



3 Layout and function

This chapter describes the system, the work stations, the control equipment, and signaling equipment.

3.1 Order layout overview

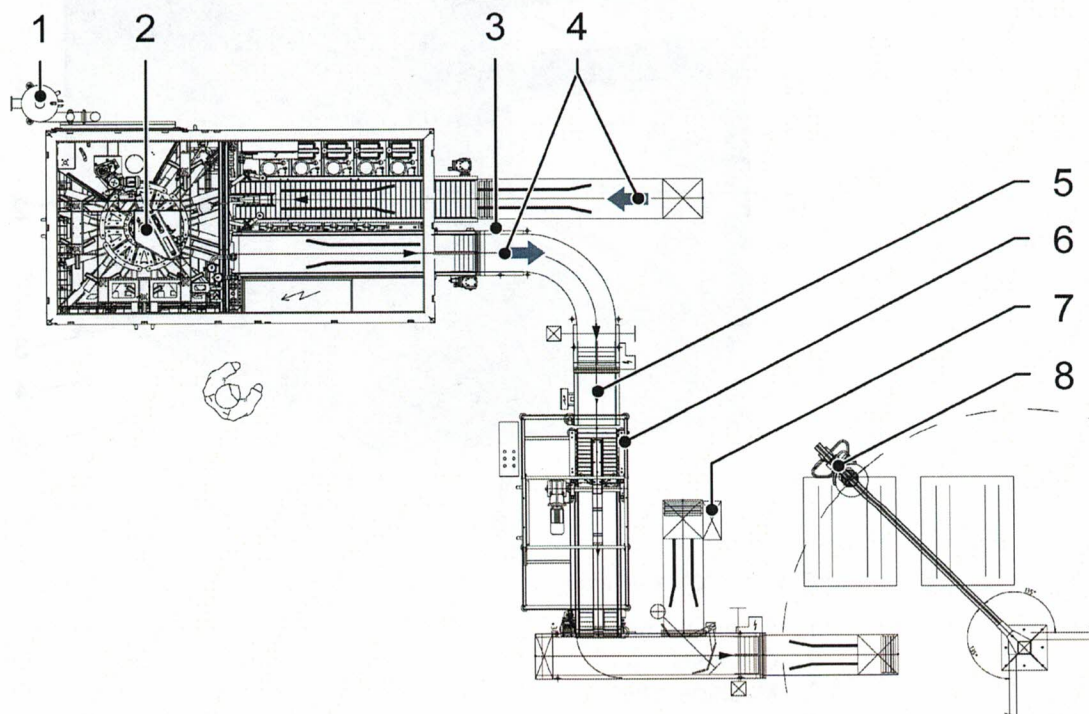


Figure 6: Keg system

- 1 Cyclone
- 2 CombiKeg
- 3 Conveyor system
- 4 Keg direction of flow
- 5 Keg scales, filled kegs
- 6 Twin level turner
- 7 Manual decanter
- 8 Vacuum gripper

This operating manual describes the following machines:

- CombiKeg: keg cleaning and filling machine
- Keg turner: (twin level turner for filled kegs)
- Keg transport system

See "manufacturer's documentation" for the following machines:

