

REGIS

www.regismachinery.co.uk





Introduction



Regis Machinery are specialist providers of equipment and spare parts for the plastics extrusion, compounding and polymerization industries. We offer a range of specialist equipment and pride ourselves on our personal service.

Formed in 1966 and located in the UK.

For companies in the Compounding and Masterbatch Industries, we offer equipment from the KREYENBORG Group, one of the world's leading manufacturers of compounding ancillaries. The range includes Pelletizers, screen changers, gear pumps, complete compounding lines tailored to your specific requirements. Control of new lines (or retrofitted to existing) is with the BSG One Extruder control interface.

Our range of equipment for the recycling industry includes underwater pelletizers and automatic (self cleaning, back-flush) screen changers, mixing silos and feeders specially designed for handling lightweight film flakes and fibres. The latest innovation being Infra Red Drying for rapid drying of pellets and flakes.

Experience in supplying equipment to the Polymerisation industries leads us to provide complete systems including screen changers, gear pumps and pelletizers. We can advise on the benefits of utilising screen changer technology instead of traditional candle filters. Regis are also closely involved with global polyester polymerisation projects using the exciting new BKG Crystallcut underwater pelletizing technology and the many benefits it offers the industry.

Specialist spare parts are featured in our www.extrusionspares.com website where we offer a range of quality spare parts for twin screw extruders in a range of wear resistant metallurgies.

Similarly available are specialist spare parts and pump enhancements for large polymer pumps, including replacement gears and bearings featuring longer service life by tailoring the materials to suit the special requirements of the specific polymer plant.

We regularly visit customers to ensure we have a closer understanding of your specific requirements. Attendance at the leading European Plastics exhibitions (Including K Show Dusseldorf and Fakuma, Friedrichshafen) also presents further opportunities to meet.

David Bargery, Managing Director of Regis, is a regular Keynote speaker at the prestigious Global Polyester and Polyamide Conferences.



Regis Machinery
Have, for over 40
years, provided
equipment and spare
parts for the global
compounding,
masterbatch and
polymerisation
industries.



Screen Changers



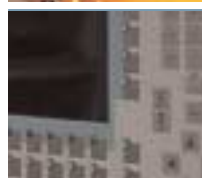
Gear Pumps & Spares



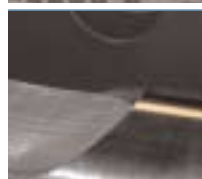
Pelletizers



Mixers, Silos and Dryers



Control Systems



Equipment for Polymerization



Screw Elements and Barrels

Screen Changers

Screen changers from KREYENBORG provide an effective method of filtering polymer melts. The removable 'screen packs' can be rapidly changed by the operator (typically in under 5 minutes) without having to unfasten any nuts and bolts. A screen pack with the desired filtration level is fitted into the housing within a 'screen bearing piston'. The screens can be changed even whilst production continues. With the 2 channel K-SWE model 2 screens are normally in the operating position.

WHEN TO CHANGE SCREENS?

The inlet pressure to the screen changer can be monitored.

A rise in pressure indicates that the screens are becoming blinded by contamination. Once the pressure has reached a predetermined limit an alarm can signal the need to change screens. The screen bearing piston is moved hydraulically out of the housing to the screen change position.

The operator simply removes the dirty screen pack and installs a new one (the old pack can be discarded as they are inexpensive)

