PRODUCT STORY

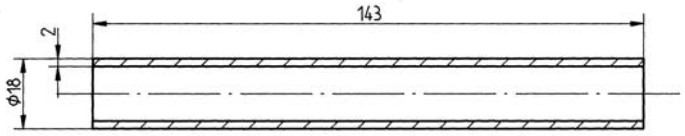
FELSS

No. 017-673 E

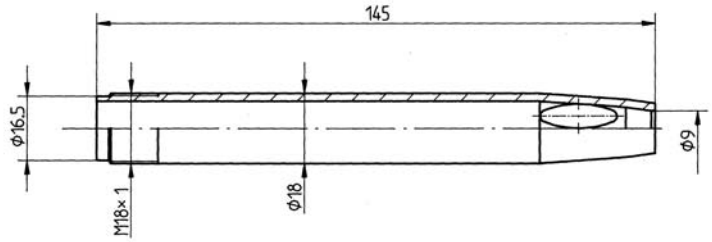
Components produced by Precision Rotary Swaging:

Seat Belt Tensioning Cylinder

Blank



Finished part



88 0800/M

Workpiece:

Material: Aluminium AlMgSi 0.5

Blank: tube O.D. 18 mm and wall thickness 2 mm

Manufacturing requirement:

Complete manufacture of aluminium cylinder tube in one machine pass

Previous technique:

none / new design

Operation sequence:

1. Feed swaging of taper over conical mandrel with forming of additional flats

1.1 Turning by 180°, facing, internal/external chamfering

2. Feed swaging over mandrel, forming of thread rolling diameter
3. Thread rolling
4. Facing, internal/external chamfering of workpiece end dia. 16.5 mm

Advantages:

- Good dimensional accuracy
- Excellent surface finish
- Minimal chip production/ reduced costs for chip removal
- Favourable grain structure
- Work hardening of material
- Complete manufacture of part in only one machine pass

Machine description:

Automatic transfer line consisting of:

1 feed magazine for approx. 100 blanks
2 swaging stations
2 turning stations (facing and chamfering)
1 thread rolling station

Production rate:

Cycle time: 8 sec.
(= 7.5 pieces/min.)

Machine:

Model: HA 25-4 V

Required floor space without sound enclosure: (L x W x H)
approx. 3800 x 2300 x 2020 mm

Weight: approx. 8,500 kg

Required power: approx. 26 kW

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