . . .	1
<b>About this product</b>	Application . . . . .	2
	Conditions of use . . . . .	2
	Product features . . . . .	2
	Standard model . . . . .	3
	Options and accessories . . . . .	4
<b>Functional principle</b>	Description . . . . .	5
<b>Safety</b>	General information . . . . .	7
	About this product . . . . .	7
	Transport . . . . .	8
	Commissioning . . . . .	9
	Operation . . . . .	9
	Shutting down . . . . .	11
	Cleaning and care . . . . .	11
	Maintenance . . . . .	12
	Repairs . . . . .	12
	Standards and guidelines . . . . .	12
<b>Transport</b>	Checking for/reporting on damage incurred during transportation . . . . .	13
	Scope of delivery . . . . .	13
	Unpacking . . . . .	14
	Disposing of packaging material . . . . .	14
<b>Overview</b>	GSPV flat-belt feeder conveyor . . . . .	15
	RSPV round-belt feeder conveyor . . . . .	16
	RF dishes return conveyor . . . . .	17
	Operating/function elements – conveyor body . . . . .	18
<b>Commissioning</b>	Prerequisites for operation . . . . .	19
	Initial start-up . . . . .	19
	Connecting unit . . . . .	19
<b>Operation</b>	Switching unit on and off . . . . .	20
	Starting/ending conveyor running . . . . .	21
	Operating Emergency-Stop switch . . . . .	23
	Setting feeding speed . . . . .	24
	Docking/undocking stacking unit . . . . .	24
	Switching backup cycle on and off . . . . .	25
	Switching automatic destacking on/off . . . . .	26
	Operating folding table . . . . .	27
	Operating swing-out table . . . . .	29
	Carrying out food portioning . . . . .	30
	Moving unit to a new location . . . . .	30
	Traversing ramps, recesses, slanted surfaces . . . . .	32
<b>Shutting down</b>	Shutting unit down . . . . .	33

---

<b>Troubleshooting</b>	No mains voltage on unit . . . . .	34
	No mains voltage at unit socket outlets or mains voltage at unit . . . . .	34
	Feeder conveyor does not feed – motor is not running . . . . .	35
	Foot switch does not start feed mode . . . . .	37
	Feeder conveyor does not feed or feeds unevenly – motor is running. . . . .	37
	Feeder conveyor runs too fast/too slow . . . . .	37
	Flat-belt conveyor runs off-centre. . . . .	38
	Trays jam . . . . .	38
	Automatic destacking does not function . . . . .	38
	Backup cycle switching does not function . . . . .	39
	Corrosion of stainless steel parts . . . . .	39
	The unit has external damage . . . . .	39
<b>Cleaning and care</b>	Stainless steel . . . . .	40
	Cleaning frequency . . . . .	40
	Cleaning methods . . . . .	40
	Cleaning agents . . . . .	40
	Cleaning flat-belt conveyor/round belt . . . . .	41
	Cleaning unit . . . . .	41
	Cleaning collection container with dirt stripper . . . . .	41
	Cleaning catch tray . . . . .	42
<b>Maintenance</b>	Having the unit regularly maintained . . . . .	43
	Having periodical electrical safety inspection carried out . . . . .	43
	Checking safety devices. . . . .	43
<b>Technical data</b>	General data . . . . .	45
	Electrical data . . . . .	46
	Environment. . . . .	47
<b>Ordering information</b>	GSPV flat-belt feeder conveyor . . . . .	48
	RSPV round-belt feeder conveyor . . . . .	48
	RF feeder conveyor . . . . .	48
	Operating instructions . . . . .	48
<b>Accessories</b>	Euronorm trays . . . . .	49
	Gastronorm trays. . . . .	49
	Tray dispenser CCE-A . . . . .	49
	B.PRO microfibre cleaning cloth. . . . .	49
	DeepClean Stainless Steel stainless steel cleaning and care agent. . . . .	49

---

## Part 2: Service information

<b>Part 2: Service information</b>	Target group . . . . .	51
	<b>Safety</b>	
	Assembly . . . . .	52
	Commissioning . . . . .	52
	Maintenance . . . . .	52
	Repairs . . . . .	53
	<b>Assembly</b>	
	Preparing assembly . . . . .	55
	Mounting feeder conveyor . . . . .	55
	Connecting feeder conveyor . . . . .	58
	<b>Commissioning</b>	
	Adjusting flat-belt/round-belt conveyor running . . . . .	59
	Adjusting tension of flat-belt conveyor . . . . .	61
	Adjusting tension of round-belt conveyor . . . . .	62
	Adjusting reflex light sensor . . . . .	63
	Adjusting light barrier . . . . .	64
	<b>Maintenance</b>	
	Performing periodical inspection for electrical safety . . . . .	65
	Checking connection cable and mains plug . . . . .	65
	Operating check of safety devices . . . . .	65
	Checking flat-belt/round-belt conveyor running . . . . .	65
	Adjusting tension of flat-belt conveyor . . . . .	66
	Checking tension of round-belt conveyor . . . . .	66
	Operating check of reflex light sensor . . . . .	66
	Operating check of light barrier . . . . .	66
	Removing areas of corrosion on stainless steel . . . . .	67
	<b>Repairs</b>	
	Authorised persons . . . . .	68
	Description of problem . . . . .	68
	Spare parts . . . . .	68
	Address . . . . .	68
	<b>Disposal</b>	
	Disposing of the unit . . . . .	69
<b>Technical documentation</b>	. . . . .	70
<b>Appendix</b>	Maintenance documentation . . . . .	71

---



---

## Part 1: Operating instructions

**Target group** The documentation at hand is divided into two parts: the operating instructions and the service information.

Part 1: The operating instructions include all information for everyday routine use with the unit and are addressed to the operators and users of the unit, especially kitchen directors and operating personnel.

Part 2: Service information includes advanced information, for example concerning assembly and maintenance work, and is addressed **solely** to special service personnel (e.g. experts trained by B.PRO) having required expert knowledge for the correct implementation of the work described.

↳ "Part 2: Service information" on page 55.

---

## About this product

**Application** The GSPV and RSPV feeder conveyors are designed for the following applications:

- Food distribution in commercial kitchens and canteens
- Portioning food for food serving
- As a feeder conveyor for returning dishes

The RF dishes return conveyor is used exclusively for transporting trays for returning dishes.

The conveyors are not used to transport people or heavy objects and loose silverware or other sharp-edged objects. It is also not used to transport food and leftovers outside of trays.

**Conditions of use** **Instruction of third parties**

If the unit is lent to third parties, these persons must be instructed in the safe handling of the unit and possible dangers must be pointed out.

**Product features** **General information**

GSPV stationary conveyors and RSPV belt conveyors can be from 3.0 m to 12.0 m. The maximum length for mobile conveyors is limited to 6.0 m.

The conveyor tables are supported by height-adjustable square tube feet, or on the mobile version by square feet with steering castors and castor brakes. The maximum spacing of the supports is 2.5 m.

---

### RF dishes return conveyor unit model

The RF dishes return conveyor for returning dishes has side guides for centring the trays. The sections between the guides can be designed as a trough or as a depressions for turning in trays.

The trough has a drain and a slatted grille grid for hiding from view which can be removed for cleaning. The trough is smooth between the guides.

RF return conveyors can be built in any desired length and equipped with 45°, 90° or 180° curves.

A optional destacking unit, which enables automatic destacking of cleared trays, can be located at the end of the conveyor. If an optical sensor detects a tray which has not been cleared, the feed mode is automatically interrupted.

RF return conveyors can be equipped with a backup cycle mode as an option.

---

The conveyors consist of a unit body, a flat-belt or round-belt conveyor, a controller and optional accessories. The trays are transported on the GSPV via a conveyor belt, and on the RSPV and RF via two parallel round-belt conveyors.

The conveyor sections are joined by a screw joint.

The controller is mounted at the end of the conveyor in a switch cabinet.

The flat-belt or round-belt guidance is carried out on the underside of the unit with shafts mounted on ball bearings.

---



---

### **GSPV flat-belt feeder conveyor**

The belt in food-resistant quality is welded together in an endless loop and insulated with an antistatic coating.

The belt is continuously cleaned by a dirt stripper and the residues are transported into a collection container. The dirt stripper and collection container can be removed for cleaning.

---



---



---

### **RSPV round-belt feeder conveyor**

The drive belt in food-resistant quality with an integrated pulling insert are (or with belts supplied dismantled) will be welded together in an endless loop.

---

Depending on the overall length, the conveyor is driven with one or more drum motors.

Folding tables, swing-out tables and drawers, e.g. for patient cards, can be mounted on the conveyors as an option.

### **Operation**

The conveyors can be loaded with Euronorm and Gastronorm trays.

The unit controller is installed in a switch cabinet in the underframe.

The feeder conveyor is switched on and off with a central main switch.

Depending on the unit model and setting, optical and/or mechanical sensors detect potentially critical operating states and interrupt conveyor running. An acoustic or optical signalling of these operating states is possible as an option.

The unit is equipped with at least one Emergency-Stop switch, which switches off conveyor running of the feeder conveyor.

The conveyor running speed is continuously adjustable from 2.5 to 12 m/min.

The conveyor belt/round-belt conveyor can be retensioned if necessary.

The unit body is open at the bottom for cleaning.

**Standard model** The GSPV, RSPV, RF conveyors are equipped as follows:

- Stainless-steel unit body
- Height-adjustable feet
- Maintenance-free drum motor(s)
- Speed control from 2.5 m/min to 12 m/min
- Emergency-Stop switch
- Central main switch
- Flat-belt (GSPV) or round-belt conveyor (RSPV, RF)
- ON/OFF button for conveyor running
- Reflex light sensor for automatic interruption of conveyor running
- Device for retensioning the flat-belt conveyor/round-belt conveyors
- Connected load: 230 V / 400 V 3/N/PE 50 Hz  
Stationary model: fixed connection,  
Model with castors: mains connection cable with CEE plug, 400 V,  
16/32/64 A or CEE plug, 230 V, 16 A

**Options and accessories**

---

---

**GSPV flat-belt and RSPV round-belt conveyor unit model**

The GSPV and RSPV conveyors are available with the following optional equipment:

- Schuko socket outlets (230 V) in various country-specific versions, quantity and positioning variable
  - CEE socket outlets (230 V/400 V), quantity and positioning variable
  - RCCB
  - Additional Emergency-Stop switches
  - Additional ON/OFF buttons for feeder conveyor running
  - Foot switch for feeder conveyor running
  - Bumper rail profile, on both sides
  - Folding tables, quantity and positioning variable
  - Swing-out tables, quantity and positioning variable
  - Steering castors with castor brakes (GSPV, RSPV only)
  - Standard castor model, stainless steel or synthetic
  - Shelf grate incl. support ledges in underframe
  - Drawer for patient cards
  - Cable duct, on both sides
- 
- 

**RF dishes return conveyor unit model**

The RF conveyors are available with the following optional equipment:

- Flat-well conveyor body
  - Trough-shaped conveyor body
  - Loading segment with catch tray and grid inlays
  - 45° curve with curve drive and tray guide strip
  - 90° curve with curve drive and tray guide strip
  - 180° curve with curve drive and tray guide strip
  - Additional tray guide strip, on both sides
  - Backup cycle switching
  - Acoustic signalling unit
  - Optical signalling unit
  - Destacking unit with light barrier
  - Shelf grate incl. mounting frame in underframe
  - Sound insulation tunnel, removable
  - Brackets for wall mounting
  - Mounting structure for panelling provided by customer
  - Front panels of loading segment
  - Skirting panel for front panel
- 
-

---

## Functional principle

---

---

### Description **GSPV flat-belt feeder conveyor unit model**

A flat-belt conveyor welded together in a continuous loop is pulled over the upper side of the unit body by one or more driven shafts.

The shaft drive is driven by a drum motor.

The flat-belt conveyor is deflected on the underside by the driven shaft at the end of the conveyor, and a conveyor stripper strips any soiling present from the flat-belt conveyor.

The deflection shaft at the beginning of the conveyor deflects the flat-belt conveyor onto the upper side of the unit body again.

The belt tension can be adjusted by adjusting the deflection roller at the beginning of the belt.

Depending on the total length of the unit, one or more support shafts on the underside of the unit prevent excessive sag of the flat-belt conveyor.

To prevent the objects transported from falling off at the end of the conveyor, the conveyor is stopped as soon as the reflex light sensor is covered at the end of the conveyor.

---

---

### **RSPV round-belt feeder conveyor unit model**

Two round-belt conveyors welded together in a continuous loop are pulled over the upper side of the unit body by driven rollers on the upper side of the unit.

The roller drive is driven by one or more drum motors.

The round-belt conveyors are deflected on the underside by the driven rollers at the end of the conveyor.

Deflection rollers at the start of the conveyor deflect the round-belt conveyors to the upper side of the unit again.

Depending on the total length of the unit, one or more support shafts on the underside of the unit prevent excessive sag of the round-belt conveyors.

The round-belt tension is set by adjusting the tensioning shaft on the underside of the unit.

To prevent the objects transported from falling off at the end of the conveyor, the round-belt conveyor is stopped as soon as the reflex light sensor is covered at the end of the conveyor.

---

---

---

---

**RF dishes return conveyor unit model**

The RF dishes return conveyor is a combination of two round-belt feeder conveyors.

The round-belt feeder conveyor in the tray return area for dirty dishes runs continuously and transports trays returned in the guest area up to the transfer to the clearing conveyor in the rear area of the kitchen. Depending on the model and setting, the tray is transported by this conveyor further by exactly one tray length (backup cycle mode) or continuously to the end of the system (continuous mode).

To prevent the objects transported from falling off at the end of the conveyor, the two round-belt conveyors are stopped as soon as the controller interrupts the conveyor running of the second conveyor. Depending on the model and setting of the unit, this takes place as soon as

- the reflex light sensor at the end of the conveyor is covered in the manual destacking mode  
– or –
  - a tray not cleared reaches the end of the conveyor in the optional automatic destacking mode  
– or –
  - a tray dispenser positioned at the end of the conveyor is fully loaded in the optional automatic destacking mode and cannot accept any more trays.
-

---

# Safety

**General information** The unit has been built using state-of-the-art technology. Accordingly, all the requirements necessary for safe operation have been fulfilled. Nevertheless, residual risk does exist when operating the unit. The safety precautions and warnings in these operating instructions are there to help you protect yourself against these sources of danger.

## Safety precautions

Thoroughly read and observe the safety precautions in this chapter.

The operator is responsible for the observance of the safety precautions in these operating instructions.

## Warnings

Observe the warnings with the danger symbol (warning triangle) in the text.

Observe the information labels on the unit. Replace illegible, damaged or missing labels immediately.

## Operating instructions

These operating instructions must be read carefully before you use the unit for the first time.

The operator is responsible for ensuring that all users have read these instructions before operating the unit for the first time.

Store these operating instructions in a location which is always accessible to operating personnel.

## About this product **Application**

The unit may only be used for the applications specified.

The operator is responsible for the appropriate and proper use of the unit.

## Conditions of use

The unit may only be operated under the permissible ambient conditions.

The users of the unit must be instructed in its operation and must have read and understood these operating instructions.

## Information labels

Observe the information labels on the unit. Replace illegible, damaged or missing labels immediately.

The following information labels are attached to the unit:

- "Warning: high voltage" sticker in accordance with DIN 4844-2: 2004 on door of switch cabinet

---

---

## Unit model with folding table

Following warning sign is mounted on folding table:

- "Maximum permissible surface load of 10 kg" sticker
- 
- 

---

---

## Unit model with swing-out table

Following warning sign is mounted on swing-out table:

- "Maximum permissible surface load of 3 kg" sticker
- 
-

---



---

### Unit model with drawer

Following warning sign is mounted inside drawer:

- "Maximum permissible surface load of 10 kg" sticker
- 

### Safety devices

The unit is equipped with at least one Emergency-Stop switch. The Emergency-Stop switch switches off feeder conveyor running.

