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# Flexproof-Cutter AF-30

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The AF-30 is a device for preparing (die-cutting) of Habasit belts and tapes up to a width of 30 mm and a thickness of 3 mm for Flexproof (finger) joints.

It is suitable for Habasit standard finger geometries with the pitches of 6 or 8 x 30 mm (different cutting heads). Die-cutting is done in just two manual strokes, resulting in the most precise finger cut and therefore optimum joint strength.

The AF-30 lends itself especially well to low to high volume production of spindle and machine tapes off pre-cut coils.

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- Checklist preventive maintenance
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## 1. General information

### 1.1 Application

The Flexproof-Cutter AF-30 was specifically designed for the rapid and safe preparation (die-cutting) of Habasit tapes and belts using the Flexproof procedure. The belts/tapes can be up to 30 mm/1.2 in. wide. The maximum thickness is 3 mm/0.12 in.

The Flexproof-Cutter AF-30 was developed solely for the purposes described in the operating instructions. Improper use, or use for other applications than those described in the instructions, is not permissible. Habasit accepts no liability for the consequences of improper application.

The Flexproof-Cutter AF-30 is manufactured according to recognized engineering principles and state-of-the-art technology, and complies with applicable regulations.

These operating instructions imply that all assembly, maintenance, and repair work, as well as operation of the die-cutting device, be carried out by skilled personnel or monitored by responsible specialists.

For reasons of scope, these instructions cannot cover all possible aspects of operation, maintenance, or repair. The indications given herein refer to the use of the tools according to their designated purpose by skilled personnel.

In case of doubt or if further detailed information is required, please contact the manufacturer (Section 1.4)

### 1.2 Important safety terms

In these operating instructions, you will find the terms WARNING, CAUTION, and INDICATION. They signal dangers or special information to be borne in mind.

**WARNING** If disregarded, there is a danger of severe injury, and/or severe material damage.

**CAUTION** If disregarded, there is a danger of injury, and/or material damage may be caused.

**INDICATION** Technical information is emphasized if it is important and not readily apparent, even for skilled personnel.

Please observe all indications for assembling, operating, and maintaining this device, as well as all technical data! This will prevent possible trouble and/or damage to people or materials.

**Skilled personnel** refers to persons authorized to perform the required work. These people have been sufficiently trained and introduced to their field of activity so that they are able to recognize and prevent dangers. They are aware of the pertinent provisions and safety regulations.



### 1.3 Scope of supply

Qty.	Item
1	AF-30 Flexproof cutter
8	Spare cutting blades
1	Cutting pad 8 mm thick
1	Allen key 2.5 mm
1	Allen key 3.0 mm
1	Allen key 4.0 mm
1	Wrench 8 mm
1	Wrench 13 mm
1	Operating instructions

### 1.4 Ordering of accessories/spare parts

Spare parts and accessories can be ordered directly from the manufacturer.

Address:

Habasit Italiana S.p.A.  
Via A. Meucci 8, Zona Industriale  
I-31029 Vittorio Veneto/TV  
Tel. ++39 438 91 13  
Fax ++39 438 91 2374

Please accurately describe the parts required.  
State the numbers according to Section 8, Drawings.

<b>WARNING</b>	The use of parts by other manufacturers not meeting Habasit specifications is not admissible. Habasit declines all responsibility for the consequences if non-Habasit parts are used.
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### 1.5 Warranty

All tools undergo a strict final inspection. On the assumption of correct handling, they are warranted against material and manufacturing defects for 1 year.

### 1.6 Technical advice

Our specialists will be pleased to advise you. For technical questions concerning function and condition of the Flexproof-Cutter, please contact the manufacturer (Section 1.4).



## 2. Mode of operation

The fingers for the Flexproof joining method are manufactured at the belt ends by means of a special cutting head with two sets of blades positioned in a certain angle.

To achieve the required accuracy the die-cutting head is precisely positioned at the stops of a slide. The belt/tape is positioned and securely clamped on the cutting pad by means of two clamps.

Fingers are then cut manually in two steps by a die-cutting operation performed with the two blades of the cutting head. The displacement of the cutting head and the depth of penetration into the PVC cutting pad has been adjusted at the manufacturer. In case re-adjustments have to be carried out please consult chapter 5.

The max. belt/tape thickness that can be cut is 3 mm/*0.12 in.* and 30 mm/*1.2 in.* is the max. possible belt/tape width.

