ALL YOU NEED IS
poex

co-rotating twin screw extruders
Researches were done with the thoughts of spare parts production for twin screw extruders

Polimer Teknik was established as a company for manufacturing twin screw extruder and spare parts when there was no existed manufacturer on this field in Turkey at 17th of Sept. 2007.

First machinery production: PTLE T25 co-rotating twin screw extruder

The project about application the flow analysis technique of positron emission particle tracking for investigation of polymer flow and mixing behaviour within industrial twin screw processes PEPT-FLOW Project including Turkish Plastics Industry Foundation (PAGEV), German Association of the Plastics Converters (GKV), British Plastics Federation (BPF), Italian Plastics and Rubber Machinery Association (AMAPLAST) and Polimer Teknik was started.

First export to Russia.

Polimer Teknik was a member of the board of Turkish Plastics Industrialists’ Association (PAGDER) for three years.
2011
The poex brand has launched.

2012
Moved to Cali Industrial Zone for growing the production capacity.

2013
Compliance to EUROMAP standardization.

2014
TUBITAK - International Industrial R&D Projects Grant Programme
- EUREKA Creating Innovative Composite Product Technologies
Convenient in Many Industries with Recycling of Waste Synthetic
Textile Plastic Products

2015
Has to TS EN ISO 9001: 2008 Quality Standardization Certification

2019
Istanbul and Moscow branches have gotten included to the market.

We would like to thank all our customers, suppliers and colleagues who have added value by investments, have directed and support our works and have contributed to our progress.
ABOUT US

thermoplastic elastomers
masterbatches
recompounding
powder coating
food solutions
pharmacy
Polimer Teknik was established in 2007 in order to manufacture twin screw extruder and its spare parts when there wasn’t any manufacturer on this field in Turkey. In a short span of time, Polimer Teknik achieved being a well-known and demanded company.

Polimer Teknik has a young and dynamic structure which has given new meaning to the market with its innovative and visually esthetic extruders by using modern technology and the best qualified equipment.

Polimer Teknik that earnestly pays attention on new product development and support the product quality with scientific tests has many patented equipment at its field. Since Polimer Teknik was established, it has attained an important place in the market by exporting the machines to many countries.

In the past years, Polimer Teknik has presented a name as a trademark poex and has made the brand a reliable trademark with the best quality as well.

www.poex.com.tr
Plastic compounding is a process for adding fillers and additives materials into a molten plastic base to produce a material with desired qualities. Additives and modifiers may result in plastic with a particular color, texture, strength, and so on.

One of the main application fields for poex twin screw extruders is compounding. The excellent incorporation characteristics for additives, filling and reinforcing materials creates products that are used in many fields.

In applications where parameters such as breaking strength or impact resistance are relevant, the polymer is reinforced with fibers. Glass fibers are used predominantly, but other fibers can also enable linkage with polymer carrier substances such as carbon and natural fibers. This addition and linkage of the fibers to the polymer chains produces materials with high break and impact resistance, which also convince with their low weight.
• Polyolefins (HDPE, LDPE, LLDPE, PP etc.)
• Styrenic polymers (e.g. ABS, PS, SAN etc.)
• Engineering thermoplastics (PA, PET, PBT, PC, ABS, POM, PMMA, PPO, PPS, PTFE, LCP, PEEK, etc.)
• Heat & shear sensitive materials (XLPE, thermoplastic rubber, foamed polymers etc.)

Some polymers are;

- Manufacturing nano-composites by mixing coating silicates into PP or PA.
- Protective incorporation of micro hollow glass beads into PP, PA etc.
- Long-fiber compounds in the direct process
- Mixing wood plastic composites
- Degassing of polymer compounds with up to 80% share of fillers
- r-PET bottles or PA carpet fiber waste
- Preparing high-temperature polymers such as PEEK.
- Filtering of PC melts for optical applications.
Masterbatch is a solid or liquid additive for plastic used for coloring plastics (color masterbatch) or improving other properties of plastics (additive masterbatch). Masterbatch is a concentrated mixture of pigments and/or additives (20-90%) encapsulated during a heat process into a carrier resin which is post-cooled and cut into a granular shape. Masterbatches are available in a wide range of carrier resins: PE, PP, PS, SAN, PMMA, ABS, PET, PBT, PLA, PA, PES, EVA, TPU and specialty bio-resins.

