

TZ 101-104, 201-204 | TZT | TZM | TZF | TZK

# TUBE FEEDING SYSTEMS

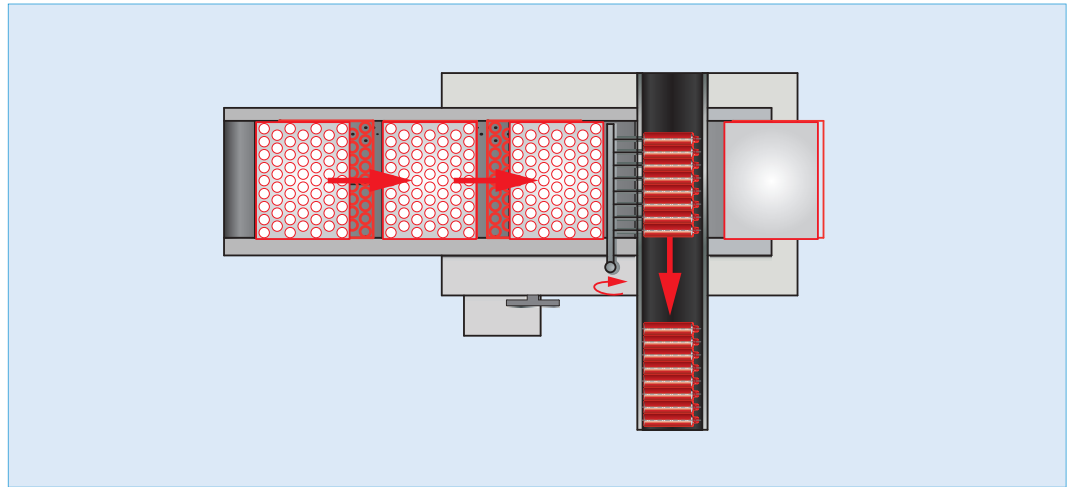


## TUBE FEEDING TECHNOLOGY – GAINING YOUR CONFIDENCE

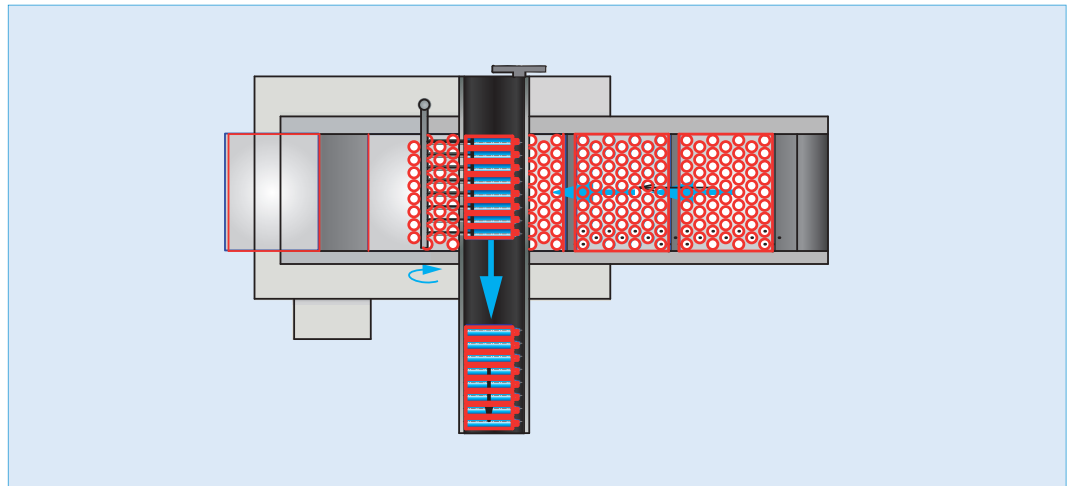
With IWK you have a most competent partner at your side for solving complex issues and challenges aiming to the future, with a clear understanding of your market and your demands. As far as the packaging technology is concerned, we offer comprehensive and extensive know-how, competence and experience. Documentation and certification support is available as an option to reduce qualification and validation time.



