

TECHNOLOGY PRODUCTION REFERENCE PROJECTS

2018 - 2025

We specialize in the production of extrusion lines, regranulation lines, single screw extruders, laboratory extruders and other custom made machines.

Our goal

Is to deliver top technology for the plastics and rubber industry, customised to the individual needs of each client.

Comprehensive tailor-made solutions

Our technology allows connection to any other equipment from leading manufacturers. Thanks to our many years of experience, we can select the best supplier partners to ensure that the final solution meets the highest demands.

Service you can rely on

We offer a pro-customer approach and 24/7 service.

Overview of selected projects

Extrusion line DEX BIO

Extrusion line TUBE LINE DSL 500

Regranulation strand line DSL 150

Regranulation strand line DSL 120

Single screw extruder DEX 90

Single screw coextruder KOEX 45/20 s

Single screw coextruder KOEX 25/27 s

Laboratovy single screw extruder DEX SL

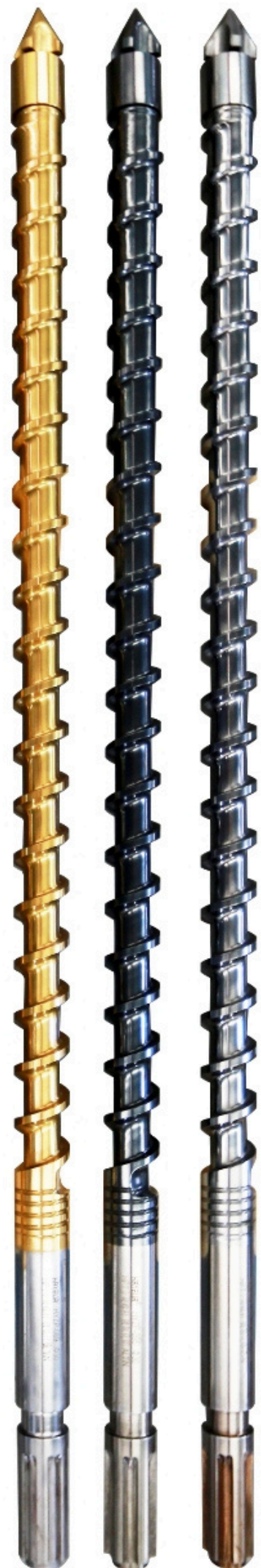
Twin screw extruder DEX 58/17d

Plastic lumps cutter

Ionization Airbox DAB 1400/850

Hydraulic mould opener

Band Gauge



Extrusion line DEX BIO

DATRIA
MEMBER OF RADKA GROUP

The DEL BIO extrusion line was developed by the DATRIA R&D team to process biodegradable materials such as PLA or PHA material with different types of fillers. The configuration of the extrusion line has been adapted to process these difficult materials and can be used for the production of different types of biodegradable materials such as drinking straws, various technical profiles, etc.

Technical description

Name of the line: Extrusion line DEL60 BIO

For materials: PHA (PLA) + filler (wood)

Output: up to 230 m/min (by material)

Line configuration:

- Extruder ID: DEX 60/31s
- Extrusion head with tool
- B&R extruder PLC control
- Dextrusion control software
- Baumüller 45 kW motor
- Zambello gearbox
- Gravimetric 4-component TSM dosing unit
- Nordson melt gear pump
- 3 m vacuum bath + 6 m stainless steel cooling bath
- Belt conveyor with rotary cutter Gillard
- Line design in PowerSave version
- Can be supplemented with a printer and more



Extrusion line TUBE Line DSL 500

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The TUBE line DSL 500 extrusion line was developed by DATRIA's R&D team for the production of precision engineering tubes mainly from TPU and PA materials. The configuration of the extrusion line was designed for the demanding conditions of continuous operation and can produce a wide range of tube diameters.

Technical description

Name of the line: Extrusion line (Tube line) DSL 500

For materials: TPU, PA

Output: up to 130 kg/hour (by material)

Extrusion speed: for D6 mm up to 40m/min, for D19 mm up to 15m/min (by material and configuration)

Line configuration:

- Extruder ID: DEX 60/33s
- Extrusion head with tool
- EPROTEC melt gear pump
- Vacuum bath 6.7 m + cooling bath
- Belt conveyor with rotary cutter Gillard
- Line design in PowerSave version
- Can be supplemented with a printer



Regranulation strand line DSL 150

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Regranulation line DSL 150 was designed by the DATRIA R&D team for the production of micro-granulate with a diameter of up to 1 mm. This technology is used to produce granulates for the manufacturing of EPP products, which are used, for example, in the automotive industry, in the production of white goods or in the manufacture of shipping boxes.