- Vacuum gripper



1.3.3 Nameplate

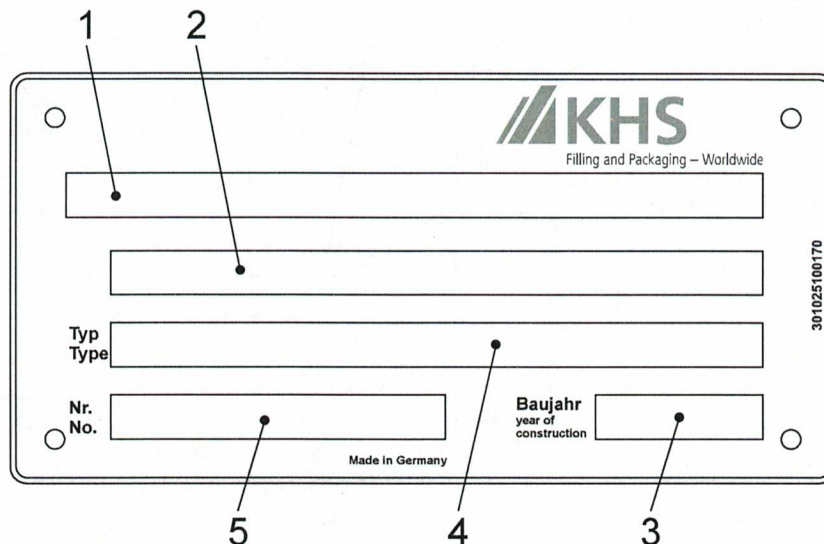


Figure 3: Nameplate

1	Manufacturer:	KHS GmbH, 44143 Dortmund, Germany
2	Type:	Innokeg CombiKeg
3	YOM:	2015
4	Type:	Roller conveyor + plate chain conveyor
5	No.:	K-89405369-10332367

1.4 Integrated components

Other components are integrated in the system. These components may have been produced by KHS or by other manufacturers. The instructions provided in the technical documentation for these components must also be followed. The documentation is assigned using the details in the Identification column.

Component	Manufacturer/identification	KHS order number/ KHS item number
Keg control scale	Kestermann	89405369/000200
Keg turner (twin level turner for filled kegs)	KHS Innokeg	89405369/000400
Conveyor	KHS Innokeg	89405369/000500



1.3 Machine assignment

The assignment is made using the information on the name plate.

The nameplate is located on the machine frame.

1.3.1 Name plate

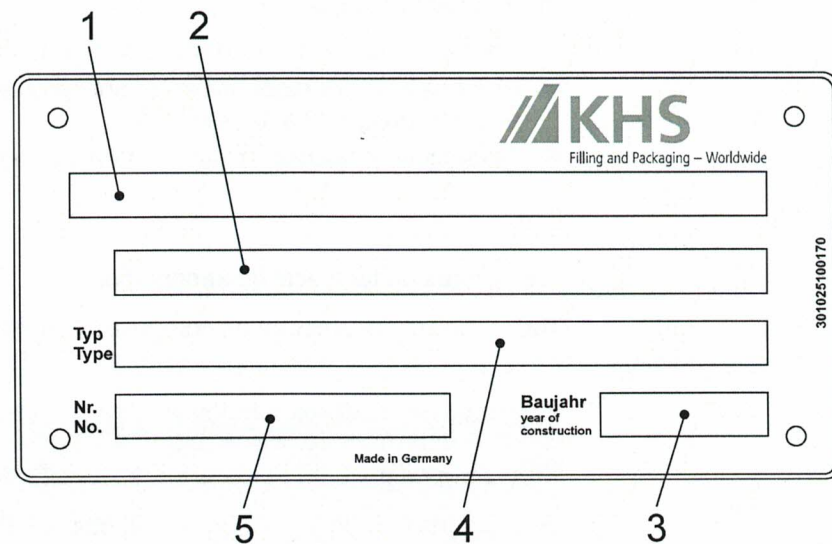


Figure 1: Name plate

1	Manufacturer:	KHS GmbH, 44143 Dortmund, Germany
2	Model:	Innokeg CombiKeg
3	Year of manufacture:	2015
4	Type:	R5
5	No.:	K-89405369-10332363



The detergent tanks hold a supply of detergents for keg interior washing.

3.2.1 Conveyor

Design

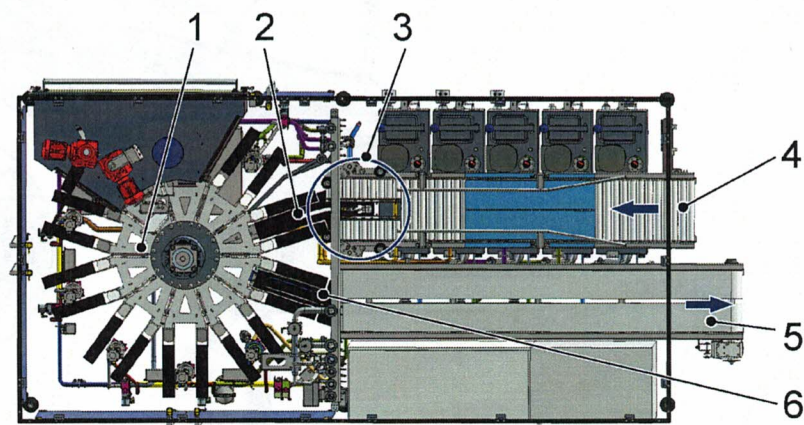


Figure 8: Conveyor

- 1 Carousel
- 2 Intake
- 3 Separator
- 4 Infeed conveyor
- 5 Outlet conveyor
- 6 Outfeeder

Operation

The infeed conveyor conveys the keg to the unscrambler.

