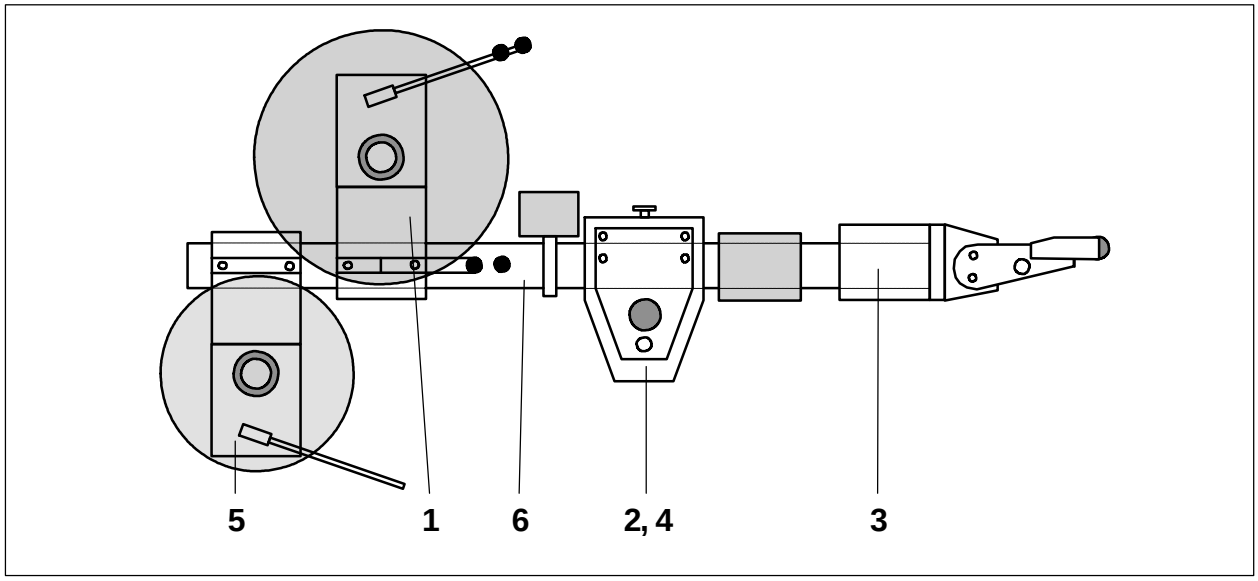
Tips & Tricks Collamat 9100

A list of tips and tricks to improve the reliability of labeling with the Collamat 9100. The chapters will continue in the order of the paper threading.



Legend

1.	Midi-unwinder or electric unwinder	**4.**	Traction unit, traction roller
2.	Traction unit, paper brake	**5.**	Electric rewinder
3.	Flap adapter	**4.**	Module rail

1 Unwinder

1.0.1 Unwinder dancer

The unwinder dancer controls the release and stopping of the unwinder break. It is also a short time label stock while feeding the labels. When a label is fed the paper web pulls the dancer down. This releases the paper roll of the unwinder and dispenses the paper web from the roll.

The force of the dancer must be adjusted in accordance to the paper web of the labels. Small and light labels do not require a strong dancer force. Large and thick labels require a stronger force so the dancer can carry all the weight of the paper web.
For the adjustment, push in knurled knob **1** and adjust corresponding to the desired force. Then release knurled knob so that it stops in a new locking position.

If stiff labels are used the diameter of the unwinder dancer roll must be increased using for example a bigger foam roller. If the diameter of the roll is too small labels tend to dispense at the roller position and drop off the paper web.

If the foam roller is too sticky to the paper web it tends to deviate it laterally. In this case use an extra plastic or aluminum tube instead of the foam roller. But notice that this modification increases automatically the weight of the dancer. If the dancer is too heavy the spring force is to weak to lift the dancer into its released position and the unwinder break does not stop the paper roll enough.

If the dancer arm is bent the dancer roller is not aligned to the deflection shafts of the traction unit. In this case the paper web tends to deviate laterally and sometimes it skips over the side guides. In this case the dancer roller must be bent back carefully.