## 3. Initial start-up

- For safe operation, place the Flexproof-Cutter AF-30 on a solid workbench or table.
- Attach the cutting support with screws to the workbench/table when the tool is used in stationary operation.
- Check to make sure that the surface of the cutting pad where the belts/tapes are to be cut is clean.
- Check sharpness of the cutting blades.



## 4. Cutting of belt/tape ends

Process: Flexproof guidelines and individual product datasheets

### 4.1 Flexproof cutting of the belt/tape

- Open both clamps (8) by lifting the levers (7).
- Insert belt/tape and align it properly on the edge (9).

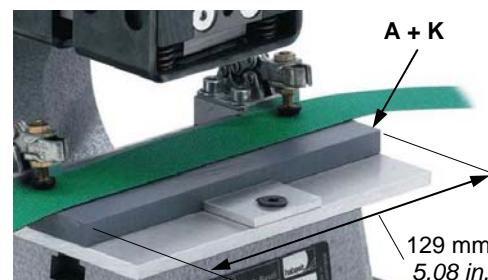
INDICATION Watch for good alignment. Otherwise the fingers of the cut belt/tape ends might not match properly.

- Close clamps (8) by pushing levers (7) down.
- Move die-cutting head (11) with handgrip (10) fully back to the rear (18).
- Carry out first cutting stroke by pulling down lever (1).
- Pull die-cutting head (11) fully to the front stop (16).
- Carry out the second cutting stroke on the same belt/tape side.

INDICATION Do not turn the belt/tape for the second Flexproof cutting operation. Otherwise the cut fingers of both ends will not match!  
Check that the upper belt/tape side is always the same!

### 4.2 The first operation starting from a new belt/tape coil

- Measure 129 mm / 5.08 in. from the belt/tape end. Draw a line in a right angle across the belt/tape (see illustration 1). This is point A. The 129 mm / 5.08 in. long belt/tape piece serves for safe fixing under the clamps (8). It is only needed once at the beginning of every new coil, if there is not yet an already cut finger splice.
- Measure the required belt/tape length x from the mark A and draw a second line in a right angle to the belt/tape. This is point B.
- Insert belt/tape in the Flexproof cutter and align mark A on the edge K of the cutting pad.
- Carry out the cutting operation (see 4.1).





### 4.3 Continuing Flexproof cutting

- The belt/tape end has already fingers cut in correct shape.
- From last cutting operation, the mark B is visible. This mark is used as a reference for the following measuring and cutting procedure according to 4.2 (see illustration 2).

### 4.4 Serial Flexproof cutting process

- If series of belts/tapes are to be cut, the lengths can be marked prior to cutting operation as shown on illustration 2.
- Insert belt/tape in Flexproof cutter and align mark B on the edge K of the cutting pad.
- Carry out the cutting operation (see 4.1) and repeat this operation for every following mark B<sub>1</sub>, B<sub>2</sub>, ... .

