



alpha

The Plug&Play bestseller

battenfeld-cincinnati 



The plug&play model for standard applications

Our global bestseller, the alpha single screw extruder, has been conceived and developed especially for the extrusion of technical profiles and small pipe.

Our offer:

- ✓ High flexibility with a great variety of processing options
- ✓ Extremely compact with minimal footprint
- ✓ Complete pipe and profile extrusion lines available
- ✓ Proven battenfeld-cincinnati quality and an excellent price performance ratio
- ✓ UL versions available for the US market

Your advantages:

- ✓ Choice of different extruder models available from stock
- ✓ High-quality machine components from leading European suppliers
- ✓ Wide range of performance classes
- ✓ Direct drive with high torque, brushless, maintenance-free AC motor
- ✓ Analog synchronization (0-10V signal) with co-extruder and/or downstream units

Proven technology

Machine design

The demands we place on our extruders are high functionality and perfect design. For us this means: clean lines, simple operation, easy maintenance and modest space requirements. Therefore the motor is mounted underneath the feed zone in all models of the alpha series. This layout makes the extruder extremely short and slim, thus reducing its footprint. The extrusion height is 1,100 mm. The control cabinet with the (SecuRe) relay control system is mounted on the left-hand side of the extruder.

The alpha series includes 3 different machine sizes with screw diameters of 45, 60 and 75 mm. Two processing units of different lengths for each size allow for an optimal choice of extruders, technically and cost-efficiency. Both units utilize the same drive concept and control system.

Motor, drive system

The drive unit is a standard AC motor directly flanged on the reduction gear unit. The brushless, maintenance-free, extremely quiet, frequency-controlled AC motor operates with a high degree of efficiency.

L/D ratio

The L/D ratio of alpha extruders with smooth feed zones is 25:1 and 28/30:1 for extruders with grooved feed zones. The grooved processing units operate according to the "Power Feed Technology" principle. This means that a special geometry of the grooves in the feed zone ensures an extremely stable screw fill level across the entire range of recommended screw speeds for many polymers. The feed zone is cooled and thermally separated from the remainder of the barrel.

Barrels

All alpha single screw extruders come with nitrided barrels as standard.

Barrel tempering

All models are equipped with 4 combined heating/cooling zones. The ceramic heater bands and the specially developed copper fins of the air cooling system insures an optimal barrel temperature. This concept makes melt temperature control extremely effective.

Screw geometries

During its many years of market experience, battenfeld-cincinnati has developed a great number of proven screw geometries and accumulated a great wealth of application experience and expert knowledge. The screws of alpha extruders with smooth feed zones are nitrided. In grooved extruder models, the screw flight comes with a special coating in the feed zone. A special powder alloy developed in-house is used for flight coating. It features extreme stability and wear resistance.



Hoppers

In the standard version, alpha extruders are fed via hoppers with sliding valves. With the help of the sliding valve, the hopper is easily moved into the desired position for operation, shut-off or complete emptying.



Control system

alpha extruders are operated with a remote control terminal that is connected to the control cabinet. Via this terminal, the extruder is started and the screw speed is set. The manual control terminal comes with a 15 m cable. In co-extrusion lines with two extruders, the ideal position of the terminal is on the main extruder.

Linearity

The screw geometries in combination with the grooved feed zone are characterized by optimal linearity. Output and screw speed are generally directly proportional to each other over a wide range of back pressure levels for many polymers.

Flexibility

The drive concept and the diversity of proven screw geometries offer suitable solutions for virtually all extrudable polymers within the production-relevant range of outputs.

The single screw extruder for standard applications

alpha extruders are available in three sizes (screw diameters of 45, 60 and 75 mm) and offer a uniform concept for the extrusion of technical profiles, tubes or small pipe. They are suitable for a variety of applications including utility profiles, furniture, automotive, building and electronics industries. Typical applications for PVC profiles are: roller blinds, cable conduit and tile edging. The following plastic materials can be processed: PE, PP, ABS, ABS/PC, PS, PMMA, TPEs and both soft and rigid PVC.