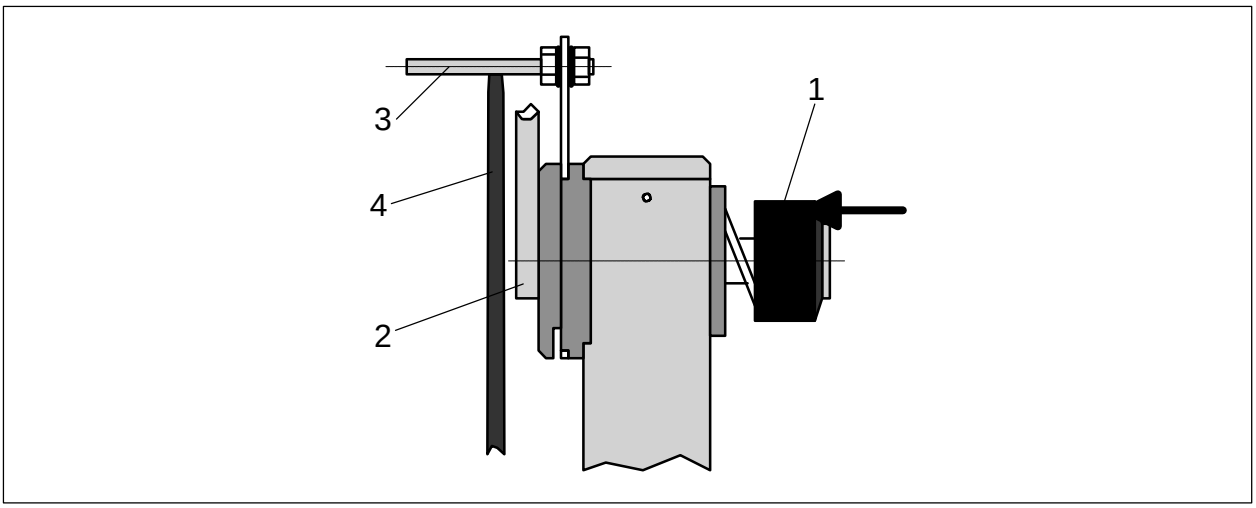
1.1 Midi-Unwinder

The inner disk must be fixed. The outer disk is removable. Align the fixed disk to the laterally label position on the product. This ensures a straight path of the paper web from the unwinder to the peeling bar in the adapter.

In side labeling applications the fixed disk carries all the weight of the paper roll. So it must be fixed tight. If the paper roll is too heavy use a stronger disk to prevent bending of the disk. Sometimes bent disk touch the unwinder's module rail. In this case lift the disk away from the rail until it does not touch it.

1.1.1 Unwinder break

Fix the paper brake to ensure a proper stopping of the paper roll. In side labeling applications it is very important that the paper roll is stopped immediately after the labeling of a product. Otherwise the paper web can build a loop that jams into the product line.



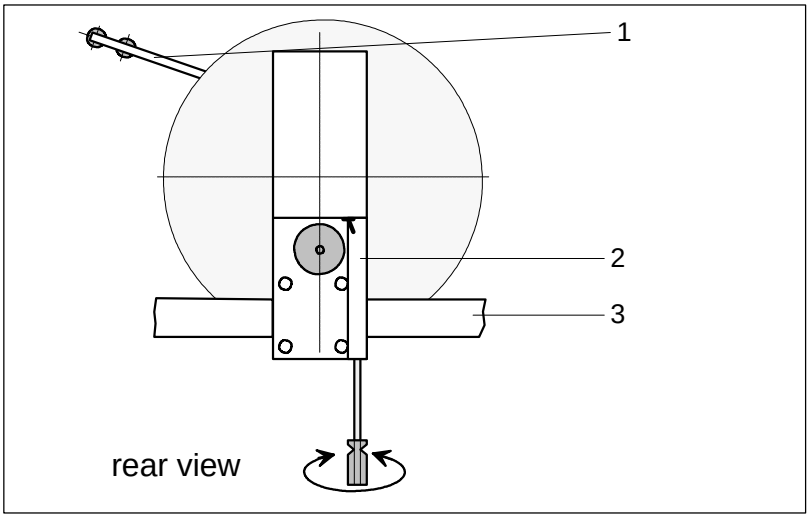
For the break adjustment the break shaft **3** must touch the fixed disk **4** in the moment when the dancer **2** is released.

1.2 Powered unwinder

1.2.1 Spring force

For adjustment of the spring force, use a 5mm hex screw driver. The dancer spring **2** can be accessed from the bottom of the winder.