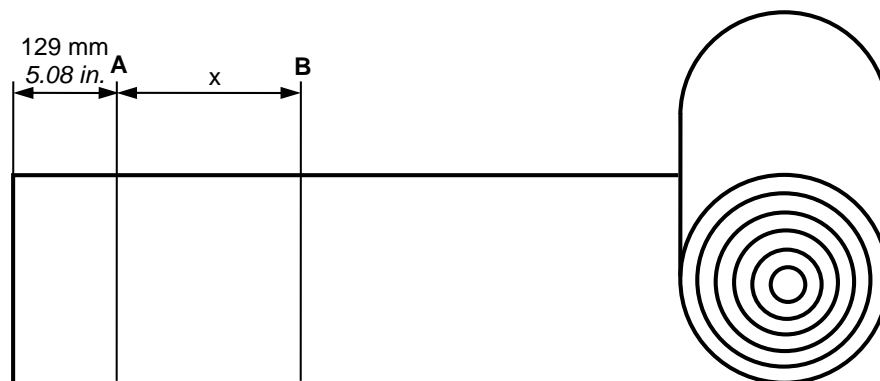


Illustration 1: Cutting start from a new coil

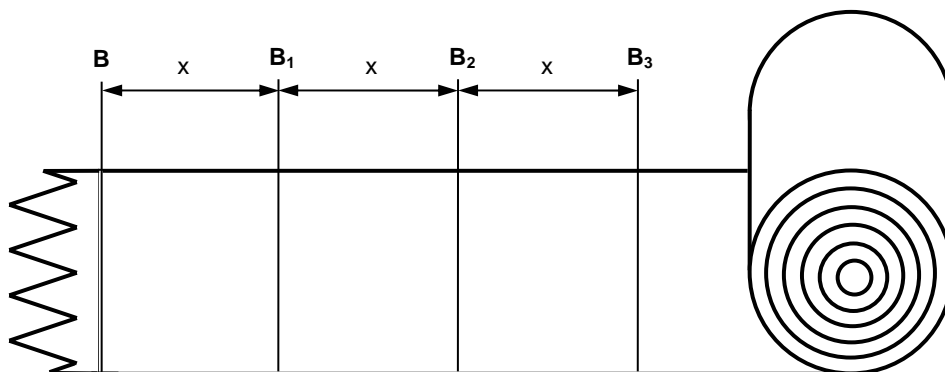


Illustration 2: Continuing and serial cutting

#### INDICATION

In case of frequent cutting the same belt/tape length it may be helpful to design an adjustable stop for length measuring without the need to mark the belt/tape.



## 5. Service

### 5.1 Maintenance

- Keep the cutting pad clean at all times. Clean it regularly and remove material residues.
- Check the cutting blades periodically for their sharpness and replace with the correct type if necessary.
- Slightly lubricate the hinge of the cutter with oil at periodic intervals.

### 5.2 Replacement of cutting blades

- Remove stop-screw (18)
- Pull out the die-cutting head (11) from its guide.
- Dismount the holding-down bracket (6) by removing the eight bolts (5). Be sure not to lose the springs and spacer rings.
- Remove the two screws (12).
- Remove the cutting blades and the spacer plates between them.

<b>WARNING</b>	Handle cutting blades with special care. The blades can cause injury even if they are worn out.
