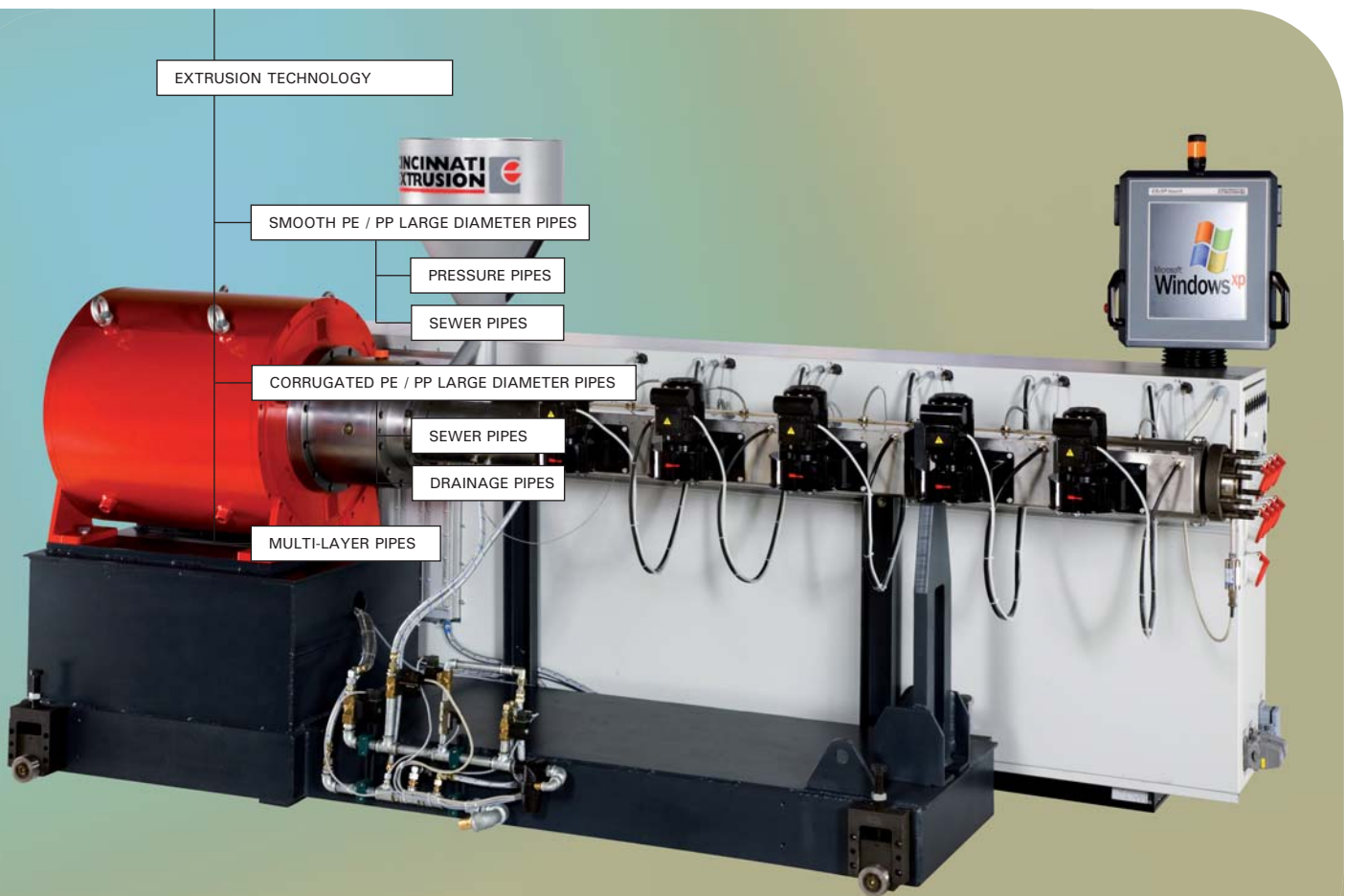


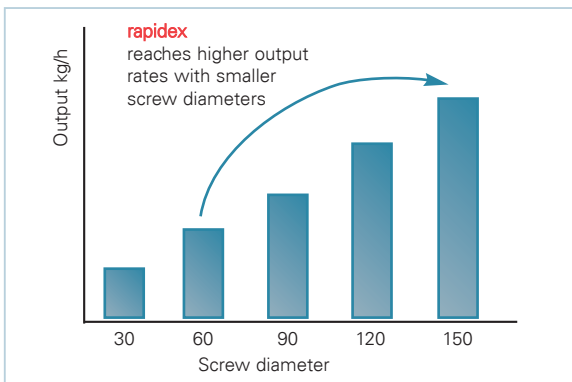
## Single Screw Extruder RAPIDEX 1000/1500



## Advancing into new output dimensions

The **rapidex single-screw extruder** has made it possible for the first time to reach high output levels in pipe extrusion with small-sized extruders.

Thanks to the latest technical developments, **rapidex** high-speed extruders have made it possible for the first time to reach output dimensions previously only possible with large extruder sizes. These "high speed" models operate with peripheral screw speeds of over 1m/sec.