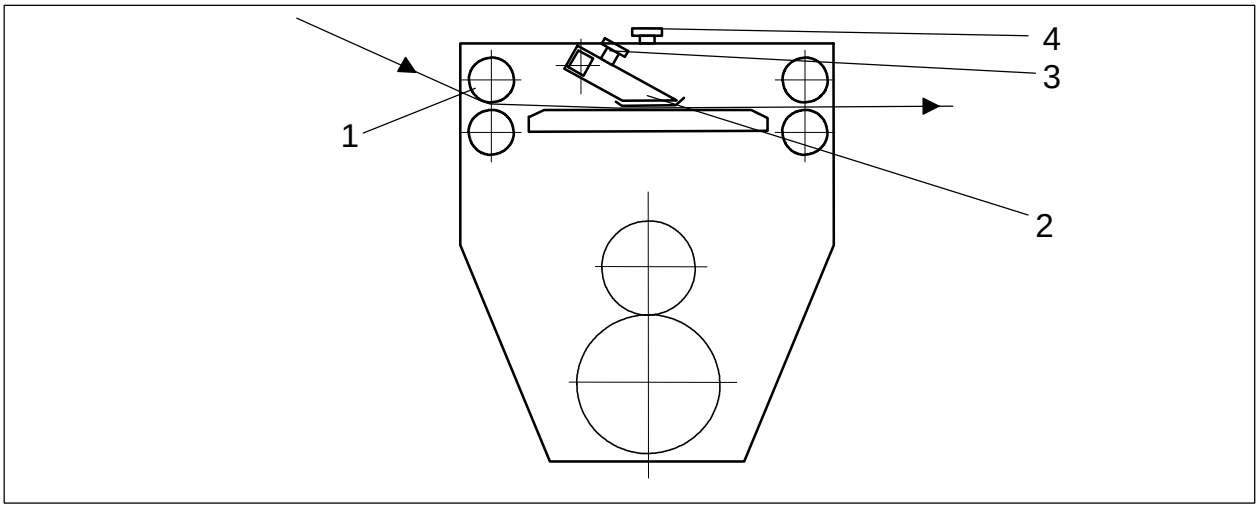
- To increase the dancer force tighten the dancer spring clockwise
- To decrease the dancer force loosen the dancer spring anti clockwise



2 Traction unit

2.1 Paper brake

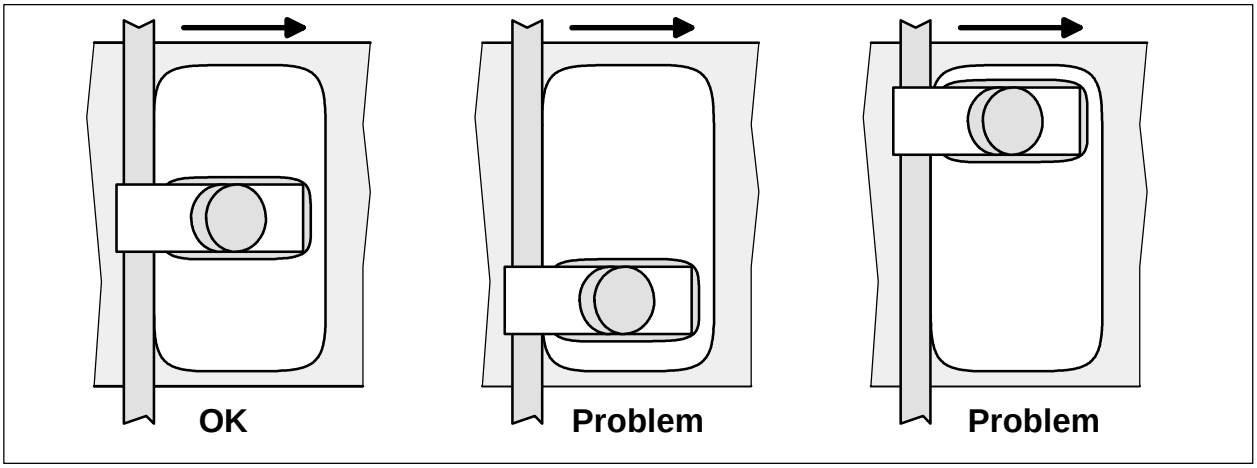
The paper brake **2** has two functions. It brakes the paper web to give a precise peeling of the labels in the adapter. It also filters out the effects of the movement of the unwinder dancer to the paper web. In the Collamat 9100 the paper end signal is wired in parallel to the Traction unit closed sensor to the monitor.



Adjust the web guiding plates at the guiding shaft **1** so that the web is not squeezed nor hurt. Align the guides to the laterally label position on the product. This ensures a straight path of the paper web from the unwinder to the peeling bar in the adapter.

The position of the paper brake **2** must be in the middle of the paper web to avoid lateral deviation of the web. The brake can be shifted laterally after loosening the fixing knob **3**. The breaking force can be adjusted with the knurled knob **4** on the upper side of the traction unit. The braking force must be adjusted so that the paper is always stretched between the traction unit and the adapter.