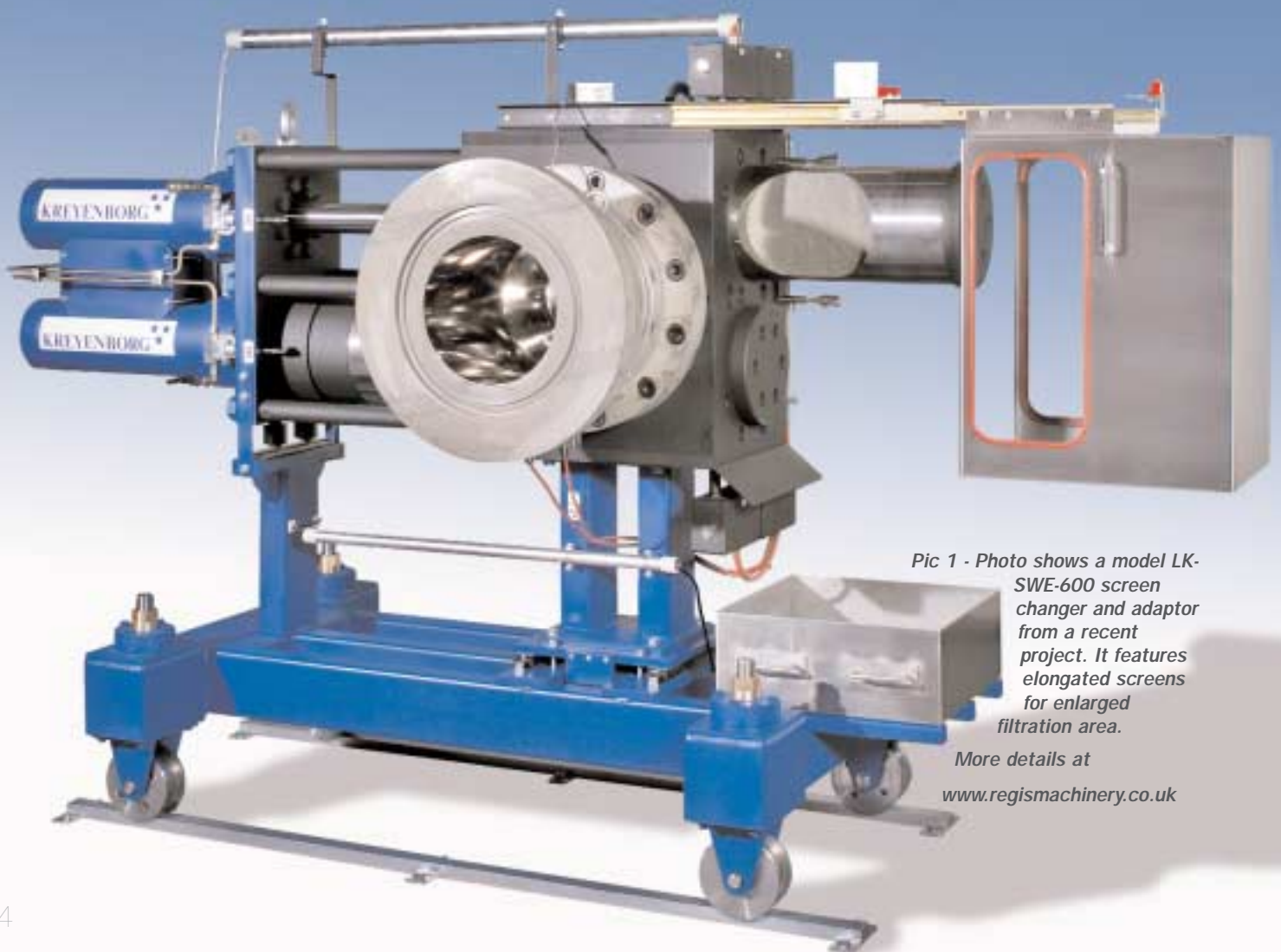
Success story

4-Channel Backflush screen changer For PET extrusion application

The Kreyenborg 4- channel backflush screen changer is rapidly establishing a global standard for extrusion processes utilising varying amounts of PET bottle flake mixed with virgin PET pellets. The backflush control system automatically detects a rise in pressure as the screens become blocked by dirt particles. Once the backflush setpoint is reached the plc control automatically moves one screen from production to the 'backflush position' whilst extrusion of the product continues. During screen change 75% of filtration area remains in production. The system can automatically clean screens between 30 and 100 times, which means dramatically less operator intervention at the extrusion line is required.



Details of recent projects for 4 channel backflush screen changers and other interesting Case Studies can be downloaded from www.regismachinery.co.uk



Pic 1 - Photo shows a model LK-SWE-600 screen changer and adaptor from a recent project. It features elongated screens for enlarged filtration area.

More details at www.regismachinery.co.uk



REGIS MACHINERY offer a range of gear pumps for the chemical and plastics processing industries.

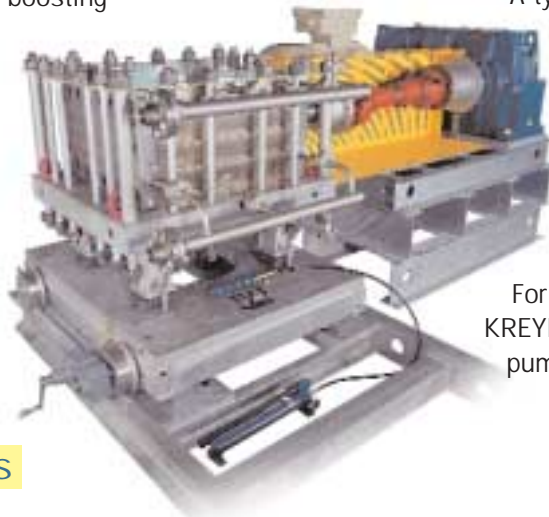
The main features of these positive displacement pumps

are two gears, enclosed in a housing with defined clearances. Targeted applications are the constant volumetric output of fluids with a higher viscosity than water. Gear pumps are mainly used for transfer and dosage of low viscosity chemicals, for reactor discharge of higher viscosity melts, and for boosting pressure for subsequent downstream processing.