The aim of masterbatch production is the optimum incorporation of additives in the polymer matrix. The fine and powdery bulk material often tends to agglomerate and therefore it is difficult to work with.

Co-rotating twin screw extruder is the main component of a masterbatch line. It fulfills the task of homogenizing, dispersing (splitting of the agglomerates), wetting and distributing the pigments/additives/fillers in the polymer matrix. This is done either via premix or a split-feed process.
A premix consisting of polymer, pigment and dispersion additives is fed to the extruder. Normally, these premixes are produced in batches in a previous mixing step.

**Premix**

**Split Feeding**

The formulation components aren’t fed into the extruder at once and together. Pigments, fillers and dispersion additives added via one or two gravimetric feeders, if needed, dispersion aids are added via one or two side feeders.
Thermoplastic elastomers are produced in a wide variety of forms and formulations using co-extruder systems. The processing stage is followed by heating of semi-finished product to produce final product. Due to their molecular structure, thermoplastic elastomers possess elastic properties combined with thermoplastic processing characteristics. The production possibilities of multifarious different thermoplastic elastomers need for a deeply knowledge of machines and process engineering. Therefore they are ideally suited to compounding on the co-extruders.
Major Thermoplastic Elastomers:
- Styrene Blok Copolymers (TPE-S)
- Thermoplastic Vulcanizats (TPV)
- Thermoplastic Polyuretans (TPU)
- Thermoplastic Polyolefin Mixtures (TPO)

1- Elastomer
2- Thermoplastic
3- Filler
4- Additive
5- Filler (Optional Position)
6- Side Feeder
7- Vacuum Degassing
8- Diverter Valve
9- Underwater Pelletizer
10- Centrifugal Dryer
11- poex Twin Screw T Series Extruder
12- Liquid Feeder

www.poex.com.tr
Beyond compounding, poex extruders can also be used for shaping in a single process step.

Direct extrusion or in-line compounding enables the production of semi-products and final products such as films, plates, tubes or profiles in one process step. The intermediate pelletizing typical for plastics and other products is omitted in inline compounding, the investment and operating costs and the energy requirements of the production process drop drastically as a result. Some products can only be manufactured by of single-stage direct extrusion.

With direct extrusion, the materials have one less heat and shear history which frequently results in improved mechanical properties of the end product.
Line for the production of heavy layers for noise protection in the car interior

Thermoforming Sheet Production Line
Bioplastics are the plastics which are produced from renewable bio-based raw materials. Biodegradable and compostable thermoplastic starch (TPS) is mostly produced from carbohydrate-rich plants such as corn, sugar cane or cellulose by means of a kind of plasticizer. In addition, TPS can be successfully blended with a second bio-based polymer such as polylactic acid (PLA), polycaprolacton (PCL), polyvinyl alcohol (PVA) or synthetic polyesters. Consequently, bio-based products are the products which are totally or partly composed of biological or renewable materials.

Poex has experience adequately for each of thermoplastic starch production and the design of compounding systems for biodegradable products.

