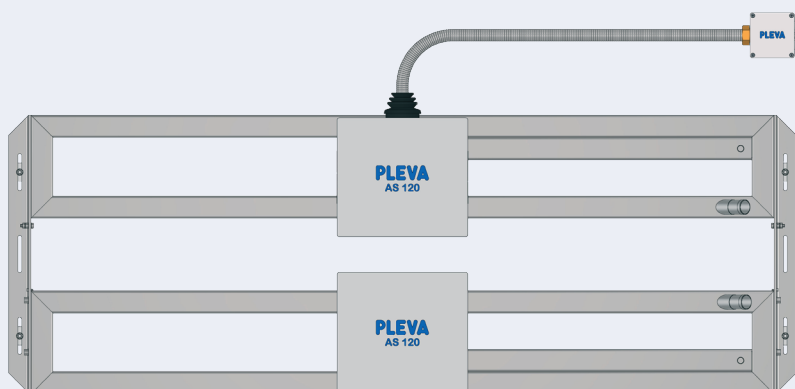


Size Application Measurement

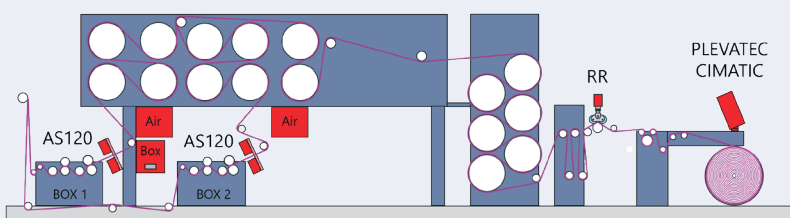
AS 120



Size Add On Size Add On

Residual
Moisture

Visualization
& Control



PLEVA

AS 120 for uniform and efficient sizing

BENEFIT FOR CUSTOMER

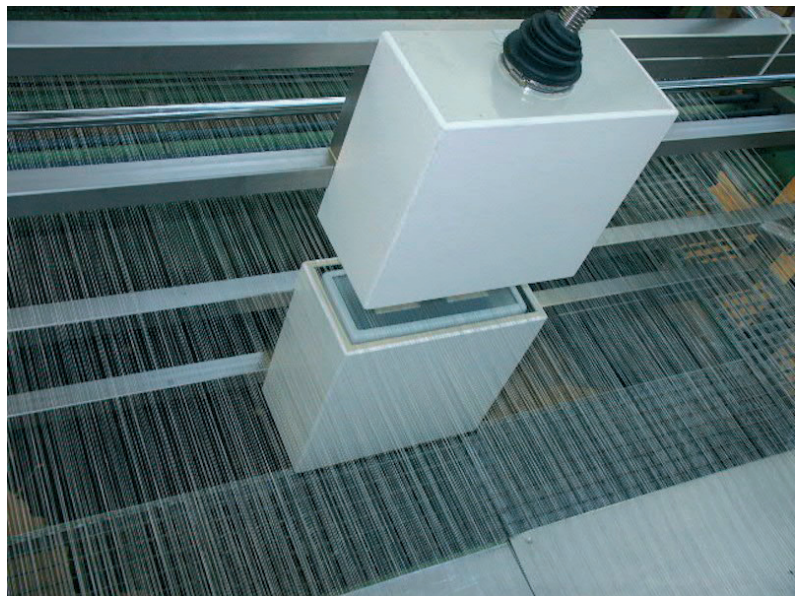
- Continuous size application recording throughout the whole warp beam
- Uniform size pick-up during production speed and creep-speed possible with additional control
- Increasing and stabilization of weaving efficiency by uniformity of size application
- Quality monitoring

The crucial parameter to good running behaviour of sized warps in the weaving mill is the degree of sizing. The microwave moisture sensor AS 120 determines the degree of sizing of the warps without physical contact and on-line.

A required size application can be achieved by setting (or controlling) the pressure of the nip roller.

Prevention of over- or undersizing

By controlling the degree of sizing, both oversizing (waste of resources, more dust in weaving room) and undersizing (increased yarn breakage, reduced weaving efficiency) can be prevented. This means that safety margins can be minimized and a consistent, uniform sizing is possible.