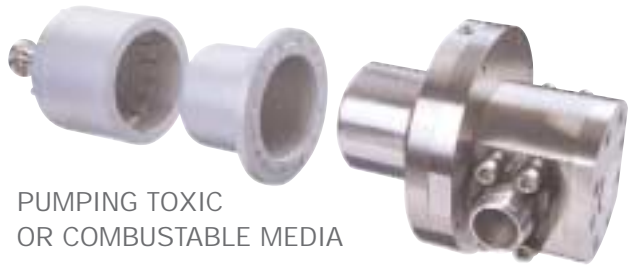
METERING AND TRANSFER OF BASIC CHEMICALS

We offer the WITTE CHEM pump for metering, transfer, and as a pressure boosting pump for low or high viscosity fluids. Parts can be selected to counteract abrasion and conform to varying material properties of the pumped media.

These pumps are manufactured from a range of stainless steels, alloys ceramic etc.



Gear Pumps



PUMPING TOXIC OR COMBUSTABLE MEDIA

Pumps with traditional shaft seals cannot be used for toxic or combustible media or processes with high system pressures (up to 700 bars). For these applications we offer the WITTE seal-less pumps with a synchronized magnetic coupling. Capacities up to 32000 cc/rev have been supplied.

POLYMER EXTRACTION PUMPS

We also offer complete range of polymer extraction pumps and spare parts for reactor discharge pumps.



A typical project for our POLYMER EXTRACTION PUMPS

is the reactor discharge from a continuous polycondensation vessel for manufacturing PET.

EXTRUSION GEAR PUMPS

For extrusion applications we offer the KREYENBORG range of extrusion gear pumps.

Gear Pump Spares



Besides offering spare parts for WITTE Gear pumps, which are stocked locally in Europe, USA and China we also offer service and spare

parts for other gear pump brands in the chemical, polymerization and extrusion industries.

Our parts fit into many other brands of gear pump from sizes 22/6 to 280/280. Contact us for a quote or setup an on-site inspection with our network of Global contacts. We can also offer pump overhauls or repairs in our specialized gear pump workshop facilities in Germany.

Witte pump specialists can disassemble the pump, evaluate the extent of work needed and provide a report detailing the options - replacement parts or if possible refurbishment of the pump. Benefit from our quality, our experience and our knowledge of axial,

radial and tip clearances. The specialists at the Witte engineering workshop can offer suggestions to help improve the performance of your gear pump.

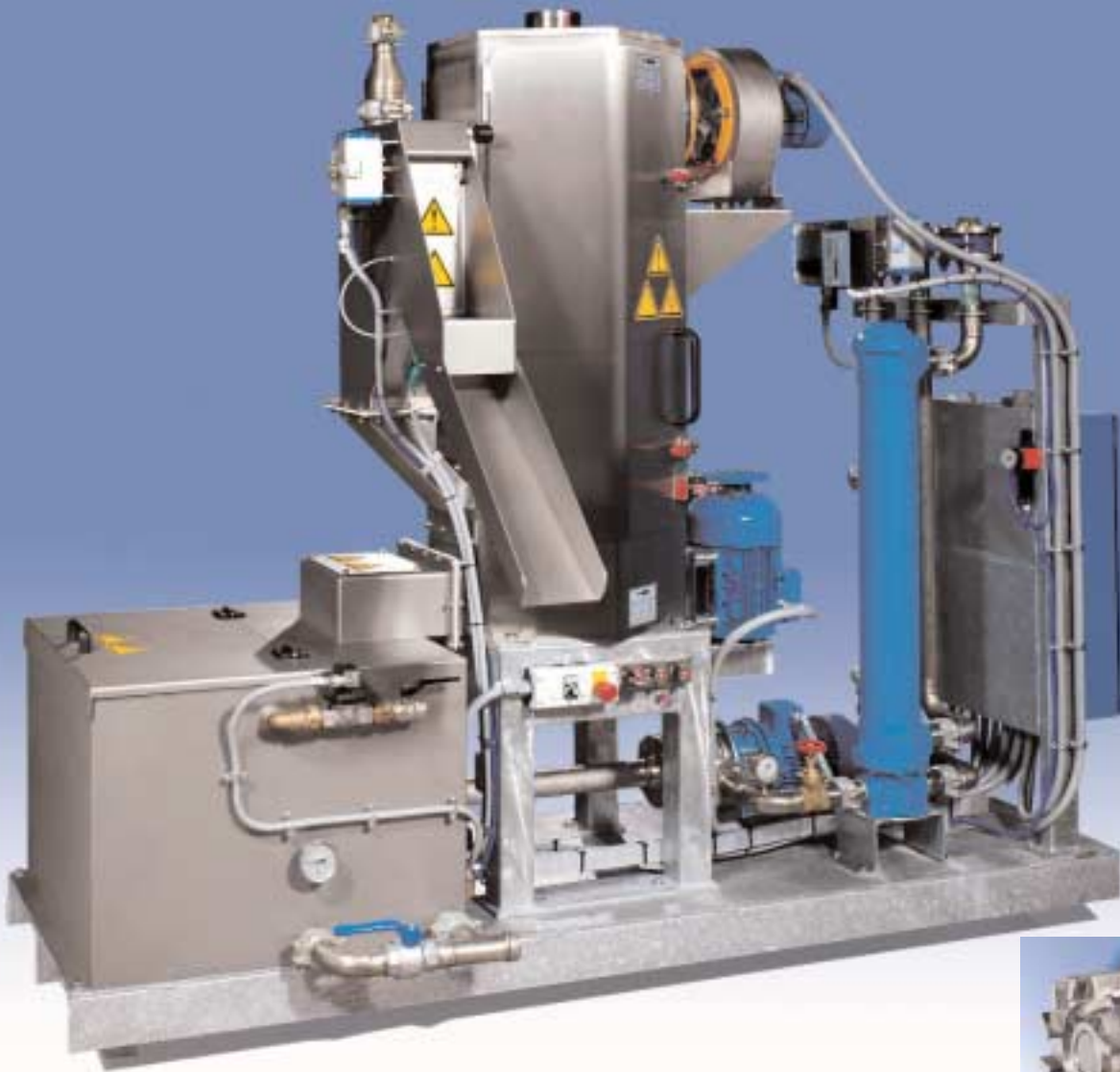
Our unique bearing design significantly increases shaft and bearing operational performance. These bearings have design features that improve product lubrication of the bearings and shaft journal surfaces, ensuring your plant can remain operational for continuous 24 hour per day operation.