General applications for the processing of biodegradable products

- Production of thermoplastic starch (TPS)
- Compounds of various bioplastic materials
- Compounds of plastics and biological materials
- Granular starch as a filler to improve the biodegradability of commodity plastics
- Pelletizing of PLA and PLA compounds
- Polylactide (PLA), PVOH, synthetic copolyester, PBS, PHA, PCL, CA
Compounding of biopolymers constitutes the first preparation process for the modification of plastics by means of extrusion following the production of the base polymer. Throughout the preparation, characteristic feature of the plastics can be selectively changed. Hereby, it is adapted to the next process and targeted product characteristics. The plastic is melted inside the extruder where it is blended with additives, fillers, reinforcing materials or a combination of them. After homogenization and degassing of the compound, it is formed – usually as strands – by using a tool, then cooled and processed into plastic granules. In the compounding process, numerous effectors arise before processing and during it. Depends on the type of plastic, these factors are evident in variable degrees and affect it’s mechanical, thermal, (chemical) and rheological properties as well.
Highly filled masterbatch contains more than 50% over the weight of filler that are dispersed in a polymer matrix. Poex extruders are able to comprise a very high incidence of fillers, for instance in the filler masterbatch. Filler masterbatches are essentially used to optimize and increase the toughness, reduce shrinkage and improve the surface appearance of the final product and/or reduce the price of the compound.

Poex compounders with deep-flighted screws are appropriate to achieve better results on production of highly filled compounds due to the screws large free volume. Different process installations will be needed depending upon the type and amount of the filler.

The process in compounders is identified as following steps:

- melting of the polymer matrix
- lubricating the filler with the melt polymer
- dispersion of agglomerates and aggregates
- homogeneous dispersion in the polymer matrix
- homogenization and degassing of the melt
Common usage of inorganic fillers and the features

- **Talcum** – with its supersoft, high resistivity, low gas permeability, low abrasiveness and high lubricity features gives special surface properties for the final product; is preferably added to the melt polymer through a side feeder.

- **Calcium carbonate (CaCO₃)** – with its cubic, high heat resistant, toughness and hardness features inside the polymer, aids on enhancing or compensating loss of gloss, mineral modifying (to produce breathable film), functional filling, cost-efficiency, is added through the side feeder and it provides availability in three states as chalk, limestone and marble as well.

- **Barium sulfate (BaSO₄)** is in form of rhombic crystals with its acidic and alkalic resistance and opacity, having a high specific weight-density and perfect sound barrier, is added through the side feeder.

- **Wollastonite** is fibrous and improves tensile and flexural strength, thermal and dimensional stability at elevated temperatures; is added through the side feeder.

- The fillers up to 85% are incorporated into the polymer through side feeders – two or more – in order to achieve larger shares of them. In addition, the higher filler shares require long processing sections between 52 and 60D to ensure that the filler particles are perfectly incorporated into the polymer matrix.

Three important criteria that affect the interaction between the filler and the polymer matrix:

- **Particle structure of the filler**
  Particles with a small aspect ratio such as CaCO₃ or BaSO₄ do not improve the tensile strength and tear resistance significantly but improve the modulus of elasticity. Particles with a large aspect ratio such as talcum or wollastonite help improving the tensile strength and tear resistance as well as the modulus of elasticity.

- **Particle size dispersion of the filler**
  The behavior of filler particles during process depends on both Van-der-Wals forces acting between the particles (particle sizes > 1 μm) and the dispersive shearing forces in the extruder (particle sizes < 10 μm).

- **Surface of the filler**
  The specific surface (m²/g) indicates the number of adhesion points between the filler and the polymer chains: large surface > numerous adhesion points > better mechanical properties (higher toughness and surface gloss of the polymer, better tensile strength and tear resistance as well as impact strength). The surface coating is also important because it changes the surface energy: a hydrophilic surface becomes hydrophobic. This hydrophobicity means fewer agglomerates form and the free-flowing property is improved as well. The lubricating is essentially affected by the distance from the surface energies of the particles and the polymer matrix.
Halogen Free Flame Retardant (HFFR), Zero Halogen Flame Retardant (ZHFR), Low Smoke Zero Halogen (LSOH), Low Smoke and Fume (LSF) are all names associated with compounds that are used extensively in Aluminum Composite Panels (ACP), Wire & Cables, Flooring and Foam insulation.

These compounds are generally based on polyethylene or copolymers of polyethylene with the addition of mineral fillers to improve flame retardant properties. Their usage is much preferred for the applications of PVC and other halogenated polymers where lower smoke and lower acidic gas evolution are required in case of fire.

