

## NR 8000 – Option Mould cavity pressure measurement

---



Fig.: NR8024-v3 for 24 zones

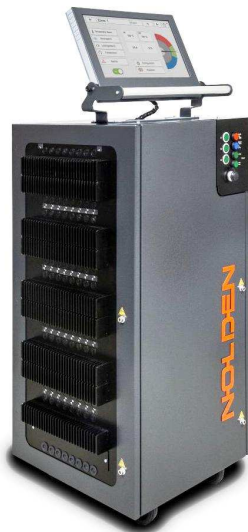


Fig.: NR8064 for 64 zones



Fig.: NR8016-v3 SGM for 16 zones



Fig.: Sensor 2,5 and 4mm (direct measurement)



Fig.: Sensor 12,6 mm (indirect measurement)

**KISTLER**

measure. analyze. innovate.

**Baumer**

Passion for Sensors

- **Pressure measurement directly in the mould cavity or indirectly under the ejector pin**
- **Range 0 ... 2000 bar**
- **Direct connection to NOLDEN hotrunner controllers series NR8000**
- **Gives alarm when mould cavity filling is not complete**
- **Switching of the injection moulding machine to holding pressure is possible**

### **Application :**

NOLDEN hot-runner controllers series NR8000 with touch-screen operation system STS can be equipped with integrated pressure measurement directly in the mould cavity. Here, NOLDEN pressure sensors have to be mounted at an appropriate place in the mould and to be wired to the controller via the cables delivered with the sensor.

These highly precise piezoelectric pressure sensors are specially designed for very quick measurement directly in the mould cavity, we work here together with the well-known Swiss sensor specialist BAUMER Electric.

Beside the pressure measurement feature in the hot-runner-controller (option), no further device is needed. That's why starting with cavity pressure measurement is now much more affordable than with other traditional systems !

### **Number of zones and upgrading :**

Pressure measurement in the hot-runner controller starts from 1 zone, this option can also be fitted at a later moment in all systems series NR8000. Also, upgrading for more zones is possible (depending on available space inside the controller casing)

## NR 8000 – Option Mould cavity pressure measurement

### Analysis functions :

To keep the operation of the system as simple as possible, pressure measurement and analysis were concentrated on the following functions :

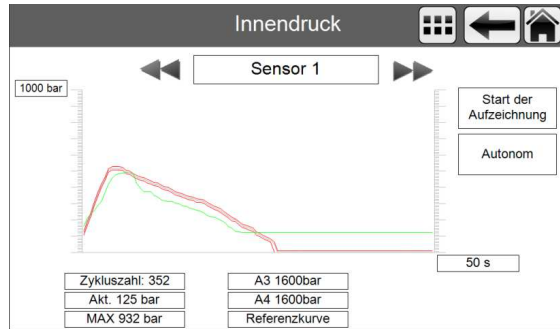


Fig. : Screenshot cavity pressure measurement

- Analysis of cavity filling pressure in real time, peak- and average value are analysed automatically for every sensor and monitored on the screen. The last 1 up to 6 filling cycles can be viewed and compared, a zoom function for more detailed analysis is also available.

- Monitoring of cavity filling: After definition of a minimum cavity pressure, this is subsequently controlled on all filling cycles. Alternatively, a reference curve can be defined and pressure is compared with this curve for an adjustable tolerance. If not reached in one (ore more) cycles, a floating alarm contact is switched. This can be used to stop the injection moulding machine, trigger a peripheral device (waste switch or STOP robot) or to sound an alarm.

If several pressure measurement channels are used, any alarm acts as a common alarm like one of the temperature alarms of the hot-runner controller. Like those temperature alarms, eventual filling alarms are recorded and documented in the alarm management system of the controller.

- Switching to holding pressure: By entering a second pressure value, one more floating contact can be used to switch a connected injection moulding machine to holding pressure. This permits to realise tangible cycle time reductions and thus economical advantages compared with the constant time- or screw displacement triggered switching point, as the injection cycle is stopped at the earliest moment when every cavity has reached full filling pressure.

Also this contact acts as a common contact, the switching is done when all connected sensors reach the given pressure threshold value.

### Configuration and settings :

After connection of the cavity pressure sensors, just select the used sensor type and desired range from a menu on the screen. If several sensors are being used, choose the sensors actually to be viewed on the screen, also from a simple menu. For use with indirect sensors (force transducers), the diameter of the ejector pin needs to be entered once.

After the start-up of the mould and the first filling cycle tests, enter the desired pressure values on a keyboard on the screen. That's it, no further settings needed !

### Product overview

Product :

Art.-Number :

- Option Innendruckmessung for NR8000, 1 channel
- dto. 4 channels

838xx.x5x  
838xx.x5x

Overview sensors and cables see dedicated datasheet „Sensors mould cavity pressure measurement“.

Per measurement channel, one sensor, one sensor cable **and** one connection cable are needed.