Technical description

Name of the line: Strand pelletizing line DSL 150

For materials: EPP

Output: up to 220 kg/hour (by material)

Line configuration:

- Extruder ID: DEX 75/28s
- Baumüller motor
- Zambello gearbox
- Gravimetric feeder for 4 components
- Manual control
- Schneider electrical components
- Hydraulic plate melt filter XALOY
- Cooling stainless steel bath with plate heat exchanger
- Double-acting string blowing
- MAAG strand granulator
- Separation vibrating screen



Regranulation strand line DSL 120

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The DSL 120 regranulation line was designed by the DATRIA R&D team for the regranulation of crush material from the production of moldings for the automotive industry. This technology can process a wide range of thermoplastic materials, including materials containing a high percentage of abrasive fillers such as glass fibers.

Technical description

Name of the line: Strand pelletizing line DSL 120

For materials PA+30%GF, PE, PP, PC, ABS

Output: up to 150 kg/hour (by material)

Line configuration:

- Extruder ID: DEX 60/36s
- Gravimetric 4-component TSM feeder
- Evacuation single-screw extruder
- Baumüller 45 kW motor
- Zambello gearbox
- B & R line control PLC with Dextrusion control software
- Hydraulic plate melt filter XALOY
- Cooling stainless steel bath with plate heat exchanger
- Double-acting string blower
- MAAG strand granulator
- Separating vibrating screen



Single screw extruder DEX 90

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Single screw extruder DEX 90/28s was developed to retrofit an existing extrusion line producing electrical cables. This extruder was delivered without the control system, which was part of an external supplier's supply.

Technical description

Name of the line: Single screw extruder DEX 90/28s

For materials: PE, PP a PVC

Output: up to 500 kg/hour (by material)

Device configuration

- Baumüller motor
- Zambello gearbox
- Optimized heating zones from ETB
- Extrusion working length (flight) within 28 L/D
- Low power consumption



Single screw coextruder KOEX 45/20s

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The coextruder KOEX 45/20s was developed by the DATRIA design team as an addition to the existing extrusion line for the production of electrical cables with the possibility of co-extruding additional material.

Technical description

Name of the device: Co-extruder KOEX 45/20s

Output: up to 45 kg/hour (by material)

Device configuration

- Baumüller 24 kW motor
- Zambello gearbox
- Dynisco material temperature and pressure sensor



Single screw coextruder KOEX 25/27s

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This coextruder KOEX 25/27s was designed to extend an existing extrusion line for the production of medical products by adding co-extrusion. The extruder design meets the demanding requirements and standards for the production of medical products.

Technical description

Name of the device: Co-extruder KOEX 25/27s

Output: up to 10 kg/hour (by material)

Device configuration

- Dynisco Material Temperature and Pressure Sensor
- Air-cooled Electric Heating Zones
- Temperature control of the under-hopper zone with a temperature control unit
- SEW 2.2 kW motor and gearbox



Laboratory single screw extruder DEX SL

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Extruder LABEX 40/13s was designed by the DATRIA design team based on the customer's requirements for the production of material samples and for further testing.

Technical description

Name of the device: Laboratory extruder LABEX 40/13s

Output: up to 10 kg/hour (by material)

Device configuration

- Schneider Electric Components
- SEW 2.2 kW Motor and Gearbox
- Dextrusion Control System
- Air-Cooled Electric Heating Zones
- Temperature control of the hopper zone with a temperature control unit
- Dynisco material temperature and pressure sensor



Twin screw extruder DEX 58/17d

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Twin screw extruder DEX 58/17d was developed at the request of a customer producing food products. The design of this extruder was adapted to food industry standards and is used for the production of corn bioproducts.

Technical description

Name of the device: Food extruder DEX 58/17d

Output: up to 300 kg/hour (by material)

Device configuration

- Low power consumption
- PLC control of DEXTRUSION extruder
- Baumüller motor
- Zambello gearbox
- Sensors for monitoring the hopper fullness
- Heating with an oil temperature unit



Plastic lumps cutter

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The limited production space and higher purchase costs of a slow-running shredder on recycling polystyrene pellets were the beginning of the idea to develop and produce a compact plastic lumps cutter that would divide large pellets into smaller pieces, which can be handled by a fast-running shredder.

Technical description

Name of the device: Plastic lumps cutter

Device configuration

- Double-acting hydraulic press with 60,000 kg of force
- Piston stroke: 300 mm
- Working area: 800×800 mm
- Adjustable hardened blades in any number and a central hardened tip for maximum efficiency
- Suitable for all types of polymers
- Safety features: electromagnetic components, mechanical lock, light signaling, position and time sensors
- CE certification
- Compact and cost-effective alternative to traditional shredders



Ionization Airbox DAB 1400/850

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The request for the implementation of the Ionization Airbox was submitted by a company producing lights for the automotive industry, and the purpose of this device is to rid the newly manufactured plastic molding of static charge so that dust particles do not adhere to the surface, which would increase the scrap rate after the part's painting process.