HFFR coupling in aluminum composite panel core compounds as well as wire and cable coating are highly mineral-filled compounds such as polyolefin matrices require high concentrations of common flame retardants, ATH or Mg(OH)2. In comparison ATH with Mg(OH)2; ATH has lower degradation temperature (~200°C) and is used with EVA/LLDPE based formulations but Mg(OH)2 (Magnesium Hydroxide) has a higher degradation temperature (~340°C) and is used when polypropylene is the base polymer.
ATH is the most popular flame-retardant filler and works by a different flame retarding mechanism than other halogenated ones. ATH performs two additional functions as filler and as a smoke suppressant. The smoke, generated by burning materials has become increasingly important in the resent times. This is especially true in mass transportation networks. Halogenated flame retardants produce smoke as a part of their functioning; it is the smoke that helps blowing out the fire. ATH works by a different mechanism that does not produce smoke. The single usage of ATH in a high amount can produce a compound with a too little smoke. When it’s used in conjunction with halogenated compounds, the smoke level can be reduced. For efficient flame retardancy, 60-65% of the filler needs to be incorporated to the polymer matrix which concludes the reduction of original mechanical performances. In order to achieve excellent mechanical performance at a very high mineral filling and optimize mechanical performance, dispersion of agglomerates and homogeneous dispersion of ATH in the polymer matrix, it is necessary to increase polymer matrix acceptability of ATH through a unique screw design.
poex presents to its customers energy and time-saving innovation with combinations the benefits of recycling and compounding in a single plant. The system produces custom-made recycling compounds for especially high-quality applications. Twin screw co-rotating recompound extruders can handle all compounding operations with excellent mixing and degassing properties. In addition to the dosage of a wide variety of additives, high amounts of fillers and reinforcing agents can also be mixed. With poex recompound machines, it is possible to process and direct extrusion of PETs; neither the pre-drying of these materials nor the crystallisation and agglomeration of the recyclers are required compared to conventional PET processing techniques.

**Some of Advantages**

- Capability to improve material performance by adding fillers or any other ingredients.
- Homogeneous mixing of wastes has different melt flow index
- Improved Vacuum Efficiency to have more quality products
- The polymer has to undergo less heat and shear stress
- The process saves energy
An excellent laboratory equipment.

poex laboratory extruders are distinguished not only by top quality standards and excellent design, but also by their easy compatible operation and highly flexible modular processing system.

Due to the fact that poex T27 requires only little space and can freely be positioned, the user gets the flexibility of a lab machine which can be adopted for batch production as well as for lab research.
Cost-effective powder coating solutions with poex

Constantly increasing cost pressures and the demand for maximum flexibility in the manufacturing of powder coatings require production lines with the highest level of productivity. The development of new products for new fields of application – for example the automotive industry – is progressing well with poex extruders. To meet these high market demands, Polimer Teknik has developed the twin-screw extruders with the largest free volume and at the same time the highest specific torque.

Advantages

- poex twin screw extruders has the largest free volume and as well as the highest specific torque
- poex extruders produce powder coatings of convincing homogeneity at clearly reduced production costs.
- poex customers now get a clear competitive advantage
- 50% higher throughput at the same extruder size or alternatively smaller extruder size for the same throughput and thus a shorter cleaning time
- Improved feeding of fines due to greater flight depth and higher speeds
- Greater flexibility in speed, residence time, and throughput
- Lower material temperatures, thus less product stress and improved product quality, depending on the product and the process

Some Applications are:

- Epoxy Powder Coating
- Epoxy Polyester Powder Coating
- Polyester Powder Coating
- Decorative Polyester Powder Coating

1- Resin
2- Hardener
3- Pigment
4- Filler
5- Mixer
6- Volumetric Feeder
7- Vacuum Degassing
8- Cooling Rolls
9- Conveyor Belt
10- Crusher
11- Pulverizer
12- Vibrating Screen
13- Final Product
14- poex Twin Screw T Series Extruder
Over the last few years, the production of hot-melts and sealing has changed due to advances in technology, with resulting improvements in quality, productivity, flexibility, and ecology.

