



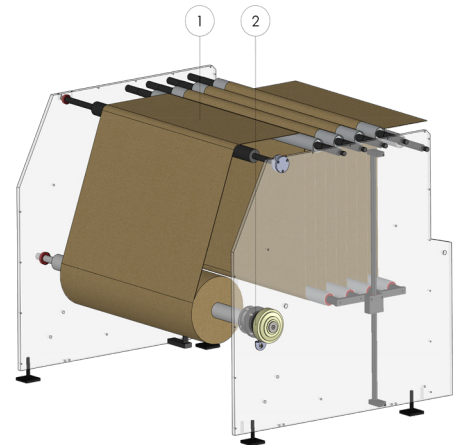
# UNWINDING AUTOMATIC BRAKE TENSION CONTROL

The purpose of the automatic belt tension control system for starting line unwinder modules is to supply a reliable and stable belt tension conditions to the converting industry. These features will contribute to perform converting processes more reliably and efficiently upstream of the unwinder module.

## GENERAL SCHEME

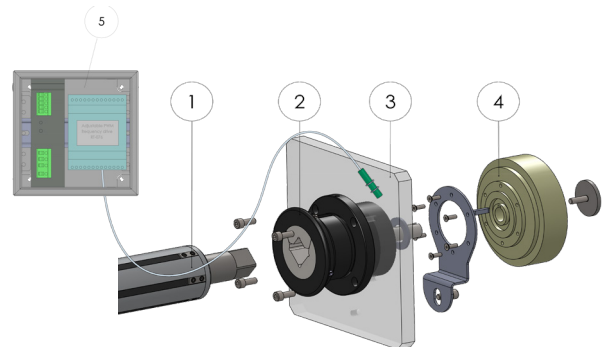
### ITEM NO. GENERAL SCHEME DESCRIPTION

- 1 Unwinding machine with automatic web tension control
- 2 Tension control assembly