The unit is equipped with a reflex light sensor at the end of the conveyor. The reflex light sensor interrupts feeder conveyor running for as long as it is covered.

---



---



---

### Unit model with fault-current protective device

The unit socket outlets are equipped with at least one fault-current protective device (residual-current circuit breaker).

---



---



---

### Unit model with automatic destacking

The unit is equipped with a limit switch, which switches off feeder conveyor running as soon as the tray dispenser positioned at the conveyor cannot accept any more trays.

The unit is equipped with a light barrier at the end of the conveyor for the detection of trays not cleared. As long as the light beam of the light barrier is interrupted, the feeder conveyor is stopped.

---

Do not deactivate the safety devices. Do not operate the unit if the safety devices are defective or if they have been deactivated.

The operator is responsible for the orderly functioning of the safety devices.

### Castor brakes

---



---



---

#### Unit model with castors

The castors are provided with brakes. Lock the brakes immediately after completing transport to prevent the unit from rolling away.

---

## Transport Upright transport position

---



---



---

#### Unit model with castors

Transport the unit or unit components in an upright position only.

---



---



---

#### Transporting with a truck or delivery vehicle

---



---

#### Unit model with castors

The unit may only be transported in a truck or delivery vehicle with a loading ramp. The loading ramp may not exceed an angle of inclination of 10°.

Secure the unit to prevent shifting. Just locking the castor brakes is insufficient transport security.

Secure the unit against vertical movement during transport.

Use padded locking bars.

---

**Commissioning Mains connection**

---

---

**Unit model with castors**

The mains voltage and frequency listed on the rating plate must match the corresponding values of the electrical outlet provided by the customer.

The unit may not be used if the insulation on the mains cable or the mains plug is damaged.

Only unplug by pulling on the mains plug housing.

---

**Operation General information**

The user must be aware of the dangers involved with the unit and be able to assess them.

The unit may only be used by persons whose physical, sensory or mental abilities are not subject to any restrictions relevant to operating the unit.

The unit is only to be used when it is in proper working order.

If damage is present, secure the unit against accidental use and have repairs carried out immediately at one of the following locations:

- In-house, B.PRO-trained professional
- External, B.PRO-trained customer service
- B.PRO Service

**Danger of being pulled in**

There is a danger of body parts and loose pieces of clothing being pulled in in the immediate vicinity of rotating rollers and shafts.

**Emergency-Stop switch**

The Emergency-Stop switch must be freely accessible and familiar to all those who use the unit. It interrupts feeder conveyor running in an emergency. The Emergency-Stop switch may not be actuated to switch off the feeder conveyor running under normal operating conditions.

---

---

**Unit model with fault-current protective device**

Depending on the number installed, the unit socket outlets are equipped with one or two fault-current protective device(s) (residual-current circuit breaker(s)) in the switch cabinet.

If the electrical installation of the peripheral devices are damaged, e.g. by fault currents on the protective conductor, the peripheral devices are disconnected from the power supply by the fault-current protective device(s).

---

**Reflex light sensor**

The reflex light sensor is a safety device. It stops the conveyor if, for example, it is covered by a tray. This ensures that objects/trays which have not been removed in time do not fall to the floor at the end of the conveyor.

---

---

## Loading of attached parts

---

---

### Unit model with folding table

The attached folding table is designed to hold dishes and/or trays and may not be loaded with heavy objects.

The permissible surface load is 10 kg.

Sitting on the folding table is not permitted.

---

---

---

---

### Unit model with swing-out table

The attached swing-out table is used to hold lighter objects (e.g. patient cards) and may not be loaded with heavy objects.

The permissible surface load is 3 kg.

---

---

---

---

### Unit model with drawer

The integrated drawer is used to hold lighter objects (e.g. patient cards) and may not be loaded with heavy objects.

The permissible surface load is 10 kg.

---

---

---

---

## Change of location

---

---

### Unit model with castors

Unplug the mains plug before each change of location. Remove loose objects from the upper side of the unit. Objects can slide off the unit top when pushing the unit.

Push the unit with two people (one at each short side of the unit).

The unit can be tilted to an angle of 10° before there is any danger of it toppling. Only slanted surfaces with an incline <10° may be crossed.

When pushing on a slanted surface, the unit can swerve to the side. Push the unit over slanted surfaces with 4 people (one at each side of the unit).

If the unit is on a slanted surface, it must be secured against rolling away with further measures (e.g. wedges) in addition to locking the castor brakes.

To minimize the danger of damage to the castors, avoid overloading the castors:

- Do not move the unit when the castor brakes are locked
- Avoid impacts
- Do not traverse bumps or steps
- Do not traverse uneven floors

The unit is to be pushed only, never pulled.

Always use two hands when pushing the unit. Depending on the weight of the unit, if you push it with just one hand it is possible you would not be able to apply the brakes quickly enough.

Be careful to ensure that your hands are not pinched (danger of crushing) between the unit and walls or other objects (e.g. cabinets).

---

---

**Shutting down    Switching the unit off**

Switch off the unit with the main switch (set to "0") and switch off the circuit breaker provided by the customer.

---

---

**Unit model with mains plug**

Do not unplug the mains plug if the unit is switched on. Otherwise the customer's mains connection socket and the mains connection plug of the unit can be damaged (burning of the socket-outlet and plug contacts).

Only pull out the mains plug by the main plug housing.

---

**Cleaning and care    Hygiene**

Comply with the regulations of the Hygiene Directive 93/43/EEC and the nationally applicable hygiene regulations.

**Mains connection**

Switch the unit off with the main switch before cleaning it.

---

---

**Unit model with mains plug**

Unplug the mains plug before cleaning the unit.

---

Water penetrating into the unit can cause a short-circuit. This can result in malfunctions. In addition, there is also a danger of electric shock.

**Cleaning frequency**

Clean the unit thoroughly after each use.

**Cleaning methods**

Use only approved cleaning methods.

Impermissible cleaning methods can damage the unit.

Do not use steam jet units, high-pressure cleaners, water sprayers or similar cleaning devices.

Only clean flat-belt/round-belt conveyor in sections with drive switched off.

Otherwise, there is a danger of pulling in, pinching and crushing for body parts and loose pieces of clothing in the pull-in area of the flat-belt/round-belt conveyor.

**General information on cleaning agents**

Do not use metal parts for cleaning. Metal parts can damage the unit and/or lead to corrosion.

Do not use pointed or sharp objects for cleaning. They can damage the unit.

**Cleaning agents for synthetics**

Do not use scouring agents. Scouring agents scratch the surface.

Do not use the following cleaning agents or cleaning agents containing the following substances for the feeder conveyor (damage to material!):

- Ethyl alcohol, isopropyl alcohol and higher alcohols
- Acetone
- Benzene
- Turpentine
- Acetic ester

**Cleaning water**

Thoroughly dry the unit after cleaning.

A danger of slipping exists if cleaning water runs out of and/or from the unit during or after cleaning.

Completely wipe up water which runs out onto the floor.

**Maintenance Operating check of safety devices**

After the unit is switched on, the operation of the following unit safety devices must be checked by the operator:

- Emergency-Stop switch
- Reflex light sensor

---

---

**Units with automatic tray destacking**

- Light barrier for detecting trays not cleared
  - Limit switch for detecting fully loaded tray dispenser
- 

If a defect is discovered, immediately shut down unit and have repaired by a service point named under Repairs.

**Castor brakes**

---

---

**Unit model with castors**

Regularly check the effectiveness of the castor brakes.

If the effectiveness of the brakes is not sufficient, have the defective castor(s) replaced by an authorised service point.

↳ Part 2: Service information: "Authorised persons" on page 68.

---

**Authorised persons**

Any further maintenance work may only be carried out by appropriately trained professionals.

↳ Part 2: Service information: "Maintenance" on page 65.

**Repairs Authorised persons**

Repair of the unit may only be carried out by appropriately trained professionals.

↳ Part 2: Service information: "Authorised persons" on page 68.

**Standards and guidelines**

Observe the applicable standards, guidelines and safety regulations.

The operator is responsible for compliance with the applicable standards, guidelines and safety regulations.

## Transport

### Checking for/reporting on damage incurred during transportation

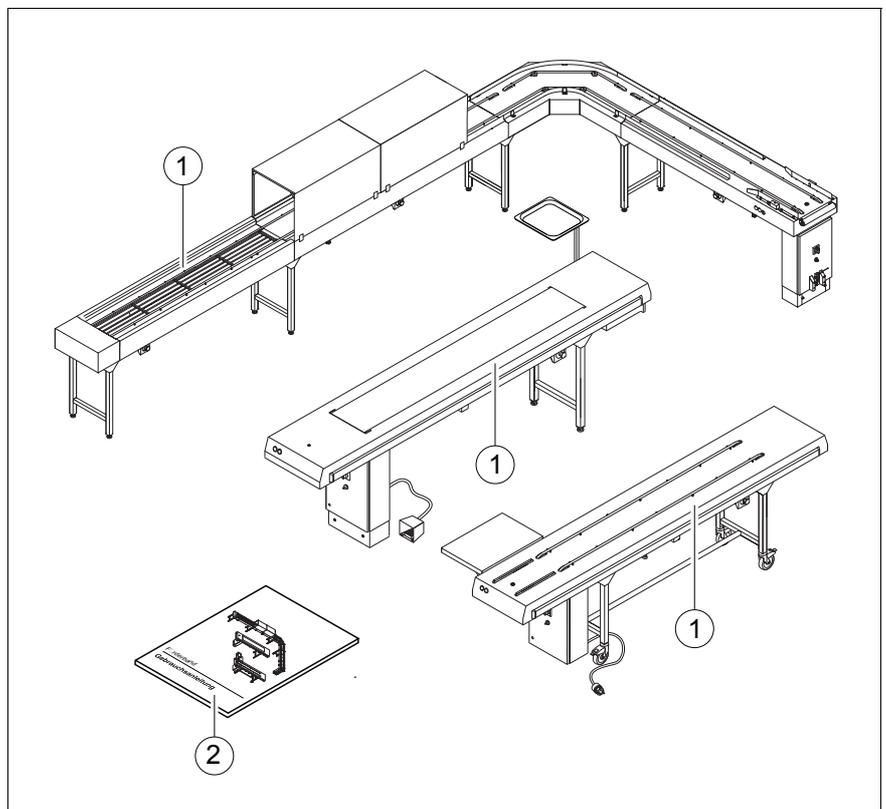
- ☞ The unit or unit components must be checked immediately after delivery for damage incurred during transport (visual inspection).
- Document (description of defect) any damage incurred during transport on the waybill in the presence of the carrier.
- Have the carrier confirm the damage (signature).
- Retain the unit or unit components and notify B.PRO of the damages with the waybill.

– or –

Do not accept the unit or unit components and return it to B.PRO via the deliverer.

- ☞ This procedure will ensure correct processing of claims. Transport damage reported later has to be proven accordingly by the receiver of the unit.

### Scope of delivery



- (1) GSPV, RSPV, RF feeder conveyors (possibly as several unit components in dependence on the unit equipment, unit length and local loading conditions)
- (2) Operating instructions/Service documentation

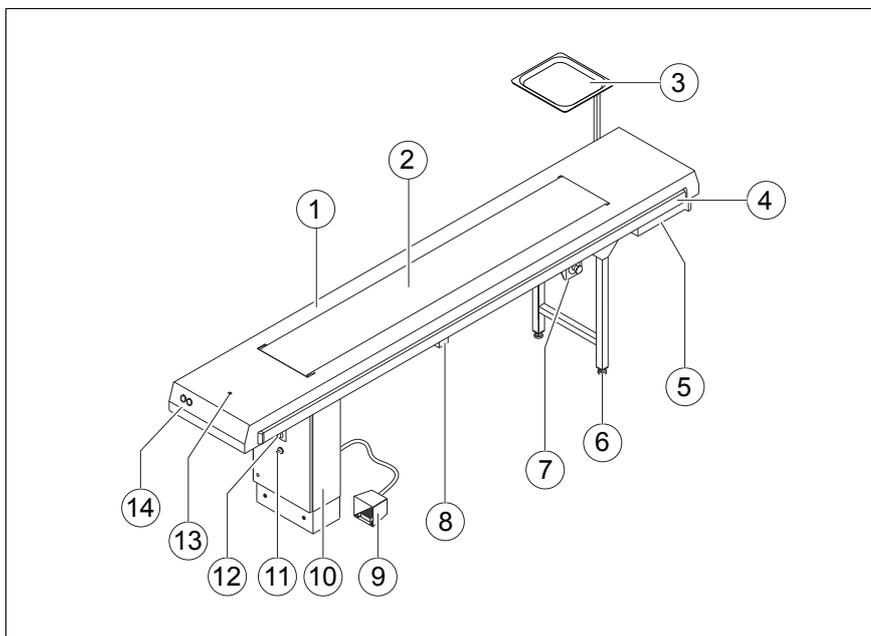
The exact scope of delivery (number of components) and model of the unit is to be taken from the delivery documentation.

- Unpacking**
- ▶ Open the transport packing at the places provided. Do not rip or cut it!
  - ▶ Check the scope of delivery.
  - ▶ Remove any protective film from the unit.

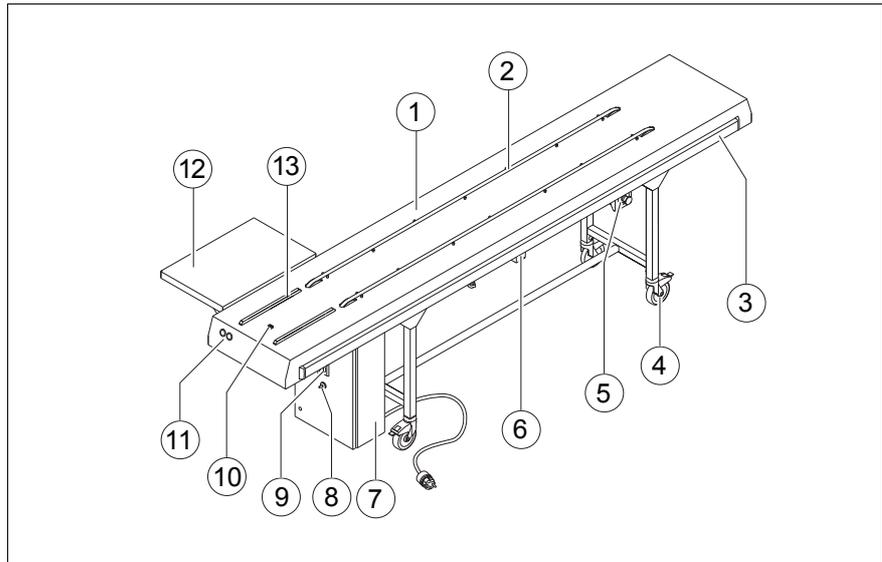
- Disposing of packaging material**
- ☞ The packaging materials are recyclable.
  - ▶ Recycle packaging materials in a proper, environmentally sound manner in accordance with the applicable statutory requirements.