A continuous production system, featuring short residence times, high mixing power even at high viscosity and modular/interchangeable composition of the line design, is the way to achieve these ambitious goals. poex twin-screw extruder is the machine which meets these requirements best.
Extrusion is the core technology for a variety of products, such as breakfast cereals, food ingredients, pet food and aqua feed. Hot extrusion process can gelatinize starch modify texture or denature protein according to the amount of mechanical energy generated, once modifying the structure of the original raw materials into interesting finished products.

Extrusion is the most frequently used process for cooking and complete or partial forming of cereal products.

The premixed solids are fed into the process using steam and water.

If required, the taste-imparting substances are also added to the extruder to promote aroma reactions as early as during this stage. This allows the raw materials to be cooked with the introduction of more or less mechanical energy as a function of the product.

Advantages:

- More consistency in production and control of product quality
- Increased productivity due to continuous processing, faster start up and shut down between product changes, quick changeover and advanced automation
- Greater flexibility with the capability to process a wide range of raw materials
- Thanks to optimized footprint for energy and water savings
- Simple and easy to maintain and clean
- As it uses a minimum of water, it is a low-energy process and therefore ecological as well as economical
Pharma extrusion has been a widely used process in the pharmaceutical area. Extrusion technology is an accepted method for the continuous processing of pharmaceutical materials, and it often offers significant advantages compared to batch processes. In this field, it is important to optimize the formulation in order to meet specific requirements. poex pharma extruders are designed to obtain the expected product within the limits for continuous mixing of pharmaceutical active ingredients. A number of processing steps are combined, including feeding, melting, mixing, venting and discharge in extruder. Upstream materials handling and downstream equipment work in conjunction with the extruder to perform the intended manufacturing operation.

Additionally, pharma extrusion equipment accelerates the throughput and potential of large scale drug delivery. The drug exudate produced by pharma extrusion equipment can be shaped into tablets or ground into a powder for mixing with other excipients.
Polimer Teknik offers a complete consultancy package for the plastic processing industry, from technical layout, project planning and assembly with it’s well experienced engineers right through to line start-up.

Polimer Teknik process control was considerably extended and offers much more comfort
- Easy-to-learn and use, operation via touch screen
- Graphic and tabular display
- Large display of selected parameters
- Trend display
- Fault alarm system with optical display and logging
- Choice of languages,
- Multi-stage log-in
- Simple text-based help function
- Recipe management of all process parameters
The project team designs the equipment for the supply and distribution of auxiliaries such as electrical power, compressed air, cooling water etc. as well as the required equipment for emissions treatment (mainly vented gas and air and process waste water) in close collaboration with the customer.

Our turn-key system encompassed complete project engineering and support to smoothly integrate the lines with all related factory systems including material handling, compounding and granulation systems, as well as final compound storage and distribution management.

Additionally, the Polimer Teknik service team is available for worldwide professional support by taking care of your new compounding system. From project engineering, process-related advice, installation and commissioning to training and unparalleled service, we are your partner to protect your investment for the long term. This also includes retooling and repairing the compounding system later, moving the compounding system or modernizing the compounding line.
Bespoke and Innovative Extruder for Your Unique Process
Modular Screw Elements

The screw elements for twin screw extruders are consistently designed according to the modular principle. The very wide range of wear protection, different equipment and the wide variety of combinations provide nearly unlimited options in order to adjust the screw configuration to your process. And in case that is not enough to tailor the equipment to your product and process ideas, Polimer Teknik will always respond to your special requirements.

