



soLEX

The high-performance extruder for PE-HD and PP pipe extrusion

battenfeld-cincinnati 



Customized solutions for highest demands

solEX, the new single screw extruder series from battenfeld-cincinnati, offers top performance in terms of throughput and melt homogeneity for PE-HD and PP pipe extrusion. It is also ideally suited for corrugated pipe extrusion.

While using a proven modular system, we also provide options to fulfil our customers' wishes and meet their individual needs with custom-made solutions. With small screw diameters, solEX extruders offer throughputs that were previously reserved for substantially larger machines. This means significant advantages in space requirements for processors. Thanks to their optimized screw geometry and large processing length of 40 L/D, solEX extruders reach this top performance with excellent melt homogeneity and low melt temperatures. They offer excellent product quality with extremely low energy input and feature outstanding throughput figures in relation to capital investment. The solEX series is the result of continuous improvement in design and process technology derived from ongoing cooperation with raw material producers and customers.

Your advantages:

- ✓ Top performance in smooth and corrugated pipe extrusion
- ✓ Screw geometries for PE-HD and PP processing
- ✓ AC motors for low energy consumption
- ✓ Proven battenfeld-cincinnati quality
- ✓ Optimal relation between investment and performance
- ✓ Extremely space-saving through high performance with small screw diameters

Our offer:

- ✓ Screw diameters from 45 to 120 mm
- ✓ 40:1 L/D ratio
- ✓ High installed screw torques for optimal specific throughput
- ✓ Outputs from 100 kg/h to 2,200 kg/h
- ✓ State-of-the-art technology for the extrusion of smooth and corrugated PE-HD and PP pipes

solEX - the single-screw extruder designed for top performance in continuous operation for smooth and corrugated pipe extrusion and steel pipe coating

solEX single screw extruders are designed for top performance in continuous pipe extrusion.

They are destined for the extrusion of colored PE 80 and PE 100 pipe materials to produce water and gas transport pipes with external diameters ranging from 20 mm to 2,500 mm. They can be used to manufacture drainage and sewage pipes from high-molecular PP polymers. They are also ideally suited for the production of PE-HD and PP corrugated pipes. Moreover they lend themselves to steel pipe coating with PE-HD or PP layers by cross head coating or wrapping processes.



Corrugated pipe extrusion

solEX extruders are ideally suited for corrugated pipe production from PE-HD and PP

- ✓ Corrugated PE-HD cable conduits
- ✓ Corrugated drainage and sewage pipes made of PE-HD and high-molecular PP

Smooth pipe extrusion

solEX extruders are the preferred equipment for smooth PE-HD and PP pipe extrusion.

- ✓ High-pressure pipes made of PE 100, PE 80 or PE 63 for gas and water transport
- ✓ PE-HD pipes for the mining industry
- ✓ PE-HD cable conduits
- ✓ PP drainage and sewage pipes

Steel pipe coating

solEX extruders offer maximum throughput for steel pipe coating with PE-HD and PP

- ✓ Coating of steel pipes with PE-HD and PP for gas and water transport by cross-head coating for pipe diameters up to 710 mm.
- ✓ Coating of steel pipes with PE-HD and PP for gas and water transport with wrapping process for pipe dimensions up to 2500 mm outside diameter.