We offer replacement bearings for all major brands of gear pump.

Special designs and metallurgies to overcome problems such as pump seizing, or to control material temperature within the bearings.

Pic 2. Shows a replacement bearing designed to suit a MAAG Brand gear pump. Designed as an alternative to the original parts.



We offer complete systems with responsibility from one single supplier for all the equipment.

Fully automatic Hydraulic pelletizer



Underwater Pelletizers

The BKG Underwater pelletizer system has been extremely successful since launch - the first with completely automated hydraulic blade adjustment – ensuring consistent pellet production. Ideal for compounders, masterbatch producers and polymerization applications.

The system combines many features AS STANDARD, such as plc control, quick exchange die plate and hard wearing materials of construction to guarantee a long life.

The BKG underwater pelletizer system consists of an underwater pelletizer, a water and drying system and a complete control system (which can be offered to control the complete extrusion line)

Thanks to our innovative die plate technology, the system can process not only standard plastics such as PE, PP, EVA and ABS, but also high temperature polymers such as PA6, PA6.6, PET and PBT.



Easy clean water tank



The master water tank (heating optional) provides water flow to the pelletizing system, cooling pellets directly after leaving the perforated plates.

Any fines are collected on a large woven wire mesh screen in the tank. Both mesh screen and tank can be quickly cleaned, avoiding cross contamination between colour batches.

Strand Pelletizers

We also offer the ips intelligent pelletizing solutions range

of strand pelletizers. A company of the KREYENBORG group ips are leading designers and manufacturers of strand pelletizing systems. ips have a modular product system, with excellent reliability.

Download Data sheets at www.regismachinery.co.uk



Regis also offer a range of specialist ancillary equipment for handling materials such as film flakes, fibres and powders. The range of ancillaries includes

- Mixers (fountain blenders)
- Special Film Flake and fibre silos
- Infra Red dryers



UNIVERSAL QUICK MIXER – PRINCIPAL OF OPERATION

KREYENBORG mixers are used in a variety of applications where pellets, flakes or powders have to be mixed quickly.

The product is fed into the mixing bin either by means of a filling device at the top, or

by the optional lower feed hopper.

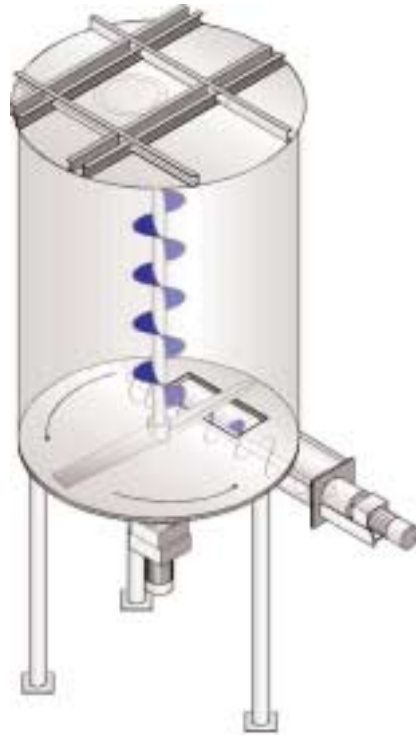
At the bottom of the mixing bin material is captured by the centrally-arranged mixing screw and is conveyed upwards through the mixing tube. At the top of the screw an ejector throws the material down, spreading it in fine layers over the full section of the mixing bin.