<table>
<thead>
<tr>
<th>Material Code</th>
<th>Material</th>
<th>Thickness</th>
<th>Abrasion</th>
<th>Corrosion</th>
</tr>
</thead>
<tbody>
<tr>
<td>PSW 50</td>
<td>Nitrided steel</td>
<td>0.5-0.6 mm</td>
<td>X</td>
<td>X</td>
</tr>
<tr>
<td>PSW 79</td>
<td>Tool Steel</td>
<td>through hardened</td>
<td>XXX</td>
<td>X</td>
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<tr>
<td>PSW 12</td>
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<td>X</td>
<td>XXX</td>
</tr>
<tr>
<td>PSW 40</td>
<td>High Alloy Tool Steel</td>
<td>through hardened</td>
<td>XXX</td>
<td>XX</td>
</tr>
<tr>
<td>PSW 11</td>
<td>PM Tool Steel</td>
<td>through hardened</td>
<td>XXXX</td>
<td>X</td>
</tr>
<tr>
<td>PSW 10</td>
<td>HIP - PM Steel</td>
<td>through hardened</td>
<td>XXXXXX</td>
<td>X</td>
</tr>
<tr>
<td>PSW 39</td>
<td>HIP - PM Steel</td>
<td>through hardened</td>
<td>XXXX</td>
<td>XXXX</td>
</tr>
<tr>
<td>PSW 26</td>
<td>HIP - PM Steel</td>
<td>through hardened</td>
<td>XXXX</td>
<td>XXXX</td>
</tr>
</tbody>
</table>
Modular Barrel Elements

Polimer Teknik’s barrels are designed uniquely for poex T series. As differently from all flange connected barrels, Polimer Teknik’s patented barrels (Patent Appeal No: 2014/06620) have fixed as solid shell and modular liners to provide easy usage.

Some advantages of Polimer Teknik innovative barrels are easy assembling and disassembling, easy to clean, no need to extra equipment to change or repair. One of the extruder’s essential quality characteristics is the optimum combination of liquid cooling and electrically heating in the control loop of the temperature device. Thereby, each zone has a separate heating/cooling system.

We can also produce flange connection barrels up to customer requests and our production skills.

<table>
<thead>
<tr>
<th>Material Code</th>
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<th>Corrosion</th>
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<tr>
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<td>0,5-0,6 mm</td>
<td>XXX</td>
<td>X</td>
</tr>
<tr>
<td>PSW 79</td>
<td>Tool Steel</td>
<td>through hardened</td>
<td>XXXX</td>
<td>X</td>
</tr>
<tr>
<td>PM 12</td>
<td>Stainless Tool Steel</td>
<td>through hardened</td>
<td>XXX</td>
<td>XXXX</td>
</tr>
<tr>
<td>PSW 40</td>
<td>High Alloy Tool Steel</td>
<td>through hardened</td>
<td>XXXX</td>
<td>X</td>
</tr>
<tr>
<td>PSW CC</td>
<td>Conforma clad</td>
<td>through hardened</td>
<td>XXXX</td>
<td>X</td>
</tr>
<tr>
<td>PSW 39</td>
<td>HIP - PM Steel</td>
<td>through hardened</td>
<td>XXXX</td>
<td>XXXX</td>
</tr>
<tr>
<td>PSW 26</td>
<td>HIP - PM Steel</td>
<td>through hardened</td>
<td>XXXX</td>
<td>XXXX</td>
</tr>
</tbody>
</table>
Shafts are one of the most important and really decisive equipment transferring the torque of the drive to the screw segments and hereby to the process. For this reason, they should be conceived to provide maximum mechanical performance. The special identification of material and heat treatment coupled with precise machining creates a high-quality component. poex offers a wide range of screw shafts which are made appropriate to machine and process requirements to prevent over maintenance or failure.

- All common spline systems
- Single-part or modular design
- Wide range of different materials available

poex offers solutions for the pelleting requirements of its customer with poex G series strand pelletizers which are specially designed for the granulation of wide range polymers extrudable to strands. poex G series strand pelletizers have many options to choose the right steel material type crucial for consistent product quality and system availability. Wear resistance or corrosion resistance design exists depend on process demands. Also, poex strand pelletizers provide easy operating and easy maintenance with their unique structures.