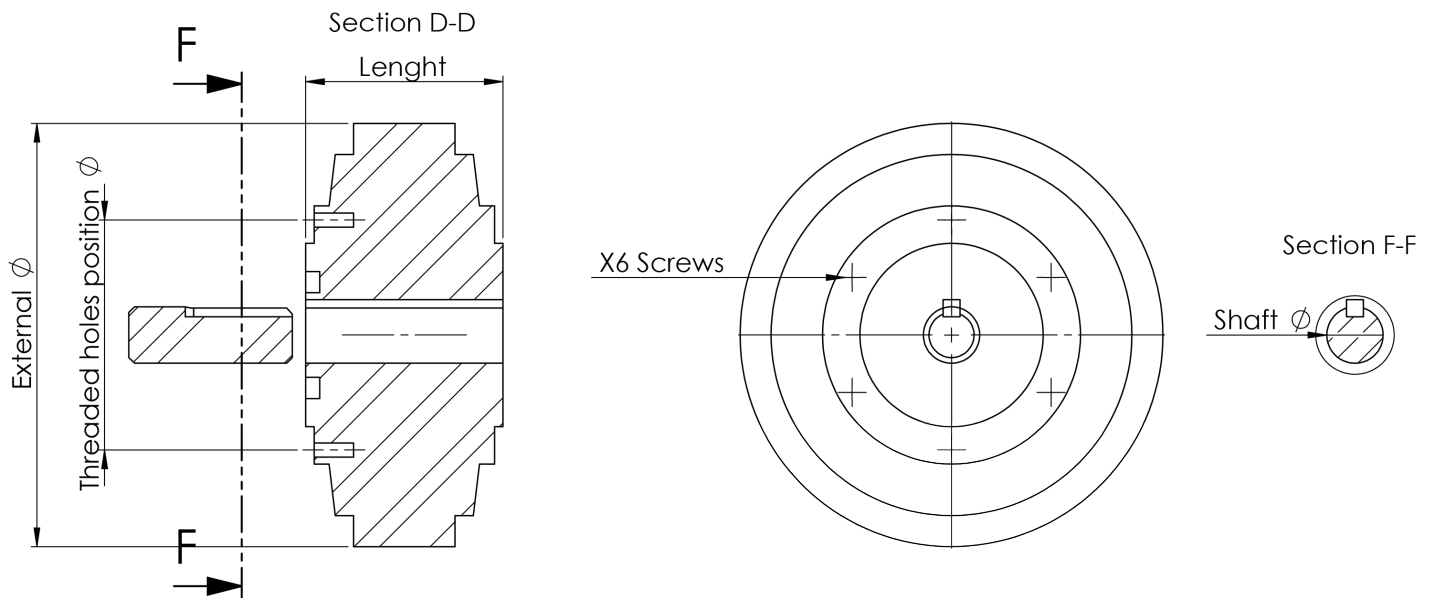
### ITEM NO. TENSION CONTROL ASSEMBLY DESCRIPTION

- 1 Unwinding roll shaft
- 2 Safety chucik or standard bushing
- 3 Machine frame
- 4 6 Nm to 50 Nm electromagnertic brake accessory for unwinding web tension control
- 5 Electric box + brake power regulation sensor





## TECHNICAL PARAMETERS



### MAIN TECHNICAL PARAMETERS

TORQUE [NM]	VOLTAGE [V]	SPEED [RPM/MIN]	CURRENT [A]
6	24	1000	0,8
12	24	1000	1
25	24	1000	1,5
50	24	1000	1,8

### OVERALL DIMENSIONS

WEIGHT [KG]	EXTERNAL Ø [MM]	LENGHT [MM]	SHAFT Ø [MM]	THREADED HOLES POSITION [MM]	SCREWS
2,5	130	60	16	62	M4
4	150	70	20	82	M5
6,5	182	78	25	110	M6
11,5	219	96	30	130	M8