- The tighter the break is set the harder it is to dispense a label at the peeling bar. So be carefully adjusting the brake. Often a too tight brake is the reason of stalling the stepper.
- Otherwise if the breaking force is to weak the labels tend to slip around the peeling edge.



The paper brake gives a signal to the monitor which indicates if it is not properly closed. If thin paper webs are used the mechanical brass is sometimes not properly activated. In this case simply stick a label across the contacting brass top hold it down. Do not forget to remove the label when you change the kind of paper web.

Periodical cleaning of the break removes parts of glue which come off from dirty paper webs and bad cut labels.

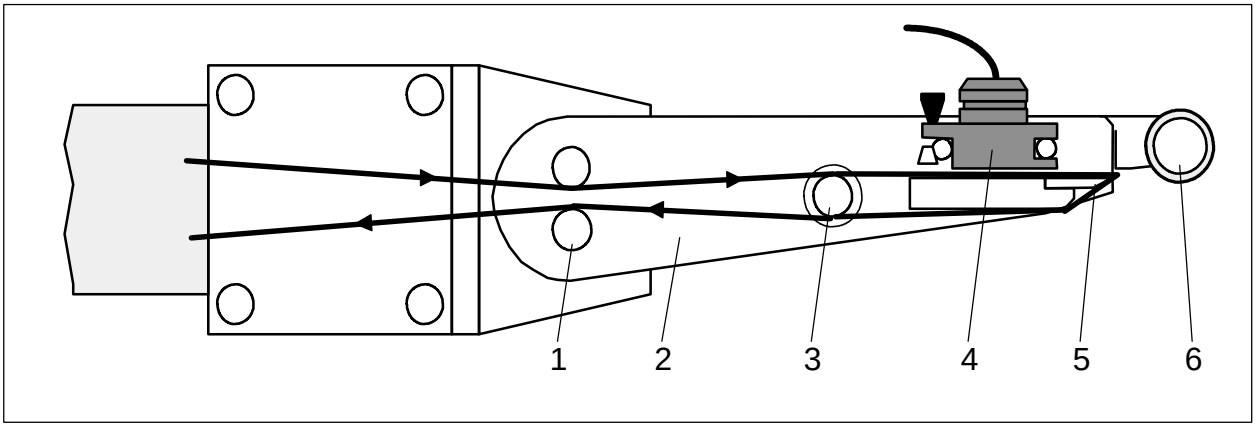
3 Adapter

The adapter is used to peel off the labels from the paper web and to stick it to the products. The standard adapters fit to most applications. For special product or label shapes special adapters must be used. There are different adapters available.

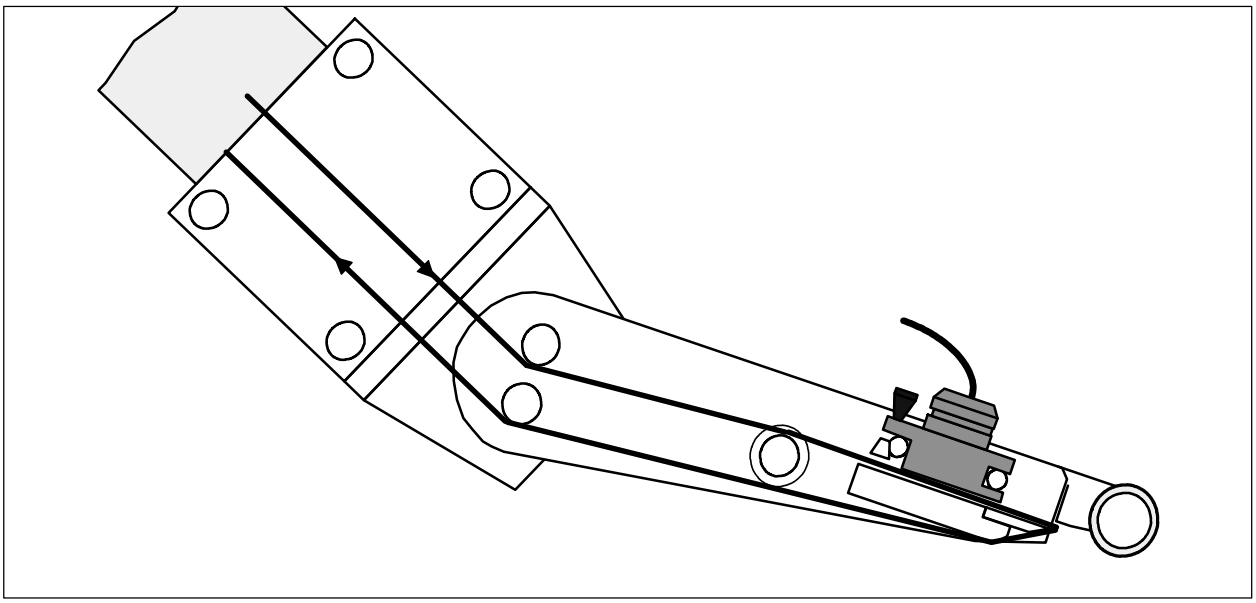
- Fixed flap adapter
- Flap adapter with spring load
- Flap adapter with optional pneumatic lever

