

SAHM WINDER 260 E

Operating instructions

REV No.	DATE	DESCRIPTION	EDITED	CHD.	APPD.
1.0	11.1.2024	Initial version	SRa		
1.1	7.2.2024	Added images	SRa		

Filament Winder

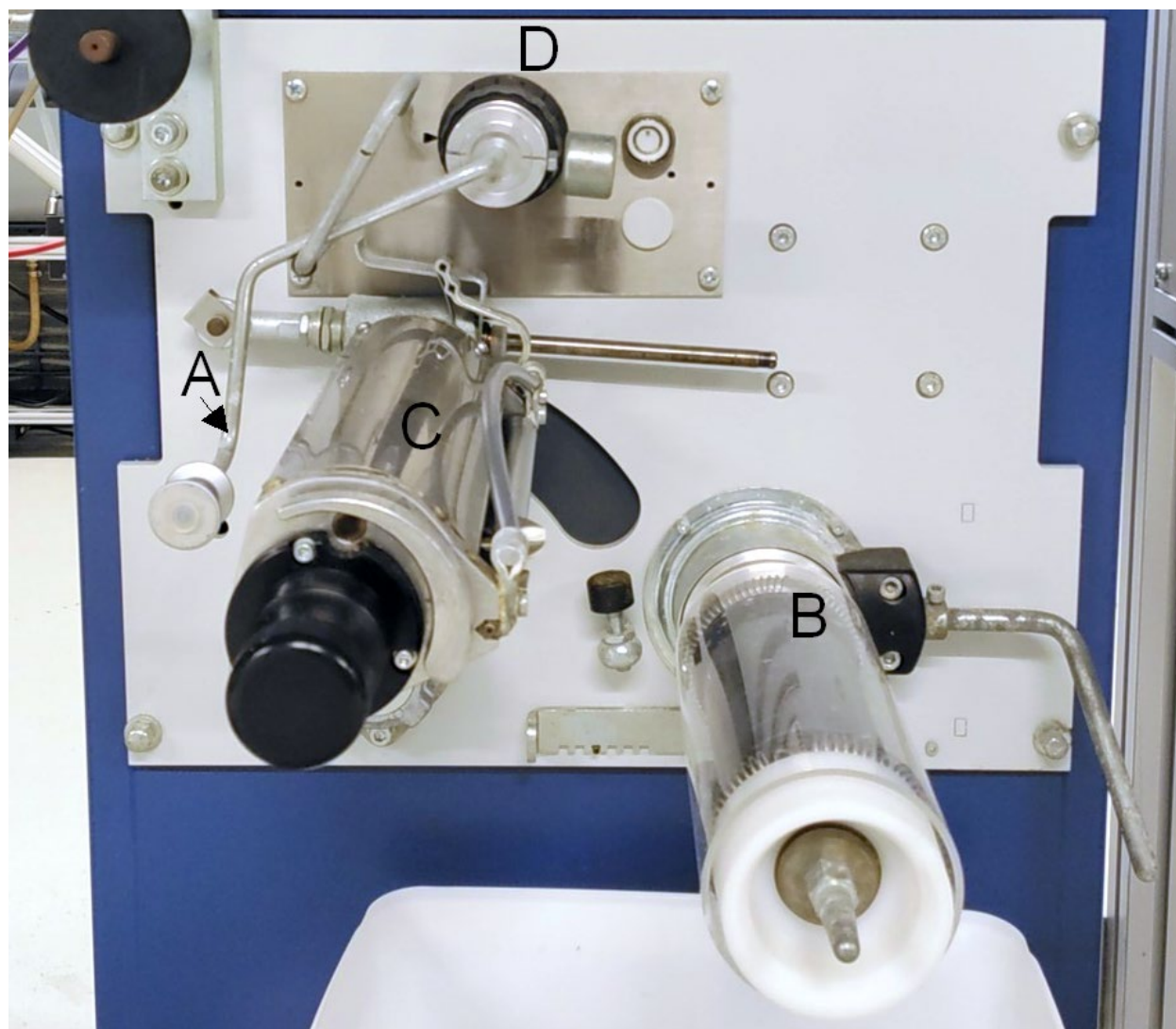
The filament winder is part of the KS80 spinning line, and located in room 261, in Aalto Bioproducts Centre.

Image 1 - Winder



Automatic winding speed adjustment

Image 2 - Winder mechanism



The dancer arm (See Image 2, A) keeps the tension of the winding material constant during winding by changing the winding speed automatically.

During the winding, the dancer arm position should stay in the middle range between top and bottom stops. When the arm swings up, due to the tension increasing, the winding speed decreases. When the arm swings down, due to tension decreasing, the winding speed increases.

In case of a total bundle breakage or low enough tension, the arm hits its lowest point and will stop the winding. At its upmost position, the speed will deaccelerate down to a halt.

The winder will not stop the godets and vice versa. At the moment the units do not communicate between each other – this will be changed in the future.

Preparations

Insert a new plastic bobbin for collecting the filaments. Turn the locking lever on the bobbin holder (See Image 2, B) up, insert the bobbin on the holder, pushing it all the way to the end. Lock it in place by turning the lever down.