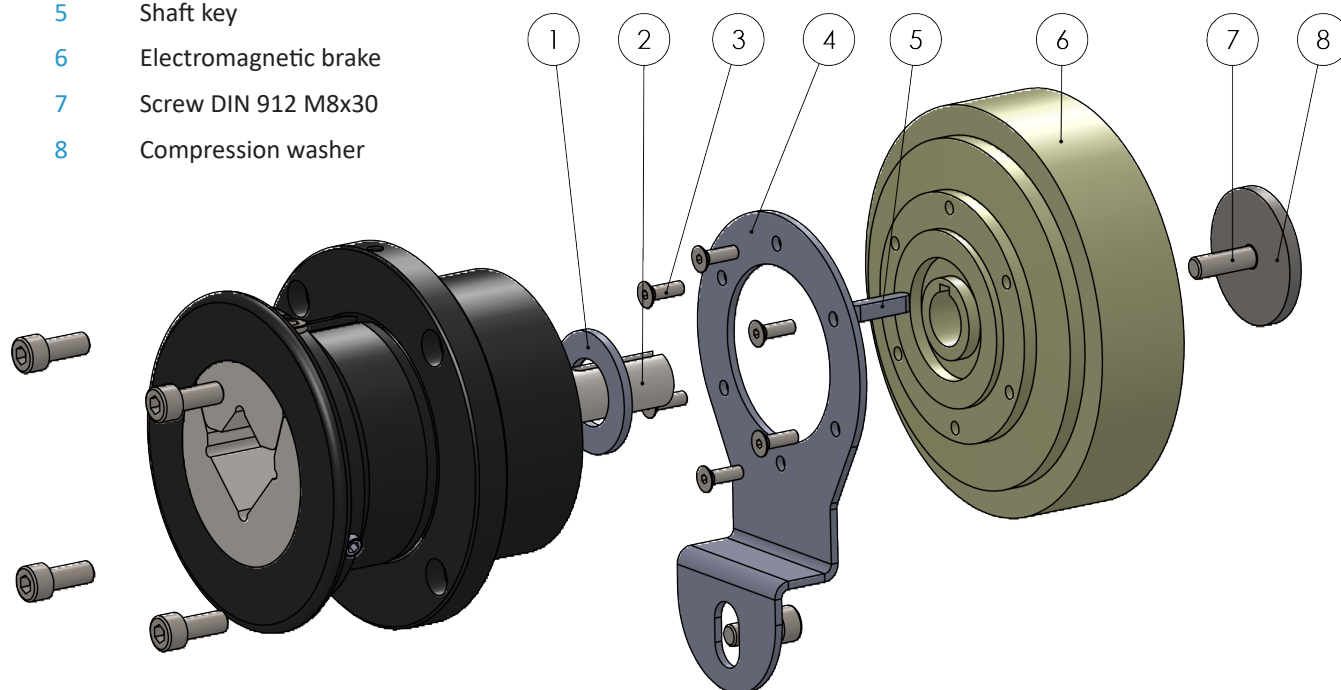




## MECHANICAL ASSEMBLY

### ITEM NO. TENSION CONTROL ASSEMBLY DESCRIPTION

- 1 Separator washer
- 2 Shaft
- 3 Screw DIN 7991
- 4 Antirotation arm
- 5 Shaft key
- 6 Electromagnetic brake
- 7 Screw DIN 912 M8x30
- 8 Compression washer



### COMPATIBILITY WITH OTHER EJEMATIC SOLUTIONS

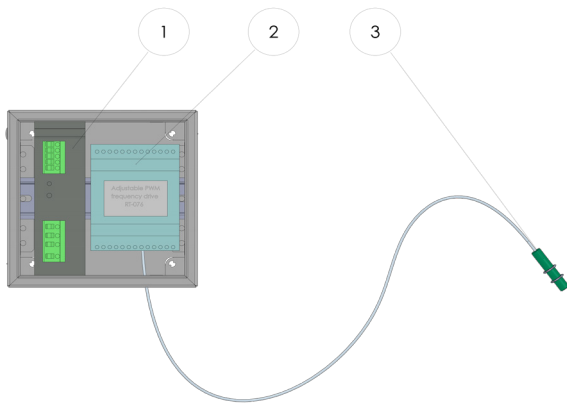
Our Electromagnetic Brake Tension Control guarantees seamless compatibility across the complete range of standard airshafts and machine anchoring systems proudly offered by EJEMATIC:

Airshaft type	Double Support	Cantilever	Axial Displacement
Body Diameter	Ø69, Ø75, Ø150, Special	Ø69, Ø75, Ø150, Special	Ø69, Ø75, Ø150, Special
Machine anchor type	Flange & Foot Safety Chucks and Rolling Supports	Flange & Foot Bushings Ø35 and Ø45	