TZ 201-204



TZ 101-104, 201-204

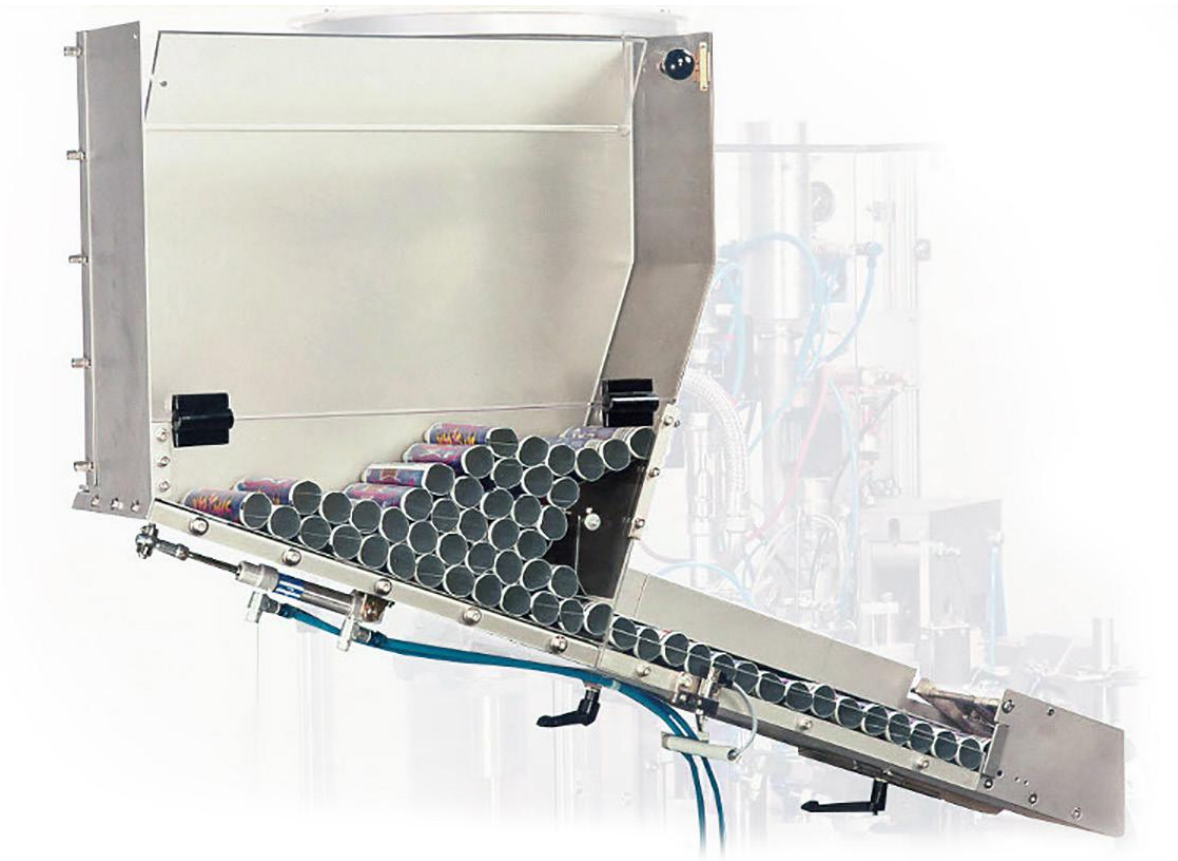


## TZ TUBE UNLOADING AND FEEDING MACHINE

### Working principle

Boxes loaded with empty tubes, open tube ends facing upwards, are manually placed on the transport conveyor and pushed in the tube pickup position by drive lugs fitted to the conveyor chain. As soon as the tubes are located in the appropriate position, mandrels on a pickup rake are diving in the open tube ends. The first row of tubes is lifted clear off the box, swivelled across the tube feeding conveyor and stripped off on the conveyor by a stripper rake from where the tubes are finally conveyed to the tube filling machine. The tube box is emptied row by row. Setting up the machine for a different tube size is quite simple: a different program is selected on the HMI of the machine and the new values are set on the digital counters. Tube pickup and strip off rakes are exchanged to match the new tube diameter. The machine is now ready for the new tube size.

The TZ tube feeding machine series comes with its own drive and can be setup and operated as a stand-alone unit without the tube filling machine.