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- Insert new cutting blades and reassemble the head in reverse order.

<b>CAUTION</b>	Be sure not to damage blade edges.
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### 5.3 Adjustment of cutting head slide

- Loosen nut (3).
- Adjust the play of the slide by turning the set-screw (4) until the die-cutting head (11) can be moved in its slide without excessive play.
- Re-tighten the nut (3) and check the play again.





## 5.4 Adjustment of the cutting head positioning

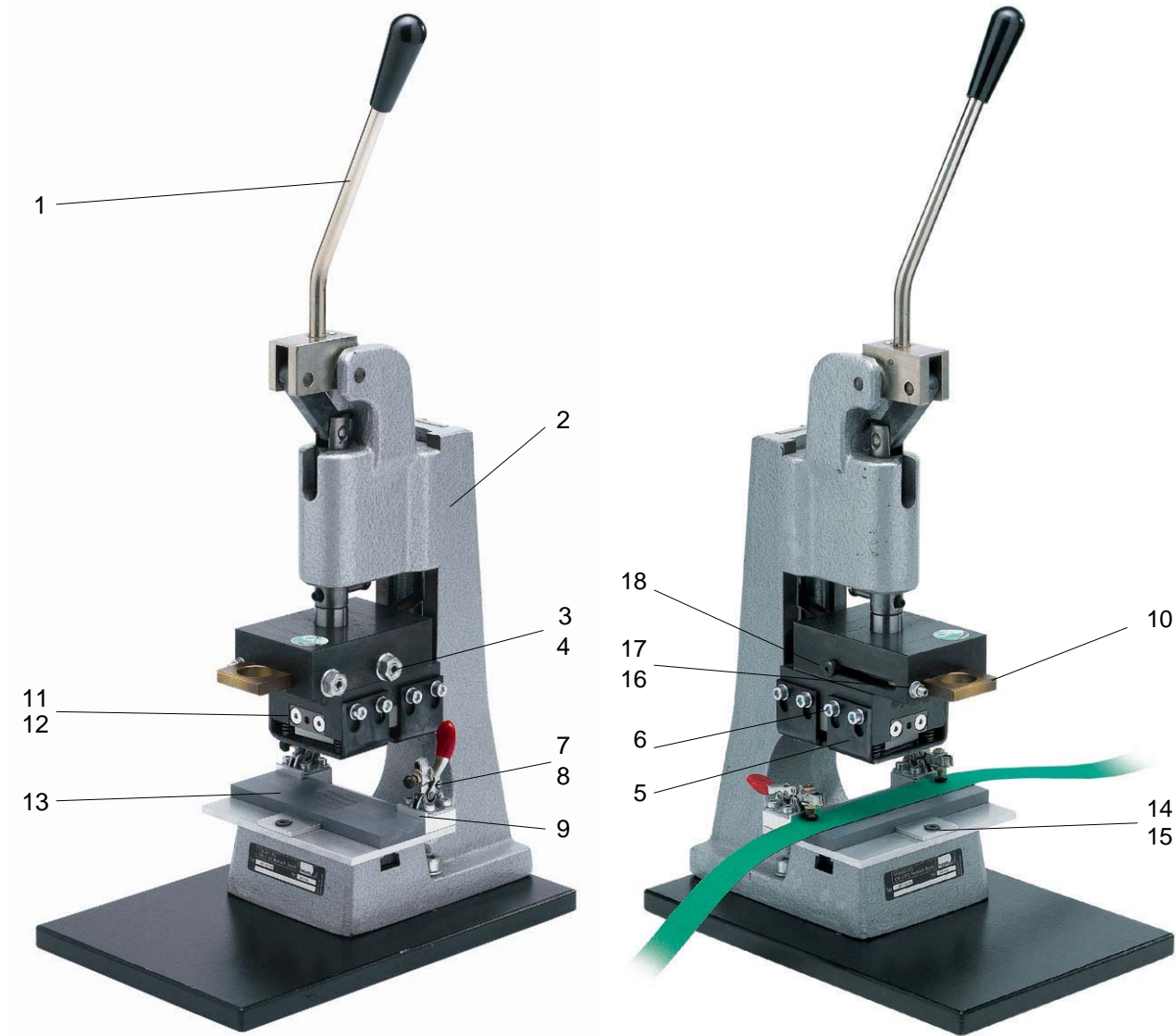
- The adjustment screw is preset at the factory in order to have both cutting steps (rear and front) overlapping to the correct finger shape.
- If readjustment is necessary, proceed as follows:
  - Insert a piece of belt/tape and fix it.
  - Move die-cutting head (11) to the rear stop and make first cutting operation.
  - Move die-cutting head to the front.
  - Loosen the nut (17) and move the cutting head down onto the belt/tape and check, whether the cutting blades are creating a clean finger tip without overlapping of the cuts.
  - Adjust the screw (16), until the finger shape is correct.
- Re-tighten the nut (17) and check the finger shape again.