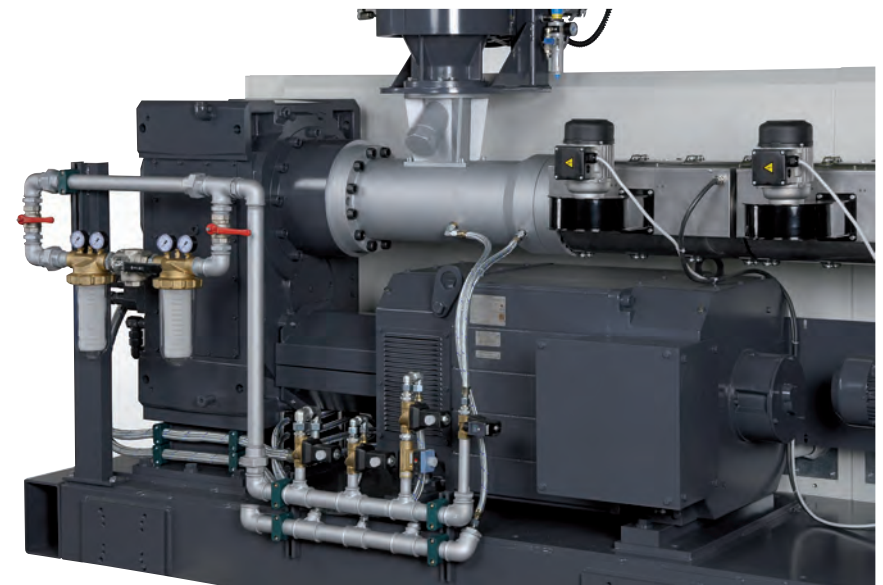
Trend-setting technology

Machine design

The demands we place on our extruders are high functionality and perfect design. For us this means: clean lines, simple operation, easy maintenance and modest space requirements. Therefore the motor is mounted underneath the feed zone in all soLEX models as standard (customized solutions in Z configuration are possible on request). This layout makes the extruder extremely short and slim, thus reducing its footprint. The extrusion height is 1,100 mm. The control cabinet with a pivoting control terminal is installed on the left side of the extruder. Customized versions are possible, with different extrusion heights and/or the control cabinet positioned on the right or as a stand-alone unit. The soLEX series includes machine sizes with screw diameters of 45, 60, 75, 90 and 120 mm.

Motor, drive system

Drive torques and motor performance levels have been optimized for maximum throughput. All sizes of the soLEX series are equipped with brushless, maintenance-free and extremely quiet, frequency-controlled AC motors. These drive units feature high energy efficiency across the entire range of screw speeds. Especially under partial load, they offer the benefit of low energy consumption and minimal heat loss. The direct drive operates with a high degree of efficiency.



Screw speed and torque adapted to the performance range

The solEX series includes machine sizes with screw diameters of 45, 60, 75, 90 and 120 mm. Drive torques and motor performance levels have been optimized for maximum throughput.

L/D ratio

The L/D ratio of solEX extruders is 40:1. The processing unit is divided into a feed zone according to the "Power Feed Technology" principle and the bimetallic part of the barrel. The cooled feed zone is thermally separated from the remainder of the barrel. A special design of the feed zone ensures an extremely stable screw fill level over the entire range of nominal screw speeds. The feed zone temperature can be individually set and controlled as standard in all solEX extruders to allow adaptation to different materials.

Barrels

All solEX single screw extruders come with bimetallic barrels as standard. Bimetallic barrels with special alloys are used for processing corrosive or abrasive materials.

Barrel tempering

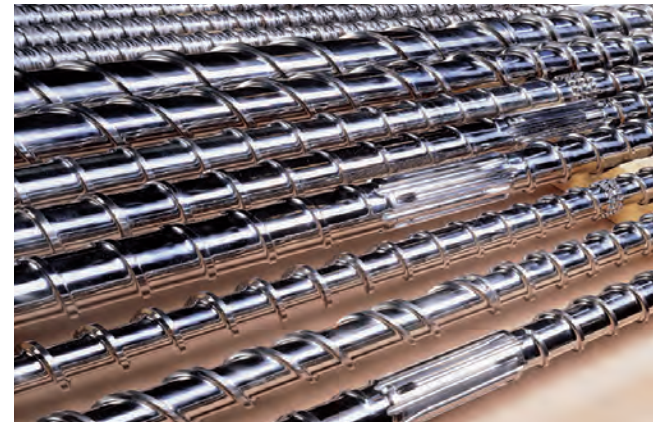
Special copper fins in the air cooling system ensure effective heat transfer – which substantially reduces the air through-flow and consequently the noise level. This design concept also favors excellent extruder temperature control.



Screw geometries

Optimized screw geometries, a great wealth of experience with numerous applications and consequently superior know-how have been accumulated over battenfeldcincinnati's many years of market experience. The screws of soLEX extruders are nitrided as standard.

If necessary the screw flights may be coated either in the feed zone or over the entire length of the screw. A special powder alloy developed in-house is used for flight coating. It is characterized by extreme sturdiness and wear resistance.



Linearity

The screw geometries in combination with the grooved feed zone are characterized by optimal linearity, i.e. output and screw speed are generally directly proportional to each other over a wide range of screw speeds and back pressure levels.