<table>
<thead>
<tr>
<th>Model</th>
<th>Operating Width</th>
<th>Motor Power</th>
<th>Line Speed*</th>
<th>No. of Strands*</th>
</tr>
</thead>
<tbody>
<tr>
<td>G60</td>
<td>60 mm</td>
<td>2.2 kW</td>
<td>30-70 m/min.</td>
<td>15</td>
</tr>
<tr>
<td>G100</td>
<td>100 mm</td>
<td>5.5 kW</td>
<td>30-70 m/min.</td>
<td>25</td>
</tr>
<tr>
<td>G200</td>
<td>200 mm</td>
<td>7.5 kW</td>
<td>30-70 m/min.</td>
<td>50</td>
</tr>
<tr>
<td>G300</td>
<td>300 mm</td>
<td>15 kW</td>
<td>30-70 m/min.</td>
<td>75</td>
</tr>
<tr>
<td>G400</td>
<td>400 mm</td>
<td>22 kW</td>
<td>30-70 m/min.</td>
<td>100</td>
</tr>
<tr>
<td>G600</td>
<td>600 mm</td>
<td>37 kW</td>
<td>30-70 m/min.</td>
<td>150</td>
</tr>
</tbody>
</table>

* Above values for 3 mm pellet diameter and length. Optionally online pellet length adjustment is available.

Table consists general information of standard G series pelletizers. Custom-made production is also possible.
Vibrating Screen

Vibrating screen is also an important accessory for strand pelletizer and pellet making process of plastic and rubber granules. It has a powerful high capacity vibrating motor. It can effectively screen out both over-sized and under-sized pellets, permitting only the correctly sized pellets to enter the loader.

- Polimer Teknik unique design,
- Efficiently removes longs without losing good on-spec pellets with the over-size,
- Lightweight parts easily handled by a single operator,

<table>
<thead>
<tr>
<th>Model</th>
<th>Dimensions</th>
<th>Screening Area (m²)</th>
<th>Motor</th>
<th>Capacity (Kg/h)</th>
</tr>
</thead>
<tbody>
<tr>
<td>E200</td>
<td>200 x 1500</td>
<td>0.20</td>
<td>1 x 0.27 kW</td>
<td>max. 120</td>
</tr>
<tr>
<td>E500</td>
<td>500 x 3000</td>
<td>0.80</td>
<td>2 x 0.27 kW</td>
<td>max. 1000</td>
</tr>
<tr>
<td>E800</td>
<td>800 x 3000</td>
<td>1.40</td>
<td>2 x 0.31 kW</td>
<td>max. 2500</td>
</tr>
</tbody>
</table>

Table consist general information of standard E series vibrating screens. Custom-made production is also possible.

Screen Changer

The hydraulic screen changers are characterized by simple design, ergonomics and rationality which they were designed. Thanks to a uniform and efficient heating system, are suitable for the processing of highly sensitive polymers. The operation in combination with a quick-change hydraulic power unit allows the replacement of the filtering media while the extruder is running. The units are equipped with a cable channel in the bottom that conveys the power cables and thermocouples in a junction box located next to the hydraulic cylinder. This prevents dangerous overheating of the electrical system, ensures maximum reliability. The many possible configurations allow a wide use of these models where perfect flow continuity during screen replacement.

Gear Pump

Gear pumps increase the capacity in proportion to the time of start-up. Gear pump determines the operation according to the pressure capacity as a fixed point. Especially in the presence of a large volume gear pump plants start (start-up) and materials reduce the time change.
poex feeders are utterly versatile machines for the volumetric and gravimetric dosing of various materials with different properties very accurately. Whether it concerns powders, grains, flakes, chips, pills; poex offers you a feeder which can perfectly dose these for you! Additionally, poex feeders present solution for feeding of liquid ingredient as well. Liquid feeders provide accurate continuous volumetric or gravimetric flow control of liquids. The highly accurate gravimetric units combine the pump and tank with a suspension scale or platform scale; the feed pump for metering the material is located outside the scale area. When the liquids are fed, each application may consist the special requirements. A wide range of pumps and tanks can be combined to constitute a liquid feeder and satisfy the specific demands. The feed pump is selected according to the material and the required feeding capacity as diaphragm pumps or gear pump.