## Overview

### GSPV flat-belt feeder conveyor



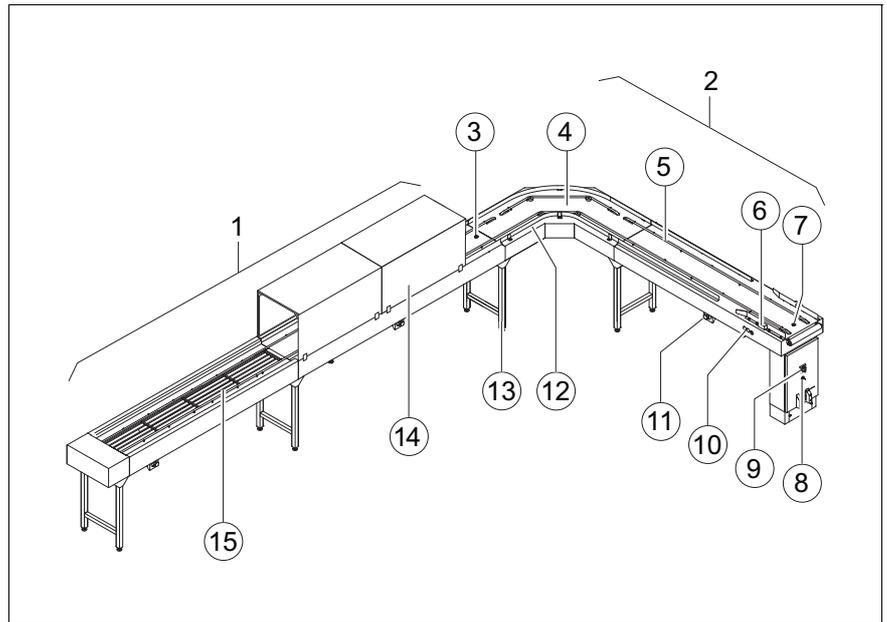
- (1) Conveyor body
- (2) Flat-belt conveyor
- (3) Swing-out table (optional)
- (4) Bumper rail profile (optional)
- (5) Drawer for patient cards (optional)
- (6) Foot, height-adjustable
- (7) Emergency-Stop switch
- (8) Socket outlet (optional)
- (9) Foot switch for conveyor running (optional)
- (10) Switch cabinet
- (11) Speed controller
- (12) Main switch
- (13) Reflex light sensor
- (14) ON/OFF button for conveyor running (tray transport)

**RSPV round-belt feeder conveyor**

- (1) Conveyor body
- (2) Round-belt conveyor
- (3) Bumper rail profile (optional)
- (4) Steering castor with castor brake (optional)
- (5) Emergency-Stop switch
- (6) Socket outlet (optional)
- (7) Switch cabinet
- (8) Speed controller
- (9) Main switch
- (10) Reflex light sensor
- (11) ON/OFF button for conveyor running
- (12) Folding table (optional)
- (13) Slide rail

**RF dishes return conveyor**

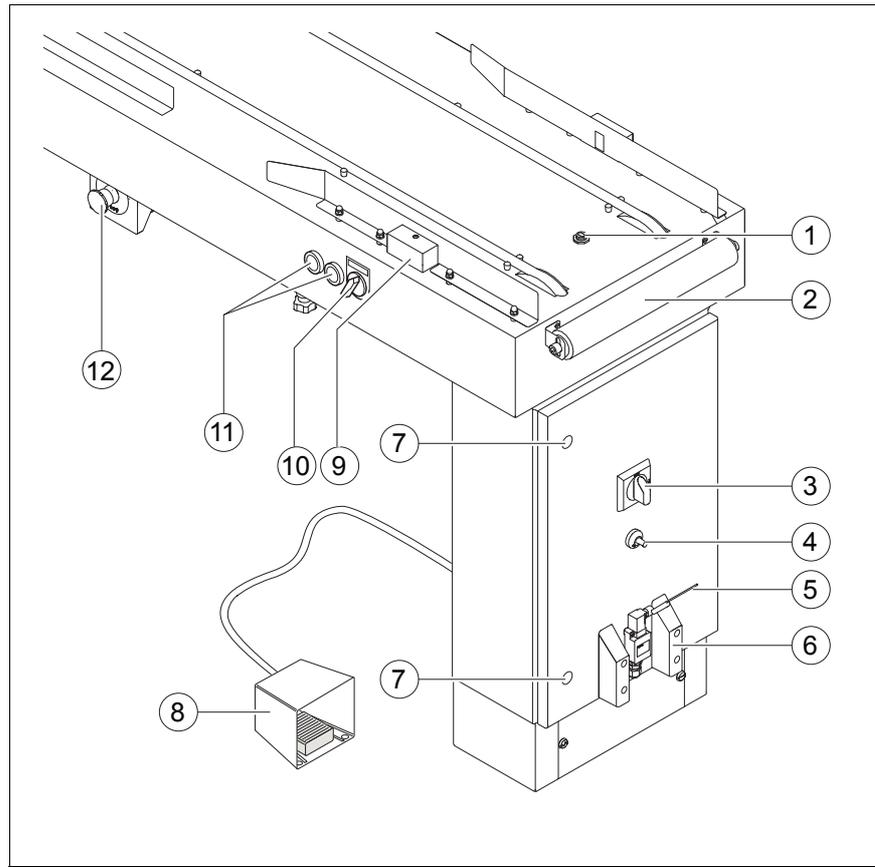
☞ RF dishes return conveyors are assembled individually. The following illustration shows a typical design



- (1) Tray return area
- (2) Clearing area
- (3) 90° curve
- (4) Round-belt conveyor
- (5) Light barrier for detecting trays not cleared
- (6) Reflex light sensor
- (7) Components of automatic destacking unit
- (8) Speed controller
- (9) Main switch
- (10) ON/OFF button for conveyor running
- (11) Emergency-Stop switch
- (12) Side guide
- (13) Foot, height-adjustable
- (14) Sound insulation tunnel
- (15) Loading segment with catch tray and grid inlay

**Operating/function elements –  
conveyor body**

☞ Shown on example of an RF dishes return conveyor with automatic destacking



- (1) Reflex light sensor
- (2) Roller for tray destacking
- (3) Main switch
- (4) Speed controller
- (5) Limit switch (RF dishes return conveyor only)
- (6) Stop bar for CCE-A tray dispenser
- (7) Switch cabinet lock
- (8) Foot switch for conveyor running (optional)
- (9) Light barriers for detecting dishes not cleared (only on unit model with automatic destacking)
- (10) Changeover switch backup cycle/continuous operation (only RF dishes return conveyor)
- (11) ON/OFF button for conveyor running
- (12) Emergency-Stop switch

## Commissioning

- Prerequisites for operation**
- ✓ Protective film and packing materials removed from unit
  - ✓ Unit stands securely and does not wobble
  - ✓ There are no signs of defects or visible damage to the unit
  - ✓ Unit is in absolutely hygienic condition
  - ✓ Unit has reached room temperature and is dry
  - ✓ Emergency-Stop switch released
- Initial start-up**
- Before initial start-up, make sure that the feeder conveyor is properly installed and assembled.
  - Before initial start-up, make sure that the reflex light sensor is adjusted for the trays used.
    - ↳ Part 2: Service information: "Operating check of light barrier" on page 66.

---

### Connecting unit **Unit model with castors**

---

#### **Danger!**

##### **Danger, high voltage!**

Short circuits can result when extension cables are used in damp areas.

- Do not use extension cables in damp areas.
- 

#### **Caution!**

##### **Material damage!**

If the unit is not rated for the mains voltage or frequency which is available, the unit electronics may suffer permanent damage.

- Before connecting, ensure that the mains voltage and frequency listed on the rating plate match the corresponding values of the electrical outlet provided by the customer.
- 

#### **Caution!**

##### **Damage to the unit electrical system and the socket outlet provided by the customer!**

If connected external units have not been deenergised before plugging in or unplugging the mains plug, the unit electrical system and the mains socket outlet provided by the customer may be damaged.

- Make sure the main switch is switched off before connecting.
  - Plug the mains plug into the socket outlet.  
The unit is ready for operation.
- 

### **Stationary feeder conveyor unit model**

↳ The mains connection may only be carried out by a professional electrician taking the corresponding guidelines and safety regulations into account.

↳ Part 2: Service information: "Connecting feeder conveyor" on page 58.

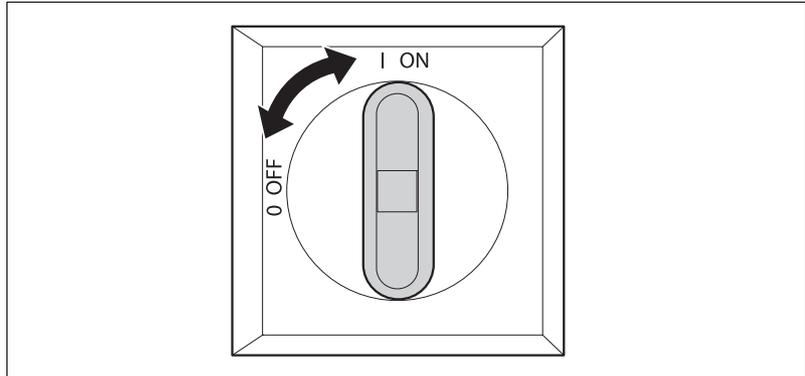
---

---

## Operation

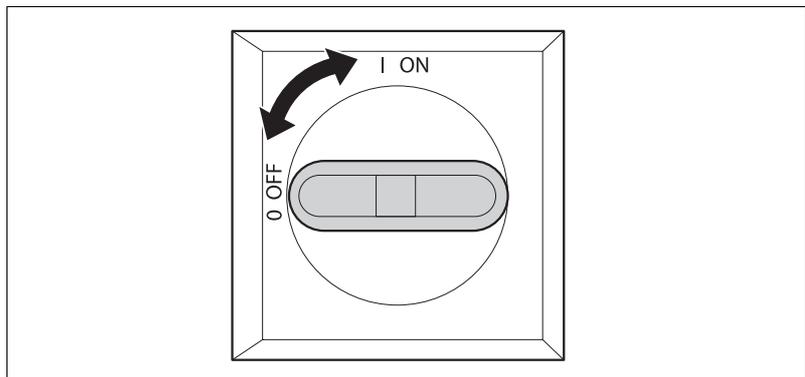
### Switching unit on and off    Switching the unit on

- ☞ Optional socket outlets for connecting the peripheral devices are also supplied with power via the main switch.
- ✓ Unit connected to power supply
- Set main switch to **ON**.



### Switching the unit off

- Set main switch to **OFF** and, if necessary, secure against switching on with a padlock.



**Starting/ending conveyor running****Starting conveyor running**

☞ The ON/OFF buttons for conveyor running are located at the end of the feeder conveyor over the switch cabinet. As an option, the unit is equipped with an additional ON/OFF button, e.g. at the start of the feeder conveyor and/or an additional foot switch. The foot switch only starts the conveyor if it has been started beforehand with the ON button.

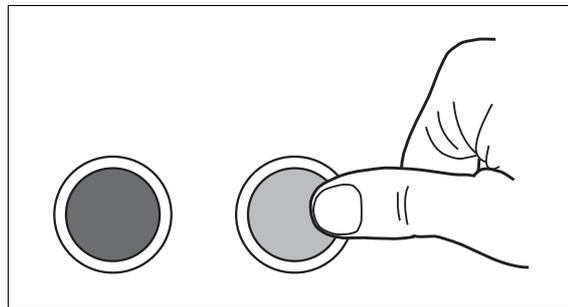
- ✓ Unit connected to power supply
- ✓ Main switch set to **ON**

---

---

**Unit model with castors**

- ✓ All castor brakes locked
- Start feeder conveyor with green ON button (on right).  
The feeder conveyor runs.

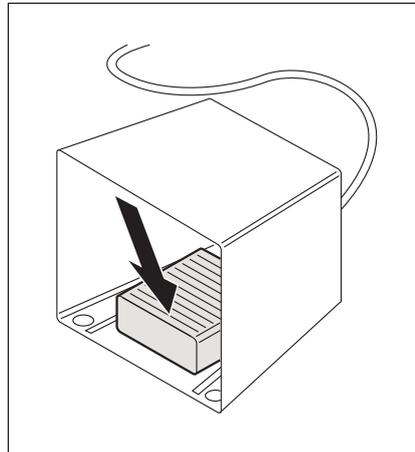


---

---

**Unit model with foot switch**

- ✓ Feeder conveyor running was started with the green ON button and interrupted with the foot switch
- Actuate foot switch.

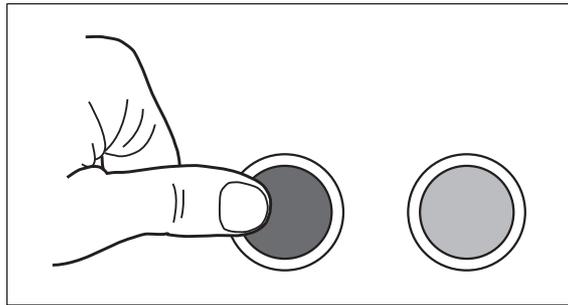


The conveyor starts.

---

### Ending conveyor running

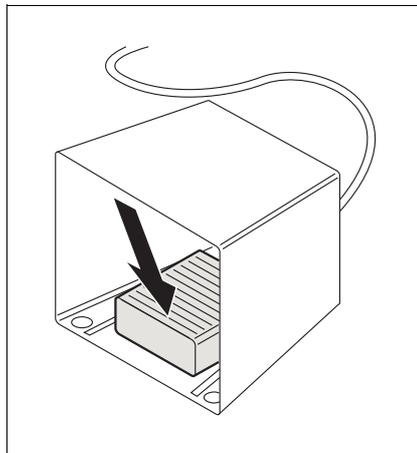
- ☞ The ON/OFF buttons for feeder conveyor running are located at the end of the feeder conveyor over the switch cabinet.
- ☞ As an option, the unit is equipped with an additional ON/OFF button, e.g. at the start of the feeder conveyor and/or an additional foot switch.
- ☞ Depending on the unit model and adjustment, conveyor running is automatically interrupted or switched off by the unit controller when certain operating states occur.
- End conveyor running with red OFF button (on left).  
The conveyor stops.



---

### Unit model with foot switch

- ✓ Flat-belt/round-belt conveyor runs
- Actuate foot switch.



The conveyor stops.

---

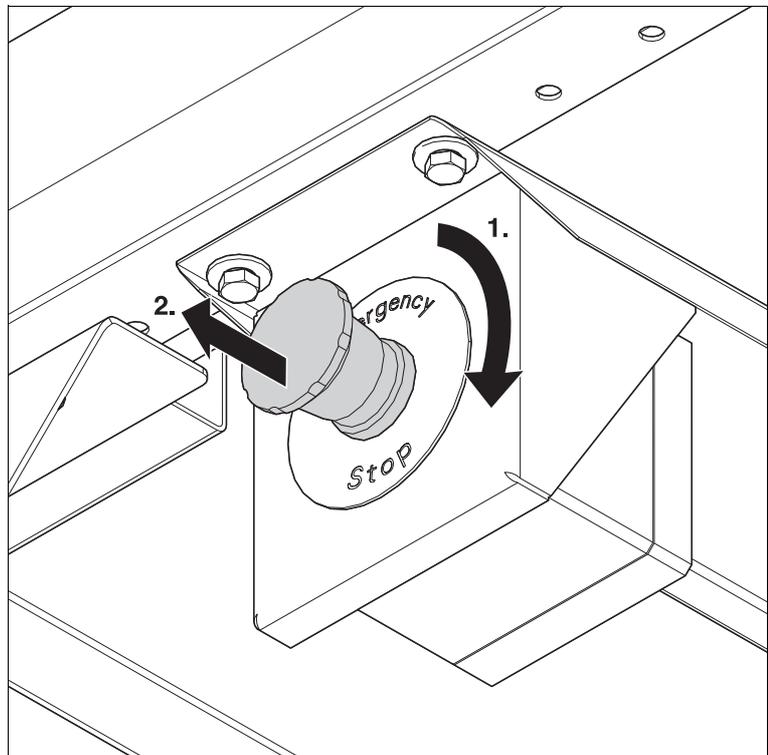
## Operating Emergency-Stop switch

### Actuating Emergency-Stop switch

- ☞ The Emergency-Stop switch is located at the start of the feeder conveyor on the side below the tray return area in the standard configuration. On units without automatic destacking, an additional Emergency-Stop switch is located on the short side at the end of the conveyor. Additional Emergency-Stop switches may be present as an option.
- ☞ The Emergency-Stop switch may only be actuated in situations in which a continuous operation can immediately lead to unit damage or even to injuries.
  - Press Emergency-Stop switch.  
Conveyor running is switched off. Switch knob is locked in pressed position. Unit and optional socket outlets for peripheral units continue to be supplied with power.

