

Automatic handling of tublar elements



GRANLUND automatic feeding device, type KOI 250/300/350
Efficient operation. Reliable and flexible feeding.

Automatic handling

In order to further reduce the cost of compacting the powder in metal sheathed tubular elements after filling, an automatic feeding device, know as KOI, can be attached to the reducing rolling mill.

Efficient operation

After filling and sealing the upper end of the element tubes, the operator places all the tubes into a magazine on the feeding device from where they are automatically fed into the mill. The magazine, which is available on 2.5-3.0-3.5 m device, can store up to 300 elements.

Reliable feeding

When fed manually, the distance between two tubes can easily be too short and as they elongate when reduced, there is a danger of the tubes running into each other. This can cause severe damage to the rolls and guide-bushings, which is avoided by using the KOI feeding device.

The device feeds the tubes into the reducing rolling mill with a constant distance between each tube.

Flexible

Tubes of different lengths can be mixed and the entering end needs not necessarily start in the same initial position. The magazine has a capacity of up to 500 tubes. The feeding devices are equipped with a high voltage testing device with sorting out of defective elements before rolling.

Adjusting the device to take different tube diameter takes approx. 10 minutes only.

Granlund Machinery

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14. TRANSPORT AND HANDLING

KOM, KOI

GRANLUND Machinery product range includes several machines aimed for making transport and handling (feeding and receiving) of tubes and elements more reliable and less labour intensive.

Name Description

Typical application

GRANLUND KOM-1W

Automatic Receiving Table for One Way Operation
Reception after rolling mill...

GRANLUND KOM-2W

Automatic Receiving Table for Two Way Operation
Reception after welding mill, after length compensating
machine...

GRANLUND KOI-25/35

Automatic Feeding Device
Feeding into rolling mill

GRANLUND KOI-250/300/350

Automatic Feeding Device with Flash Test
Feeding into rolling mill

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Sales Catalogue

KOM-1W/2W **Automatic Receiving Table**

The receiving table, type KOM, can receive tubes or tubular elements in all sizes which can be compacted in the reducing rolling mills. The KOM is completely automatic and transfers the tubes or elements to a suitable container. It can e g be attached to all standard reducing rolling mills.

- saves labour
- reduces bending of elements
- makes automatic sorting possible (KOM-2W)

Construction

The tilting table is operated pneumatically.

Function

The tube or element is pulled from the machine (e g the reducing rolling mill) after which the KOM is placed, by the with-drawing rolls and rests on an L-shaped support. As the receiving table is not tilted until the whole element is free from the mill and is resting on the support, it will fall or roll down, in parallel into the container. The tubes/elements are bent as little as possible.

The one way receiving table, type KOM-1W, should be used together with equipment where only one way tilting is required, e g a GRANLUND reducing rolling mill.

The two way receiving table, type KOM-2W, can be used in line with the GRANLUND tube welding mill or with the length compensating machine. It can then sort out defective tubes or elements.

Technical data

Tube length	max 3000, 4500 or 6000 mm (three versions)
Air supply	400-500 kPa, dry and oil-free

Required information for ordering

- need for sorting (KOM-1W or KOM-2W)?
- tube length (3000, 4500 or 6000 mm version)

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Sales Catalogue

KOI-25/35

Automatic Feeding Device

In order to reduce the cost of compacting the powder in metal sheathed tubular elements after the filling operation, an automatic feeding device can be attached to the reducing rolling mill. The GRANLUND automatic feeding device is designed to feed the tubular elements into the rolling mill or into other machines where the operation is labour intensive.

The machine is adaptable to different types of rolling mills.

- labour saving / efficient operation
- reliable and flexible feeding
- constant distance between tubes (avoids risk for damage on reducing rolling mill)
- easy moving (equipped with wheels)

Construction

The feeding device is built in one piece, based on tubing. The machine also comprises a control box. For easy moving from one machine to another, KOI has been equipped with four wheels.

KOI-25 is equipped with a magazine which can store up to 500 pcs of elements, depending on tube size. KOI-35 has no magazine, since long elements have a tendency to tangle.

Function

The function is simple and reliable.

After filling and sealing the upper end of the elements, the operator places all the tubes in a magazine on the feeder and they will be automatically fed into the reducing rolling mill. Elements of different lengths can be mixed and the entering end need not necessarily start in the same initial position.

The elements are fed one by one onto a transport belt. This belt is constantly moving, feeding the elements into the rolling mill. At the front end of the belt, there is a contraction leading the element into a guide bushing. A roll is pressing onto the element and feeds it until the first pair of rolls grips it.

In the guide bushing, there is a sensor. This sensor activates the feeding onto the belt. When the sensor detects the element, the feeding mechanism goes to start position, and when the element leaves the sensor, the feeder places the next tube onto the belt, keeping the feeding distance between the tubes constant.

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Sales Catalogue

KOI-25/35, cont.

Technical data

		<u>KOI-25</u>	<u>KOI-35</u>
total length		3100 mm	4100 mm
overall height		1250 mm	1150 mm
width		800 mm	800 mm
weight		150 kg	165 kg
element length	min	350 mm	350 mm
	max	2500 mm	3500 mm
element diameter	min	5 mm	5 mm
	max	30 mm	30 mm
magazine capacity		up to 500 tubes	no magazine
el. power		600 W	
electrical supply		three-phase 400 / 230 V, 1,5 A, 50/60 Hz	
air supply		400-500 kPa	

Information required for ordering

- tube diameter
- tube length

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Sales Catalogue

KOI-250/300/350 **Automatic Feeding Device with Flash Test**

KOI-250/300/350 feeding devices are equipped with a high voltage (dielectric strength) testing device with sorting out defective elements. This way defective elements are sorted out before being reduced, thereby preventing expensive operations to be carried out on defective elements, as well as providing the possibility to empty the uncompressed (defective) element and use the tube once again.

- avoid expensive operations on defective elements
- save tubes

Function

This automatic device is intended for being placed in line with a reducing rolling mill. KOI feed a new unreduced tubular elements into the rolling mill as soon as the rolling mill has reduced the previous element.

The hopper places the heating element in contact with the high tension tester (dielectric strength test). If the element fails the test, it will be sorted out. The approved elements will be fed into the rolling mill by means of motorized rolls. The feeding interval is adjusted to the element length.

A sensor detects when there are no more elements to be fed and stops the line.

Technical data

Tube length	max 2500, 3000 or 3500 mm (KOI-250, -300 or -350)
Capacity of container	appr 800 elements (KOI-250)
Electrical connection	400 V, three-phase
Compressed air	6 bar

Required information when ordering

- tube diameter
- tube length

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