AS 120 transmitter and receiver measuring heads

Improve cost-efficiency and sustainability

With the continuous control of the size application several economical and ecological advantages can be achieved:

- Seamless recording of sizing order
- Optimization of high-speed and creep pressure control
- Increase and stabilization of weaving efficiency through uniform sizing (practical experience 1.5 ... 4%)
- Sizing agent savings (practical experience 10 ... 25 %)
- Simplified washing out of the size
- Reduced wastewater load and thus, reduced wastewater costs
- Higher quality of the raw material for subsequent finishing processes
 ➡ Reduction of fabric waste

This makes the AS 120 a hero for sustainability.



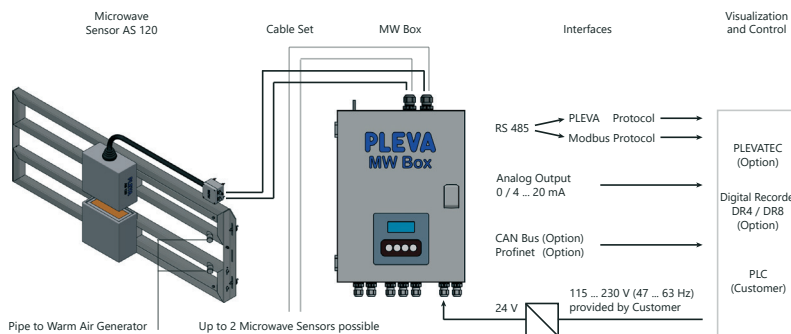
BENEFIT FOR CUSTOMER

- Reduction of wastewater and subsequent costs
- Savings on sizing agents
- Minimization of wasted fabrics and resources

Measurement technology and tailored hardware for ideal process control

Measuring principle

The measurement of the moisture content in the material using the AS 120 measuring instrument is based upon the principle of microwave absorption by water. A semiconductor oscillator passes microwave energy through the fabric web (warp web). The microwaves which are not absorbed are detected at the opposite side by a microwave sensor. The degree of absorption is a measure of the absolute moisture content. At a set concentration in the size box, the moisture content correlates directly with the degree of sizing. The water content of the size warps is measured online, contactless, continuously and accurately behind each size box.



Measuring frame

The construction of the AS 120 includes two microwave heads (transmitter and receiver) which are mounted on a stainless steel measuring frame. The measuring frame is heated, which prevents condensation.

Electronics and warm air generator

As the process of sizing involves steam vapours and high temperatures a protection is necessary to prevent impacts on the measurement accuracy. To overcome these rough conditions, the measuring frame is heated by air. This warm air, which is provided by a special warm air generator, is blown out around each measuring head. Hence, it works like an air cushion. This special design prevents condensation and ensures a consistent measurement environment. The evaluation electronics are located in a separate box and can process one or two measuring frames.



