

# Xaloy<sup>®</sup> Fusion<sup>™</sup> Design Barrier Screw

- Increase Production
- Lower Melt Temperature
- Improve Product Quality
- Lower Drive Motor Load

The proprietary Xaloy Fusion<sup>™</sup> screw allows you to increase production and improve product quality in many process applications. Its design is the combination of proven barrier screw technology and a low shear metering section that provides chaotic mixing, reduced melt temperatures and improved throughputs.

## Which materials?

The Xaloy Fusion<sup>™</sup> screw has already proven to deliver benefits in processing:

HDPE	LDPE
LLDPE	MDPE
PET	PLA
PP	

## Which processes?

The Xaloy Fusion<sup>™</sup> screw is available for the following processes:

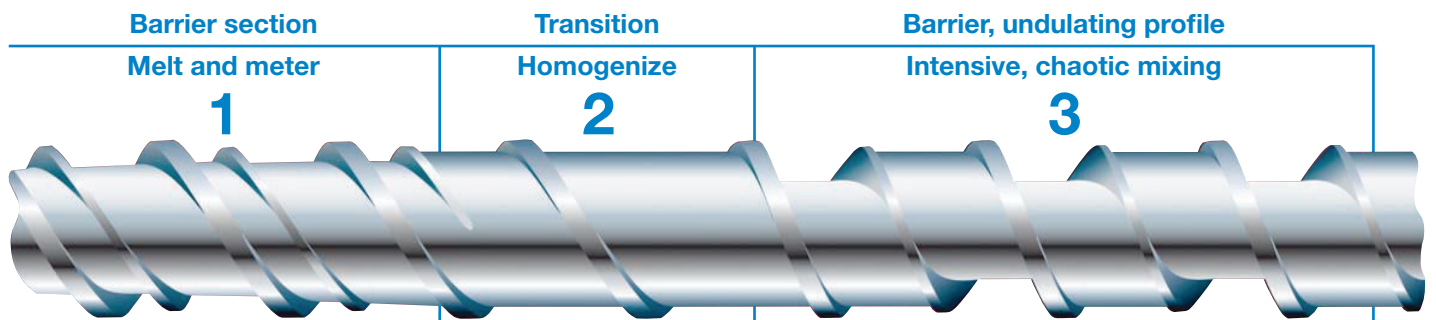
- Blown Film
- Sheet Extrusion
- Blow Molding
- Profile
- Pipe

For other process applications, consult us for a screw design recommendation.

## How it works; Using our proven barrier design technology

- Separation of melted polymer from unmelted resin protects the melt from additional shear
- Recombination of melt streams for homogenization in a short metering section
- Final melting is completed by means of second barrier section designed for multi-cycle chaotic mixing

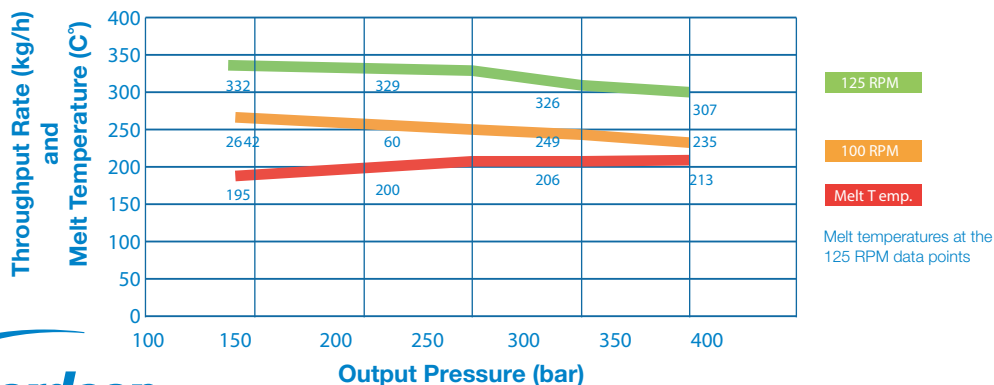
Diameters available: 1.5" to 10"  
(3.81 cm to 25.4 cm)



The Xaloy Fusion<sup>™</sup> Screw

3.5" x 24:1 rates and melt temperatures at 100 and 125 RPM at various headpressures while processing 65% virgin / 35% regrind of a .35 MI HDPE

Note: Suggested Barrel Temperature Profile: Z1=350F, Z2=420F, Z3=400F, Z4=380F, Z5=360F



