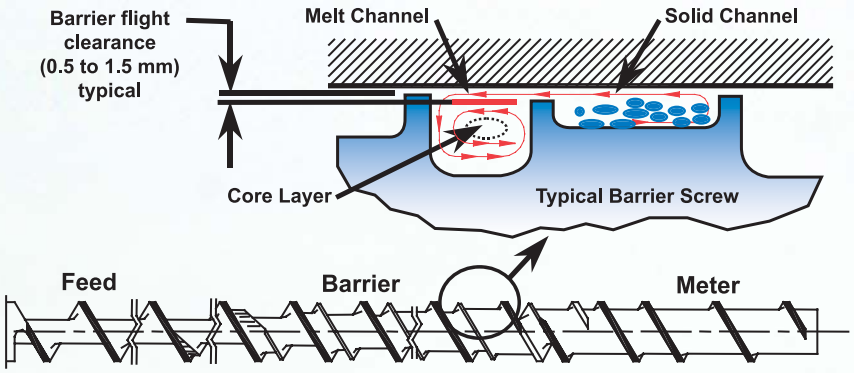
BARR VBET®

High Performance Variable Barrier Energy Transfer Screw

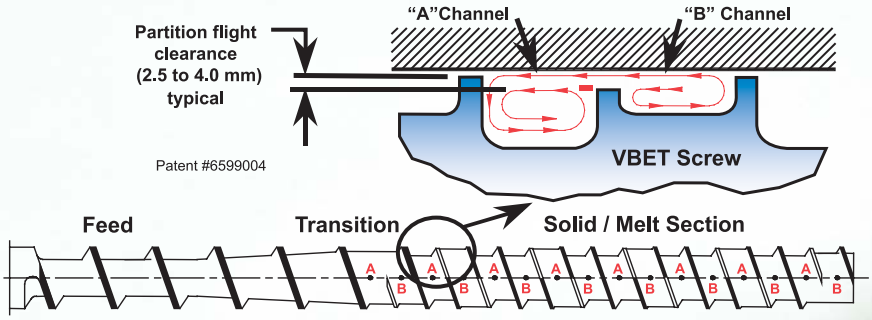
Typical barrier screws largely keep the unmelted and the melted resin separated. Additionally, the melt film thickness in the typical barrier screw section is very small.

The particles stay in their own positions in the screw channel and there is no mixing of the particles. The particles in the core layer of the screw channel always stay in the core layer, and the particles in the surface layer always stay in the surface layer. In these barrier sections the melt temperatures are correspondingly high since 90% of the polymer is melted by shearing action. The high melt temperatures from the barrier section dictate the need for cooling the molten polymer downstream.

Typical Barrier Screw Design



The VBET Solid/Melt Advantage



The VBET Solid /Melt Screw keeps the unmelted pellets mixing with fresh melt. VBET's unique channels and undercuts are large enough to allow pellets as well as melt to pass over them. VBET yields significantly higher melting rates because its surface area for unmelted pellets far exceeds the solid bed surface area of a conventional screw.

SERVTEK is your exclusive supplier of the BARR VBET Solid/Melt Mixing Screw, which is the latest generation of the proven, high performance BARR ET Screw. The BARR VBET Mixing Screw is superior to typical barrier screws because it maximizes conductive melting to provide:

- Higher Production Rates
- Lower Melt Temperatures
- Uniform Melt Temperatures
- Improved Mixing
- Reduced Shear Energy Input
- Improved Energy Efficiency
- Increased Conductive Melting
- No Hot Spots and No Splay Due to Excellent Melt Quality

CALL TOLL FREE TO STRENGTHEN YOUR PRODUCTIVITY
1-888-439-2491

The BARR VBET can be installed on any injection machine. Any make. Any model. No matter how new or old.