### Releasing Emergency-Stop switch

- ✓ Determine reason for Emergency Stop and eliminate fault
- Turn Emergency-Stop switch clockwise (1.).  
Switch knob jumps out again (2.); locking of switch knob is released.

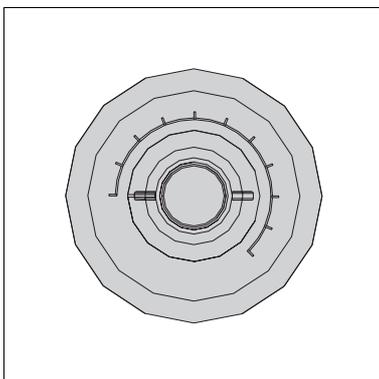


The Emergency-Stop switch released.

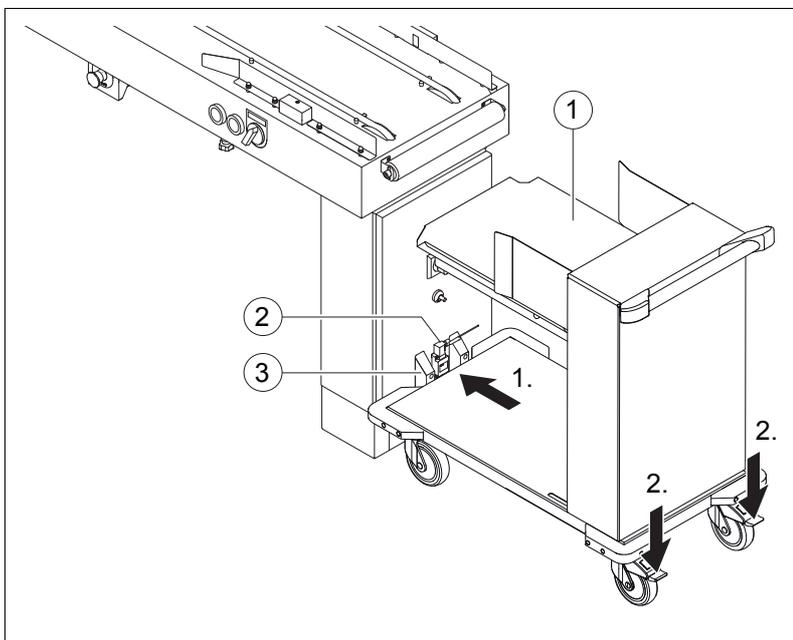
Conveyor running of the feeder conveyor can be restarted with the ON button.

**Setting feeding speed**

- ☞ The conveyor running speed of the unit is continuously adjustable from 2.5 to 12 m/min.
- Set desired speed on potentiometer. Turn clockwise up to a maximum of 12 m/min and turn anticlockwise up to a minimum of 2.5 m/min.

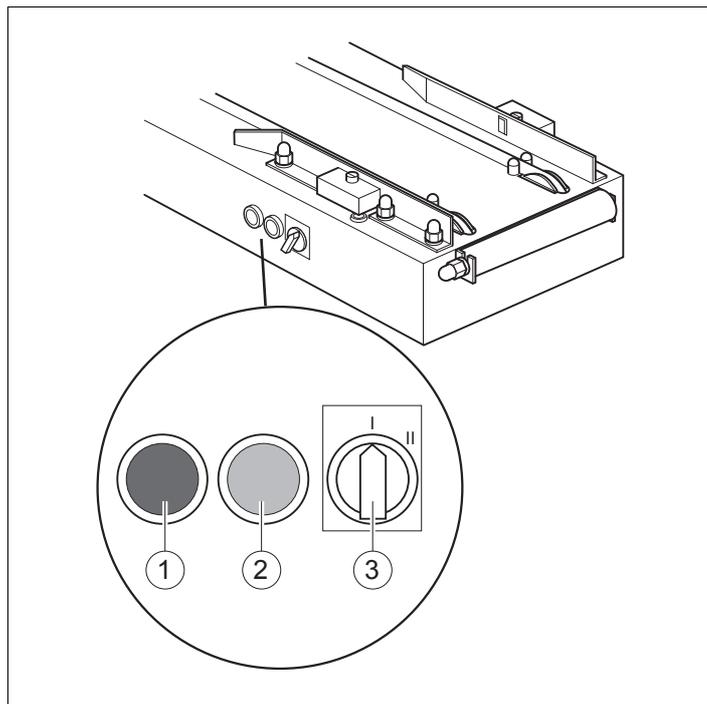
**Docking/undocking stacking unit****RF dishes return conveyor model unit with automatic destacking**

- ☞ For automatic destacking of cleared trays via the roller at the end of the RF dishes return conveyor, a CCE-A tray dispenser must be pushed up to the two docking strips on the switch cabinet of the feeder conveyor.
- ☞ The platform of the tray dispenser, which continues to lower as loading increases, triggers stopping of the conveyor on complete loading via the limit switch. The conveyor must be restarted manually by pressing the ON button.
- Push stacking unit up to stop bar (1.).
- Lock castor brakes of tray dispenser (2.).



**Switching backup cycle on and off****RF dishes return conveyor model unit with backup cycle mode without automatic destacking**

- i** When backup cycle mode is switched on, round-belt feeder conveyor runs continuously in tray return area. If a tray is returned, it is transported up to the start of the tray clearing area. There a light barrier registers the tray and switches on the conveyor drive of the clearing conveyor until the tray has been transported out of the return area by one tray length.
- ☞ In the backup cycle mode, the conveyor running of the entire RF dishes return conveyor is switched off if:
- an Emergency-Stop switch is pressed.
  - the OFF button is pressed.
- ☞ The conveyor running of the entire RF dishes return conveyor is interrupted as long as the reflex light sensor at the end of the conveyor is covered. As soon as the reflex light sensor is clear, the conveyor starts up again.
- ☞ The backup cycle switch has two positions:
- Position I: backup cycle mode ON (intermittent conveyor running)
  - Position II: Backup cycle mode OFF (continuous conveyor running)
- ✓ Reflex light sensor adjusted
- Set backup cycle switch to **I** (backup cycle mode ON).



The feeder conveyor runs in the backup cycle mode.

– or –

- Set backup cycle switch to **II** (backup cycle mode OFF).  
The feeder conveyor runs continuously.

**Switching automatic destacking  
on/off**

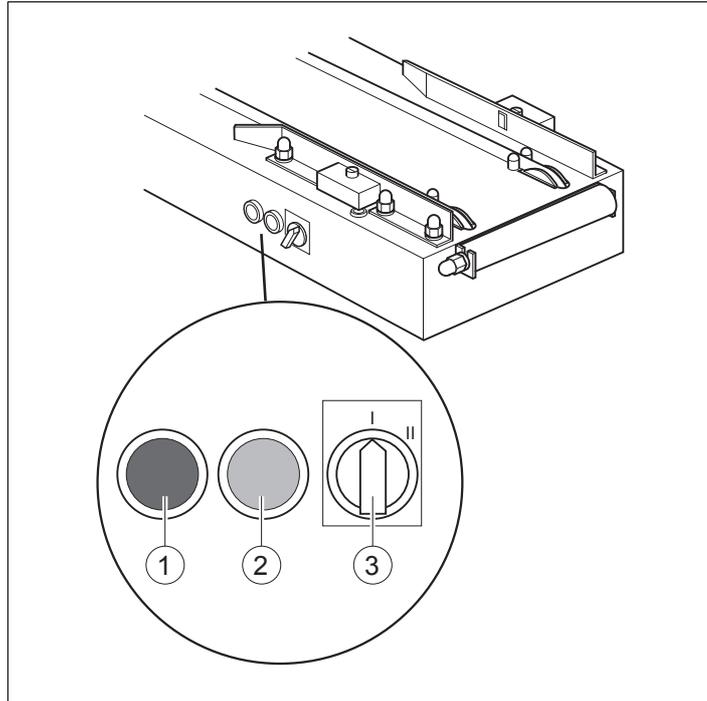
---

---

**Unit model with automatic destacking**

- i** On RF dishes return conveyors with automatic destacking, the two operating modes backup cycle switching and automatic destacking are interconnected. With the automatic destacking function switched on, the round-belt feeder conveyor runs continuously in the tray return area and in the backup cycle mode in the clearing area. The automatic destacking function is used to automatically destack cleared trays onto a docked CCE-A tray dispenser at the end of the conveyor.
- ☞ In the backup cycle mode with automatic destacking, the conveyor running of the entire RF dishes return conveyor is switched off if:
- an Emergency-Stop switch is pressed.
  - the OFF button is pressed.
  - the positioned tray dispenser cannot accept any more trays.
- ☞ Conveyor running is interrupted if a tray not cleared is detected by the light barrier for detecting trays not cleared at the end of the conveyor. As soon as the tray has been cleared, the conveyor starts up again.
- ☞ The backup cycle switch has two positions:
- Position I: backup cycle mode and automatic destacking ON (intermittent conveyor running)
  - Position II: backup cycle mode and automatic destacking ON (intermittent conveyor running)
- ✓ CCE-A tray dispenser positioned at feeder conveyor
  - ✓ Castor brakes of CCE-A tray dispenser actuated
  - ✓ Light barriers for detecting trays not cleared

- Set backup cycle switch to **I** (backup cycle mode ON).



The feeder conveyor runs in the backup cycle mode with automatic destacking.

– or –

- ✓ Reflex light sensor adjusted
- Set backup cycle switch to **II** (backup cycle mode and automatic destacking OFF).  
The feeder conveyor runs continuously. Cleared trays must be manually removed from the RF dishes return conveyor.

### Operating folding table

#### Unit model with folding table

- i** Folding tables can be positioned as desired on the side of the conveyor body and are factory-mounted on delivery.

#### **⚠ Warning!**

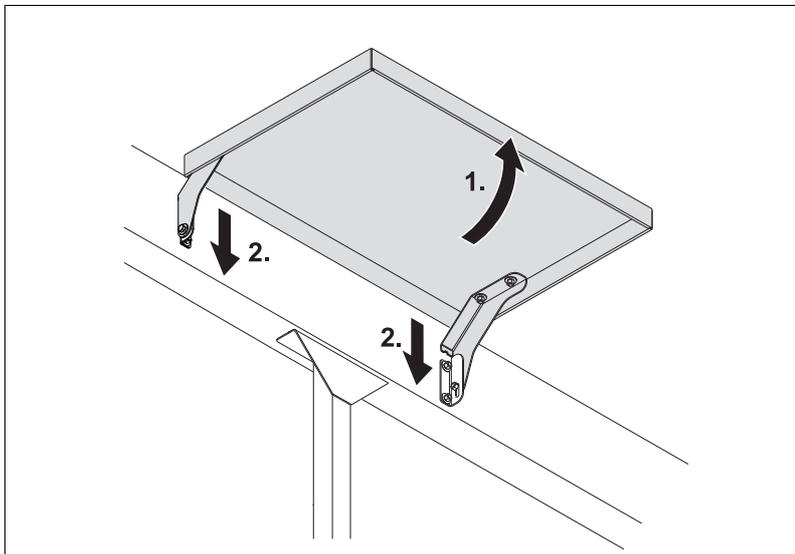
##### **Danger from overloading**

Overloading can lead to the folding table folding down suddenly. Objects placed on it can result in damage and/or injuries by falling down.

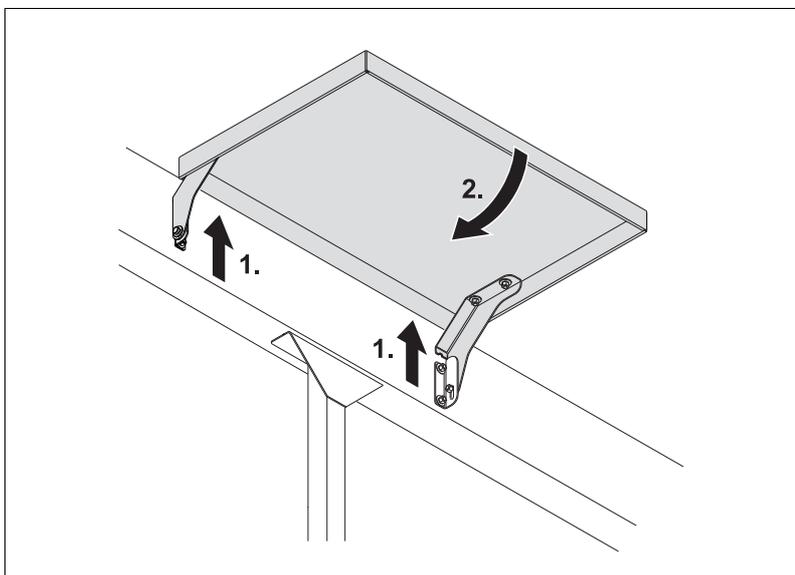
- Load the folding table with a maximum surface load of 10 kg.

**Folding up folding table**

- Fold up folding table into horizontal position. In the process, raise the table top upward as far as possible in the oblong holes of the holder (1.).
- Allow folding table to slide downward and engage in both locks (2.).
- Check once more to ensure that the holder is properly latched in the two locks and correct if necessary.

**Folding down folding table**

- Raise folding table at rear until lock of holder has released (1.).
- Fold table top downward. Allow it to slide downward in oblong holes of holder when doing so (2.).



## Operating swing-out table

### Unit model with swing-out table

**i** Swing-out table are used, for example, for holding patient cards and are height-adjustable.

 The tray of the swing-out table can be removed.

### **Warning!**

#### **Danger from overloading**

Overloading can lead to the swing-out table tilting down suddenly. Objects placed on it can result in damage and/or injuries by falling down.

- Load the swing-out table with a maximum surface load of 3 kg.

### Adjusting height of swing-out table

### **Warning!**

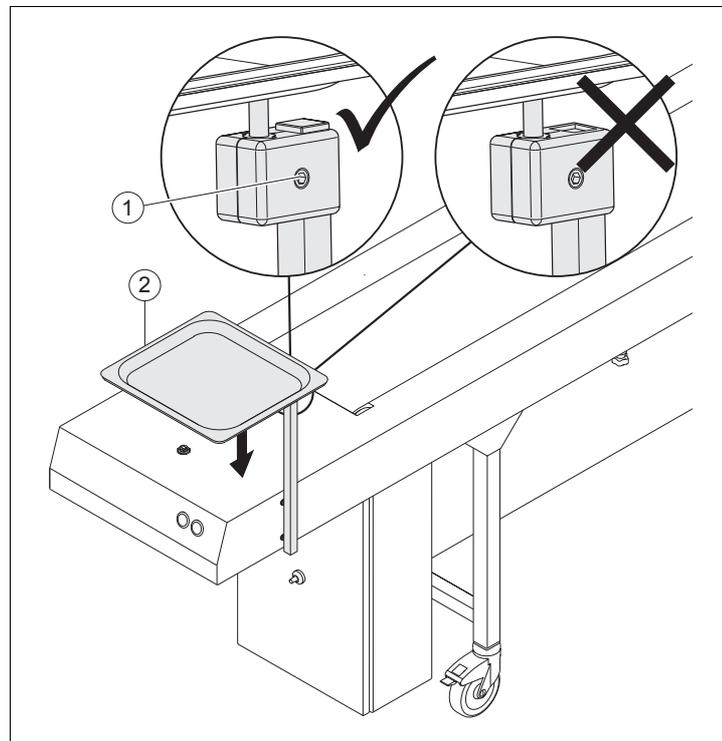
#### **Tilting down due to incorrect installation**

The holder of the swing-out table is designed so that the optimum transmission of force is only achieved when the square tube protrudes at least 2 cm from the holder at the top.