The adapter must be selected depending to the application.

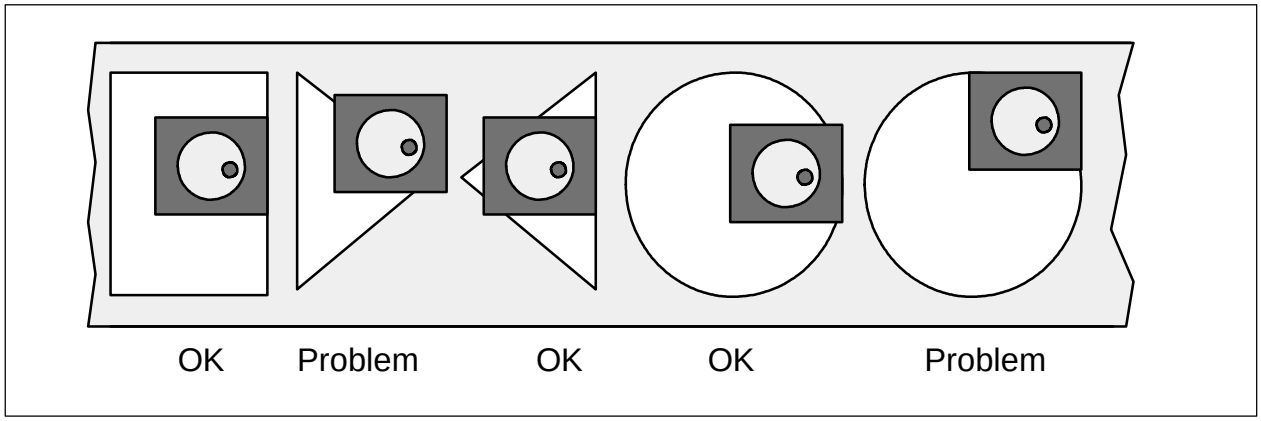
The standard to thread the paper web is shown in the next figure. The web must be threaded rollers **1**. Adjust the web guiding rings on the guiding shaft **3** so that the web is not squeezed and it is well guided. Align the guides to the laterally label position on the product. This ensures a straight path of the paper web from the paper brake to the peeling bar **5** in the adapter **2**.



If the adapter **2** is tilted to a higher angle (see next figure) the empty paper web must not go between the two rollers **3** to prevent friction between both web surfaces. This can stall the stepper motor.