alpha outputs

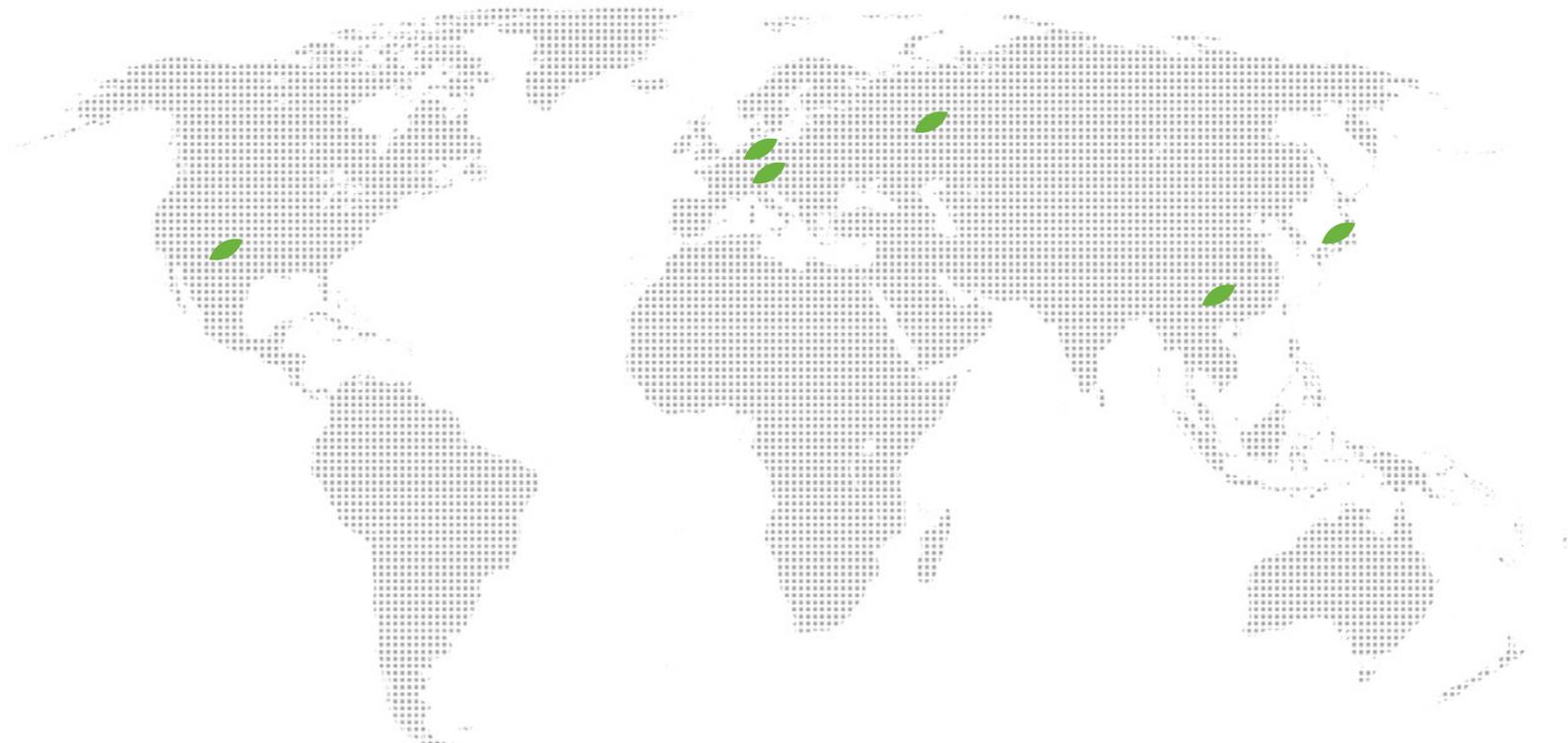
alpha single screw extruders offer a variety of outputs depending on the area of application. Outputs range from 7 kg/h for small profiles on extruders with smooth feed zones up to 300 kg/h on extruders with grooved feed zones.

material	alpha	45	60	75	45	60	75
		25 L:D smooth feed zone			28/30 L:D grooved feed zone		
HDPE (PE 80)	kg/h	50	80	140	60	90	300
LDPE	kg/h	35	60	110	40	70	250
PP-R	kg/h	35	60	80	50	80	250
ABS	kg/h	60	85	140	60	90	-
ABS/PC	kg/h	60	90	180	-	-	-
TPE-S,TPE-V	kg/h	40	60	100	50	80	-
soft-PVC	kg/h	50	75	140	50	80	-
rigid-pvc	kg/h	50	80	150	no	no	no



Output may vary depending on the material processed as well as upstream and downstream equipment. All output rates quoted are warranty outputs.

Output rates given are based on the battenfeld-cincinnati material reference list.



**battenfeld-cincinnati
Austria GmbH**

Laxenburger Str. 246
1230 Wien

P +43 (1) 61006-0
F +43 (1) 61006-8

austria@battenfeld-cincinnati.com

www.battenfeld-cincinnati.com

**battenfeld-cincinnati
Germany GmbH**

Königstraße 53
32547 Bad Oeynhausen

P +49 (5731) 242-0
F +49 (5731) 27124

germany@battenfeld-cincinnati.com

www.battenfeld-cincinnati.com

**battenfeld-cincinnati (Foshan)
Extrusion Systems Ltd.**

2 Jinxiang Road, Daliang, Shunde
Foshan, Guangdong

P +86 (757) 2238 0110
F +86 (757) 2221 1801 / 2238 0195

china@battenfeld-cincinnati.com

www.battenfeld-cincinnati.com/china

**battenfeld-cincinnati
USA**

823 S. By-Pass, P.O. Box 832
McPherson, KS 67460, USA

P +1 620 241-6843
F +1 620 241-0207

usa@battenfeld-cincinnati.com

www.battenfeld-cincinnati.com/usa

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