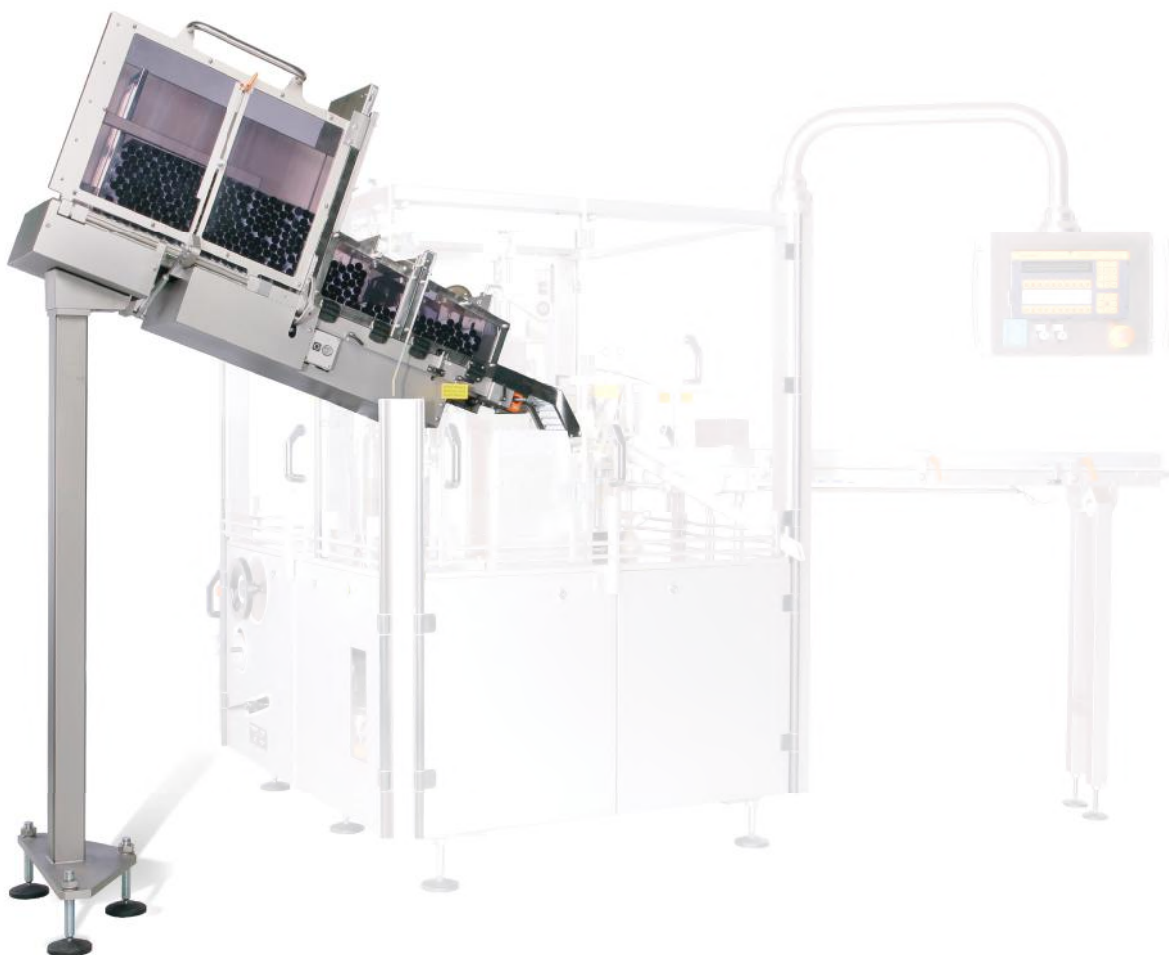
## TZT TUBE FEEDER

### Working principle

The tube storage hopper is fitted with a fold down front panel which facilitates the manual loading of tubes. The separating device (rocker) has proven especially effective, preventing tubes from jamming in the storage hopper. An additional pusher ensures that the tubes roll safely onto the feeder chute into the tubefiller. The TZT feeder can run tubes of any material. Tube size changeovers can be effected by simply resetting the rear panel and replacing a few size-related parts.

### Storage Hopper Capacity

Tube diameter 12 mm	approx. 1900 tubes
Tube diameter 25 mm	approx. 430 tubes
Tube diameter 40 mm	approx. 165 tubes
Tube diameter 50 mm	approx. 110 tubes



## **TZM CASSETTE TUBE FEEDING MAGAZINE FOR CYLINDRICAL TUBES VIA CASSETTE OR TUBE CARTON**

### **Working principle**

To load the magazine, the front door of the TZM with its top plate is swung down for 180 degrees. The top plate thus becomes the base plate of the magazine. A cassette or a box filled with tubes is set on end of the plate with the tube caps facing the operator. The door is then swung upwards through 90 degrees and automatically locked in horizontal position. Box or cassette are now manually removed. The door is then swung upwards again for 90 degrees to its original position. A slide gate between TZM magazine and tube reservoir is pneumatically opened by push button control to allow the tubes to flow on the tube filling machine conveyor.

