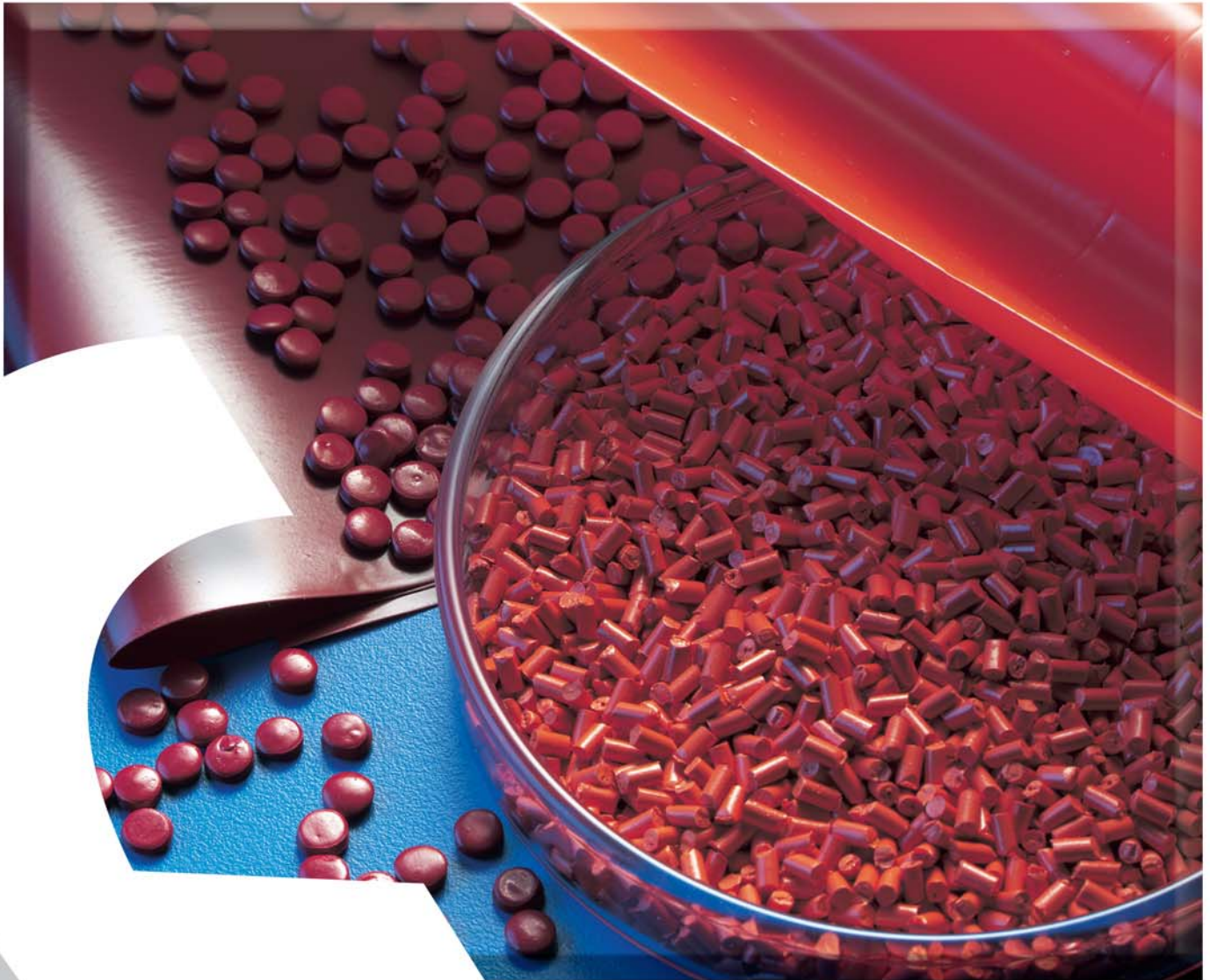


# Extrusion Solutions for Compounding



# Extrusion Solutions by ENTEK

*Color can be your edge in marketing today's plastic products. To achieve that edge, compounders are using ENTEK twin-screw extruders. ENTEK has the material and processing expertise necessary to help improve pellet quality, increase output, and gain market share.*

*(Pictured below: E-MAX™ 73mm twin-screw extruder, for large lot size custom compounding)*



## High Quality Pellet Production for High Quality Products

To produce high quality, attractive plastic products, you need to produce high quality plastic pellets. Color and compounding technology continues to evolve in plastics as new pigments, additives and special effects are introduced to help products stand out and gain a competitive edge.