## 5.5 Replacement of the cutting pad

- Loosen the bolt (14).
- Retract retaining plate (15).
- Remove cutting pad, turn it around or replace it by a new one and reassemble.
- Tighten the bolt (14) properly.



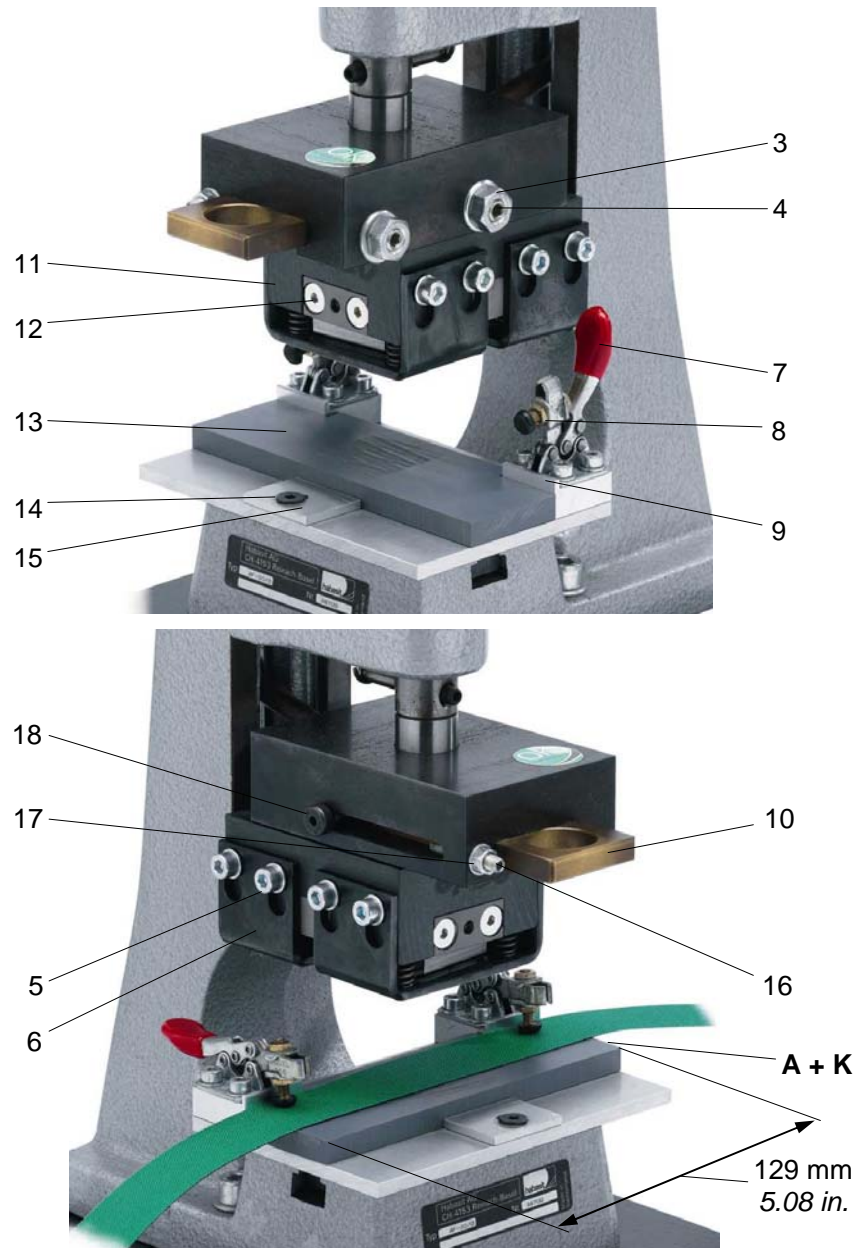
## 6. Illustrations



**Illustration 3: Flexproof-Cutter AF-30**

### Legend:

- |                        |                     |
|------------------------|---------------------|
| 1 Lever                | 10 Handle           |
| 2 Stand                | 11 Die-cutting head |
| 3 Nut                  | 12 Screw            |
| 4 Set-screw            | 13 Cutting pad      |
| 5 Bolt                 | 14 Bolt             |
| 6 Holding-down bracket | 15 Retaining plate  |
| 7 Lever of clamp       | 16 Adjustment screw |
| 8 Clamp                | 17 Nut              |
| 9 Alignment edge       | 18 Stop screw       |



**Illustration 4: Details die-cutting head of AF-30**

**Legend:**

- |                        |                     |
|------------------------|---------------------|
| 3 Nut                  | 11 Die-cutting head |
| 4 Set-screw            | 12 Screw            |
| 5 Bolt                 | 13 Cutting pad      |
| 6 Holding-down bracket | 14 Bolt             |
| 7 Lever of clamp       | 15 Retaining plate  |
| 8 Clamp                | 16 Adjustment screw |
| 9 Alignment edge       | 17 Nut              |
| 10 Handle              | 18 Stop screw       |