poex feeders offer flexible wall hopper technology for bulk materials. The walls are massaged with paddles from the outside to keep the powder, which is to be dosed. This way prevents rathole and bridging of dry materials. Hence optimal dosing is guaranteed. Many manufacturers in various industries have confidence in this proven feeder technology for the reliable dosing of their dry bulk materials. Available in different sizes and screws variants in different diameters. The dosing devices are available in volumetric and gravimetric models and can be supplemented with many options, such as nozzles, measurement and control electronics, extension hoppers and a wide assortment of complementary applications.

The capacity is controlled by frequency invertors for volumetric machines. For continuous gravimetric dosing, an advanced weight control is used.

The control system offered is the latest state of the art control system. Drive control through microprocessor based direct drive and the logic, interlocks and safety in operation, through the use of Siemens S7 – 300 PLCs, are all integrated through a touch panel HMI.

Features of poex control systems

- Central operation and visualization of the entire extrusion process
- Operation and visualization
- Fault alarm system
- Trend data
- Recipe management
Strand Dryer

Strand dryer has two-piece vacuum strips that can be positioned and placed along the water bath to draw water off the strands as they exit the water bath. This takes up less floor space and maximizes efficiency while utilizing the heat of the strands to expel surface moisture, resulting in drier polymer entering the pelletizer. A stainless-steel cyclone continuously separates the water from the air stream with the water exiting to a drain port.

Raw Material Handling Systems

poex provides innovative bulk material handling, raw material handling, pneumatic conveying systems and bulk containers for the reliable automation of production processes for the plastic industry.

Flexibility is the key feature in all systems, especially for the production of many different engineering grade plastics.

The raw material from bulk containers are conveyed into the external silos by pressure conveying. Depending on the raw material, the silos are equipped with a head space drying system and partly as a two-chamber silo.

Pneumatic suction conveyor systems bring the raw materials to the receivers located above the extruders. Medium and small components, which are available in sacks, containers or mixing vessels are emptied into the receivers via appropriate discharge bases. The premix for the mixing vessels is weighed and filled with additives on its own manual weighing station. Micro components such as paints are added directly to the extruder via a feeding hopper.

Granular raw materials are fed into the system either via a simple feeding funnel or via a combined discharge base.
## poex T Series Extruders

<table>
<thead>
<tr>
<th>Model</th>
<th>Screw Diameter (mm)</th>
<th>Do/Di</th>
<th>Screw Speed (rpm)**</th>
<th>Drive Power max (kW)</th>
<th>Output (kg/h)</th>
</tr>
</thead>
<tbody>
<tr>
<td>poex T27</td>
<td>27</td>
<td>1.55 - 1.76</td>
<td>maks. 1200</td>
<td>30 - 37</td>
<td>30-100</td>
</tr>
<tr>
<td>poex T40</td>
<td>42</td>
<td>1.55 - 1.76</td>
<td>maks. 1200</td>
<td>55 - 147</td>
<td>80-300</td>
</tr>
<tr>
<td>poex T50</td>
<td>52</td>
<td>1.55 - 1.76</td>
<td>maks. 1200</td>
<td>95 - 235</td>
<td>200-500</td>
</tr>
<tr>
<td>poex T60</td>
<td>60</td>
<td>1.55 - 1.76</td>
<td>maks. 1200</td>
<td>176 - 682</td>
<td>500-950</td>
</tr>
<tr>
<td>poex T75</td>
<td>75</td>
<td>1.55 - 1.76</td>
<td>maks. 1200</td>
<td>300 - 720</td>
<td>800-2000</td>
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<tr>
<td>poex T94</td>
<td>94</td>
<td>1.55 - 1.76</td>
<td>maks. 1000</td>
<td>410 - 1470</td>
<td>1000-3000</td>
</tr>
</tbody>
</table>

** Screw speeds and installed drive power depending on the process task
ALL YOU NEED IS

co-rotating twin screw extruders

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