Leading compounders are using ENTEK extruders, and not just because of the company's high performance co-rotating twin-screw extruders. ENTEK's expertise in overall plant operations has helped compounders make higher quality pellets, increase line production capacity, and grow their business and profitability.

If you are in the compounding business, contact ENTEK today to find out how we can help you achieve your goals of:

- fast, easy start-ups
- fast, easy color changes
- higher quality mixing/dispersion for higher quality pellets
- higher performance and productivity
- better support from a supplier who truly partners with you to improve your process
- systems integration with all key elements at your plant

# More Than Just Extruders – Complete Plant Solutions

## ENTEK Extrusion Systems for Pelletizing

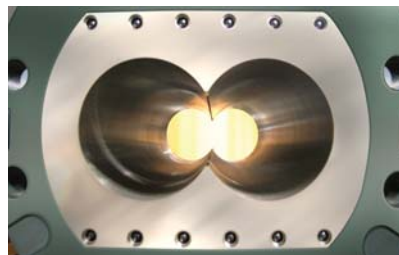
For compounding requirements involving the production of plastic pellets, ENTEK has your extrusion solution.

Whether you require strand, underwater, or hot-face cut pellets, there is an ENTEK system to fit your needs. In addition to providing you with a customized E-MAX™ twin-screw extruder, ENTEK can assist you with complete pelletizing system and turnkey plant expertise as well.

The illustration on page 4 is a representative layout for an ENTEK Pelletizing Extrusion System for the production of fiber-based pellets. Please contact us anytime to discuss your specific application. We're confident we can help you improve your productivity and as a result, improve your bottom line.

- 1 Loss in Weight Feeders** for accurate formulation and steady state operations, or Volumetric Feeders for pre-mixed formulas. Feeder Controls are fully integrated into the extruder controls.
- 2 E-MAX™ Twin-Screw Extruders** Extruder features segmented barrels and screws for optimization of any formulation. The co-rotating design yields excellent dispersive and distributive mixing for high throughput and consistent finished product.
- 3 Melt Pump** for pressure generation and control. Allows for combined compounding of fiber-based materials and direct profile extrusion.
- 4 Material Handling Feeder Platform** for easy access to feeders for maintenance and monitoring of feed material. The platform can be customized to handle a variety of material handling needs, from manual feeder refills to complete automation.
- 5 Pelletizer** can be ENTEK supplied or customer supplied. ENTEK will supply all adapters to incorporate the pelletizer to your ENTEK extruder. ENTEK can work with anything from underwater, hot faced or strand pelletizers. Pelletizer systems are fully integrated into the ENTEK extruder controls.

## E-MAX™ Twin-Screw Extruder Features



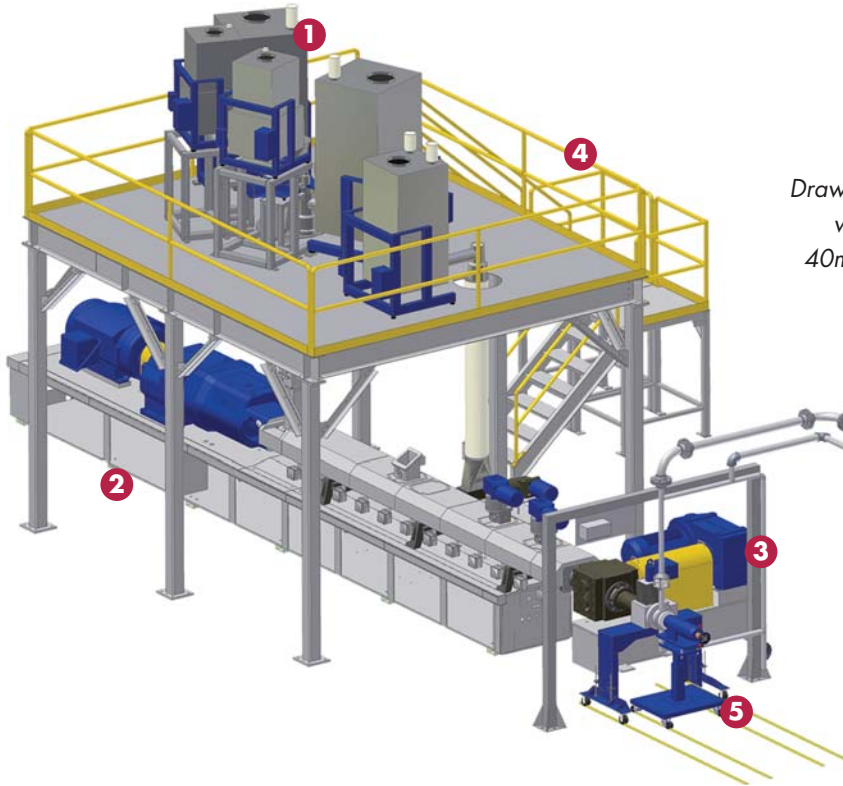
*ENTEK Barrels Feature the Highest Quality Materials of Construction to Process Abrasive and Corrosive Resins and Fillers*