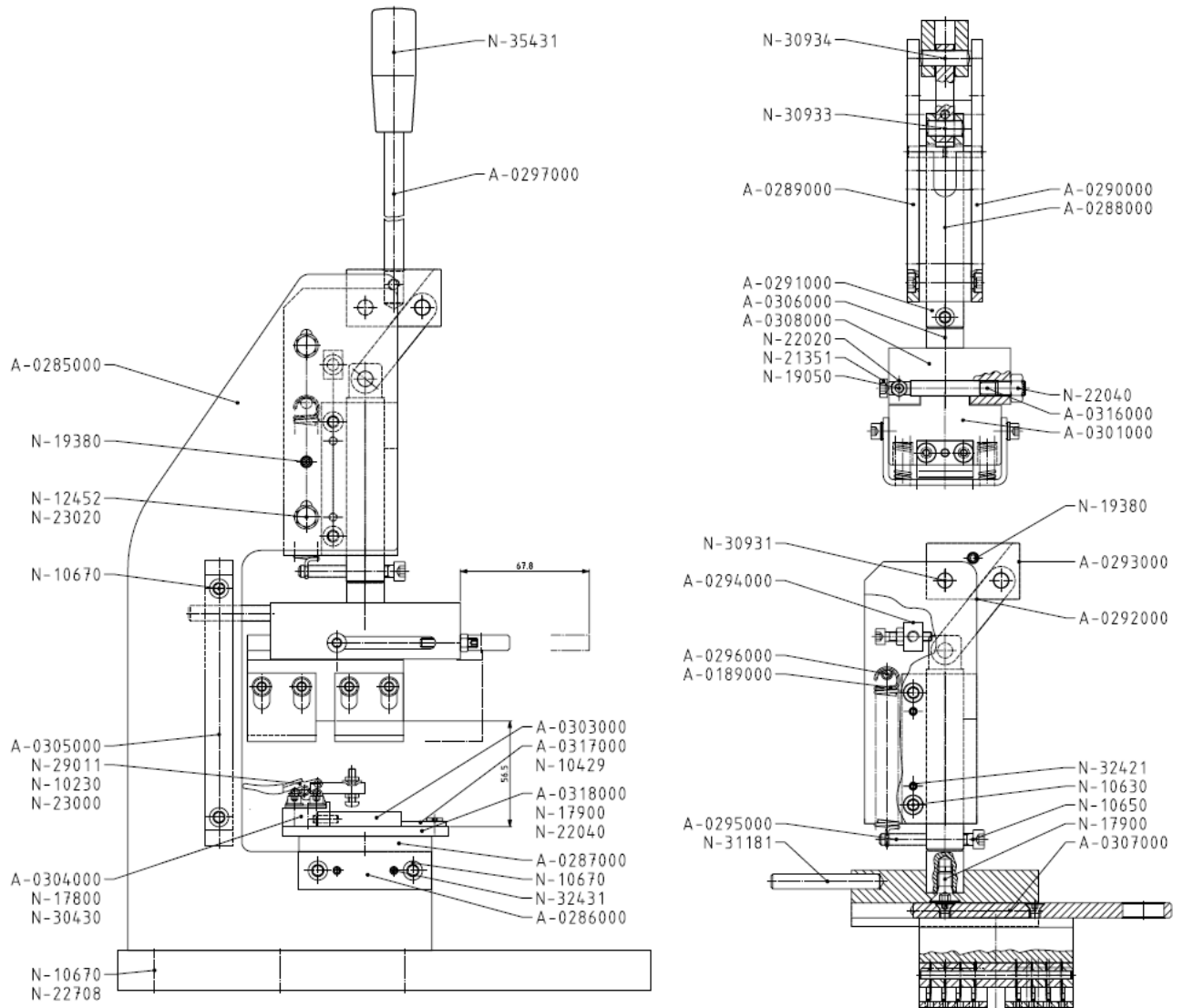


## 7. Technical data

Max. belt/tape width [mm] [ <i>in.</i> ]	30	1.2
Max. belt/tape thickness [mm] [ <i>in.</i> ]	3	0.12
Dimensions (L x W x H) [mm] [ <i>in.</i> ]	280 x 180 x 570	11.2 x 7.2 x 22.8
Net weight [kg] [ <i>lbs.</i> ]	12	26.5



## 8. Drawings





**Responsible persons:**  
**A: Machine Operator**  
**B: Maintenance Technician**

Work to be carried out (see operating instructions No. 3703 for further information and reference numbers)	Daily	Performance periodically (monthly)		Remarks	Spares number Evaluation criterion
		1	6		
<b>1. Cleaning</b>					
1.1 Clean the Flexproof-cutter after use, remove residual matter	A				
<b>2. Inspection of the cutting pad</b>					
2.1 Check the condition of the cutting pad. If excessive wear and/or insufficient cutting quality is found, the cutting pad has to be replaced.		B			
<b>3. Checking of die-cuts</b>					
3.1 Check quality of cuts and inspect cutting blades for damages. If necessary replace. See operating instructions 3703, Section 5.2		B			

Remarks and notes:



**Machine type:**

**Machine no.:**

**Date of first placing in operation:**

Actions to be performed – see checklist (daily work not recorded)	Next	Performed		Next	Performed		Next	Performed		Next	Performed	
	Check	Initials	Date	Check	Initials	Date	Check	Initials	Date	Check	Initials	Date
2.1 Inspect condition of cutting pad. If excessive wear and/or insufficient cutting quality is found, the cutting pad has to be replaced.												
3.1 Check quality of cut and inspect cutting blade for damages. If necessary replace.												

**Observations, repairs:**



### **Product liability, application considerations**

If the proper selection and application of Habasit products are not recommended by an authorized Habasit sales specialist, the selection and application of Habasit products, including the related area of product safety, are the responsibility of the customer.

All indications / information are recommendations and believed to be reliable, but no representations, guarantees, or warranties of any kind are made as to their accuracy or suitability for particular applications. The data provided herein are based on laboratory work with small-scale test equipment, running at standard conditions, and do not necessarily match product performance in industrial use. New knowledge and experiences can lead to modifications and changes within a short time without prior notice.

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