



PROTUNE

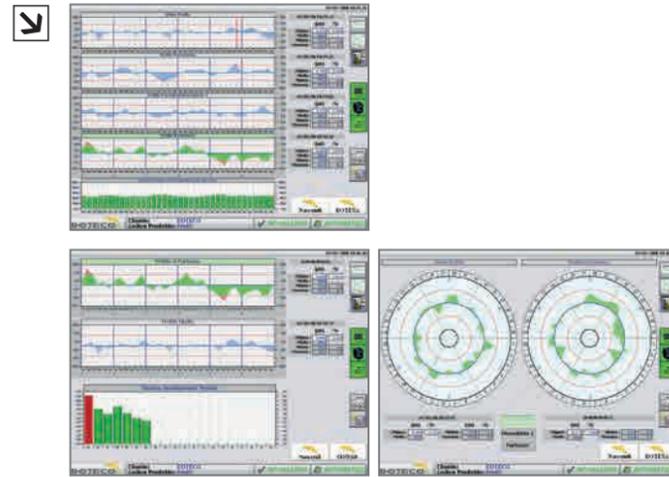
GAUGE CONTROL SYSTEM

PROTUNE

GAUGE CONTROL SYSTEM

Highlights

- Retrofittable.
- Outstanding gauge uniformity and cooling efficiency.
- Design maximize the cooling rate and utilize maximum blower efficiency with proven gauge deviation reduction.
- The operating principles assure a quick response time to any input for thickness correction.
- Superb gauge uniformity while maintaining excellent output.
- Designed to match the exact characteristics of any polymer and provide excellent bubble control and gauge uniformity.
- Suitable for running low melt-strength materials at higher blow-up ratios.
- Repeatable settings of total airflow adjustments by a variable speed AC control for the blower motor.
- Do not require an additional blower or use compressed air.



BREEZE

AUTOMATIC AIR RING

SYSTEM COMPONENTS

- High performance dual-lip automatic air ring.
- Last state-of-the-art design to start from best performance when automation is off, with highest cooling efficiency of the film with the best stability of the bubble.
- Automatic gauge control made with cartridge heaters, hence:
 - no maintenance required
 - no alteration of the air flow around the bubble
 - very easy to set-up
- Motorized adjustment of upper lip and chimney (option).



Model	sizes die Ø (mm)	control zones	air inlets
BREEZE 150	50 ÷ 150	54	6
BREEZE 300	> 150 ÷ 300	54	6
BREEZE 400	> 300 ÷ 400	66 to 78	6
BREEZE 500	> 400 ÷ 500	78	8
BREEZE 550	550	78	8
BREEZE 600	600	78 to 99	8
BREEZE 650	650	99	8
BREEZE 700	700	99	8
BREEZE 750	750	99	8
BREEZE 800	800	99	8

PROTUNE

SYSTEM COMPONENTS

- Dual lip air ring BREEZE, fully powered by Doteco.
- Pc Based Operator Interface with 15" touch-screen colour screen, to display:
 - previous and actual profile comparison (cartesian plot)
 - actual profile (polar)
 - profile trend diagram
- Control cabinet with automatic gauge control software.
- Online film thickness sensor Kündig K-500 Rotomat.



OPERATING MODE AND FUNCTIONS

- Advanced dual lip air ring BREEZE:
 - Lower lip provides initial quenching to strengthen the melt and also the "venturi effect" between the bubble and the cone to "set" the bubble;
 - Forming cone: guides lower lip air and supports bubble while in the "semi-solid" state;
 - Upper lip provides the final "blast" of cooling air "adjustment".
 - The air flow is diverted into several radial flows distributed all around the ring, that impinge on the melt as it exits the die. The temperature of each individual air stream is controlled by cartridge heaters (control zones).
 - The automatic control system gets the inputs from the thickness sensor and therefore adjusts the temperature of the air streams into each control zone, to compensate any deviation of the thickness profile:
 - if a thicker section is detected, the air temperature into the relevant control zone is slightly increased, hence the melt is going to be a little under cooled, enough to make the gauge thinner;
 - if a thinner section is detected, the air temperature into the relevant control zone is slightly reduced, hence the melt is going to be a little over cooled, enough to make the gauge thicker.
- The temperature of control zones can be manual adjusted from the operator screen. When in Automatic Mode, all adjustments are controlled automatically by the gauge control software.
- Available as an option:
 - Upper Lip provided with a motorized lifting device, to adjust "on-the-fly" (machine running) volume and speed of the air, hence to get exactly the adjustment which is suitable for each BUR and each material processed;
 - also the Chimney is adjusted by a motorized lifting device, to further redirect the cooling air and increase the stability of the bubble.

ONLINE THICKNESS SENSOR KÜNDIG K-500 ROTOMAT



- The capacitive sensor, on slewing ring, goes around the bubble and measures the film thickness along the circumference, over the frost line.
- The system calculates the thickness average value and the thickness actual values on each radial position (corresponding to the control zones of the automatic air rings).
- Rotates continuously in one direction at a minimum rotation time of 36 seconds.
- Different sizes of slewing rings available for lay-flats from 255 mm up to 3900 mm.
- Sensors with different coatings available: CRS (chrome coated sensor for standard films, excellent durability with abrasive films), PVD-2 (plasma coated sensor for slightly sticky films, good durability with light abrasive films), PTFE (coated sensor for sticky films, short lifetime with abrasive films).

On demand, the PROTUNE can be interfaced with any other sensor available in the market.



DOTEKO SPA

Via E. Mattei, 30
41037 San Martino Spino Modena
ITALY
Phone +39.0535.31653
Fax +39.0535.31727
E-mail doteco@doteco.com
www.doteco.com

DOTEKO LATINO AMÉRICA

Rua Izonzo, 643
Ipiranga 04249-000 São Paulo
BRASIL
Phone +55.11.2948.1454
Fax +55.11.2351.5520
E-mail doteco@doteco.com
www.doteco.com

DOTEKO USA

2450 Abutment Road, Suite 7
Dalton, GA 30721
USA
Phone +1.706.529.8787
Fax +1.706.529.1898
E-mail doteco@doteco.com
www.doteco.com