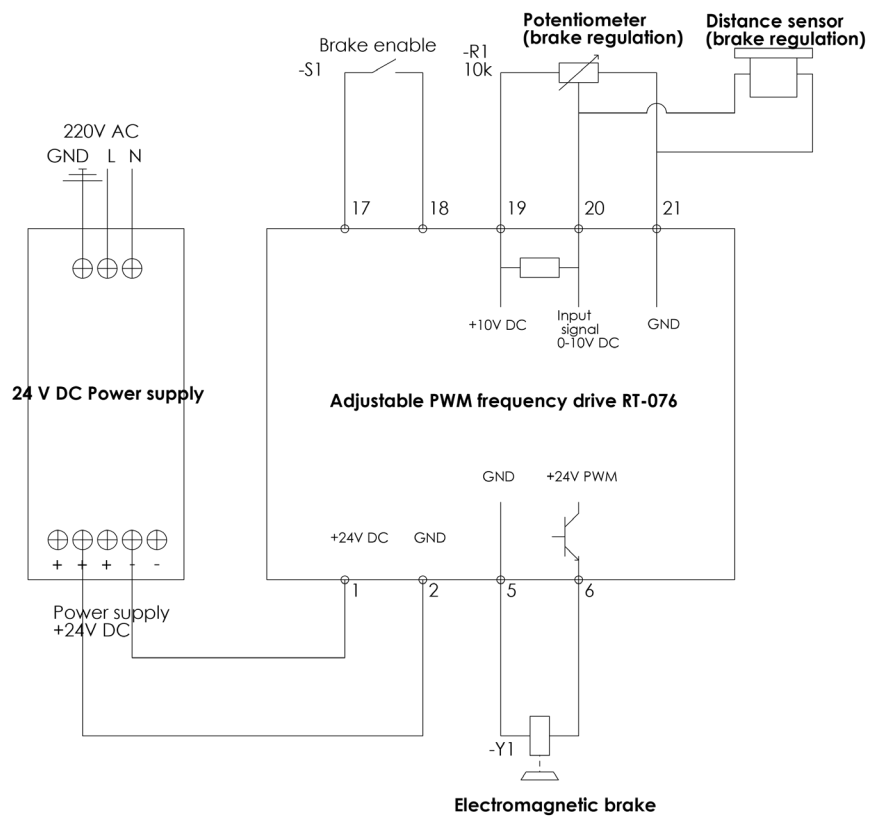


# TENSION CONTROL ELECTRICAL ASSEMBLY



## ITEM NO. TENSION CONTROL ASSEMBLY DESCRIPTION

- 1 Power supply
- 2 Adjustable PWM frequency drive
- 3 Brake power regulation sensor:
  - 3.1 Manual potentiometer
  - 3.2 Dancer arm potentiometer or distance sensor or cascade position sensor array
  - 3.3 Distance sensor or pendulum probe sensor
  - 3.4 Load cell.





## TENSION CONTROL TYPES

The web tension can be regulated through a manual potentiometer or with different sensor types.

Under low-demand unwinding conditions the web tension can be regulated by a manual potentiometer that adjusts the braking power.

When the unwinding conditions are more demanding the web tension is regulated with different sensor types with different technologies involved. The web tension is controlled by a dancer arm and a potentiometer that adjusts the braking power, is controlled by a distance sensor that reads the diameter of the roll and adjusts the braking power or is controlled through a load cell that adjusts the braking power.

## MANUAL

### 1 MANUAL TENSION CONTROL

The web tension is regulated by a manual potentiometer that adjusts the braking power. It is used in cases where the regulation of brake power is constant, for example in small coils under 300 mm diameter .

### COMPONENTS:

- 1 Electromagnetic brake
- 2 Adjustable PWM frequency drive
- 3 24V DC 100W power supply
- 4 Potentiometer
- 5 Electric box





## SENSORITZATION

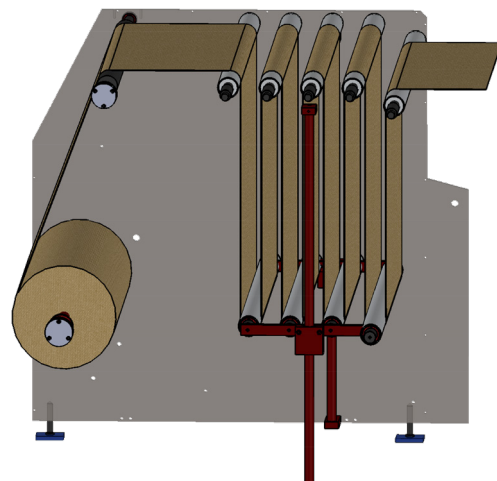
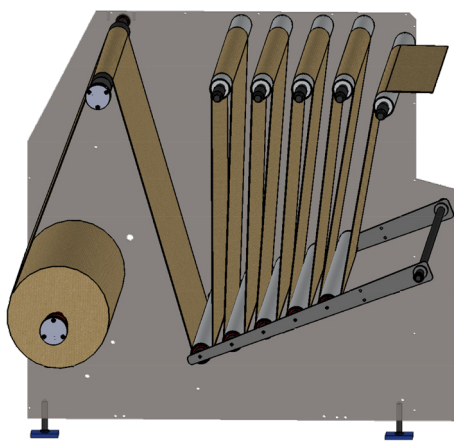
### 1 TENSION CONTROL THROUGH DANCER ARM

The web tension is controlled by a dancer arm and a potentiometer that adjusts the braking power based on the position of the dancer arm. The weight of the dancer arm determines the web tension. Alternatively to the potentiometer, a distance sensor can be mounted to read the position of the dancer arm.

Alternatively a cascade position sensor array can be mounted to read the position of the dancer arm.