The tube filling machine may continue to work during the tube loading operation because of tubes being present in a reservoir between tube filler and tube feeding magazine. Tubes in the reservoir are processed first. A photo-electric backup sensor monitors the tubes in the reservoir ensuring it does not run empty. Tubes are marshalled into singles by pneumatic baffle plate movements in the TZM magazine and the reservoir area. Individual tubes are picked up at the far end of the tube filler chute and loaded in the tube filling machine.

Size parts are exchanged without the use of tools.



## TZF TUBE FEEDING UNIT

### Working principle

Tubes are manually loaded into the TZF tube magazine. At the discharge of the tube magazine, the tubes are singulated in a gentle manner and fed onto the tube conveyor. The flow of tubes is monitored by a min./max. backup sensor. The TZF unit is equipped with its own drive and can be used as a standalone unit.

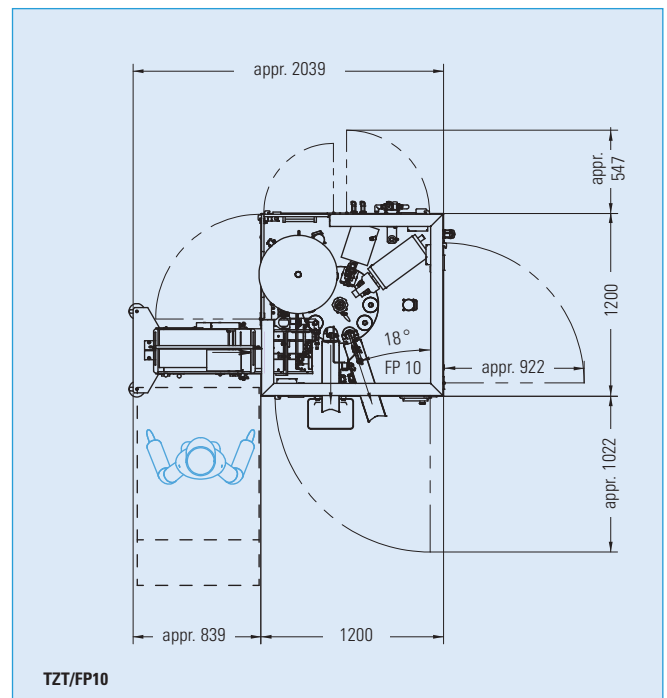
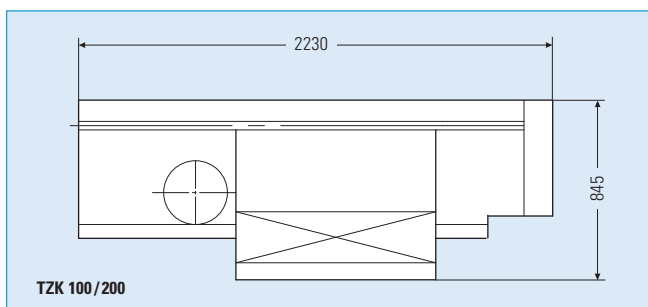
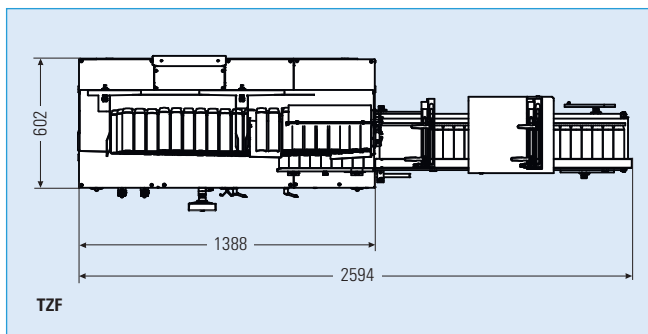
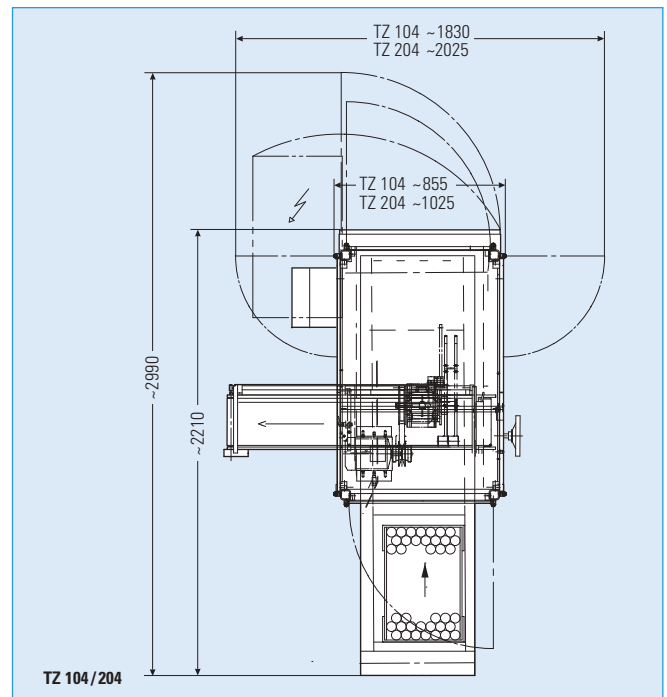
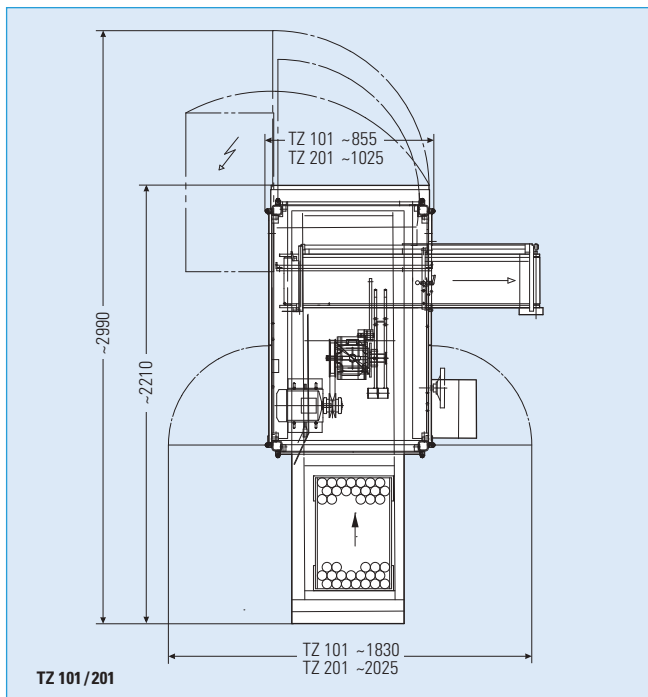