In all other cases, the swing-out table may tilt down due to material deformations – even at less than the maximum permissible load.

- When adjusting height, make sure that square tube protrudes from synthetic holder at the top.

- Loosen screw (1).
- Adjust swing-out table (2) to desired height.



- Tighten screw (1).

**Carrying out food portioning****GSPV feeder conveyor or RSPV feeder conveyor unit model**

- ☞ For food portioning, the system components loaded with dishes and food (e.g. basket and plate dispensers and food distribution trolleys) are moved up to the side of the feeder conveyor. If the feeder conveyor is equipped with optional socket outlets, the external units can be connected there.
- ☞ Feeder conveyor running is started with the green ON button
  - ↳ Section "Starting/ending conveyor running" on page 21.
- ☞ Conveyor running can be interrupted and restarted again with the optional foot switch after starting with the ON button.
- ☞ Conveyor running is interrupted as long as the reflex light sensor at the end of the conveyor is covered, e.g. by a tray.
- ✓ Unit connected to power supply
- ✓ Main switch set to ON
- ✓ External devices switched off
- Position external units (e.g. dispenser and food distribution trolley) at side of feeder conveyor.
- Connect external units (e.g. dispenser and food distribution trolley) to power supply and switch on.
- Start feeder conveyor with green ON button (on right).  
The feeder conveyor is started.
- Adjust conveyor speed if necessary.
  - ↳ Section "Setting feeding speed" on page 24.
- Lay trays on feeder conveyor.
- Load trays on feeder conveyor with dishes and food.

**Moving unit to a new location****Unit model with castors**

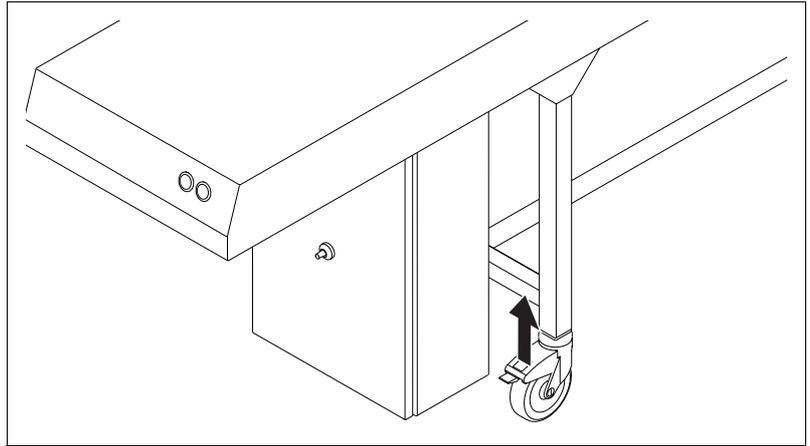
- ✓ Conveyor running switched off
- ✓ Do not place objects on top of unit
- ✓ Four people
- ✓ Attached folding table (optional) folded down
- Switch off any external units moved up to unit, disconnect them from power supply and push away from feeder conveyor.
- Set main switch of unit to OFF to switch off unit.
  - ↳ Section "Switching unit on and off" on page 20.
- Unplug mains plug of feeder conveyor.
  - ↳ Section "Shutting unit down" on page 33.
- ☞ If the route to be traversed is uneven, special measures must be taken.
  - ↳ Chapter "Traversing ramps, recesses, slanted surfaces" on page 32.

** Warning!****Hands can be pinched!**

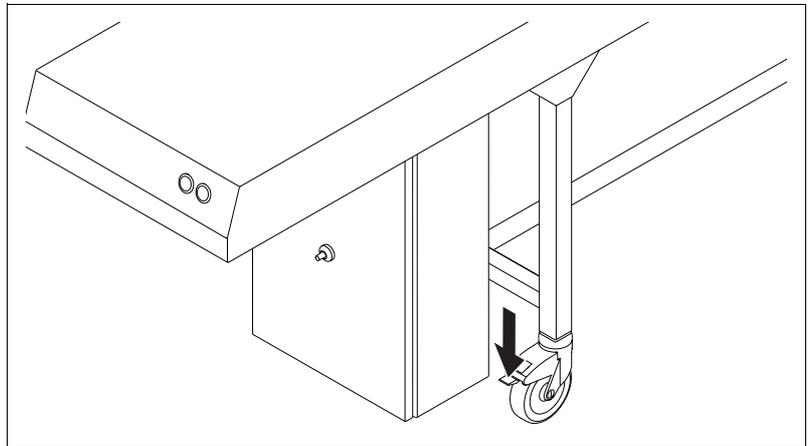
When pushing the unit, extremities can get caught between the feeder conveyor and a wall or other objects.

- Push the unit by the conveyor body so that your hands are a sufficient distance from the wall or other objects and cannot be crushed.

- Release castor brakes.



- Using four persons, carefully push the unit to its new location.
- Lock castor brakes.



**Traversing ramps, recesses,  
slanted surfaces**

---

---

**Unit model with castors**

---

---

 **Warning!****The unit can tip!**

The unit can tip over when traversing a slanted surface.

- ▶ Never move the unit across a surface (e.g. ramp) with an incline  $>10^\circ$ .
- 
- 

 **Warning!****Insufficient holding effect of castor brakes!**

The holding effect of the castor brakes may not be sufficient on ramps. The unit can start to move and cause injuries.

- ▶ When parking the unit on a ramp, lock the castor brakes and also secure it against rolling away (e.g. with wedges).
- 
- 

 **Warning!****The unit can swerve to the side!**

The unit can suddenly swerve to the side on a slanted surface.

- ▶ Push the unit over slanted surfaces with at least 4 people (one at each side of the unit).
- 
- ✓ Do not place objects on top of unit
  - ✓ Mains plug pulled
  - ✓ 4 people
  - ▶ First check whether the unit can be safely pushed over the ramp, recess or slanted surface.
  - ▶ Carefully push unit with 4 people (one at each side of unit).
-

---

## Shutting down

- Shutting unit down**
- Stop feeder conveyor running with red OFF button (on left).
    - ↳ Section "Starting/ending conveyor running" on page 21.The feeder conveyor stops.
  - Switch off any external units pushed up to the unit, disconnect and push away from feeder conveyor.
    - ↳ See operating instructions of external units.
  - Set main switch to **OFF** and secure against switching on with a padlock.
    - ↳ Section "Switching unit on and off" on page 20.

---

### Unit model with castors

- Unplug mains plug of feeder conveyor.
-

## Troubleshooting

### No mains voltage on unit

Cause	Action
Main switch switched off (set to OFF position).	<ul style="list-style-type: none"> <li>▶ Switch on main switch.</li> <li>↳ Chapter "Switching unit on and off" on page 20.</li> </ul>
Customer's connection interrupted.	<ul style="list-style-type: none"> <li>▶ Check customer's connection.</li> </ul>
Customer-accessible fuse (building fuse) is defective.	<ul style="list-style-type: none"> <li>▶ Check customer-accessible fuse and replace it if necessary.</li> </ul>
Unit electronic system is defective.	<ul style="list-style-type: none"> <li>▶ Notify a facility authorised to carry out repairs.</li> <li>↳ Part 2: Service information: "Repairs" on page 68.</li> </ul>

### Unit model with castors

Cause	Action
Mains plug is unplugged	<ul style="list-style-type: none"> <li>▶ Connect mains plug of unit to mains socket outlet provided by customer.</li> <li>↳ Section "Connecting unit" on page 19.</li> </ul>

### No mains voltage at unit socket outlets or mains voltage at unit

Cause	Action
Unit electronic system defective	<ul style="list-style-type: none"> <li>▶ Notify a facility authorised to carry out repairs.</li> <li>↳ Part 2: Service information: "Repairs" on page 68.</li> </ul>

### Unit model with fault-current protective device

Cause	Action
Fault-current protective device of socket outlets tripped.	<ul style="list-style-type: none"> <li>▶ Notify a facility authorised to carry out repairs.</li> <li>↳ Part 2: Service information: "Repairs" on page 68.</li> </ul>

**Feeder conveyor does not feed – motor is not running**

Cause	Action
Reflex light sensor covered, soiled, misadjusted or defective.	<ul style="list-style-type: none"> <li>▶ Uncover, clean or adjust reflex light sensor or have it replaced by an electrician.</li> <li>↳ Part 2: Service information: "Adjusting reflex light sensor" on page 63.</li> </ul>
Emergency-Stop switch actuated.	<ul style="list-style-type: none"> <li>▶ Determine reason for Emergency Stop and eliminate fault.</li> <li>▶ Release Emergency-Stop switch.</li> <li>↳ Chapter "Operating Emergency-Stop switch" on page 23.</li> </ul>
Motor-protection switch has been triggered.	<ul style="list-style-type: none"> <li>▶ Interrupt operation for 30 minutes.</li> <li>▶ Switch off feeder conveyor at ON/OFF button.</li> <li>▶ Check voltage of round-belt conveyors or flat-belt conveyor and reduce if necessary.</li> <li>↳ Part 2: Service information: "Adjusting tension of flat-belt conveyor" on page 66.</li> </ul>

---



---

**Unit model with foot switch**

Cause	Action
Feeder conveyor running switched off with foot switch.	<ul style="list-style-type: none"> <li>▶ Switch on feeder conveyor running with foot switch.</li> <li>↳ Chapter "Starting/ending conveyor running" on page 21.</li> </ul>

---

---



---

**RF dishes return conveyor:  
unit model with backup cycle switching**

Cause	Action
Backup cycle mode switched on.	<ul style="list-style-type: none"> <li>▶ Switch over to continuous operation</li> <li>↳ Section "Switching backup cycle on and off" on page 25.</li> </ul>
Light barrier for tray detection at transfer point from tray return belt to tray clearing belt soiled or defective	<ul style="list-style-type: none"> <li>▶ Clean light barrier</li> <li>↳ Section "Cleaning unit" on page 41.</li> <li>▶ Notify a facility authorised to carry out repairs.</li> <li>↳ Part 2: Service information: "Repairs" on page 68.</li> </ul>

---



---

**Unit model with automatic destacking**

Cause	Action
Light barrier for detecting not cleared trays interrupted, soiled, misadjusted or defective.	<ul style="list-style-type: none"> <li>▶ Uncover, clean or adjust light barrier or have it replaced by an electrician.</li> <li>↳ Part 2: Service information: "Operating check of light barrier" on page 66.</li> </ul>
Limit switch of automatic destacking has been activated.	<ul style="list-style-type: none"> <li>▶ Push empty tray dispenser up to feeder conveyor.</li> <li>▶ Start conveyor running with ON button.</li> <li>↳ Section "Starting/ending conveyor running" on page 21.</li> </ul>

---

**Foot switch does not start feed mode**

**Unit model with foot switch**

Cause	Action
Feeder conveyor running switched off with ON/OFF button.	<ul style="list-style-type: none"> <li>▶ Switch on feeder conveyor running with ON/OFF button.</li> <li>↳ Section "Starting/ending conveyor running" on page 21.</li> </ul>
Reflex light sensor covered, soiled or misadjusted.	<ul style="list-style-type: none"> <li>▶ Uncover, clean or adjust reflex light sensor.</li> <li>↳ Part 2: Service information: "Adjusting reflex light sensor" on page 63.</li> </ul>
Reflex light sensor or unit electronic system defective	<ul style="list-style-type: none"> <li>▶ Notify a facility authorised to carry out repairs.</li> <li>↳ Part 2: Service information: "Repairs" on page 68.</li> </ul>

**Feeder conveyor does not feed or feeds unevenly – motor is running**

Cause	Action
Flat-belt or round-belt conveyor slips.	<ul style="list-style-type: none"> <li>▶ Stop feeder conveyor running.</li> <li>↳ Section "Starting/ending conveyor running" on page 21.</li> <li>▶ Remove trays/objects from feeder conveyor.</li> <li>▶ Clean round-belt/flat-belt conveyor.</li> <li>↳ Chapter "Cleaning and care" on page 40.</li> <li>– or –</li> <li>Tension round-belt/flat-belt conveyor.</li> <li>↳ Part 2: Service information: "Adjusting tension of flat-belt conveyor" on page 61.</li> </ul>

**Feeder conveyor runs too fast/too slow**

Cause	Action
Setting on speed controller too high/too low	<ul style="list-style-type: none"> <li>▶ Set speed to desired value with speed controller.</li> <li>↳ Section "Setting feeding speed" on page 24.</li> </ul>

**Flat-belt conveyor runs off-centre****GSPV flat-belt feeder conveyor**

Cause	Action
Deflection roller adjusted at an angle	<ul style="list-style-type: none"> <li>■ Have flat-belt conveyor running adjusted.</li> <li>↳ Part 2: Service information: "Adjusting flat-belt/round-belt conveyor running" on page 59.</li> </ul>

**Trays jam****RSPV round-belt feeder conveyor and RF dishes return conveyor**

Cause	Action
Round-belt conveyors soiled.	<ul style="list-style-type: none"> <li>■ Clean round-belt conveyors.</li> <li>↳ Section "Cleaning flat-belt conveyor/round belt" on page 41.</li> </ul>
Round-belt conveyors tensioned differently.	<ul style="list-style-type: none"> <li>■ Check tension of round-belt conveyors and have corrected if necessary.</li> <li>↳ Part 2: Service information: "Adjusting tension of round-belt conveyor" on page 62.</li> </ul>
Tray spacing insufficient.	<ul style="list-style-type: none"> <li>■ Comply with greater spacing.</li> </ul>
Incorrect trays used.	<ul style="list-style-type: none"> <li>■ Use recommended trays.</li> </ul>

**Automatic destacking does not function****RF dishes return conveyor: Unit model with automatic destacking**

Cause	Action
Tray not cleared.	<ul style="list-style-type: none"> <li>■ Clear tray.</li> </ul>
Limit switch of automatic destacking has been triggered.	<ul style="list-style-type: none"> <li>■ Push empty tray dispenser up to unit.</li> <li>↳ Chapter "Docking/undocking stacking unit" on page 24.</li> </ul>
Limit switch of automatic destacking defective.	<ul style="list-style-type: none"> <li>■ Notify a facility authorised to carry out repairs.</li> <li>↳ Part 2: Service information: "Repairs" on page 68.</li> </ul>

**Backup cycle switching does not function**

**RF dishes return conveyor:  
Unit model with backup cycle switching**

Cause	Action
Light barrier for tray detection at transfer point from tray return belt to tray clearing belt defective	<ul style="list-style-type: none"> <li>▶ Notify a facility authorised to carry out repairs.</li> <li>↳ Part 2: Service information: "Repairs" on page 68.</li> </ul>
Unit electronic system is defective.	<ul style="list-style-type: none"> <li>▶ Notify a facility authorised to carry out repairs.</li> <li>↳ Part 2: Service information: "Repairs" on page 68.</li> </ul>

**Corrosion of stainless steel parts**

Cause	Action
Incorrect handling/care.	<ul style="list-style-type: none"> <li>▶ Remove areas of corrosion.</li> <li>↳ Part 2: Service information: "Removing areas of corrosion on stainless steel" on page 67.</li> <li>▶ Ensure proper handling/care.</li> </ul>

**The unit has external damage**

Cause	Action
Damage during transport, change of location or other external influences	<ul style="list-style-type: none"> <li>▶ Shut down unit.</li> <li>↳ Chapter "Shutting down" on page 33.</li> <li>▶ Secure the unit from being started up accidentally.</li> <li>▶ Notify a facility authorised to carry out repairs.</li> <li>↳ Part 2: Service information: "Repairs" on page 68.</li> </ul>

---

## Cleaning and care

**Stainless steel** Surfaces made of stainless steel must be kept clean, dry and open to the air at all times.

Regularly remove lime, grease, starch and protein coatings by cleaning. Corrosion due to lack of air contact can occur under these coatings.