AS 120 in use

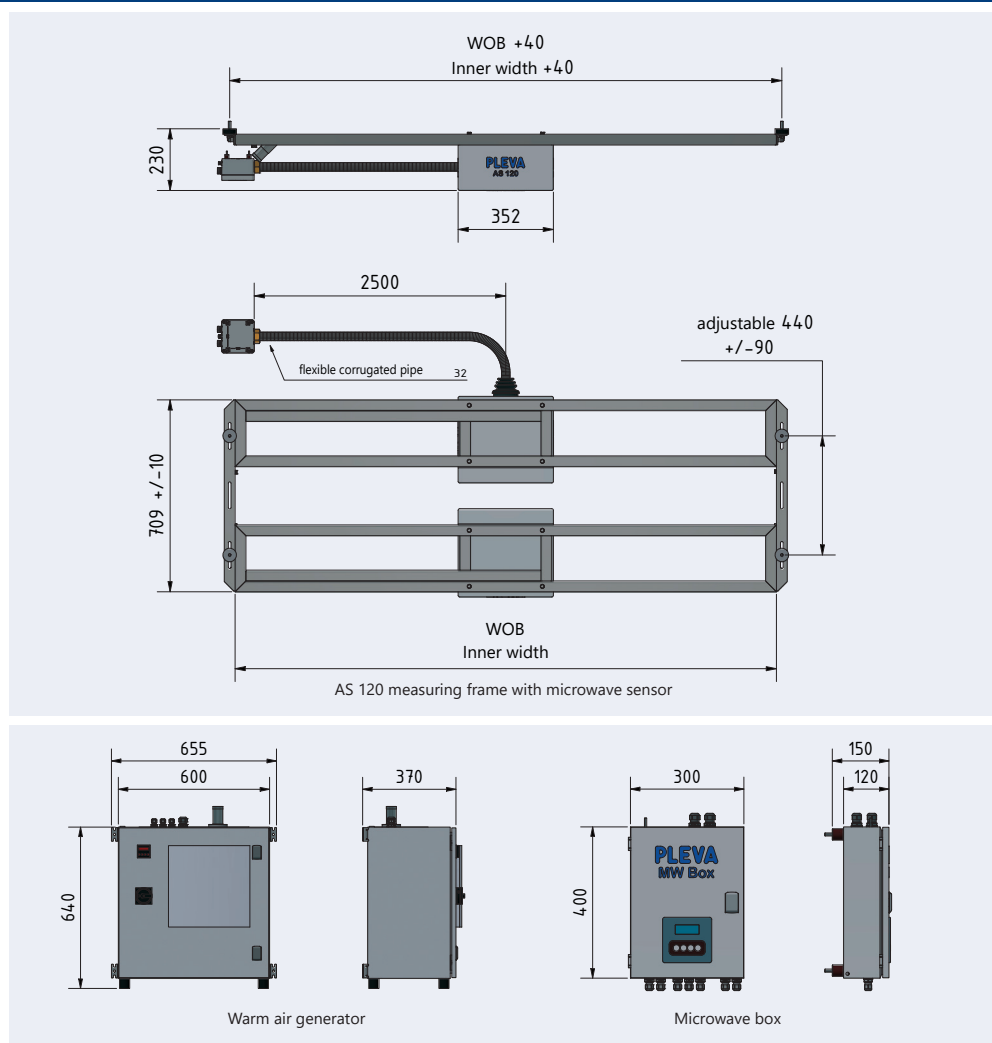
Process visualization and control SizeControl

The additional process visualization and control system SizeControl shows all important data at a glance. The 15" touch screen panel includes a modular PLC system and advanced control software. Accordingly, an optimal process control of sizing machines with one or two size boxes can be achieved.

FEATURES OF AS 120

- Contact-free measurement
- Measuring non-hazardous
- Very high sensitivity over a huge measuring range (from filament to Denim)
- Flapping or splitted warps do not affect measurement
- High measurement accuracy due to protection against steam vapours
- Fast measurement allows use at highest warp speed

Technical drawings



Technical data

Microwave head

Ambient temperature sensor:	max. 50°C standard max. 75°C if heating unit is ON
Measuring range	0...1000 gH ₂ O/m ²
Accuracy:	better than ± 1% of measuring range but not better than ± 0,3 gH ₂ O/m ² absolute
Weight:	approx. 9 kg active head approx. 7 kg passive head

Microwave box

Ambient temperature:	max. 50°C
Supply voltage:	24V DC (± 10%)
Power consumption:	max. 87 W with microwave heads
Interface:	RS485, 0/4...20mA, CAN (optional), Profinet (optional)
Weight:	approx. 10 kg

Power supply unit for microwave box

Nominal voltage:	115/230 VAC 47-63 Hz
Dimension:	70 x 147,5 x 164 mm
Weight:	approx. 1.2 kg

Warm air generator

Ambient temperature:	max. 55°C
Power consumption:	approx. 2.1 kVA
Weight:	approx. 50 kg

PLEVA

PLEVA GmbH
Rudolf-Diesel-Str. 2
D-72186 Empfingen-Germany
Tel: +49 (0) 7485 1004
Fax: +49 (0) 7485 1009
info@pleva.org www.pleva.org