The unscrambler releases the keg for treatment.

The pull-in pulls the keg onto the rotor.

The rotor conveys the keg counter-clockwise in individual conveying steps to the treatment stations.

The pull-in pulls the keg onto the rotor.

The discharge conveyor conveys the keg out of the machine.



3.2 CombiKeg

Layout

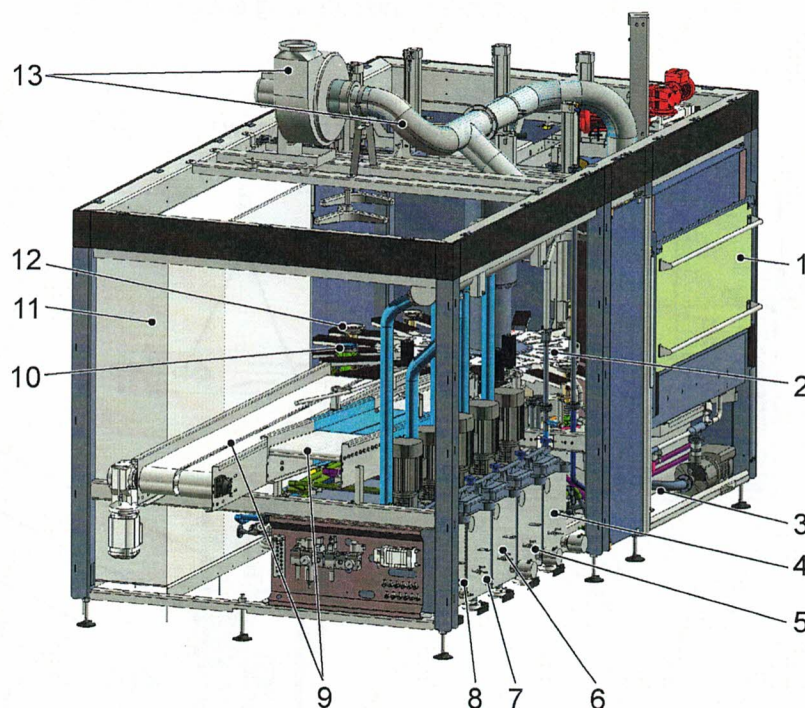


Figure 7: Overall view

- 1 External washer
- 2 Carousel
- 3 Machine piping
- 4 Detergent tank — acid
- 5 Detergent tank — caustic 2
- 6 Detergent tank — caustic 1
- 7 Detergent tank — mixed water
- 8 Detergent tank — hot water
- 9 Conveyor
- 10 Filling station
- 11 Switch cabinet
- 12 Cleaning station
- 13 Extractor

Operation

This machine washes and racks kegs.

A roller conveyor conveys the kegs to the rotor. The rotor conveys the kegs to the washing station and the racking station.

The exterior washer washes the exteriors of the kegs.

Detergents and product enter the machine through media piping and are conducted further to the washing heads and racking head.



