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High performance three-layers extrusion lines

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INNDEX


## Hich performance, up to date technooogy, cost eftectiveness in a Cusiomer oriented coextrusion line

The increasing request for machines dedicated to the production of innovative plastic film,technologically advanced and economically advantageous, is the basic criterion for the development of the new INNOEX Coextrusion Centre machines. The production of high-quality film requires:
a continuos avant-garde evolution of the basic technology regarding screws and extrusion heads, cooling rings and systems for internal bubble cooling, haul off and winders;

- an always more complete and efficient process control;
- the details' care in every production phase: from the project choices up to the selection of the materials' components and treatments, from the assembling up to the installation, from the start-up to the assistance service all along the machine's life.
These elements, all together, guarantee the production of planar and smooth film, with controlled thickness, with severe and repetitive optical and mechanical features, with defined and constant width, winded up layer per layer at the correct tension in order to produce reels with cylindrical geometry, planar sides and without creasing.



## Process control

The operator's interface is graphic, intuitive and multilingual. Every component is continuous(ly) monitored through a PLC.

Set Point of temperature and speed, gravimetric dosing, linear weight control, thickness profile, start-up and turning-off ramps, recipes management, reports, management of events and alarms are the typical performed functions. The remote connection through LAN is standard.

## LSW winder

Today the LSW winder is available in various useful widths, motorizations and configurations.
The classic disposition is double winder back to back. On choice, the machine can be supplied single or front to front.
Peripheral winding, peripheral with assisted centre and gap.

The reel formation takes place on horizontal guides so that the contact pressure is not influenced by weight's components of the reel itself.
A dancer system grants the constancy of the winding tension and the speeds synchronization.


## CR400/650 air ring and IBC

The dual lip technology allows to obtain big air volumes without jeopardising the bubble stability, resulting in an increase of hourly output and improvement of thickness profile. When adding the IBC internal bubble cooling system, the cooling efficiency will result to be improved, giving to the film a major transparency.

Hourly production per diametrical mm of die : 1,3-1,4 [Kg / (mmxh)]. Bubble stability with blow ration from 1,2 up to 3,5 and more. (Special inserts on demand for specific dedicated productions). Optional thickness control system with closed air ring.

## The points of strength of the machine

- 3 layers extrusion head CBH 500/700 with radial distribution; - Employment of forged materials to prevent deformations due to thermal cycles;
- Project of channels and spirals assisted by a program of flows calculation for the employment of a wide range of materials. Shear rate optimized to prevent the incrustations, reduce the residence time and speed - up the structure 's changes. Uniform flow's distribution inside the spirals in order to obtain a reduced variation of the film thickness.
- Surfaces of slide chromed to thickness.
- Interchangeable male. Warming male.

| CONFIGURATIONS AND OPTIONS | BASE |
| :--- | :---: |
| Granules suction |  |
| Gravimetric dosing system |  |
| Cylinder with grooved bush |  |
| Barrier screw |  |
| Helicoidal mixer |  |
| Screw armor-plating |  |
| Bimetallic cylinder |  |
| Quick change die gap |  |
| Extra die gap |  |
| IBC + width control and bubble guide |  |
| IBC - tubolar width and bubble guide |  |
| Thickness control option |  |
| Pressure probe and temperature melt |  |
| Pressure probe downstream screenc. |  |
| Crick screenchangers |  |
| Gusseting triangles |  |
| Carbon fiber rollers |  |
| Corona treatment |  |
| Microperforator |  |



| MODEL |  | S | M | M Plus | L | L Plus | XL | XL Plus |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Width | gross mm | 1600 | 2000 | 2400 | 2800 | 3000 | 3300 | 3600 |
|  | net mm | 1500 | 1900 | 2300 | 2700 | 2900 | 3200 | 3500 |
| Extruders | mm | 2x55 | 2x70 | 2x70 | 2x70 | 2x70 | 2x70 | 2×80 |
|  |  | $1 \times 75$ | $1 \times 80$ | $1 \times 80$ | $1 \times 80$ | $1 \times 100$ | $1 \times 100$ | $1 \times 100$ |
| Fixed head |  | CBH 500 | CBH 700 | CBH 700 | CBH 700 | CBH 700 | CBH 700 | CBH 700 |
| Optimum dies range | min-max mm | 150/350 | 300/650 | 300/650 | 300/650 | 300/650 | 300/650 | 300/650 |
| IBC <br> Double flux air ring |  | Yes |  |  |  |  |  |  |
|  |  | CR 400 | CR 650 | CR 650 | CR 650 | CR 650 | CR 650 | CR 650 |
| High performance three exits air ring |  | Optional |  |  |  |  |  |  |
| Bubble-guide |  | Model depending on the application |  |  |  |  |  |  |
| Oscillating haul off |  | H0 1600 | H0 2000 | H0 2400 | H0 2800 | H0 3000 | H0 3300 | H0 3600 |
| Winder |  | LSW 1600 | LSW 2000 | LSW 2400 | LSW 2800 | LSW 3000 | LSW 3300 | LSW 3600 |
| Max. reel diameter | mm | 1200 (1100 Reverse) |  |  |  |  |  |  |
| Thickness range |  | 10 / 250 |  |  |  |  |  |  |
| Line speed m/min |  | 50 / 225 |  |  |  |  |  |  |
| Air shafts |  | 3" e 6" |  |  |  |  |  |  |
| WINDER MODELS |  | $\underset{\text { Surface base }}{\text { SB }}$ | SC <br> Surf. Cling Stretch |  | ST <br> SurfaceTechnical | SR <br> Simple Reverse |  | SL <br> JX Reverse |


| Front to front winder | - | - | $\bigcirc$ | $\bullet$ | $\bullet$ |
| :---: | :---: | :---: | :---: | :---: | :---: |
| Separator rolls after calender | - | - | $\bigcirc$ | - | $\bullet$ |
| Knives oscillation | $\bullet$ | - | $\bullet$ | $\bullet$ | $\bullet$ |
| Plunger transversal cut | $\bullet$ | - | $\bullet$ | - | $\bullet$ |
| Hoists for air shafts | - | - | - | - | $\bullet$ |
| Automatic reels unloading | - | - | - | - | - |
| Cooled "S" rollers at the entry | - | $\bullet$ | $\bullet$ | $\bullet$ | $\bullet$ |
| Air shafts pre-acceleration | - | - | $\bullet$ | - | - |
| Sticky films package | - | - | $\bullet$ | $\bullet$ | - |
| Auxiliary nip motorization | - | - | - | - | - |
| Axle motorization <br> (axial motor - photocells for gap - reverse) | - | $\bigcirc$ | $\bigcirc$ | $\bigcirc$ | $\bullet$ |
| Trims scavenging | - | - | - | - | $\bullet$ |
| Antistatic fans | $\bullet$ | - | $\bullet$ | $\bullet$ | - |
| Winder roll surface | Rubber | Chrome | Rubber | Rubber | Rubber |
| Rolls silicon coating | $\bullet$ | - | $\bullet$ | $\bullet$ | $\bullet$ |
| Change without glue | - | $\bullet$ | $\bullet$ | $\bullet$ | $\bullet$ |
| Non compatible combinations | Reverse and change without glue Plunger transversal cut with thick and gusseted film |  |  |  |  |

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