Do not allow concentrated acids, spices, salts etc. to come into extended periods of contact with parts made of stainless steel. Contact with these substances can cause corrosion. Acid fumes produced during tile cleaning can also lead to corrosion.

Do not damage the surface of stainless steel, especially with other metals. Residues of other metals may form chemical compounds which can cause corrosion.

Avoid contact with iron and steel at all times. Extreme corrosion can result when stainless steel comes into contact with iron (e.g. steel wool, wire scraps, iron-fortified water).

**Cleaning frequency** **Cleaning frequency**  
The unit must be thoroughly cleaned after each use.

**Cleaning methods** The prescribed cleaning method for routine daily cleaning is to wipe down the unit with a damp cloth.

Persistent soiling may be removed with a brush (synthetic or natural bristles). Any additional cleaning methods must be approved by B.PRO.

☞ Do not use a steam jet unit or high-pressure cleaner.

**Cleaning agents** Cleaning agents for light soiling:

- Commercially available cleaning agents in an aqueous solution
- Soft cleaning cloth
- B.PRO microfibre cleaning cloth (use with water only)

Cleaning agents for heavy soiling:

- Commercially available stainless steel cleaning agents, e.g. DeepClean Stainless Steel

☞ Synthetic components must not be cleaned with stainless steel cleaning agents as otherwise this will scratch the surface.

Do not use **any** of the following cleaning agents for synthetic components (e.g. flat-belt and round-belt conveyor, switches and buttons) (material damage!):

- Ethyl alcohol, isopropyl alcohol and higher alcohols
- Acetone
- Benzene
- Turpentine
- Acetic ester

**Cleaning flat-belt conveyor/round belt**

☞ Flat-belt/round-belt conveyor must be cleaned in sections. Cleaning must never take place with flat-belt/round-belt conveyor running.

**⚠ Warning!**

**Danger of pulling in/pinching/crushing in area of feeder conveyor!**

If cleaning is carried out during feeder conveyor running or feeder conveyor running is accidentally started, there is a danger of body parts and pieces of clothing being pulled in, pinched and crushed.

- Switch off conveyor running prior to cleaning.
  - Secure against being switched on during cleaning.
- 
- Clean flat-belt/round-belt conveyor with cleaning methods and cleaning agents described above.

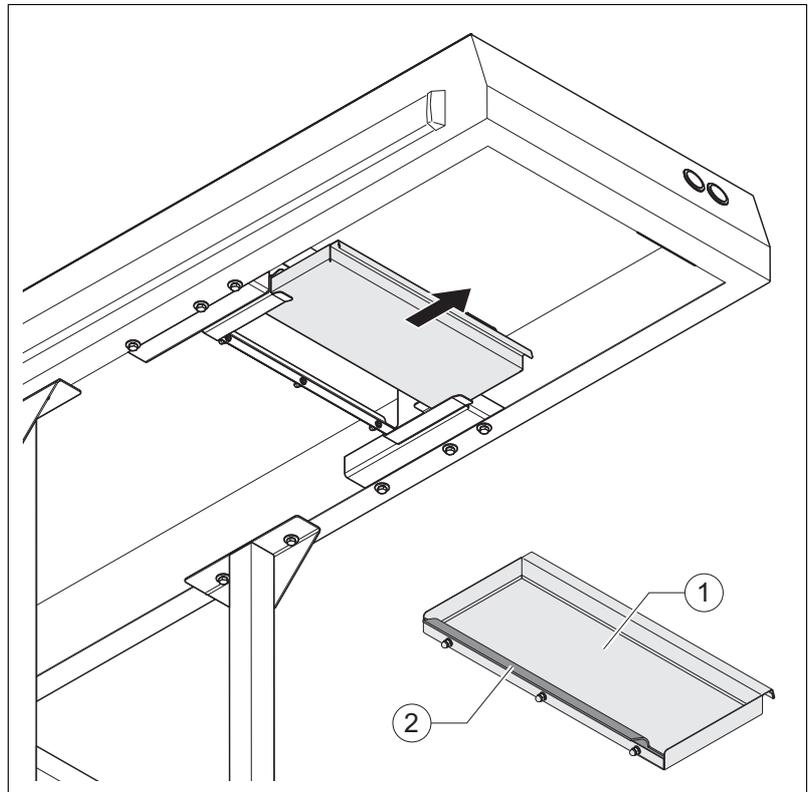
**Cleaning unit**

- Shut down unit.
  - ☞ Chapter "Shutting down" on page 33.
- Clean unit with cleaning methods and cleaning agents described above.
- Thoroughly wipe up with a moistened cloth after using a stainless steel cleaning agent.

**Cleaning collection container with dirt stripper**

**GSPV flat-belt feeder conveyor**

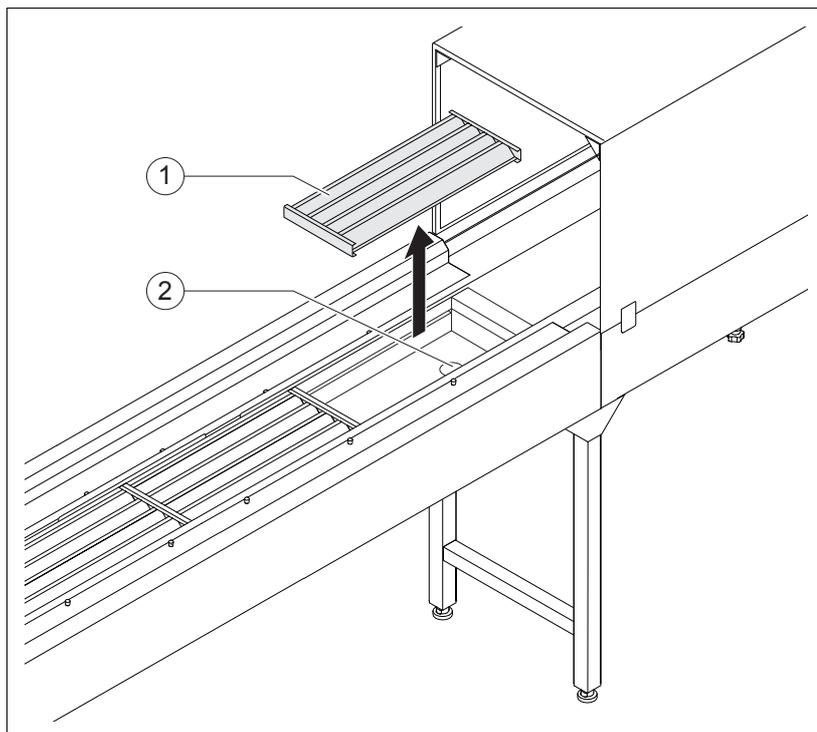
- ☞ The collection container with a dirt stripper is located on the unit underside at the end of the conveyor.
- Clean collection container with dirt stripper daily.
  - Pull out collection container with dirt stripper toward end of conveyor.



- Clean collection container (1) and dirt stripper (2).
- Push in collection container again. Ensure proper orientation when doing so.

**Cleaning catch tray****RF dishes return conveyor:  
Unit model with catch tray**

- ☞ The catch tray at the beginning of the tray return conveyor is covered with slatted grates which can be removed for cleaning. The grates can be cleaned in a dishwasher.
- ☞ Liquids which run from the trays into the catch tray are routed through a drain.
- Only operate unit with drain (2) connected.
- Remove grates (1) from catch tray and clean.



- Clean catch tray.
- Lay in grates again.

---

## Maintenance

### Having the unit regularly maintained

- ☞ B.PRO recommends regular maintenance of the unit by appropriately trained professionals. Regular maintenance prevents failure of the unit, extends its operating life and contributes to general value retention.
- Having unit regularly maintained by appropriately trained experts.
  - ☞ "Part 2: Service Information" on page 53.

### Having periodical electrical safety inspection carried out

- At least once every six months, have a periodical electrical safety inspection carried out by a professional electrician in accordance with the DIN VDE 0701-0702 series of standards.

---

### Units with fault-current protective device

- Have fault-current protective device checked at least monthly in accordance with BGV A3 or corresponding national specifications by a professional electrician
- 

### Checking safety devices

- i The installed safety devices are used to avoid potentially critical operating modes.
- Safety devices must be checked daily for proper functioning before start of operation.
  - If a defect is discovered, device must be shut down immediately and repairs ordered.
  - ☞ Part 2: Service information: "Authorised persons" on page 68.

### Emergency-Stop switch

- ✓ Conveyor running started
- Press Emergency-Stop switch.
  - The conveyor stops.
  - ☞ Section "Operating Emergency-Stop switch" on page 23.
- Press ON button.
  - Conveyor must not start.
- Release Emergency-Stop switch by turning anticlockwise.
  - ☞ Section "Operating Emergency-Stop switch" on page 23.
  - Conveyor running can be started by pressing ON button.
  - ☞ Section "Starting/ending conveyor running" on page 21.

---

### Unit model with several Emergency-Stop switches

- Conduct operating check of each Emergency-Stop switch separately as described above.
-

## Reflex light sensor

---

---

### Unit model with automatic destacking

- ✓ Automatic tray destacking switched off

- 
- ✓ Conveyor running started
  - Lay on empty tray.  
The tray will be transported up to the end of the conveyor. As soon as the reflex light sensor is covered, conveyor running is interrupted.
  - Remove tray.  
Conveyor running starts automatically.

---

---

### Unit model with automatic destacking

#### Light barrier for detecting trays not cleared

- ✓ Automatic tray destacking switched on
- ✓ Empty tray dispenser positioned at end of conveyor
- ✓ Conveyor running started
- Lay on loaded tray.  
The tray will be transported up to the light barrier for detecting trays not cleared. As soon as the beam of light of the light sensor is interrupted, conveyor running is interrupted.
- Clear tray.  
Conveyor running starts automatically.

#### Limit switch for detecting fully loaded tray dispenser

- ✓ Automatic tray destacking switched on
  - ✓ Tray dispenser positioned at end of conveyor
  - ✓ Conveyor running started
  - Press down platform of tray dispenser.  
Conveyor running is switched off.
  - Release platform of tray dispenser.  
Conveyor running must not start automatically.
-

## Technical data

### General data Dimensions

Model	Length in mm	Width in mm	Height in mm
GSPV	3,000 – 12,000	500	900
RSPV	3,000 – 12,000	500	900
RF	Depending on model*	500	900

\* Length unlimited; additional drives provided every 9 m

### Weight

The weight is dependent on the model. The following table provides an overview of the approx. weights of the individually contained components:

Component	Approx. empty weight in kg
Entire switch cabinet	15 kg
Conveyor body, straight, per metre of length (incl. round-belt/flat-belt conveyor)	20 kg
Drive	8 kg
Round-belt/flat-belt conveyor tensioning unit	2 kg

Optional component	Approx. empty weight in kg
Conveyor body curved 45°	21 kg
Conveyor body curved 90°	72 kg
Conveyor body curved 180°	110 kg
Catch tray with grate per metre of length	20 kg
Folding table	5 kg
Swing-out table	2 kg
Drawer	8 kg
Double socket outlet, 220-250 V	1 kg
Socket outlet 400 V	1.5 kg
Entire backup cycle switching	0.5 kg
Entire automatic destacking	18 kg

**Max. permissible area loads**

Component	Maximum load-bearing capacity in kg
Round-belt/flat-belt conveyor, per running metre	12 kg
Folding table (optional)	10 kg
Swing-out table (optional)	3 kg
Drawer (optional)	10 kg

**GSPV flat-belt feeder conveyor**

Maximum load per m 120 N/m

Conveyor width 300

**RSPV round-belt feeder conveyor/RF dishes return conveyor**

Distance between round belts 220 mm

Diameter of round belts 15 mm

**Object being transported**

Euronorm tray 530 x 370 mm

Gastronorm tray 530 x 325 mm

**Electrical data Connected loads**

Unit	Voltage	Power (maximum)
<b>Conveyor operation</b>		
1 drum motor up to unit length of 9 m (GSPV flat-belt feeder conveyor 11 m)	220–240 VAC 50/60 Hz	0.16 kW
2 drum motors from unit length of 9 m (GSPV flat-belt feeder conveyor 11 m)	220–240 VAC 50/60 Hz	0.32 kW
<b>Power supply for peripheral units</b>		
Socket outlets (optional)	220–250 VAC	3.6 kW (per socket outlet)
	400 VAC	9 kW (per socket outlet)

☞ Total connected load of all external units at the socket outlets must not exceed a maximum of 48 kW.

**Important information**

The converters of the model ATV12 used in the distribution conveyors are equipped with an internal EMC filter, which can result in a leakage current of over 3.5 mA.

If the local installation regulations provide for upstream protection with a fault-current protective device, then you must use a "Type A" unit.

Choose a unit with the following properties:

- Filtering of high-frequency currents.
- A delay which prevents triggering due to the charging of capacitances and stray capacitances when switching on.

This delay is not possible with 30 mA units. In this case, choose units which are insensitive to accidental triggering, e.g. fault-current protective devices with type SI leakage current protection. If the installation consists of several converters, one fault-current protective device must be provided per converter.

**Protection type**

Unit (model without socket outlets)	IP X5 (protected against sprayed water in accordance with DIN EN 60529)
Socket outlets	IP X4 (protected against splash water from all sides in accordance with DIN EN 60529)

**Feeder conveyor controller**

Speed feeder conveyor:	2.5 to 12 m/min
------------------------	-----------------

**Environment Emissions**

The workplace-specific noise level of the unit is less than 70 dB(A). No other problematic or dangerous emissions occur.

**Materials**

Unit body:	Stainless steel
Flat-belt conveyor:	Ropanyl EM 8/2
Round-belt conveyor:	Polyurethane

---

## Ordering information

<b>GSPV flat-belt feeder conveyor</b>	Article number:	↳ B.PRO price list
<b>RSPV round-belt feeder conveyor</b>	Article number:	↳ B.PRO price list
<b>RF feeder conveyor</b>	Article number:	↳ B.PRO price list
<b>Operating instructions</b>	Document number:	154 530

---

## Accessories

<b>Euronorm trays</b>	Article numbers:	<a href="#">↪ B.PRO price list</a>
<b>Gastronorm trays</b>	Article numbers:	<a href="#">↪ B.PRO price list</a>
<b>Tray dispenser CCE-A</b>	Article number:	572 184
<b>B.PRO microfibre cleaning cloth</b>	Article number:	126 999
<b>DeepClean Stainless Steel cleaning and care agent</b>	Article number:	511 895

---

## Standards, guidelines, inspection seal

DIN EN ISO 12100: Safety of machinery – General principles for design, risk assessment and risk reduction

Part 1: Basic terminology, methodology

Part 2: Technical principles

DIN EN 619: Continuous handling equipment and systems – Safety and EMC requirements for equipment for mechanical handling of unit loads

VDI 3620: Manual for generating operating instructions for users of continuous conveyors

DIN EN 60529: Degrees of protection provided by housing (IP code).

BGV A 3 (VBG 4): Accident prevention regulations for electrical facilities and devices

BGR 111 (ZH1/37): Rules on safety and health protection for working in kitchens

DIN EN ISO 9001: B.PRO is certified in accordance with DIN EN ISO 9001.



CE designation: The unit is in compliance with the directives 2006/95/EC "Directive of the European Parliament and of the Council for the alignment of legal provisions of member states concerning electrical devices for use within specified voltage limits ", 2004/108/EC "Directive of the European Parliament and of the Council for the alignment of legal provisions of the member states concerning electromagnetic compatibility" and 98/37/EC "Guideline of the European Parliament and of the Council for the alignment of legal and administrative provisions of the member states for machines".