The mixer screw is driven from the top by means of a geared motor. In case of height problems, it is also possible to install a three phase motor to the side of the mixer and drive with a v-belt.

Mixing is achieved by the transport screw, by the above-mentioned spread over the entire area and by the material's uneven flow within the cone.

After mixing the load can be discharged via one or several outlet pipes. It is also possible to

pneumatically convey the product via a tube. Since the material is being intensively and continuously mixed while loading, blending is complete by the time the mixer reaches it's fill level.



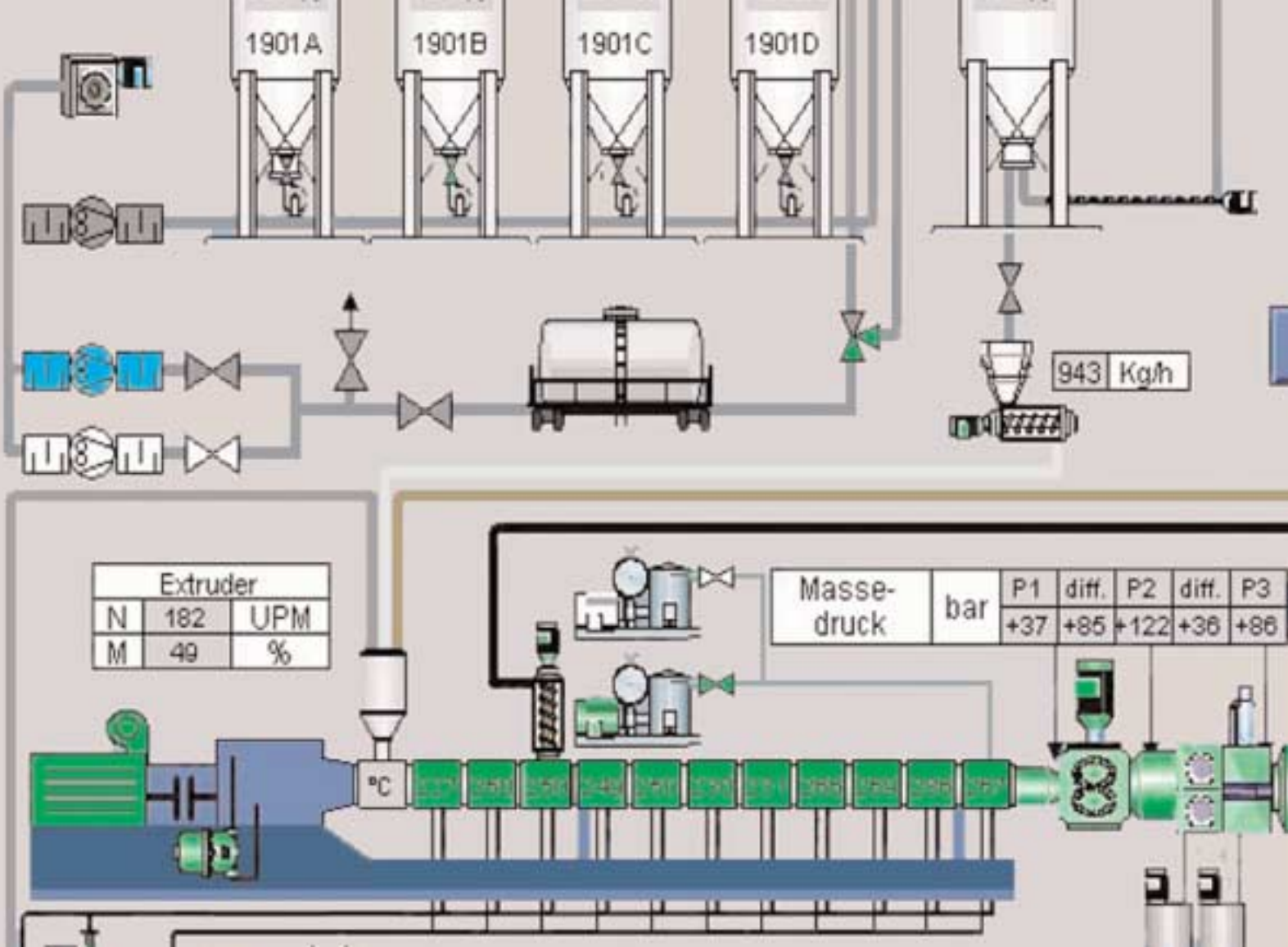
SPECIAL FILM FLAKE AND FIBRE SILOS

Materials such as film flakes or fibres can be difficult to handle in conventional storage silos, because they tend to be very lightweight, bridge and are difficult to discharge. KREYENBORG have considerable experience producing silos to store and discharge these difficult materials. KREYENBORG film flake silos have 3 agitating screws to keep the material moving within the silo, therefore ensuring that it can be easily discharged by a conveying screw to the extrusion line.