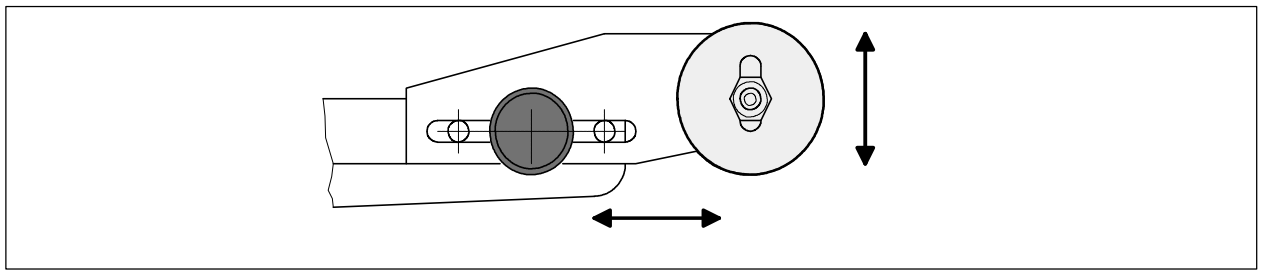


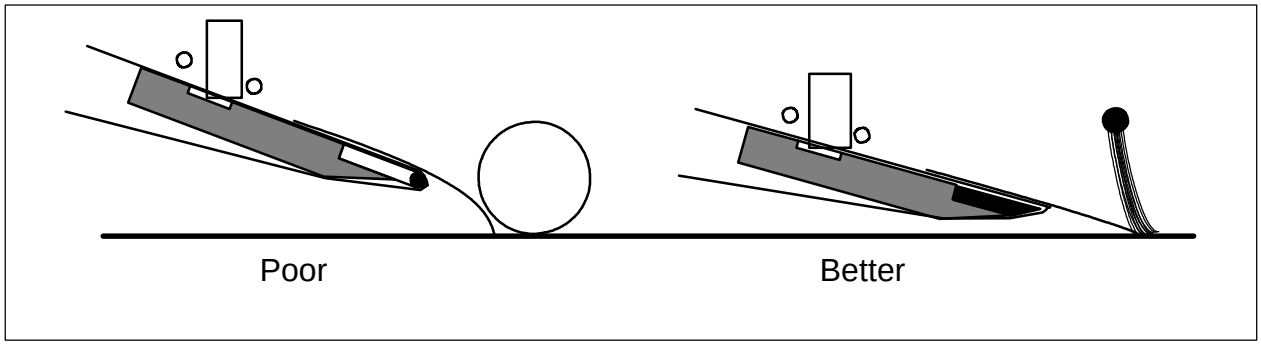
Normally move the label scanner **4** laterally into middle position of the paper web. Depending on the shape of the labels the lateral position must be optimized. Best to scan is a quick change of the light intensity measured.



If the labeling accuracy gets poor check the label scanner and clean it if necessary.

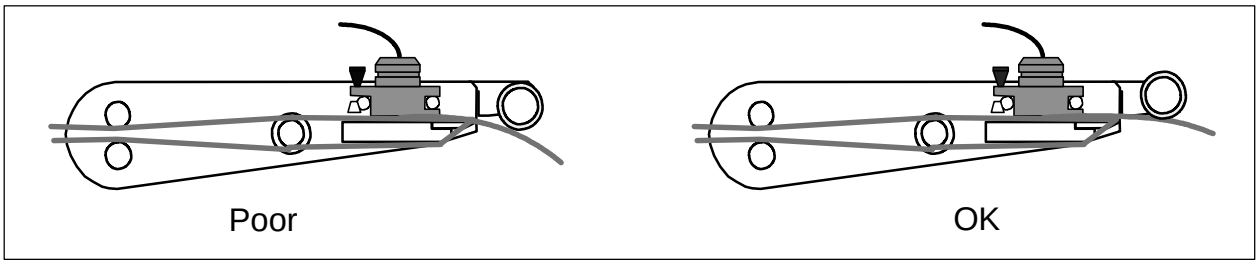
The pressing roller **6** is used to press the label to the product. In some cases it is better to use a brush or a softer foam roller to final press the label on.





If the paper has too much friction around the peeling edge use self adhesive Teflon® tape and stick it around the peeling edge. Most time the problems are gone doing so. Or if stiff labels are dispensed you can mount the roller peeling edge.

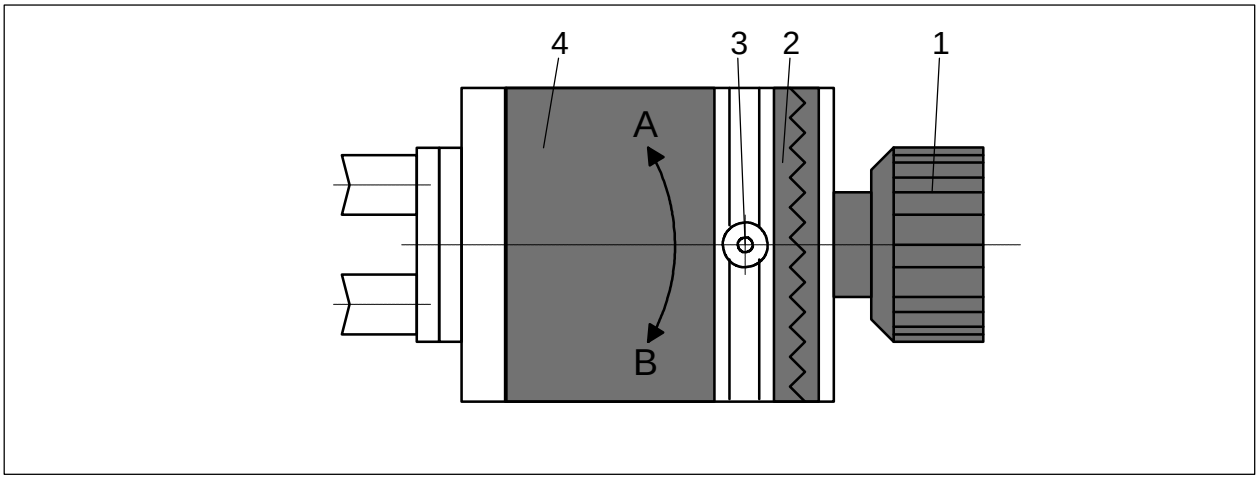
The position of the roller must carefully be chosen. If the roller is fixed too low it deflects the label in a steep angle to the product. The label will then not touch down in the same position every time.