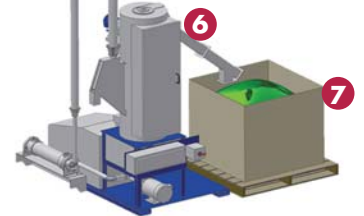
*ENTEK Smart Controls are Industrial Strength and Feature Advanced Troubleshooting and Diagnostic Capabilities*



*Co-Rotating Twin Screws for Maximum Throughput and Excellent Dispersion*



Drawing depicts a typical layout for a 103mm ENTEK system with an underwater type pelletizer. Systems based on the 40mm, 53mm, and 73mm extruders, and 133mm extruders are also available.



**6 Temperature Water System and Centrifugal Pellet Dryer** for controlling circulation water and pellet temperature. The pellet dryer separates the pellet from the water stream, additional equipment can be incorporated to further reduce moisture and temperature from the pellets. All downstream equipment can be integrated with the ENTEK extruder controls.

**7 Finished Product** can be as simple as dumping into a gaylord, to fully automated bulk material handling systems.



### Dies

- ENTEK Manufactures Dies for Strand, Underwater or Hot Face Pelletizers
- The Unique, Patented ENTEK Low Volume, Quick-Clean Strand Die Design Allows for Fast, Easy Color Changes – the Screws Can Be Removed Through the Die Assembly



### Side Feeder

- Side Feeders are Available for Downstream Feeding of Materials and Additives
- Six Sizes are Available to Match Up with Extruders and Feed Rate Needs



### Vacuum Stuffer

- Available for Devolatilization to Enhance Melt Quality
- Allows for Higher Outputs Running Hydroscopic Pigments
- 48, 70 and 90mm Sizes Available with Multiple Screw RPM Options
- Vacuum Pump and Filtration Systems also Available to Match Stuffer Units



# Give ENTEK a Try – Bring Us Your Toughest Formulation



Larry Keith (left), ENTEK President,  
and Dr. Kirk Hanawalt, Vice President/  
Chief Operating Officer

## Our History

ENTEK began operations in the 1980's as a processor, producing highly filled sheet for use in automotive batteries. Our experience working with difficult compounds led us to develop our own brand of "wear parts", including screws and barrels, and then our own brand of twin-screw extruders. In the 1990's, we began marketing our E-MAX™ extruders to the outside world for a variety of applications. Today, ENTEK International is a world-leader in producing sheet for low-maintenance batteries, and ENTEK Manufacturing Inc. is an industry leader in the production of twin-screw extruders, replacement wear parts and complete extrusion systems. All of our products are proudly manufactured in the USA at our Lebanon, Oregon headquarters.

## Performance and Value

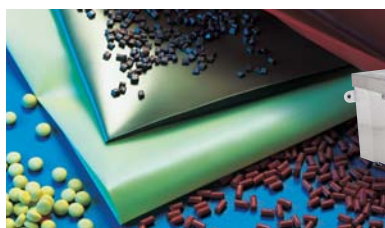
All ENTEK machinery and equipment is custom designed for your specific application. For compounding the process begins with your materials. Whatever your formula is, ENTEK works with you up front at our in-house lab to test, adjust, and optimize it until we have met or exceeded your production goals.

We also optimize our machinery for your application – for example, extruder horsepower, torque, barrel and screw designs, and downstream equipment are all designed depending on your specific processing needs.