INFRA RED DRYERS

Infra red dryers from KREYENBORG offer the possibility to rapidly dry plastic materials. They are often used in PET applications to dry a blend of PET sheet flakes and virgin pellets. It is possible with the innovative IRD (Infra Red Dryer) technology to crystallize and dry PET material in less than 12 minutes.





BSG Controls

About BSG

BSG Controls (Bruckmann Steuerungstechnik GmbH) are a control system company focusing their efforts solely on the development and realization of control systems for the extrusion, compounding and polymerisation industries. With a dedicated team of 40 highly skilled employees. BSG Controls have delivered more than 100 complete extrusion line control systems that are used in continuous production in polymer and compounding plants world-wide.

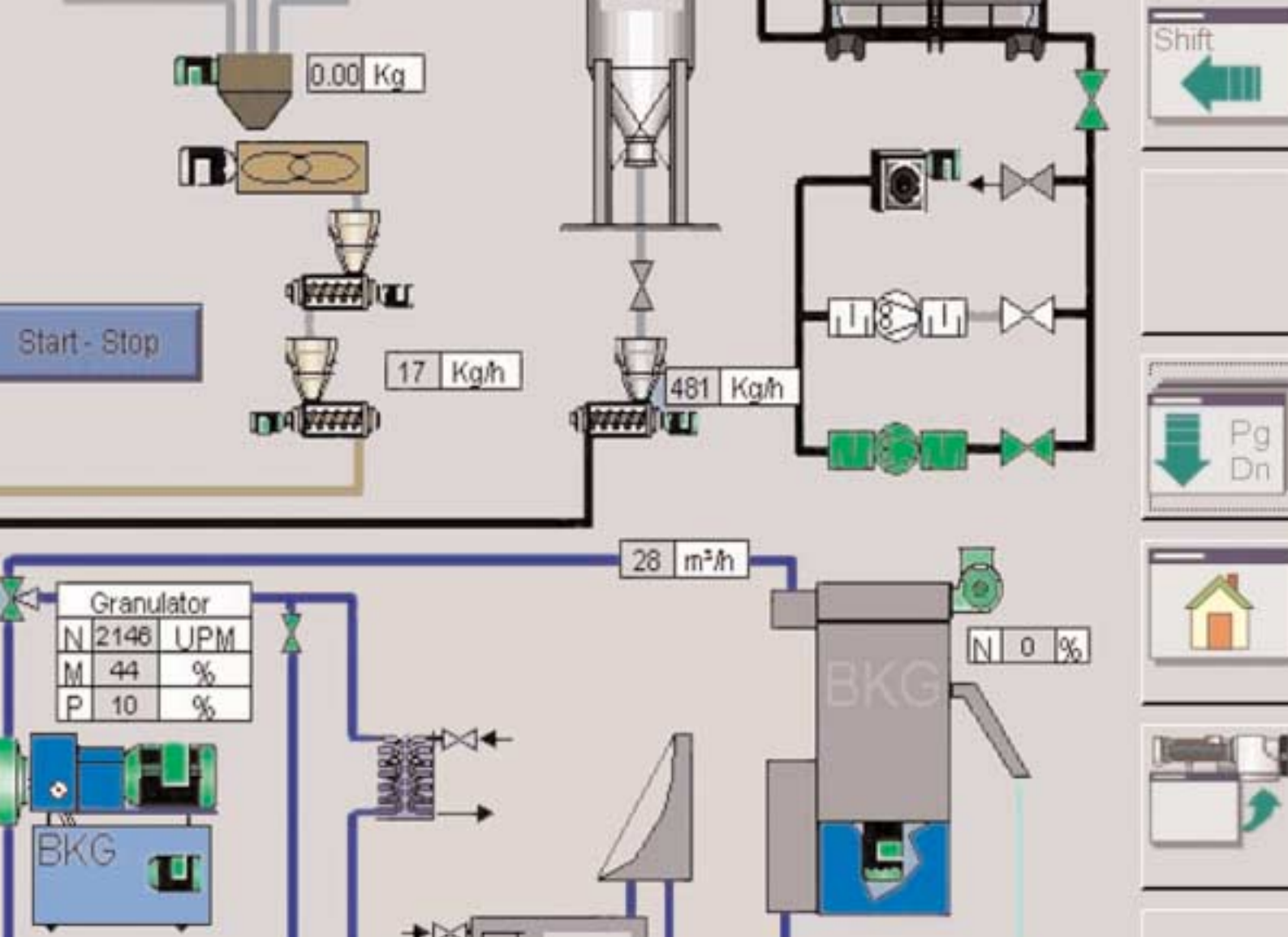
The BSG ONE operator interface provides an extremely easy to use SIEMENS S7 plc based control system to enable a modern and efficient control of your new or existing compounding/extrusion line.