BARR INC.
Decades of Experience for a Century of Performance

SERVTEK

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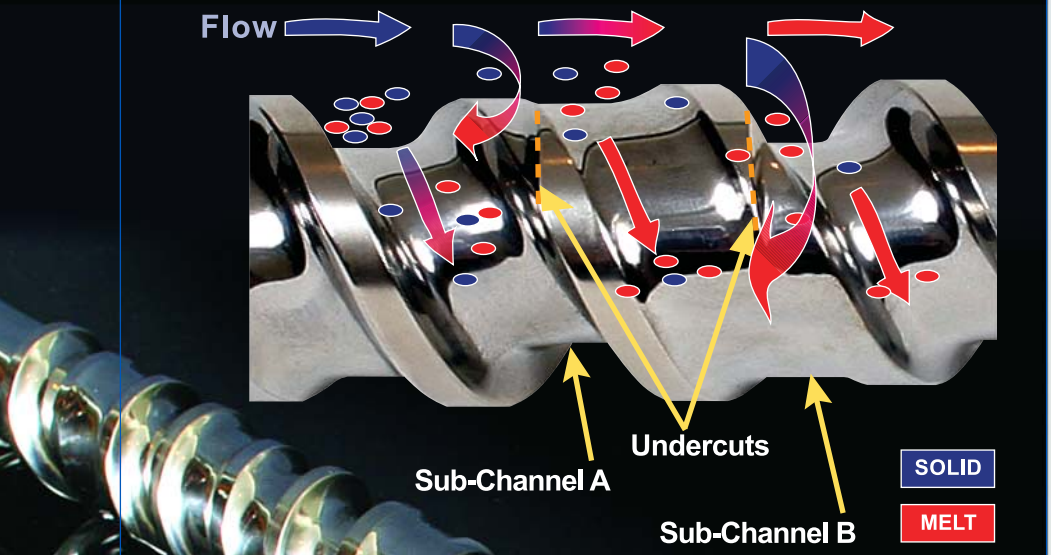

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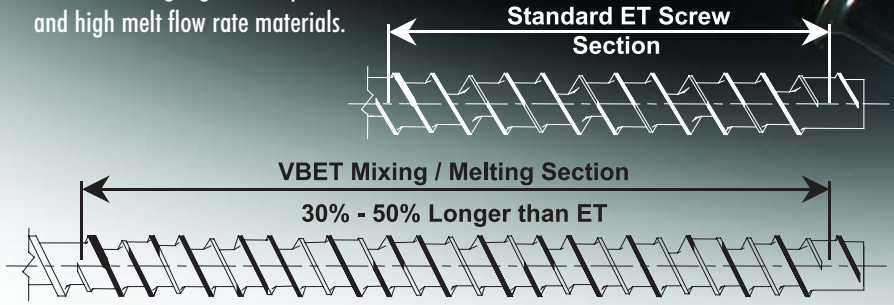
The VBET Difference

Not only has the VBET improved upon the strengths of the BARR ET Screw, it incorporates more of the processing power. The Mixing / Melting Section of the VBET Screw is 30% to 50% longer than the ET Screw. The conductive melting capacity of the VBET Screw enables you to process a wider variety of resins including high viscosity materials and high melt flow rate materials.



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How does the VBET do it?

The VBET screw channel is divided into two sub-channels. The particles continuously change their positions as they flow from one sub-channel into another sub-channel along the screw. A particle in the surface layer of one sub-channel ends up in the center layer of the other sub-channel. This Solid / Melt Flow mechanism gives uniform melt quality and uniform melt temperature by continuously mixing the melt. Undesirable hot spots inside the screw channel are eliminated.

The VBET's new low-shear design uses almost half of its length as an Energy Transfer section, which provides an increase in conduction melting by almost 30%. The VBET Energy Transfer section melts 30-50% of the polymer by conducting heat from the previously melted polymer, eliminating the need for downstream cooling. This not only reduces heat loss, but also, allows a much lower melt temperature.

Another advantage of VBET Screw is better heat control. The VBET geometry gives better heat transfer from the melt to the barrel since the entire hot melt is continuously exposed to the barrel as a thin film while the melt flows from one sub-channel into another.

MILACRON
Plastics Technologies

SERVTEK

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