Technical description

Name of the device: Ionization Airbox DAB 1400/850

Device configuration

- Elimination of electrostatic charge and small impurities
- Air volume flow 230l/min
- Electrostatic charge eliminator: impulse voltage method AC $\pm 7000V$; effective length 840 mm



Hydraulic mould opener

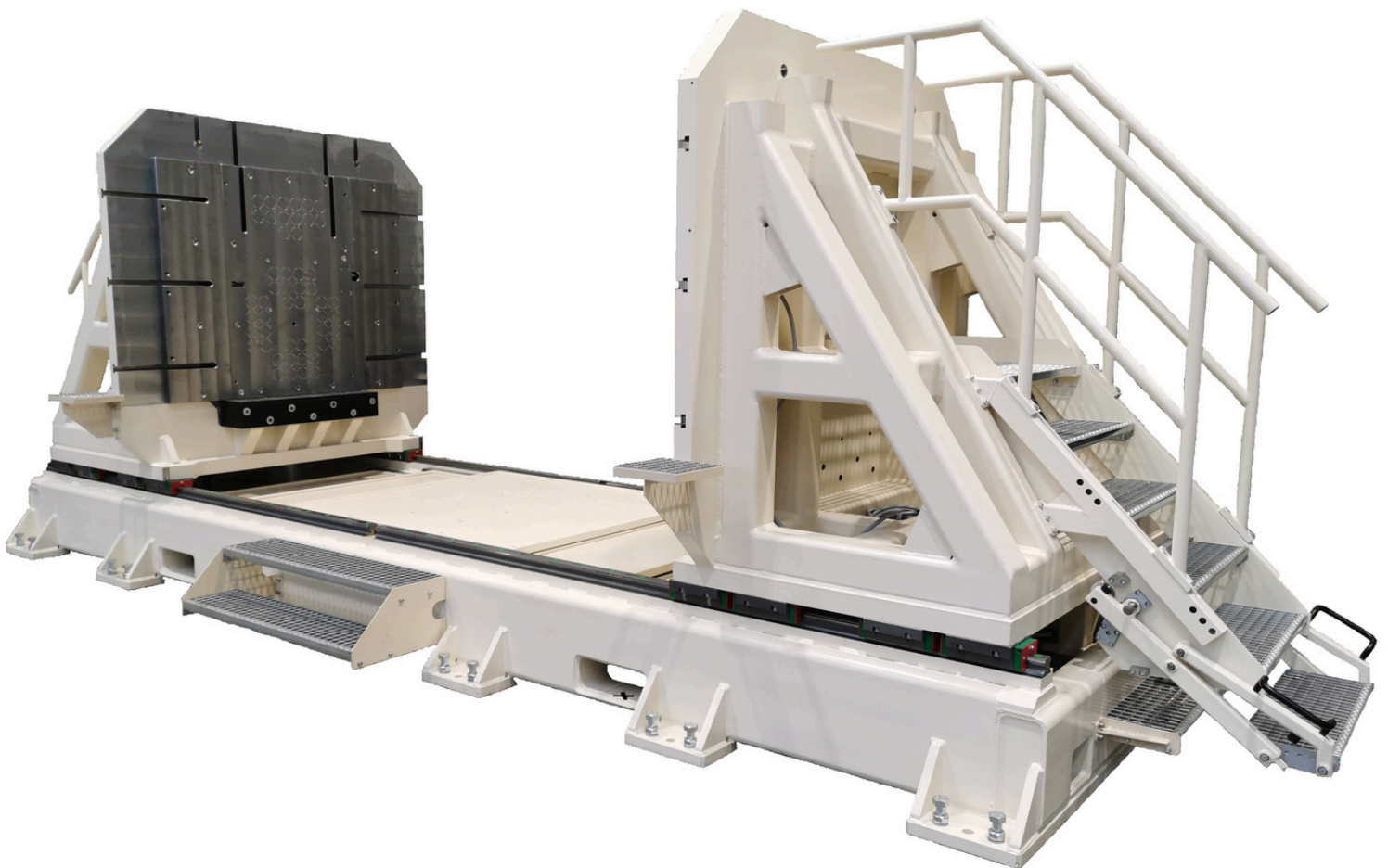
The hydraulic mold opener was developed based on a request from a customer producing automotive lights. The purpose of this device is to prepare (activate) the injection mold before placing it on the injection molding machine, thereby reducing the time required for mold changes.

Technical description

Name of the device: Hydraulic mould opener

Device configuration

- Significant reduction in injection mold change time
- Equipment capacity up to 20 tons
- Opening up to 2.7 m
- Hydraulic opening
- PLC device control
- High level of device safety



Band Gauge

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Device developed for inline measurement of core lengths of cables produced on extrusion lines.

Technical description

Name of the device: Band Gauge

Device configuration

- Measuring diameter range from 1 to 20 mm
- Measuring speed - up to 150 m/min
- Meter accuracy – class II minimum 0.25%