The software interface is designed as a modular concept enabling you to select as much control of the line as your specific line requires.

The BSG ONE control is powerful enough to control a complete compounding plant including Bulk raw material silos, and centralized conveying system through to complex loss-in-weight feed systems, extruders, ancillaries etc. As the system is

configured to suit your particular compounding line you can select the units of the line that can be operated from the SINGLE operator panel of the BSG ONE control system.





Case Study

Our project team has considerable experience retrofitting the modern BSG ONE control concept to older existing extrusion lines. We are frequently commissioned by our customers to replace outdated/obsolete instrument based panels with the modern and efficient BSG ONE control concept.

The specialist masterbatch producer A.Schulman in South Wales installed a BSG extrusion control system in July 2005. Now a single control panel featuring a modern Siemens OP270 HMI panel is utilised by the operators for easy handling of the 4000 kg/h masterbatch production line. Further details of this project can be downloaded from the case studies section at www.regismachinery.co.uk

BSG ONE offers a single interface for all of your compounding lines. Each extrusion line can be equipped with the familiar ONE interface



Regis Machinery have considerable experience in the provision of filtration and pelletizing equipment for virgin polymerisation plants.

Screen Changers as replacements for candle filters

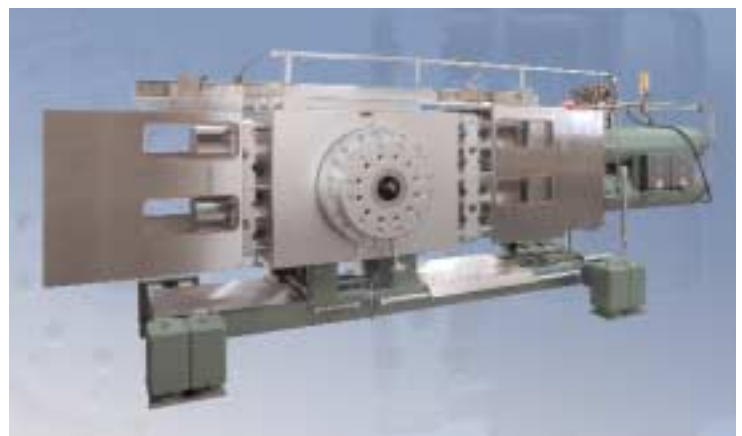
Screen changer technology is rapidly becoming established as a highly effective and operator friendly method of filtration in Virgin polymer plants - for example in continuous production of polyester, screen changers offer a number of significant advantages. KREYENBORG screen changers are utilised all over the world for the continuous filtration of polymer melts. The screens can be quickly exchanged without the need for any specialist tools, these woven wire screen packs are inexpensive and can be disposed of once they have become blinded by contaminants.

Case studies of KREYENBORG screen changers in polymerisation industries can be downloaded from www.regismachinery.co.uk. We also have a 3D video Animation that shows the principal of operation of this highly effective filtration system. It is possible to arrange visits to see reference installations in operation, so you can see for yourself how dramatically easy it is to exchange screens with the KREYENBORG piston type screen changer.

Underwater Pelletizers for Polymerisation plants

The completely automatic, die face, underwater pelletizer system from BKG is used for efficient pelletizing of a wide variety of polymers including PET, PBT, PA, PS and PP. We offer pelletizers for a wide range of plant capacities complete with water and drying systems tailored to the specific needs of the particular polymer plant.

BKG also have a patented in-line crystallization process CRYSTALLCUT. This has generated a great deal of interest, in the Global Polyester production industry, as it utilises the latent heat inherent within the polyester melt coming from the finisher. This heat is used to crystallize the polyester chips within the pelletizing process meaning that the pellets can be conveyed directly from the pelletizing process to the SSP (solid state polymerizer).



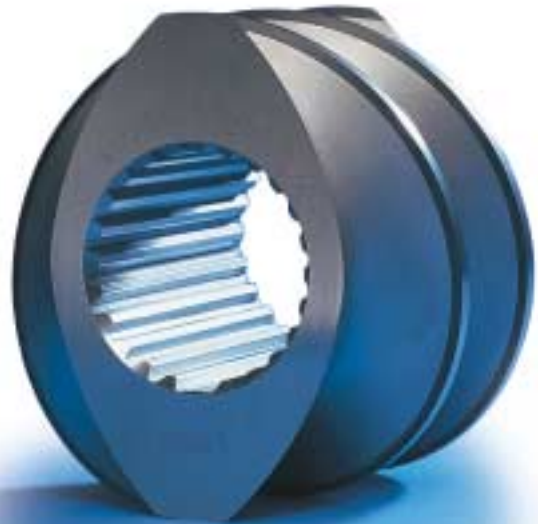


Through our specialist spares website www.extrusionspares.com we offer the C.A Picard range of screw element forms for all makes of twin screw extruders. Similarly we offer a complete range of twin screw extruder barrels and replaceable barrel liners.