The slope of the flap adapter **4** can be changed against the module rail. Release the knurled knob **1** with two turns. Extend the screen **2** by hand, position the adapter **4** in the required position and fix the knurled knob **1** again.

On the spring flap adapter the required spring force can be adjusted with the cylinder head screw 3.

- Direction **A**: stronger
- Direction **B**: softer



The down pressing time of a flap adapter with pneumatic actuator must be set on the C9100 monitor. The time is set in the menu CONFIGURATION -> Adapter magnet. The time can be adjusted in steps of 0.1 seconds. A value of zero switches the signal off. See also in the Collamat 8600/9100 Monitor user manual.

4 Traction roller

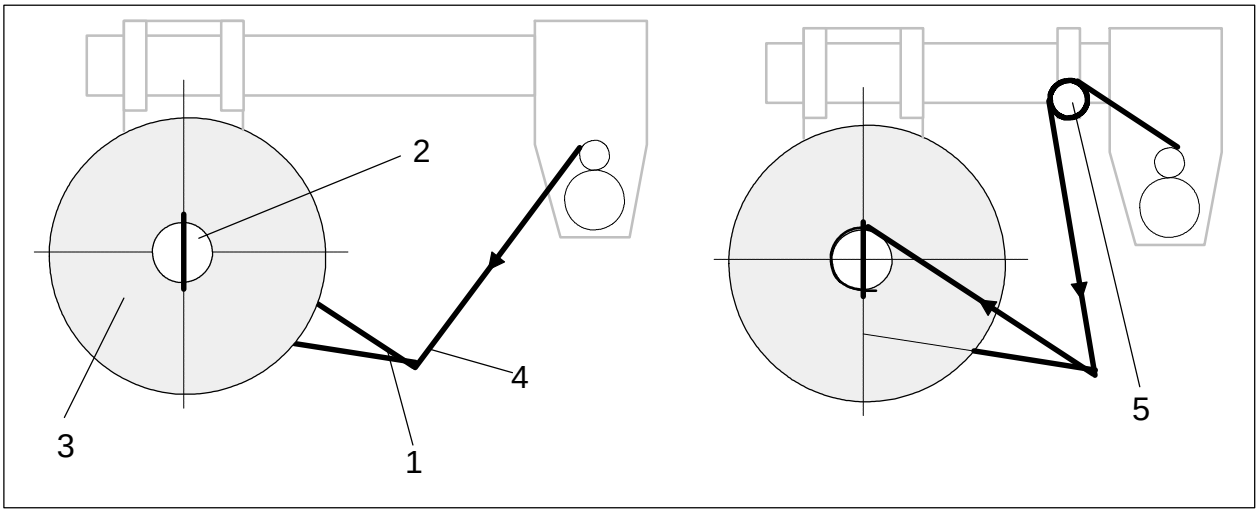
The traction roller must be clean. Adhesives coming from the labels or the paper web must be removed with a solvent free cleaner like Alcohol. If a solvent is used the rubber will get bad and finally go off the aluminum roller.
The paper web can be transported in every position of the roller. Watch that the pinch roller never runs on the traction roller. So early wear off of the rubber is prevented and the pinch roller will not be damaged.
Tighten the pinch roller to the paper web before start of labeling. It helps a lot.
If the stepper motor stalls check for extensive breaking force in the paper brake or in the adapter.

5 Powered Rewinder

Don't stick the end of the paper web **4** to the winder core **2**. Use the clamp to fix it. The clamp makes some space between the full rewound roll and the core. So by unplugging the clamp the core gets free and so it is easier to remove.