---

## Part 2: Service information

**Target group** The documentation at hand is divided into two parts: the operating instructions and the service information.

Part 2: Service information includes advanced information, for example concerning assembly and maintenance work, and is addressed **solely** to special service personnel (e.g. experts trained by B.PRO) having required expert knowledge for the correct implementation of the work described.

---

## Safety

### Assembly Location

Only operate the unit in closed rooms, protected from environmental influences.

Never operate the unit next to equipment which develops large amounts of steam (e.g. dishwasher). When the unit is connected to the power, there is a danger of the moisture film causing a malfunction, a short-circuit or an electric shock.

---

### Unit model with automatic destacking

To prevent the positioned tray dispenser from rolling away, the floor in the roll-in and parking area must be level and straight.

### Installation on site

Depending on the unit model and the building conditions the unit is delivered as several components and assembled on site by B.PRO.

### Commissioning Mains connection

The mains voltage and frequency listed on the rating plate must match the corresponding values of the electrical connection provided by the customer.

---

### Stationary feeder conveyor unit model

The mains connection may only be carried out by a professional electrician taking the corresponding national guidelines and safety regulations into account.

### Initial start-up

An employee trained by B.PRO must be present for the initial start-up. Only carry out initial start-up without an employee trained by B.PRO after consulting B.PRO.

The unit must be levelled by adjusting the feet or moving the mobile unit so that the trays run straight and food does not slip.

### Maintenance Periodical electrical safety inspection

At least once every six months, have a periodical electrical safety inspection carried out by a professional electrician in accordance with the DIN VDE 0701-0702 series of standards.

### Connection cable and mains plug

---

### Unit model with castors

At least once every six months check the connection cable and mains plug for mechanical damage and signs of excessive aging in accordance with BGV A 3 or the corresponding national regulations.

---

### Safety devices

Check the correct operation of the safety devices at least monthly. If a defect is discovered, immediately shut down unit and have repaired by one of the service points named under Repairs.

The following safety devices are installed independent of the unit model:

- At least Emergency-Stop switch
- Reflex light sensor

---

### Unit model with fault-current protective device

Check the function of the fault-current protective device (residual-current circuit breaker) at least monthly in accordance with BGV A3 or corresponding national specifications by a professional electrician.

---



---

### Units with automatic tray destacking

- Light barrier for detecting trays not cleared
  - Limit switch for detecting fully loaded tray dispenser
- 

### Flat-belt/round-belt conveyor

Check flat-belt/round-belt conveyors for damage and excessive ageing at least monthly (visual inspection). Replace damaged/excessively aged conveyors.

Check tension of flat-belt conveyor or round-belt conveyors at least monthly.

↳ Section "Adjusting tension of flat-belt conveyor" on page 66.

### Castor brakes

---

#### Unit model with castors

Regularly check the effectiveness of the castor brakes.

If the effectiveness of the brakes is not sufficient, have the defective castor(s) replaced immediately by a service point named under Repairs.

---

### Attached parts

---

#### Unit model with attached parts

Check load capacity of attached parts (folding table, drawer box, swing-out table) regularly.

If a defect is discovered, have it repaired immediately by a service point named under Repairs.

---

### Repairs **Authorised service points**

The unit may only be repaired by the following service points:

- In-house, B.PRO-trained professional
- External, B.PRO-trained customer service
- B.PRO Service

The warranty will be invalidated if the unit is repaired by anyone else.

**Replacing components**

The replacement of electrical components (e.g. drum motor, speed controller) can also be carried out by expert personnel if they were trained by B.PRO.

Replacing parts (replacement components and parts) must have the same specification as the parts to be replaced.

---

## Assembly

### Preparing assembly

- ✓ Protective films and packing materials removed
- ✓ Power supply complies with required specifications on the rating plate
- ✓ Rooms comply with locally applicable regulations
- ✓ Lighting complies with locally applicable regulations
- ✓ Room is sufficiently ventilated
- ✓ Sufficient freedom of movement for operation

### Mounting feeder conveyor

- ☞ Conveyors up to 6 m can be shipped completely assembled as a unit.
- ☞ For feeder conveyors which are delivered dismantled, the starting section of the feeder conveyor is laid on the feeder conveyor end section for transport. Depending on the model and length, intermediate sections must be inserted on site and the individual parts screwed together.

---

### GSPV flat-belt feeder conveyor

- ☞ The flat-belt conveyor is welded together and already mounted on the starting and end section of the feeder conveyor.

---

### RSPV round-belt feeder conveyor

- ☞ The two round-belt conveyors must be drawn in following body assembly and welded together on site.
- 
- ✓ At least 2 people
  - Install end section of feeder conveyor (with laid-on starting section) at final location.
  - Remove starting section of feeder conveyor from end section of feeder conveyor.
  - Lay upper body side of starting section of feeder conveyor on intermediate area of end section.

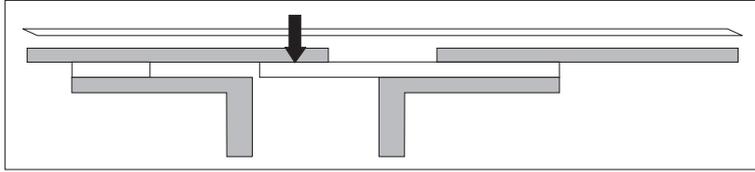
---



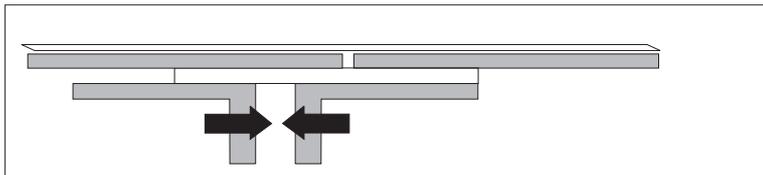
---

### GSPV flat-belt feeder conveyor

- Tension flat-belt conveyor until feeder conveyor no longer sags by adjusting starting section of feeder conveyor.
- Guide intermediate body section between upper and lower side of flat-belt conveyor and lay upper body side of intermediate body section on intermediate plate of end section of feeder conveyor.



- Push together body sections.



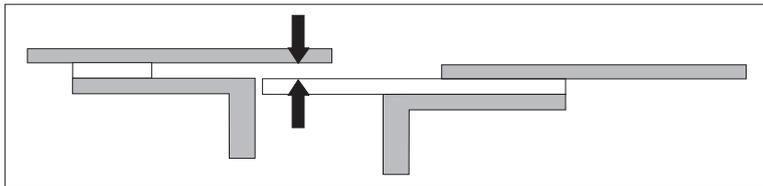

---



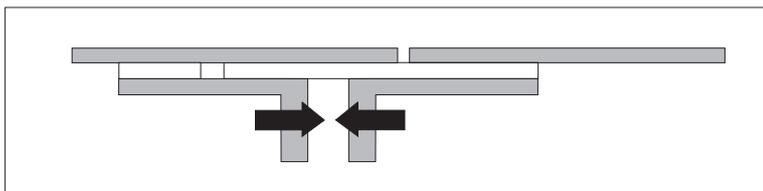
---

### RSPV round-belt feeder conveyor

- Lay an intermediate body section on intermediate plate of end section of feeder conveyor.



- Push together body sections.




---



---

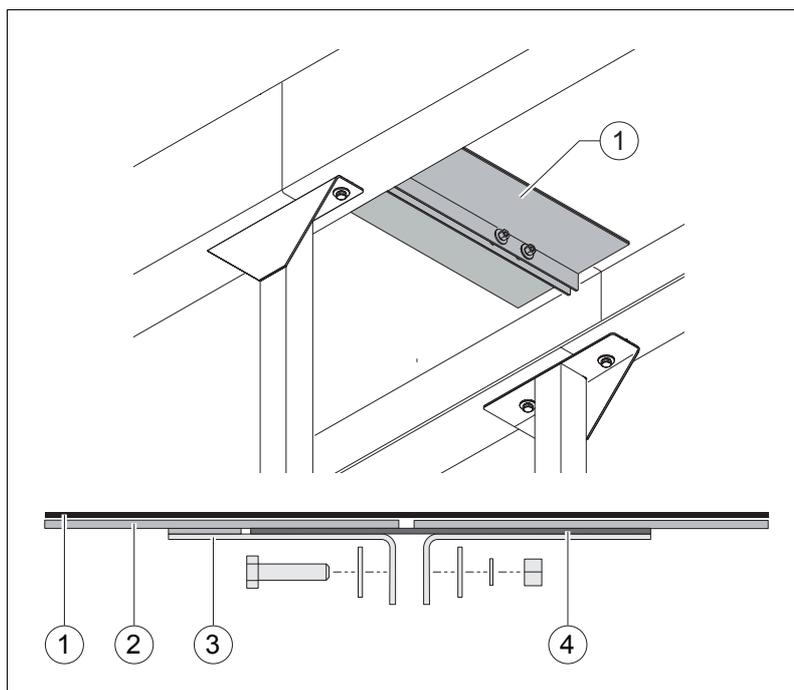
### Caution!

#### Plate deformation on upper body side

Excessive tightening of the angle plate screws can result in a bead being formed on the upper body side of the unit.

- Only tighten screws until gap between body sections is closed.
-

- Screw angle plates of both body sections onto underside of unit until gap on upper body side is closed.



- 
- (1) Conveyor belt
  - (2) Body cover plates
  - (3) Angle plate
  - (4) Intermediate section
- 

- Screw support foot to underside of body.
  - Connect all unit components to conveyor body in this way.
  - Align unit horizontally with adjustable foot cleats.
- 

### RSPV round-belt feeder conveyor

- Thread in round-belt conveyor.
  - Weld together round-belt conveyor.
-

**Connecting feeder conveyor    Connecting unit to power supply**

- ✓ Unit is switched off
- 
- 

 **Caution!****Material damage!**

If the unit is not rated for the mains voltage or frequency which is available, the unit electronics may suffer permanent damage.

- Before connecting, ensure that the mains voltage and frequency listed on the rating plate match the corresponding values of the electrical outlet provided by the customer.
- 
- 

**Unit model with castors**

---

---

 **Danger!****Danger, high voltage!**

Short circuits can result when extension cables are used in damp rooms.

- Do not use extension cables in damp rooms.
- 
- 

**Stationary feeder conveyor unit model**

---

---

 The mains connection may only be carried out by a professional electrician taking the corresponding national guidelines and safety regulations into account.

- Guide cable into switch cabinet from below.
  - Make connection on terminal board.
- Unit connected to power supply.
- 
-

## Commissioning

- ☞ Before putting the feeder conveyor into operation, it must be ensured that
- belt of GSPV flat-belt feeder conveyor runs straight and does not wander to one side.
  - both belts of RSPV/RF feeder conveyor are of identical length so that tray does not turn during transport.

### Adjusting flat-belt/round-belt conveyor running

#### GSPV flat-belt feeder conveyor

- i** For straight flat-belt conveyor running, the drive shaft and deflection shaft must be installed or adjusted at right angles to the direction of transport.
- ☞ Straight flat-belt conveyor running can be recognized from the fact that the distance between the outer edge of the flat-belt conveyor and the longitudinal edge of the body remains constant with conveyor running switched on.
- ✓ Drive shaft installed at right angles to direction of transport
  - ✓ Distance of outer edge of flat-belt conveyor to right-hand longitudinal side of body in direction of transport determined
  - ✓ Flat-belt conveyor running started

#### Transport belt wanders to right in direction of transport

- Tension adjusting screw of deflection roller on right-hand side in direction of transport by turning clockwise
- or –
- Relax adjusting screw of deflection roller on left-hand side in direction of transport by turning anticlockwise.

#### Transport belt wanders to left in direction of transport

- Tension adjusting screw of deflection roller on left-hand side in direction of transport by turning clockwise
  - or –
  - Relax adjusting screw of deflection roller on right-hand side in direction of transport by turning anticlockwise.
- Check flat-belt conveyor running again and repeat above steps if necessary until spacing between outer edge of belt conveyor and longitudinal edge of body remains constant.

---

---

**RSPV round-belt feeder conveyor**

- i** For synchronous round-belt conveyor running, both round-belt conveyors must have the same length.
- ☞ Synchronous round-belt conveyor running can be recognised from the fact that the trays are transported to the end of the conveyor without turning.
- ☞ Differences which result from the installation of the drive or deflection rollers and minor differences in the lengths of the two round-belt conveyors can be compensated by changing the round-belt tension.
- ✓ Round-belt conveyor running started
- ✓ Tray laid on at start of conveyor

**Tray turns to left along transport path**

- Tension adjusting screw on right-hand side in direction of transport by turning clockwise.
  - or –
  - Relax adjusting screw on left-hand side in direction of transport by turning anticlockwise.
- Check round-belt conveyor tension and repeat above steps if necessary until tray runs straight.

**Tray turns to right along transport path**

- Tension adjusting screw on left-hand side in direction of transport by turning clockwise.
    - or –
    - Relax adjusting screw on right-hand side in direction of transport by turning anticlockwise.
  - Check conveyor running of round-belt again and repeat above steps if necessary until round belts run synchronously.
  - Check adjustment after 2–3 hours of operation.
-

### Adjusting tension of flat-belt conveyor

#### GSPV flat-belt feeder conveyor

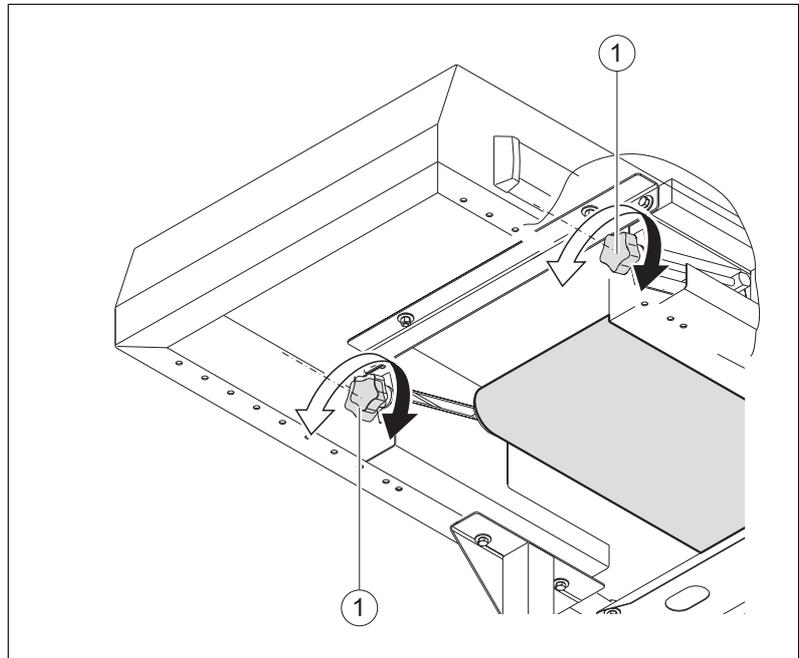
- ☞ There are 2 adjusting screws for adjusting the tension of the flat-belt conveyor on the underside of the unit.
- ☞ The flat-belt conveyor is sufficiently tensioned when it can be raised by approx. 2 cm in the centre of the food distribution conveyor.

#### **Warning!**

##### **Conveyor running started by accident!**

If conveyor running is accidentally started when testing the tension of the flat-belt conveyor, injuries to hands can occur, particularly in the draw-in area of the feeder conveyor.

- Make sure that the main switch is set to OFF and secured against being switched on again accidentally with a padlock.
- To adjust belt tension on upper side of untensioned flat-belt conveyor, apply two markings at a distance of 1,000 mm.
- Turn adjusting screws of tensioning roller evenly on both sides until distance of markings is 1,003–1,005 mm.