## **TZK TUBE FEEDING MACHINE FOR CONICAL TUBES**

### Working principle

Tube rods are manually placed in the inclined magazine of the TZK tube feeding machine. The first tube rod is picked up mechanically from the magazine, raised by a lifter and placed on a transport belt sending the rod to its separating position in the machine. The second tube in the rod is held back by a size part whilst the first tube in the rod is removed from the rod and sent onwards in the tube filling machine. This work cycle is repeated until all tubes in a rod have been separated and fed. Continuous tube feeding is monitored by photoelectric sensors calling for the next tube rod to be raised from the magazine once the last tube of the previous rod has been separated and fed towards the tube filling machine. The TZK tube feeding machine is driven by the tube filling machine.

## TECHNICAL DATA



Tube Feeding System	TZ 101-104	TZ 201-204	TZK 100/TZK 200	TZT	TZM	TZF	Robot
Tube diameter (mm)	12.7-60	12.7-60	16-45	11-52	13.5-40	10-63.5	22-40
Total tube length (mm)	75-250	75-250	75-235	50-250	60-230	60-250	94-226
Max. carton dimensions L x B x H (mm)	650 x 430 x 265	650 x 600 x 265			595 x 395 x 230	650 x 600 x 265	650 x 650 x 260
Max. rod length (mm)			750				
Output (tubes/min.) max.	300	300	200	80	120	220	510 (760)
Power rating	3 x 400 V/ 50 Hz	3 x 400 V/ 50 Hz	3 x 400 V/ 50 Hz	3 x 400 V/ 50 Hz	3 x 400 V/ 50 Hz	230 V/ 50 Hz	3 x 400 V/ 50 Hz
Compressed air pressure (bar)	6	6	6	6	6	6	6

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