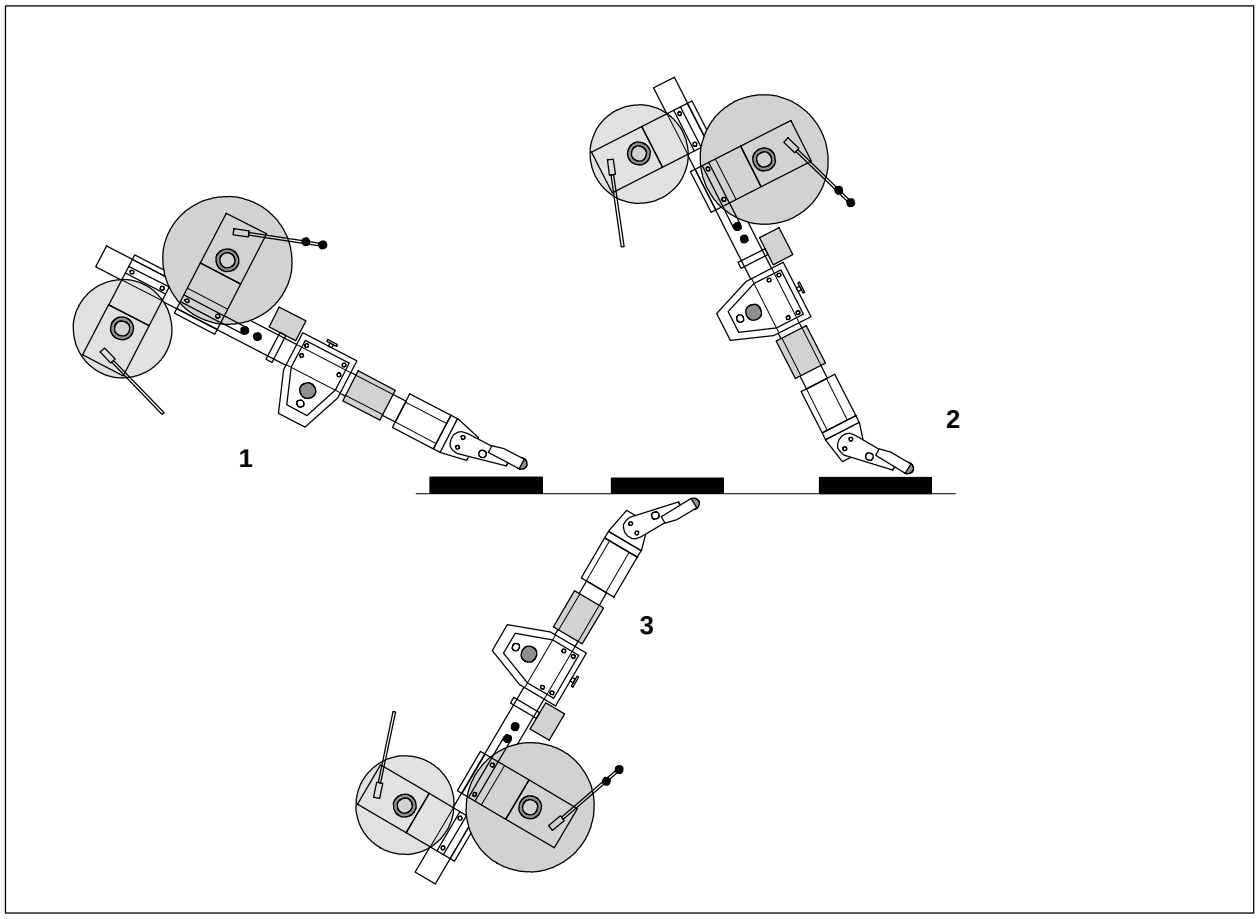
If the paper web **4** is very small (< 25mm) it tends to brake sometimes. In this case don't use the lateral disks **3**. In side labeling applications remove the fixing screws on the flange of the disk and let it slip on a thin felt ring placed between the flange and the lower disk. The upper disk is not necessary.

Sometimes an additional guiding roll **5** helps the rewinder dancer to take the web better out of the traction unit.



6 Module rail

The module rail holds all components of the labeler together. A clamp fixes the labeler to its labeling position.
Best labeling performance is given when the labeler is mounted in a flat angle to the product. So the paper is not unnecessarily bent or deviated. See configuration **1** in the next figure.
The configuration **2** is more complicated to mount and to handle. First, it is difficult to exchange the full paper roll on the unwinder because it is placed high above the floor. Second the paper web is sharp deviated in the flap adapter to meet the label to the product.
The configuration **3** is very tricky to mount because below the conveyor most times there is no space. Also exchanging the paper rolls make troubles because the conveyor is moving above the operating area. A splitted conveyor must be used to get the labels to the products.



In side labeling applications special kits are necessary to prevent the paper web to drop into the product line causing jams. Then also an accurate setting of the unwinder break is recommended. In side labeling applications the dancer is the most outer part. So keep care that at its place no persons or vehicles can pass to prevent accidents or damage.