### COMPONENTS:

- 1 Linear or angular dancer arm
- 2 Electromagnetic brake
- 3 Adjustable PWM frequency drive
- 4 24V DC 100W power supply
- 5 Dancer arm potentiometer or alternatively distance sensor or alternatively a cascade position sensor array
- 6 Electric box





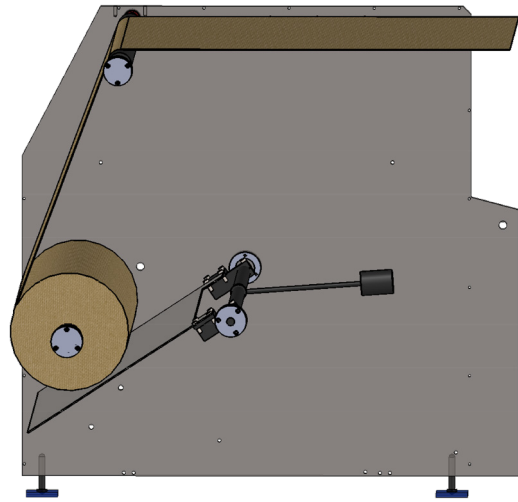
## 2 TENSION CONTROL THROUGH DISTANCE SENSOR

The web tension is controlled by a distance sensor that reads the diameter of the roll and adjusts the braking power.

Alternatively to the distance sensor, a pendulum type probe can be mounted to read the diameter of the roll.

### COMPONENTS:

- 1 Electromagnetic brake
- 2 Adjustable PWM frequency drive
- 3 24V DC 100W power supply
- 4 Distance sensor or alternatively pendulum type probe sensor
- 5 Electric box

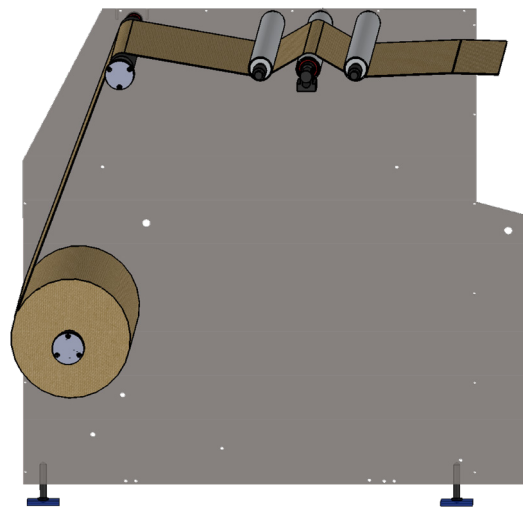


## 3 TENSION CONTROL THROUGH LOAD CELL

The web tension is controlled by a load cell that adjusts the braking power.

### COMPONENTS:

- 1 Electromagnetic brake
- 2 Adjustable PWM frequency drive
- 3 24V DC 100W power supply
- 4 Load cell
- 5 Electric box



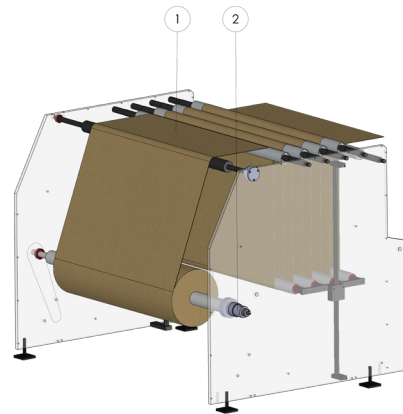


# UNWINDING MECHANICAL BRAKE TENSION CONTROL

## GENERAL SCHEME

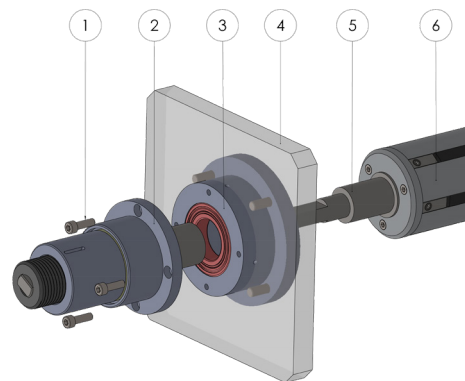
### ITEM NO. GENERAL SCHEME DESCRIPTION

- 1 Unwinding machine with mechanical web tension control
- 2 Mechanical brake tension control assembly



### ITEM NO. TENSION CONTROL ASSEMBLY DESCRIPTION

- 1 X4 Screw DIN 912 M6x20
- 2 2 Nm to 12 Nm mechanical brake accessory for unwinding web tension control
- 3 Safety chuck or standard bushing
- 4 Air shaft journal end
- 5 Unwinding roll shaft



### COMPATIBILITY WITH OTHER EJEMATIC SOLUTIONS

Our Mechanical Brake Tension Control guarantees seamless compatibility across the complete range of standard airshafts and machine anchoring systems proudly offered by EJEMATIC:

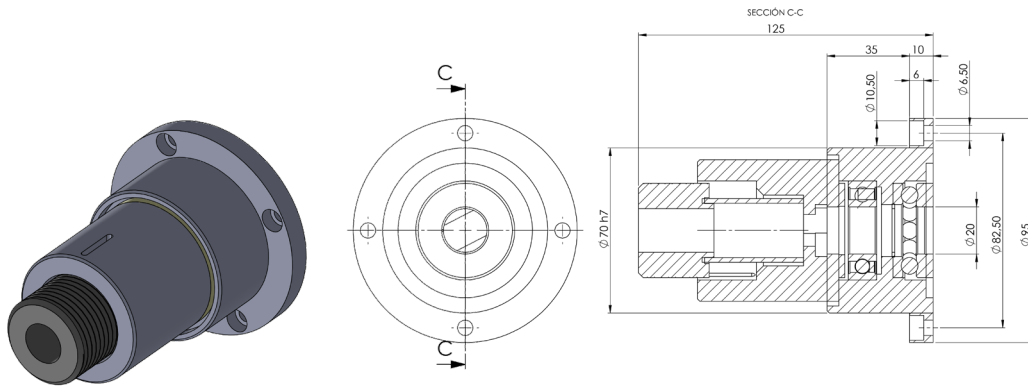
<b>Airshaft type</b>	Double Support	Cantilever	Axial Displacement
<b>Body Diameter</b>	Ø69, Ø75, Ø150, Special	Ø69, Ø75, Ø150, Special	Ø69, Ø75, Ø150, Special
<b>Machine anchor type</b>	Flange & Foot Safety Chucks and Rolling Supports	Flange & Foot Bushings Ø35 and Ø45	





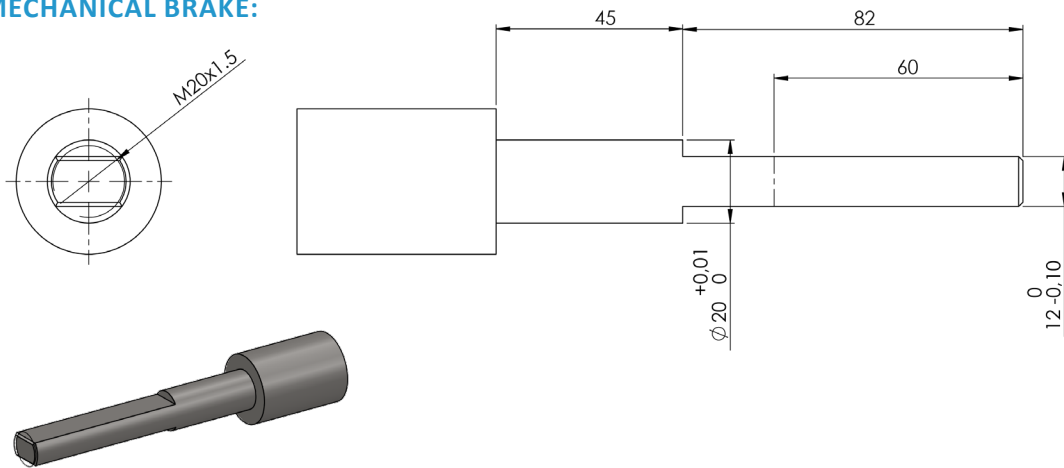


## TECHNICAL PARAMETERS



Brake power manual regulation through the nut

### REQUIRED JOURNAL END TO ASSEMBLE THE MECHANICAL BRAKE:



TORQUE [NM]	SPEED [RPM/MIN]	WEIGHT [KG]	EXTERNAL Ø [MM]	LENGTH [MM]	SHAFT Ø [MM]	THREADED HOLES POSITION [MM]	SCREWS	PRODUCT REFERENCE
2	1000	1.8	95	125	20	82.5	M6	CTS-MBX-002
4	1000	1.8	95	125	20	82.5	M6	CTS-MBX-004
6	1000	1.8	95	125	20	82.5	M6	CTS-MBX-006
12	1000	1.8	115	130	20	102.5	M6	CTS-MBX-012