- Check tension of flat-belt conveyor. If tension is insufficient or excessive, turn adjusting screws evenly on both sides until desired tension is achieved.
- Switch on unit and check straight flat-belt conveyor running.
  - ☞ Section "Checking flat-belt/round-belt conveyor running" on page 65.

### Adjusting tension of round-belt conveyor

#### RSPV round-belt feeder conveyor/RF dishes return conveyor

- ☞ There are 2 adjusting screws (1) for adjusting the tension of the round-belt conveyors on the underside of the unit. Adjusting the adjusting screws adjusts the tensioning roller (2) up (clockwise) or down (anticlockwise).
- ☞ The round-belt conveyor is sufficiently tensioned when it can be raised by approx. 2 cm from the unit body in the centre of the feeder conveyor on the upper side of the unit.

#### **Warning!**

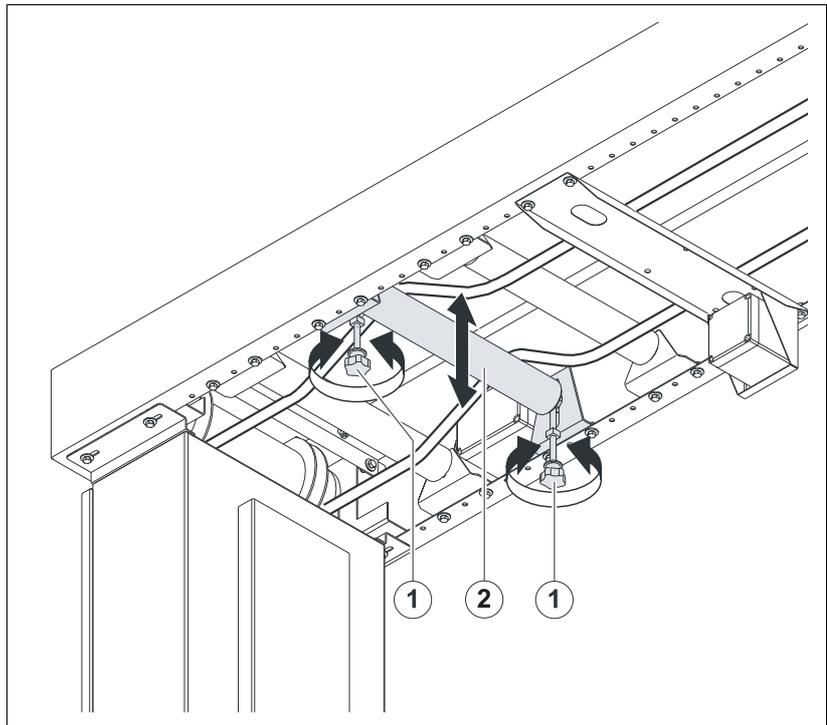
##### **Conveyor running started by accident!**

If conveyor running is accidentally started when testing the tension of the round-belt conveyor, injuries to hands can occur, particularly in the draw-in area of the round-belt conveyors.

- Make sure that the main switch is set to OFF and secured against being switched on again accidentally with a padlock.

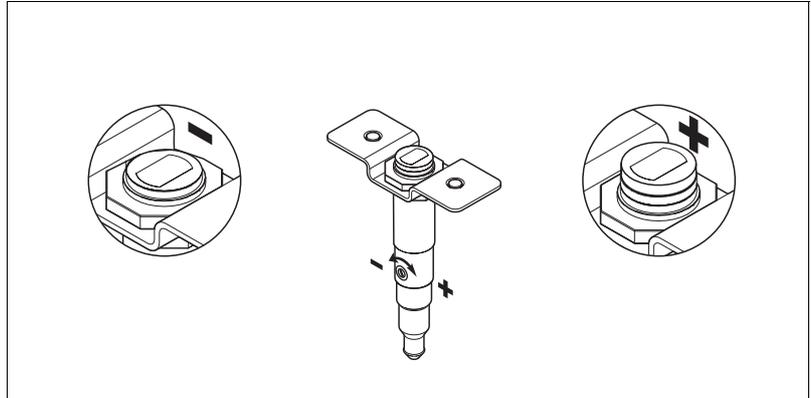
- Check tension of belts.
- If tension is insufficient, increase tension of round-belt conveyors by evenly turning both adjusting screws (1) clockwise  
– or –

If tension is excessive, decrease tension of round-belt conveyors by evenly turning both adjusting screws (1) anticlockwise.



- Switch on unit and check synchronous running of both round-belt conveyors with a tray.
  - ☞ Section "Checking flat-belt/round-belt conveyor running" on page 65.

- Adjusting reflex light sensor**
- i** The vertical distance between the sensor and the tray can be adjusted from 0–50 mm and must be adapted to the conditions of the operating location (e.g. type of tray, tray colour, etc.) prior to initial operation.
  - Turn adjusting screw (1) on reflex light sensor to left to reduce spacing, or to right to increase spacing.

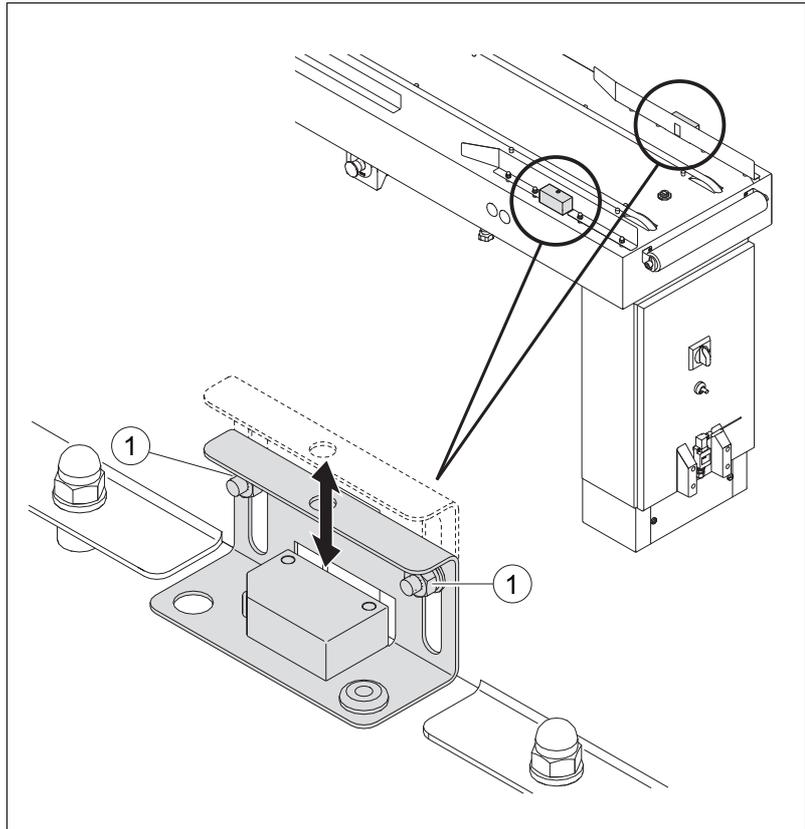


### Adjusting light barrier RF return conveyor with automatic tray destacking

**i** To detect trays not cleared, the light barriers at the end of the conveyor of the RF dishes return conveyor must be adjusted to the tray height.

☞ Both components of the light barrier must be adjusted to the same height.

- Lay tray on RF return conveyor in area of light barrier.
- Loosen both mounting screws of retaining plate of light barrier component (1) which transmits light (transmitter).
- Slide plate in oblong hole so that light beam of light barrier runs approx. 2–3 mm above upper edge of tray.



- Tighten both mounting screws of retaining plate of light barrier component (1).
- Adjust second light barrier component (receiver) to same height.

---

## Maintenance

### Performing periodical inspection for electrical safety

- At least once every six months, have a periodical electrical safety inspection carried out by a professional electrician in accordance with the DIN VDE 0701-0702 series of standards.

### Checking connection cable and mains plug

#### Unit model with castors

- At least once every six months, check the connection cable and mains plug for mechanical damage and signs of excessive ageing in accordance with BGV A3 or the corresponding national regulations.

### Operating check of safety devices

#### Unit model with fault-current protective device

- Have fault-current protective device checked at least monthly in accordance with BGV A3 or corresponding national specifications by a professional electrician.

- In addition to daily checking by the operating personnel, the operation of the following unit safety devices must also be checked at least monthly.
  - Emergency-Stop switch
  - Reflex light sensor

#### Units with automatic tray destacking

- In addition to daily checking by the operating personnel, the operation of the following unit safety devices must also be checked at least monthly.
  - Light barrier for detecting trays not cleared
  - Limit switch for detecting fully loaded tray dispenser

If a defect is discovered, shut down the unit immediately and have it repaired.

↪ Section "Authorised persons" on page 68.

### Checking flat-belt/round-belt conveyor running

#### GSPV flat-belt feeder conveyor

- Check at least monthly whether spacing between outer edge of flat-belt conveyor and longitudinal edge of body remain constant, i.e. conveyor runs centred and straight.
- Readjust conveyor if necessary until conveyor runs centred and straight.
  - ↪ Section "Adjusting flat-belt/round-belt conveyor running" on page 59.

#### RSPV round-belt feeder conveyor

- Check at least monthly whether trays are transported to end of conveyor without turning.
  - Readjust round belt if necessary until trays are transported without turning.
    - ↪ Section "Adjusting flat-belt/round-belt conveyor running" on page 59.
-

**Adjusting tension of flat-belt conveyor****GSPV flat-belt feeder conveyor**

☞ The flat-belt conveyor is sufficiently tensioned when it can be raised by approx. 2 cm in the centre of the food distribution conveyor.

 **Warning!**
**Conveyor running started by accident!**

If conveyor running is accidentally started when testing the tension of the flat-belt conveyor, injuries to hands can occur, particularly in the draw-in area of the feeder conveyor.

- Make sure that the main switch is set to **OFF** and secured against being switched on again accidentally with a padlock.
- Check tension of flat-belt conveyor.
- If tension is insufficient or excessive, turn adjusting screws evenly on both sides until desired tension is achieved.

**Checking tension of round-belt conveyor****RSPV round-belt feeder conveyor/RF dishes return conveyor**

☞ The round-belt conveyor is sufficiently tensioned when it can be raised by approx. 2 cm from the unit body in the centre of the feeder conveyor on the upper side of the unit.

 **Warning!**
**Conveyor running started by accident!**

If conveyor running is accidentally started when testing the tension of the round-belt conveyor, injuries to hands can occur, particularly in the draw-in area of the round-belt conveyors.

- Make sure that the main switch is set to **OFF** and secured against being switched on again accidentally with a padlock.
- Check tension of belts.
- If tension is insufficient or excessive, turn adjusting screws evenly on both sides until desired tension is achieved.
  - ☞ Section "Checking flat-belt/round-belt conveyor running" on page 65.

**Operating check of reflex light sensor**

- Check whether feeder conveyor stops as soon as reflex light sensor is covered.
  - ☞ Section "Adjusting reflex light sensor" on page 63.
- Readjust or replace reflex light sensor if necessary.

**Operating check of light barrier****RF return conveyor with automatic tray destacking**

- ☞ Both components of the light barrier must be adjusted to the same height.
- Check whether feeder conveyor stops as soon as a tray not cleared enters area of light barrier.
  - Adjust height of light barrier or replace if necessary.
    - ☞ Section "Adjusting light barrier" on page 64.

**Removing areas of corrosion on stainless steel****New areas of corrosion**

- Ensure that unit has been shut down.
- Remove areas of corrosion with a scouring agent or fine sandpaper.

**Older/more extensive areas of corrosion**

**i** The cleaning measures described here for older and more severe areas of corrosion are recommendations of the German industry association for home, heating and kitchen technology (Industrieverband Haus-, Heiz- und Küchentechnik e. V. (HKI)).

☞ The cleaning measures for older and more extensive areas of corrosion may only be carried out by trained personnel in compliance with the existing regulations.

---

 **Warning!****Caustic substances!**

The acids used for the removal of areas of corrosion can cause injuries and also caustic damage to objects (e.g. clothing). Contact with the eyes can cause irreparable vision impairment. In the worst case, total loss of sight could result.

- Wear protective clothing (protective eyewear, protective gloves etc.).
- Persons not involved in cleaning must be kept at a distance.

- 
- Ensure that unit has been shut down.
  - Remove areas of corrosion with 2-3 % oxalic acid.
  - Use 10 % nitric acid if cleaning with oxalic acid is unsuccessful.

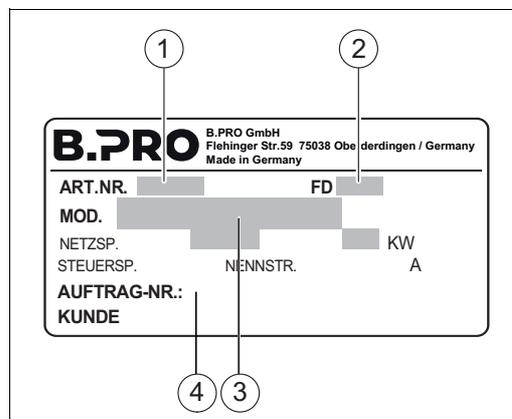
## Repairs

- Authorised persons**  Repairs may only be carried out by the following service points:
- In-house, B.PRO-trained professional
  - External, B.PRO-trained customer service
  - B.PRO Service

**Description of problem** In order to assess the problem B.PRO Service requires the following information from the rating plate:

- Article number
- Date of manufacture
- Model
- Order number

The rating plate is mounted on the side of the switch cabinet.



- (1) Article number
- (2) Date of manufacture
- (3) Model
- (4) Production order number (not present for standard model)

**Spare parts** The following information is required when ordering spare parts:

- Designation of spare part
  - Article number
  - Date of manufacture of the unit
  - Quantity
-  See the Service Information System on the Internet ([www.bpro-solutions.com](http://www.bpro-solutions.com)).

**Address** B.PRO GmbH  
 Flehinger Straße 59  
 75038 Oberderdingen  
 GERMANY  
 Phone +49 (0)7045 44 - 81416  
 Fax +49 (0)7045 44 - 81508  
 Email [service@bpro-solutions.com](mailto:service@bpro-solutions.com)  
 Internet [www.bpro-solutions.com](http://www.bpro-solutions.com)

---

## Disposal

### Disposing of the unit



**i** When disposing of old electrical or electronic appliances via regular council refuse, a potential danger for the environment and for health may occur due to specific contents of the appliances.

The unit should therefore never be disposed of via normal municipal waste disposal but must be separated and disposed of by the waste collection for electrical appliances (e.g. a specialised disposal plant).

As a notice of this fact, the appliance has been designated with the symbol shown to the left according to the 2002/96/EC Directive, Appendix IV. In addition, further possible national regulations concerning disposal must be regarded.

- Make the unit unusable before disposal.
- Transport the unit to a disposal point for electrical appliances (e.g. specialist disposal firm).
- ☞ This product may not be disposed of with other commercial waste.
- ☞ Further information on disposal is available from the dealer or from B.PRO Service.
- ☞ Section "Address" on page 68.

---

## Technical documentation

### **Circuit diagram**

A copy of the circuit diagram is stored in the unit switch cabinet.

### **Spare parts**

Exploded view of feeder conveyors with item numbers of spare parts can be viewed at the service portal on the Internet.

↳ Section "Address" on page 68.

### **Unit data sheet with factory test**

A unit data sheet with factory test is included in the switch cabinet.





.....

.....

.....

.....

.....

.....



B.PRO GmbH

P.O. Box 13 10

75033 Oberderdingen

GERMANY

Phone +49 (0)7045 44 - 81416

Fax +49 (0)7045 44 - 81508

Email [service@bpro-solutions.com](mailto:service@bpro-solutions.com)

Internet [www.bpro-solutions.com](http://www.bpro-solutions.com)

**B.PRO**  
CATERING SOLUTIONS