Octagon
Process Technology

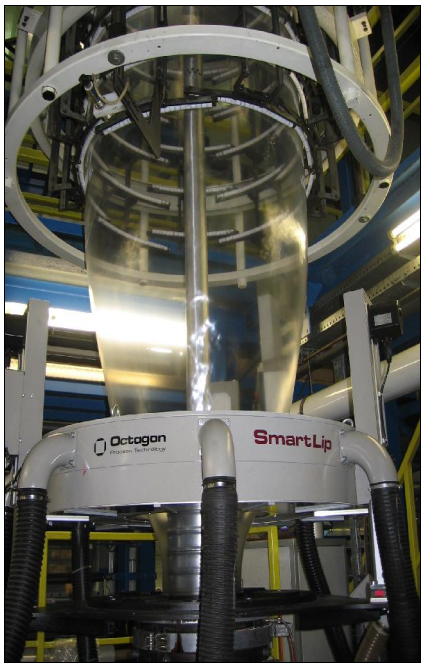
Gauge profile control system Smart*Lip* with Single-, Dual- or Triple-Lip air ring

Optimising film quality

Smart*Lip* is an on-line system for continuous control of the gauge profile on blown film extrusion lines. By reducing gauge profile tolerances this system guarantees:

- the production of high-tech films
- highly improved quality
- considerable reducion of production costs

The Smart*Lip* control system may be fitted not only to any new blown film extrusion line but is also an optimal solution when it comes to retofitting older lines.



Automatically controlled single-, dual- oder triple-lip air ring

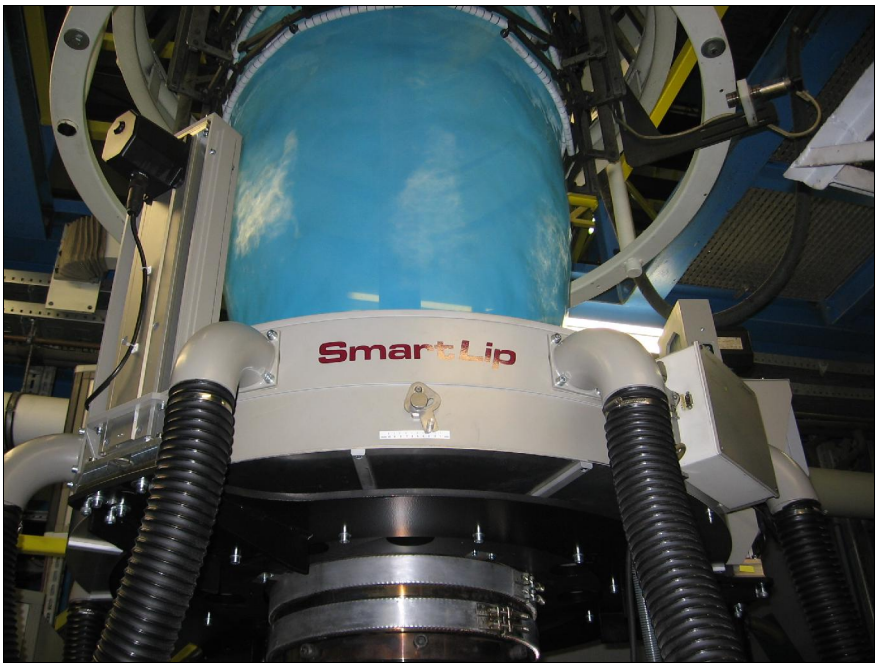
Smart*Lip* uses an automatically controlled air ring equipped with adjustment units for redistribution of the cooling air gap. this allows thick spots and thin spots to be corrected by less or more cooling air respectively. A control step takes place each time a complete gauge profile has been measured.

Variability

Smart*Lip* is suitable for all popular film types and by simply exchanging lip adaptors even suitable for long and short stalk production.

Increase of output by various cooling systems

In order to increase the output of a blown film extrusion line the Smart*Lip* control system can be used with various one-storey air rings. Dual-lip air rings are state of the art on modern blown film extrusion lines nowadays. Triple-lip air rings as a high tech solution offer even more variability for the end-users to influence film properties and output of their extrusion line. Retrofitting older lines with such system require detailed assessment of limitations, where Octagon is a competent partner for.