1.3.2 Nameplate

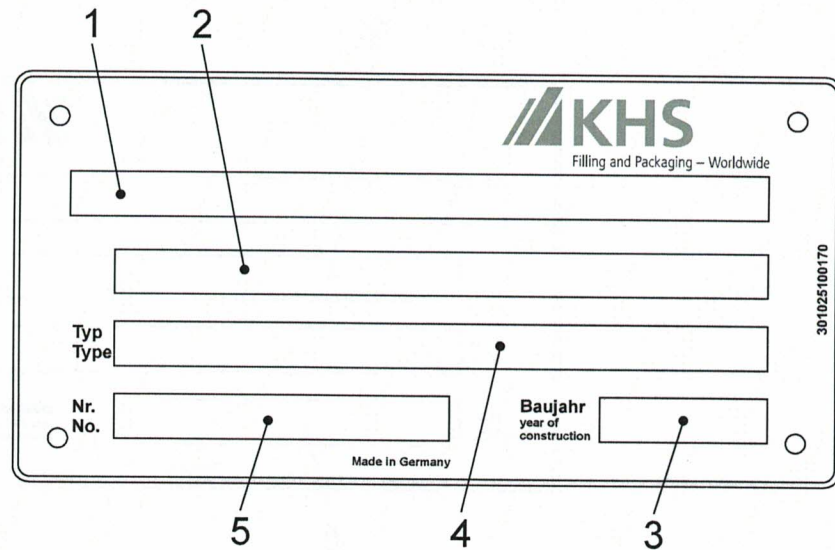


Figure 2: Nameplate

1	Manufacturer:	KHS GmbH, 44143 Dortmund, Germany
2	Type:	Innokeg CombiKeg
3	YOM:	2015
4	Type:	Filled keg turner
5	No.:	K-89405369-10332366



1 General information

This operating manual describes the operational safety and the operating characteristics of the system.

1.1 Target Group

The following persons are to read and adhere to the instructions in this operating manual:

- Persons who use the system according to its intended purpose
- Persons who are responsible for operational safety, operation, and operating characteristics
- Persons who operate or maintain the system

1.2 Notes on technical documentation

The technical documentation comprises a number of documents.

Document	Identification
Operating manual	K-89405369-10332363
Spare parts list	K-89405369-10332363
Electrical circuit diagram	The electrical circuit diagram is located in the switch cabinet. The electrical circuit diagram is assigned according to the order number: K-89405369-10332363
Purchased parts documentation	K-89405369-10332363
Project plan/order layout	Drawing no.: D-915-2-00 Offer no.: SAN 2013 2552 02

The technical documentation forms an integral part of the system. Documentation assignments are made based on the machine number. The documentation may be provided separately or compiled in printed or in electronic format.

The following rules apply to technical documentation:

- Replace old versions with new versions.
- Include all supplements.
- Keep in the immediate vicinity of the system for future use.
- Pass documentation on to the new owner.



3.2.1.1 Driven roller conveyor

Layout

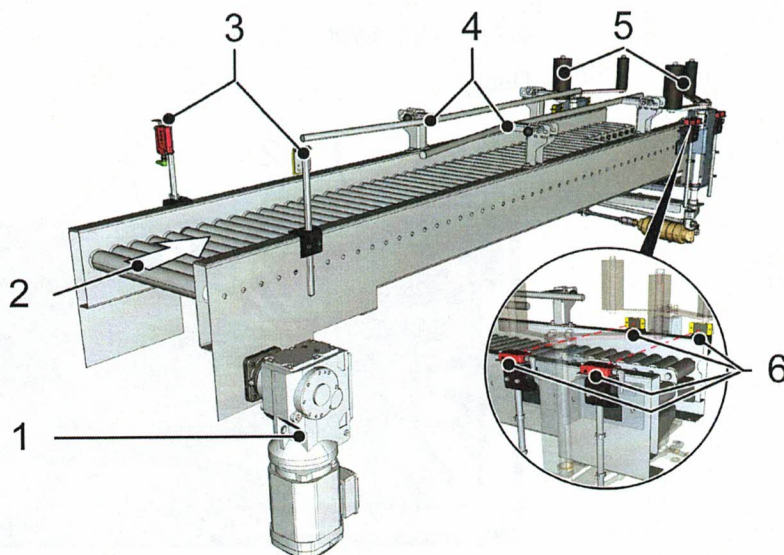


Figure 9: Driven infeed roller conveyor

- 1 Motor drive
- 2 Keg infeed direction of flow
- 3 Backup light barrier
- 4 Guide rails
- 5 Separator in front of intake station
- 6 Double light barrier pair on separator

Operation

Upstream conveyors carry empty kegs to the driven roller conveyor at the CombiKeg machine infeed.

The driven infeed roller conveyor takes the waiting kegs from the upstream conveyors.

The keg infeed into the machine itself runs on a cycle. This means that there is a constant accumulation pressure at the machine infeed, thereby preventing potential faults.

To ensure that the keg infeed is in synch with the machine cycle, the backup light barrier—located at the junction of the upstream conveyors and the driven infeed roller conveyor—counts the waiting kegs and sends appropriate signals to the machine control system PLC.

The machine control system regulates the drive of the infeed roller conveyor.

The PLC also controls the separator at the machine infeed and determines the infeed speed of the kegs as they move into the CombiKeg.