

Field of Application

- In order to transfer ink and damping solution in sufficient quantity and with an even distribution onto the substrate, it is necessary to work with defined distances between the hard/hard-paired cylinders or rollers in the printing press. In addition, the distance between hard/hard-paired cylinders may also be required on any other types of machines. This makes it necessary to measure the gaps.
- The point of contact between a measuring wedge and the cylinder pair is registered by the GAP CONTROL which determines the gap width/distance in millimeters and this value is digitally displayed. The GAP CONTROL serves to set and control the **distance between hard/hard-paired cylinders** in a reproducible manner.
- Measurements with the GAP CONTROL support the adjustment of newly assembled machines. With older machines, it is an indispensable tool for service, troubleshooting and machine readjustment.
- With its high measurement accuracy and fast measurement procedure, the GAP CONTROL replaces or supplements the use of feeler gauges. Due to the same measurement principle, multiple feeler gauge sizes are incorporated into the measuring wedge and the measured values are digitally shown.

Measurement Positions on the Printing Press

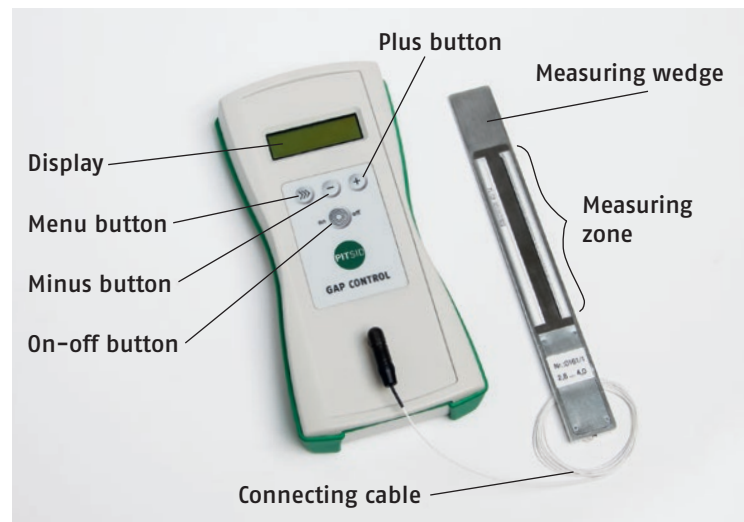
- The GAP CONTROL has been developed with the aim of preferably being used on printing presses for the distance measurement between hard/hard-paired cylinders with identical or varying diameters. However, at least one cylinder diameter should not be bigger than 500 mm, otherwise it would become difficult to insert the measuring wedge into the cylinder gap by hand.
- Distance measurements on printing presses between plate cylinders and rollers, between plate and blanket cylinders or between blanket and impression cylinders are possible, but the measurement error of the distance value becomes larger because these cylinder pairs tend to be hard to soft.

Measurement Principle

- The measuring wedge, on which a sensor is fixed, is inserted up to the stopping point between the hard/hard paired cylinders. The sensor registers the contact position with the cylinder surface. The distance between the cylinders (gap) is calculated from this contact position and is digitally shown.
- For the calculation of the values, the cylinder diameters of the cylinder pair must be entered in the device.
- The active section of the measuring wedge (the marked measuring zone) faces the cylinder with the entered diameter D1.
- When inserting the measuring wedge, the inserting pressure should be high enough to clamp the wedge in the gap so that the wedge retains its position without a tilting movement after release.
- **The measurement is carried out with the cylinders at standstill.**

Configuration

- The GAP CONTROL consists of a hand-held measuring device and a measuring wedge connected by a cable.



Operational Readiness

- The plug of the measuring wedge must be connected into the socket of the hand-held measuring device. After pushing the on-off button, the GAP CONTROL is ready for operation.
- The device can be switched off by manually pushing the on-off button or through the automatic switch-off after 5 minutes without usage.

Measurement Procedure

- The machine must be safeguarded with the emergency stop button or any other safety lock system.
- Switch the GAP CONTROL on. Hold the measuring device with one hand or fix it at a suitable point on the machine using the built-in magnet on the backside of the device.
- The measuring wedge number indicated on the display must be compared with the number on the wedge itself and, if necessary, be corrected with the plus/minus buttons.
- By pushing the menu button, the diameter values D1 and D2 appear one after the other. The values of the cylinder pair to be measured can be set with the help of the plus/minus button. **The cylinder which will contact the active area of the measuring wedge (the marked measuring zone) is to be defined as diameter D1.** When pushing the menu button again, any changes are automatically saved and you return to the gap width indication display.

- Hold the measuring wedge between the thumb and forefinger and insert it up to the stopping point between the cylinders. The measuring zone should preferably face downwards and face the smaller of the two cylinders. Insert with enough pressure so that the measuring wedge is clamped in the gap in such a way that it will keep its position without tilting when released.



- The gap width can be read on the display when you release the wedge. The measured value is beyond the measurement range if the symbol --- appears on the display.



- Pull the measuring wedge out of the gap.
- Release the emergency stop button or any other safety lock you have used to safeguard the machine.

Calibration

- The GAP CONTROL is calibrated by the manufacturer. It is not necessary for the user to calibrate the device.

Changing Batteries

- The GAP CONTROL is powered by a 9 V block battery. It must be changed if "Change battery" appears on the display. We recommend the type "Ultralife lithium", whose service life has successfully been tested.

Maintenance, Repairs, Service

- If the measuring wedge gets dirty during a measurement, the measuring zone of the wedge should be cleaned. Use a soft rag together with a commercial cleaning agent.
- Repairs and service are exclusively carried out by the manufacturer.

Occupational Safety

- The machine must be at standstill when taking a measurement. Secure it with the nearest visible emergency stop switch, thus making it impossible to accidentally start the machine by third persons. During the machine assembly, accidental start-up may also be prevented by other suitable measures.
- In addition to the aspects of occupational safety during measurement and the positioning of the measuring wedge described under "Measurement Procedure", the usual precautionary measures taken for machines with rotating parts must of course be observed. This refers especially to the operator's concentration and the avoidance of distractions during measurement in order to avoid the dangers of getting hands or pieces of clothing stuck in the machine. Take precaution that the connecting cable between the measuring wedge and the measuring unit does not get stuck between the cylinders.

Transport, Storage

- The GAP CONTROL must be protected against dust and humidity.
- Heavy shock and vibrations on the device must be avoided.
- The carrying case, which is part of the delivery, guarantees its safe and practical transport. It holds the GAP CONTROL with the measuring wedge and this operating manual.

Technical Data

Measurement range	Defined by the measuring wedge
Resolution	0.005 mm
Measurement uncertainty	± 0.02 mm at a measuring range span of 1.2 mm
Field of application	<ul style="list-style-type: none"> • Cylinder gaps – at least one cylinder diameter ≤ 500 mm • Gap or slot widths
Dimensions	210 mm x 100 mm x 40 mm
Measuring wedge dimensions	Approx. 220 mm x 26 mm x 7 mm
Weight	350 g
Operating temperature	15 °C ... 30 °C
Power supply	9 V block battery, recommended type: Ultralife lithium
Battery control	Battery change displayed as "Change battery"
Scope of delivery	Measuring device including battery, measuring wedge, carrying case, operating manual