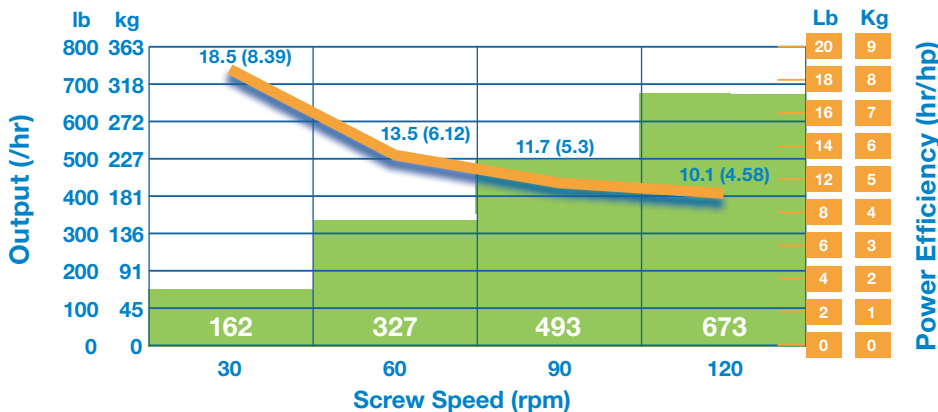
# Xaloy® Fusion™ Design Barrier Screw

## Power Efficiency Performance Benefits

Our worldwide presence includes sales and service offices located in the United States, Europe, Thailand, Japan, China and India and a global network of agents geographically positioned to serve customers throughout the world.

### Output and Power Efficiency on 3.5" (88.9mm) x 24:1 L/D

(90% LDPE and 10% LLDPE)



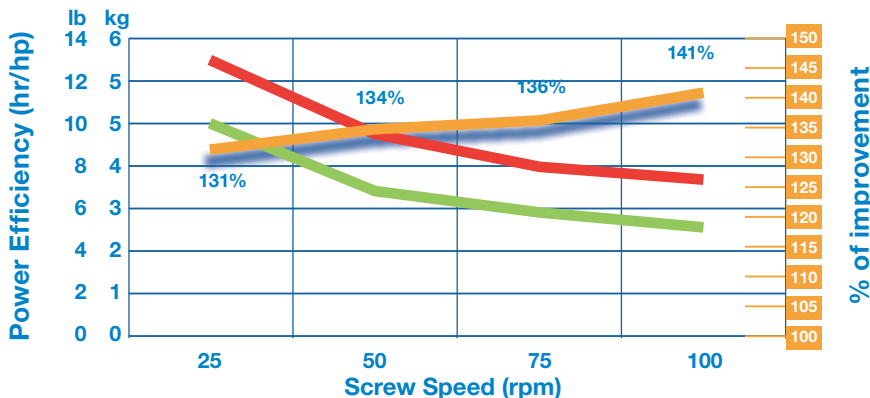
#### RATE

Typically, .5 to 1.0 MI LD/LLDPE blends require 7 to 8 lb/hr/hp to process effectively.

#### LB/HR/HP

The Fusion™ Screw was able to process slightly more than 10 lb/hr/hp due to the efficient use of available HP.

### Power Efficiency Comparison



#### Fusion™ Screw

The Fusion™ Screw also features the added benefit of energy cost savings through more efficient use of available horsepower.

#### Barrier w/UCC

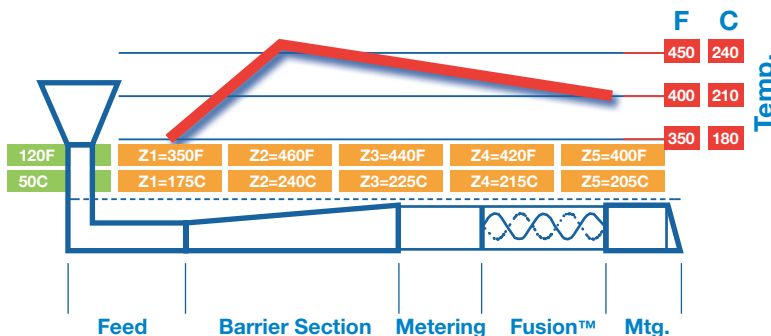
Resulting Overall Benefits

- More lbs/hr/hp
- Controllable melt temperatures
- Reduced energy costs

#### % of improvement

### Temperature Profile

(for processing a .35MI HDPE)



Nordson recommends that a "hump" type barrel zone temperature profile be used to optimize the performance of the Fusion™ Screw. Make sure that you request the best temperature profile from your Nordson representative for your resin and process.

Note: This profile typically will produce a 410-420 (210-215°C) melt against a 3500 psi head pressure.

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