Gravimetric feeding

Gravimetric feeding is recommended for throughput measurement, output regulation and/or regulation of weight per meter. In such cases, the conventional hopper is replaced by a gravimetric metering system.

solEX outputs in smooth pipe extrusion

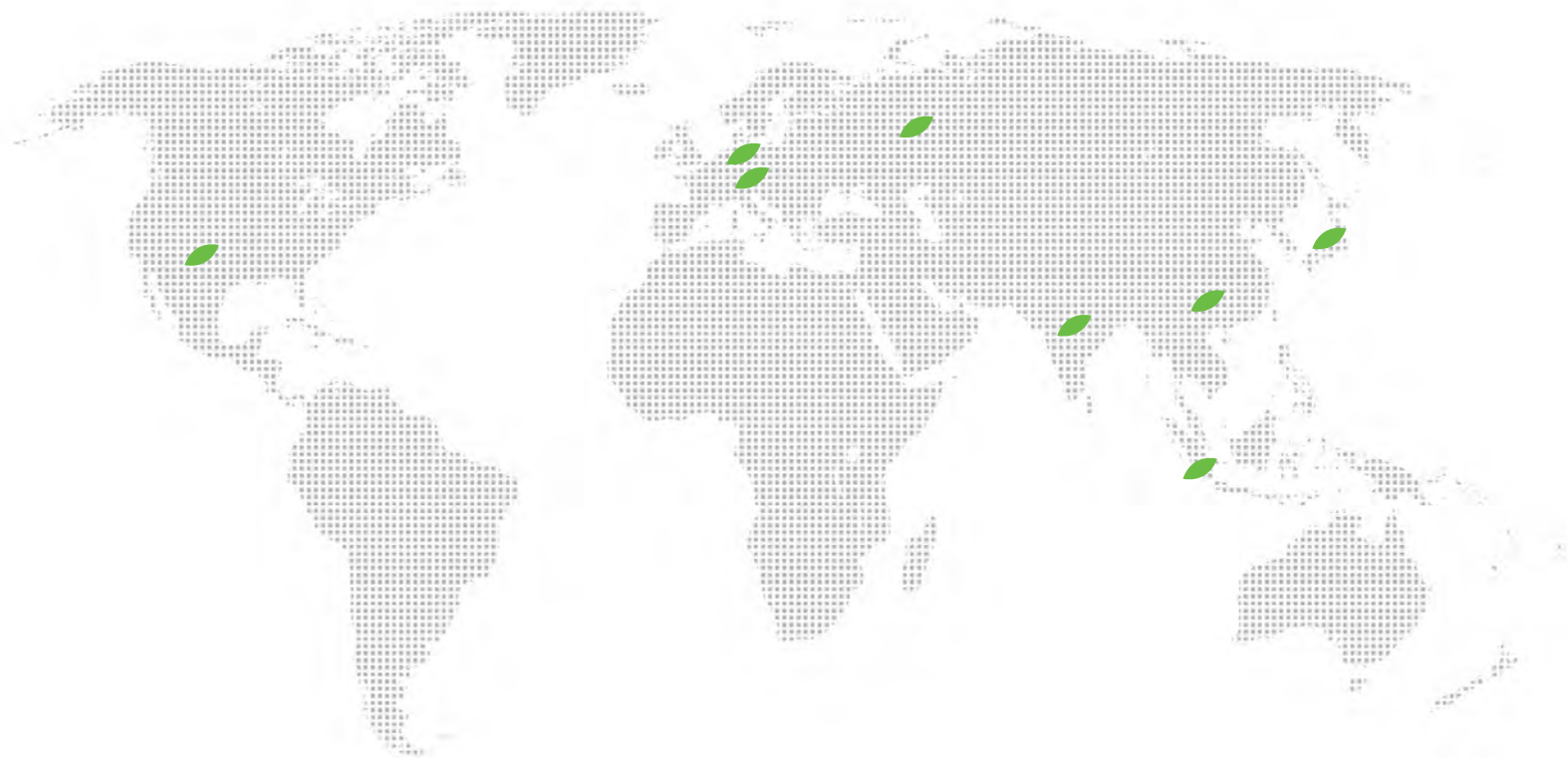
solEX single screw extruders offer warranty outputs for PE-HD in smooth pipe extrusion ranging from 500 kg/h for the 45 mm size to 2,200 kg/h for 120 mm screw diameter.

Extruder solEX	45-40	60-40	75-40	90-40	90+-40	120-40
PE-HD						
Output kg/h	500	800	1,200	1,500	1,800	2,200
PP						
Output kg/h	300	550	800	1,000	1,000	1,300

solEX outputs in corrugated pipe extrusion

Extruder solEX	45-40	60-40	75-40	90-40	90+-40	120-40
PE-HD						
Output kg/h	400	650	1,000	1,200	1,500	1,800
PP						
Output kg/h	240	450	650	800	800	1,100

Outputs may vary depending on the material processed as well as upstream and downstream equipment. All output figures quoted are warranty outputs. All output figures are based on the battenfeld-cincinnati material reference list.



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