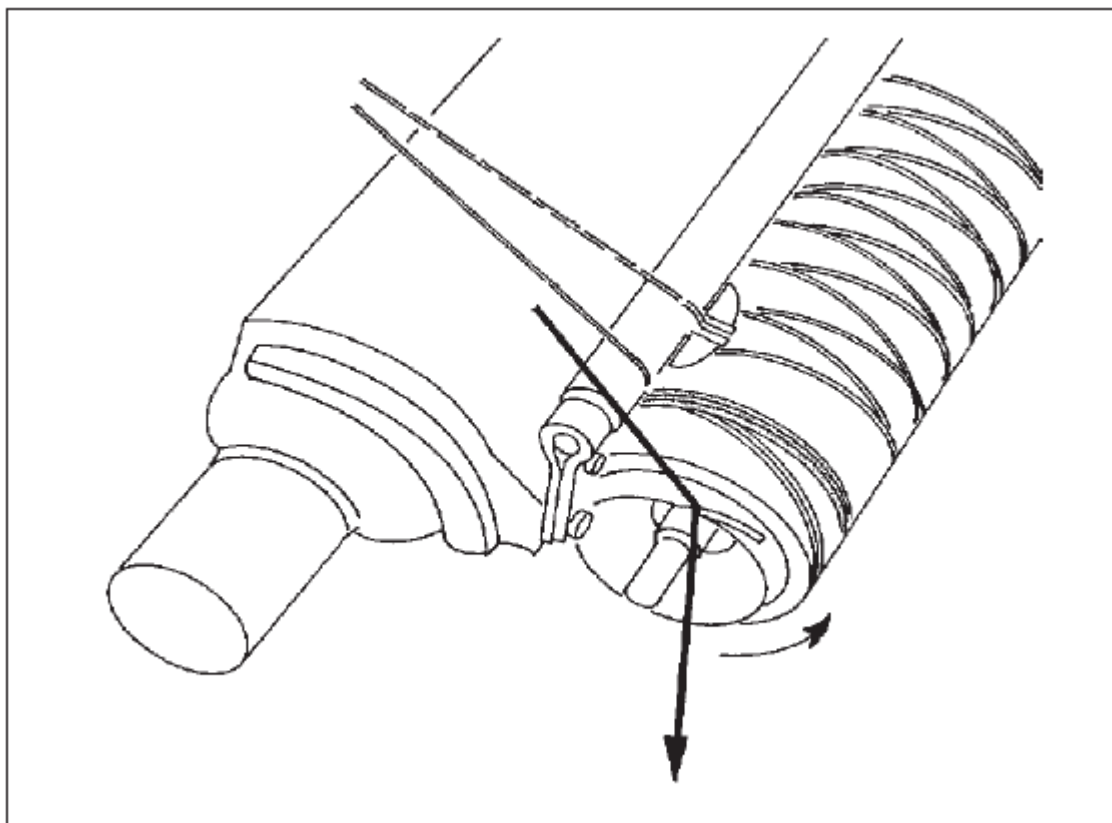
Take hold of the black handle on the traverse mechanism (See Image 2, C), and with your thumb push the lever down. Move the traverse mechanism to its right most position close to the bobbin.

Make an initial tension adjustment using the adjustment ring (See Image 2, D) - 2-3 should be adequate for 200-400 filaments. To adjust the tension, pull the ring outwards, turn it into the required position and push it back again. Turning it clockwise decreases, turning it counterclockwise increases the tension. You may need to adjust this while spinning to accommodate better the filament count and draw ratios.

Starting collection

Push the *start/stop* button next to the tension adjustment ring two times in a row. This will start the winder after a few second delay.

Image 3



Guide the filament bundle over the top roller of the twin-roller, under the roller on the dancer arm, over the lower roller on the twin-roller and then over the bar on the traverse mechanism. Hold the bundle down and against the rotating edge with the notch on the bobbin holder. Hold the end, until the collected filaments on the bobbin catch themselves. (See Image 3) The filament guide on the traverse mechanism will automatically pick up the bundle when passing.

During the collection, the bundle will push against the traverse mechanism, and the bundle roller will help make the bobbin more compact.

Stopping collection

To stop the winder, push on the *start/stop* button, or move the dancing arm to its bottom position. The latter can be achieved by just cutting the bundle.

Other

The device starts blinking the *start/stop* if the collected amount is about to reach a set value. If it lights up, the value has been reached. In laboratory use these warning/end values are seldom used and can be ignored.

If you wish to collect different draw ratios or are starting the winding before reaching wished draw ratios, you can use a coloured marker for example to visually indicate the changes along the filaments. Use a thick felt marker and place it under the filaments between the godet and winder, pushing gently upwards, holding it there to mark for example 50 cm length of filaments. This tension should not affect the winding.

Variables

Prespeed [%]

This parameter is for the spindle speed before you set the material up at the winder. Default is 5%.

Example: You got a linespeed of 100m/min, That means that the spindle is winding with a speed of actually 100m/min on the outer surface of the bobbin. But if you set the material on the winder, the spindle must be bigger than the 100m/min, to get the winder in regulation (Dancer arm in the middle position). With Prespeed set to 5 %, the final spindle speed without material= 105m/min.