## E-MAX™ Twin-Screw Extruder Throughput Rates (lbs/hr)

Products & Processes	E-27mm	E-40mm	E-53mm	E-73mm	E-103mm
Standard 600 rpm	20hp, 600rpm	75hp, 600rpm	150hp, 600rpm	400hp, 600rpm	700hp, 300rpm
High Speed/ High Torque 1,200 rpm	40hp, 1,200rpm	150hp, 1,200rpm	300hp, 1,200rpm	800hp, 1,200rpm	1,400hp, 600rpm
HDPE, LDPE, PP (powders) Compounding Colors, Additives & Fillers	70 – 160	260 – 600	540 – 1,150	1,440 – 3,060	2,500 – 5,250
HDPE, LDPE, PP (pellets) Compounding Colors, Additives & Fillers	50 – 135	190 – 500	405 – 1,000	1,080 – 2,700	1,875 – 4,725
PS, SAN, ABS Compounding Colors, Additives & Fillers	85 – 120	320 – 450	640 – 880	1,700 – 2,340	2,900 – 5,000
PC, PA6, 6/6, 6/10, 6/12, 11, 12 Compounding Colors, Additives & Fillers	45 – 100	170 – 375	340 – 810	900 – 2,160	1,400 – 3,750
Fiber Filled (organic) Olefins, WPC's Compounding Colors, Additives & Fillers	75 – 180	250 – 750	500 – 1,500	1,000 – 2,500	2,500 – 5,000

\*Depends on Polymer Melt Index, Additives & percent loading



To serve the color compounding industry's need for smaller lots of highly customized compounds, ENTEK developed the E-MAX™ 40mm twin-screw extruder. The E-40mm produces lots from 500 – 3,000 lbs and is designed for fast material changes and turnaround times.

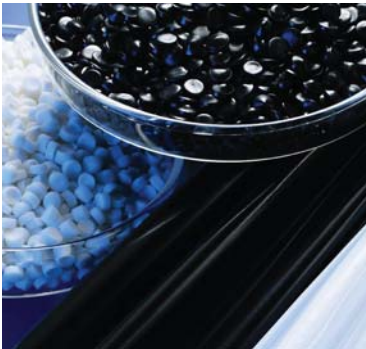
# ENTEK Advantages

## Service – The ENTEK Difference

We at ENTEK take customer service seriously, and it is our commitment to service that is the ENTEK difference. We work closely with you through all stages of your project:

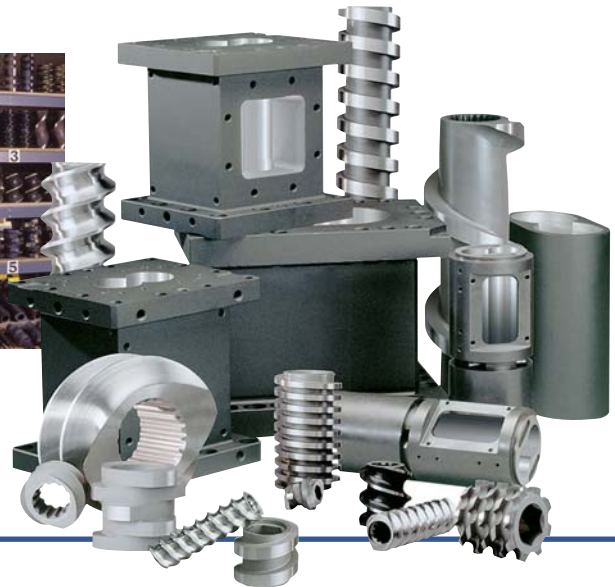
- Before: in-house lab trials with you at ENTEK to prove-out and perfect the process
- During: we help you get up and running; complete support at start-up at your plant
- After: we support you and our products for the life of the machine

All our products are proudly manufactured at our company headquarters in Lebanon, Oregon USA. We encourage you to visit us in Oregon, where we can meet to discuss your application, run trials on your products, and you can spend some extra time visiting our beautiful state.



### Spare Parts

ENTEK produces a wide variety of replacement wear parts for both ENTEK and other brands of twin-screw extruders. If you need parts in a hurry, call us – we feature fast deliveries and a complete line of screws, screw elements, and barrels which are all manufactured from the highest materials of construction.



**Global Headquarters**  
ENTEK Manufacturing, Inc.  
PO Box 39  
250 N. Hansard Avenue  
Lebanon, OR 97355 USA  
Tel. 541-259-1068  
FAX 541-259-8018  
[www.entekextruders.com](http://www.entekextruders.com)



MADE IN OREGON