Better quality

- Reduced gauge profile tolerances by 50 - 70 % of outgoing values
- Improved film properties for the downstream confection
- Even film reel geometry
- Improved production plan
- Reduced customer complaints

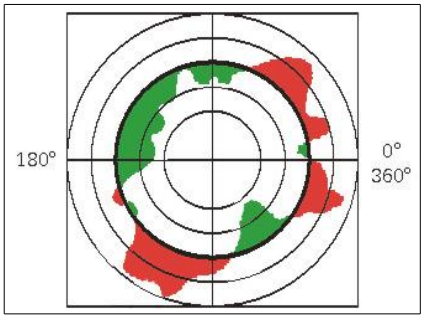
Your advantages

- Savings in raw material by down-gauging
- Considerably less down-time of the downstream equipment
- Reduced start-up waste
- Fast return on investment
- Increase of output

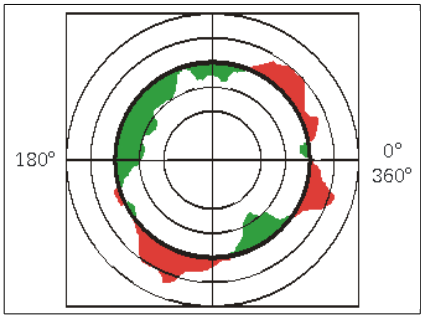
Automation

- Safe production process
- Compensation of die centering inaccuracies makes post-centering unnecessary
- Simple to extend with other Octagon control systems
- Continuous correction of negative production parameters

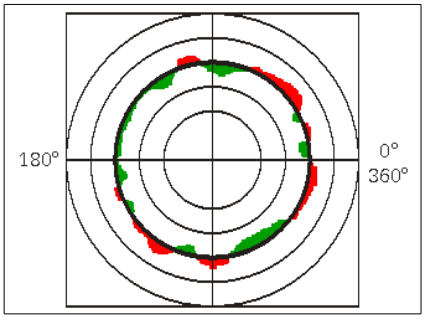
Octagon gauge profile controls:
for improved profitability and best quality



Outgoing profile tolerance 10 %



First correction after 3 min.: tol. 7,4%



Fourth correction after 14 min.: tol. 3,6%

What can be achieved?

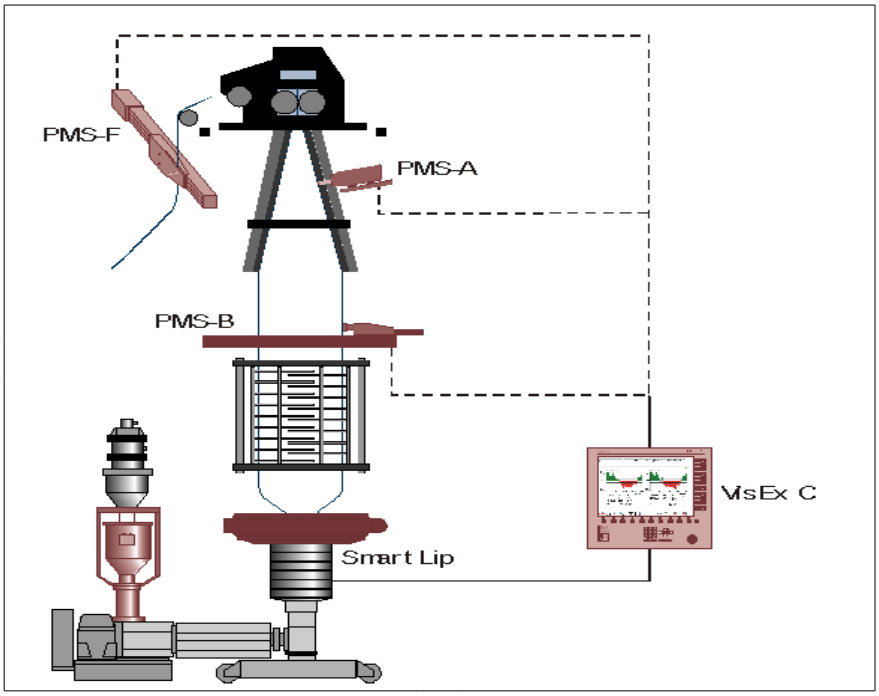
Experience shows improvemens by 50 - 70 %. This is confirmed in the above example where LDPE film with a nominal gauge of 70 µm is being produced. Controlled by Smart*Lip,* the outgoing profile tolerence of 10 % was reduced to 3,6 % equivalent to an improvement of 64%.

The following table illustrates the control steps and corresponding improvements:

	Prod.-time	Tol.
Outgoing profile:		10,0 %
1st control step	3 min	7,4 %
2nd control step	7 min.	4,8 %
3rd control step	10 min.	4,6 %
4th control step	14 min.	3,6 %

Overall view of system and extent of delivery

- Automatically controlled single-, dual- oder triple-lip air ring Smart*Lip*
- Capacitive measuring system PMS
- Process controller ScenEx with visualisation VisEx
- Web speed probe (option)



3 capacitive gauge profile measurements are available:

- Oscillating sensor PMS-B for measurement on the film bubble
- Stationary sensor PMS-A for measurement in the collapsing frame
- Stationary sensor PMS-F for measurement of lay-flat film

Process control and visualisation

Operation and visualisation of the control system is done over the process controller VisEx V. A LCD display is provided for the display of polar and cartesian charts of the gauge profile.

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