



# Responsive and reliable CD profile control OnQ ModuleTherm

OnQ ModuleTherm uses air to optimize the CD profile at the calender through controlled heating or cooling of zones on the roll surface. The air currents break through the boundary air layer between the actuator and roll and thus transfer the heat output to the calender roll with high efficiency.

In contrast to actuators with only one or two air jets, OnQ ModuleTherm uses a curved air jet matrix that conforms to the radius of the calender roll. This design allows very energy-efficient control of the CD profile in the short wave range over the entire web width. The OnQ ModuleTherm system includes CD profile control and a electrical cabinet that incorporates all the control and power electronics.

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## Benefits

- + **Narrow control zones for precise CD profile control**
  - + **Best CD profile quality due to the combination of heating and cooling**
  - + **Efficient heat transfer due to the patented multi-jet design**
  - + **Short reaction times due to quick heating and cooling**
  - + **Optimal heat output for every application**
  - + **High reliability due to rugged heating elements and modern power electronics**
  - + **Ethernet TCP/IP data interface**
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## Mode of operation

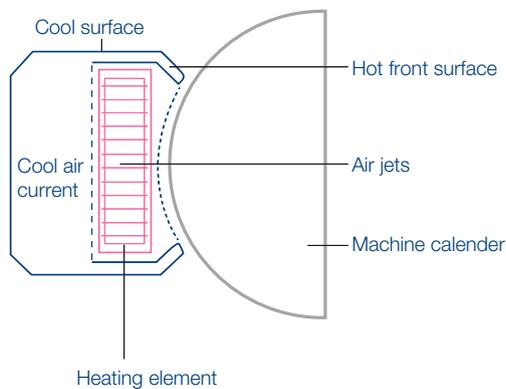
The OnQ ModuleTherm system gives the option of active heating and cooling of the calender roll surface for quick manipulation of the CD profile. A constant air current transfers the thermal energy of the output-regulated heating elements in the individual control zones to the calender roll. If the heat output in a control zone is nearly zero, the air current provides for cooling of the corresponding roll surface. Through heating or active cooling of the calender roll, you achieve unmatched control dynamics. In addition, the constant air current through all control zones prevents mutual thermal influencing of the control zones and thus ensures CD profile control with a very narrow response function.

Various output levels and zone divisions are available for the modules, allowing an application-specific solution for every paper or board grade and all hard and soft calenders.

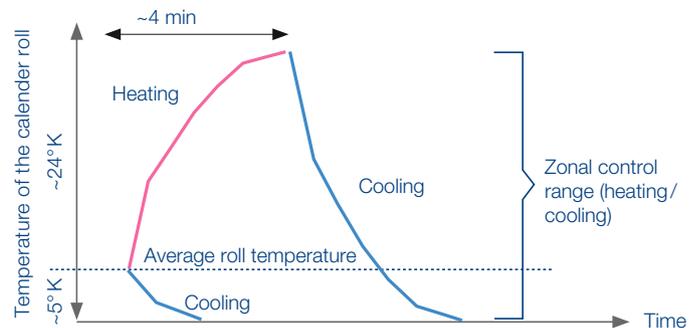
## Technical data

- **Control zone width**
  - OnQ ModuleTherm S: 76 mm
  - OnQ ModuleTherm U1/U2: 76 or 38 mm
- **Max. heat output**
  - OnQ ModuleTherm S: 46 kW/m
  - OnQ ModuleTherm U: 66 kW/m
- **Air**
  - S: 700 m<sup>3</sup>/hr/m width at 1.0-2.0 kPa
  - U: 1,400 m<sup>3</sup>/hr/m width at 2.5-3.0 kPa
- **Dimensions**
  - 432 mm (in machine direction)
- **Height**
  - For widths up to 3.7 m or less: 458 mm
  - For widths over 3.7 m: 584 mm

## Mode of operation of OnQ ModuleTherm



## Active heating and cooling for quick reaction and large control range (Exemplary illustration)



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