### Areas of application

**rapidex** extruders are recommended for applications requiring an output range from 800 - 1,500 kg/h in PE pipe extrusion, or high flexibility across a wide range of output levels, taking into account that minimum output is only 30 kg/h.

### Advantages

**rapidex** extruders offer numerous advantages compared to conventional, slowly turning extruders, such as:

- > Smaller footprint
- > Extremely simple handling for maintenance
- > Substantially reduced sound level
- > Low costs for spare parts, since the plasticizing units used are much smaller than in conventional extruders
- > Less heat loss through radiation
- > Substantially higher degree of efficiency with torque motor technology and consequently lower operating costs

### Further advantages

**rapidex** extruders deal very gently with the materials processed. For instance, when using an extruder with a 150 mm screw diameter (with the same output and melt temperatures as for a **rapidex**), the pellets remain almost five times as long in the barrel.

Thanks to the short residence time, **rapidex** allows extremely quick colour changes.

A higher screw speed does not necessarily have a negative effect on wear. The amount of wear incurred is not directly related to the screw speed, but depends on friction and the level of pressure in the grooved feed section and in the barrel. Consequently, the grooved feed section and screw have been designed to minimize wear.

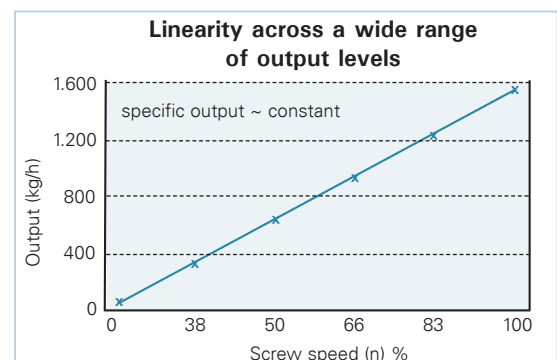
### Overview of rapidex technology

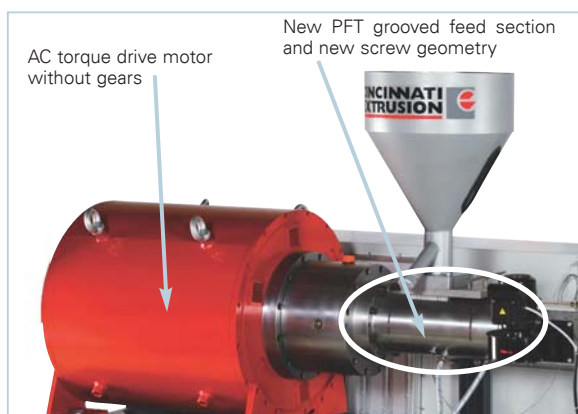
#### Plasticizing unit

The plasticizing unit is equipped with a latest-generation grooved feed section based on the PFT (power feed technology) concept, and an innovative screw geometry specially developed for high-speed extrusion.

The main features of this newly developed plasticizing unit are:

- > High rigidity to withstand even maximum back pressure
- > Excellent linearity even with extremely high screw speeds
- > Excellent melt homogeneity
- > Easy control of melt temperature
- > Low specific application of mechanical energy





AC motor of the rapidex high-speed extruder: compact and powerful

Five heating and cooling zones ensure precise tempering of the barrel.

### Drive technology

The screw is directly driven by a frequency-controlled AC torque motor without gears which allows extended maintenance intervals of up to 20,000 hours. The end of the screw forms a continuous straight line with the motor shaft. The motor itself and the frequency converter are both water-cooled. The smooth-running motor ensures a vibration-free, low-noise extrusion process even at extremely high screw speeds.

### Standard / options

The standard delivery package includes a hopper with a sliding valve, temperature control for the grooved feed section by means of a proportional magnetic valve, water cooling for the motor, the frequency converter and the control cabinet.

Numerous additional electrical and control technology features, such as total energy consumption gauge modules, are also available as optional extras to extend the EXcP-touch control system.

### rapidex single screw extruder

The turbo for high output.

### Energy

**rapidex** extruders rank among the most economical extruders in terms of energy consumption. The AC drive provides a substantially higher degree of efficiency across the board, but above all under partial load, compared to DC motors. Since the motor operates without gears, all energy losses caused by gear transmission are dispensed with, such as churning loss or excessive heating. Radiation heat loss is also kept extremely low thanks to the small heat-radiating surface.

### Maintenance / oil changes

The thrust bearing is oil lubricated and the necessary volume of 3 litres needs to be changed only every 20,000 hours. In comparison, a conventional extruder of the same output range and with the same gear requires a volume of 60 litres of oil, which needs to be changed every 10,000 hours.

Therefore the **rapidex** results in a saving of approximately 2,000 EUR every 10,000 hours. In addition, the disposal costs of used oil are saved.



### Technical data

Output rates HDPE (kg/h)		
Type	Minimum	Warranty
rapidex 1000	30	1,000
rapidex 1500	30	1,450

Output may vary depending on materials processed and upstream or downstream equipment.

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