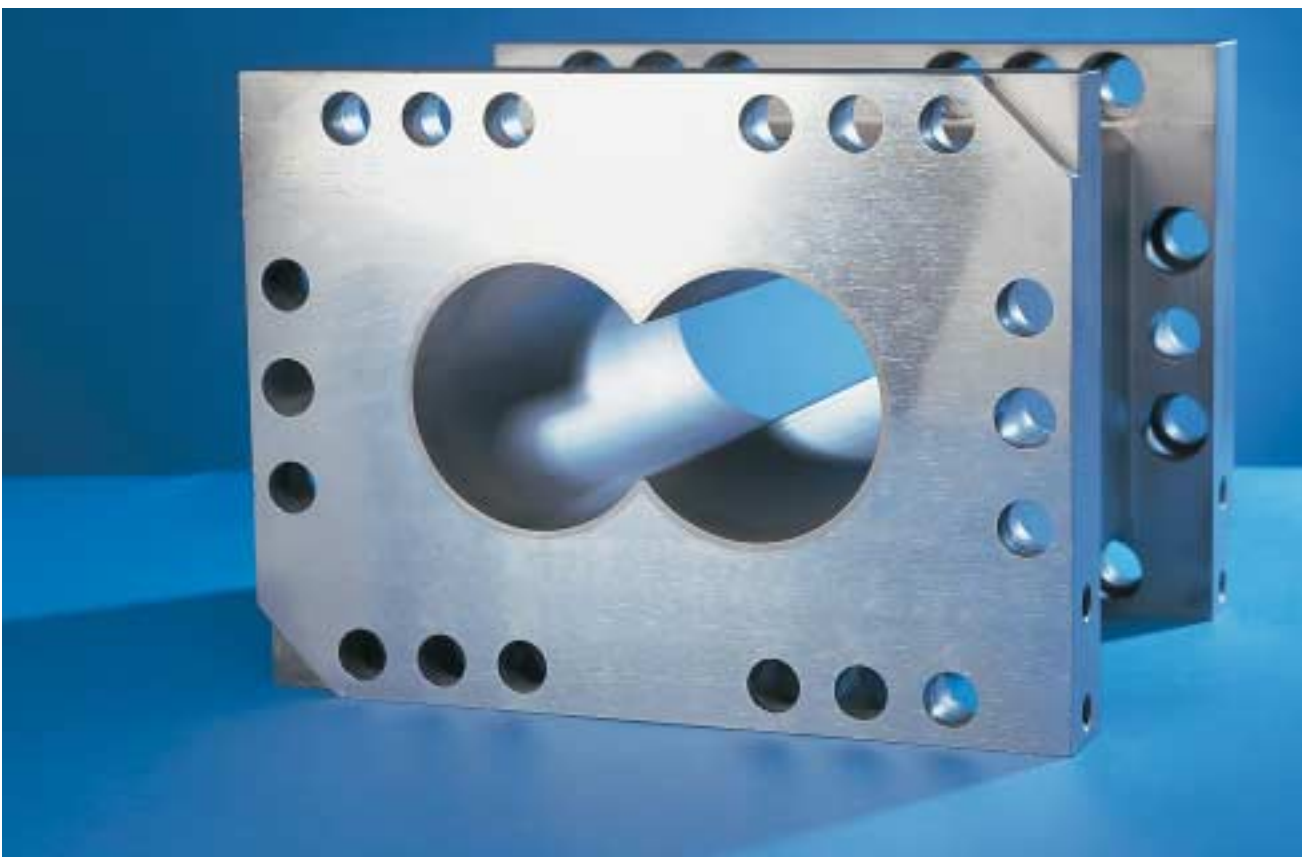
Our speciality is wear resistant steels such as HIP metallurgy.

PM-HIP consists typically of a blend of metal powders including carbon, chromium, vanadium (for outstanding wear resistance) and molybdenum.

The blend of metal powders, is selected to give the best combination of wear and corrosion resistance and compacted together utilising heat and pressure (Hot isostatic pressing). This produces extruder parts (screws, barrels and replaceable liners) that offer exceptional wear resistance – typically 4 times that of standard nitrided parts.



We can refurbish your existing barrels by fitting a liner. It is no problem if your barrel was not originally installed with a liner.





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