AFM • Abrasive Flow Machining

ONE WAY FLOW

With the invention of the Abrasive Flow Machining process, Extrude Hone Corporation developed an entirely new finish machining tool — a plastic, abrasive laden polymer with very special properties that allow it to selectively and controllably abrade surfaces that it flows across. A broad family of these abrasive medias are available to achieve a wide range of results from fine honing to aggressive surface removal.

With standard Abrasive Flow Machining, the abrasive media is extruded back and forth through a workpiece. With ONE WAY FLOW Abrasive Flow Machining, the abrasive media flows through the tooling and workpiece in only one direction. This allows the media to exit freely from the part for faster processing and easier cleaning, as well as the use of simpler quick-change tooling.

AFM Media

Extrude Hone has developed an amazing array of durable, hard-working media formulations that are capable of producing very precise and highly productive results. Media viscosities vary from 'just below a brick' to materials thin enough to flow at nearly the speed of sound through tiny 0,5mm nozzles. The rheology profiles of the media are just as diverse with some media much thicker at rest than in use and others that are just the opposite. Abrasive grain sizes range from a fine 1000 grit to 10 grit and larger. All of Extrude Hone Corporation's abrasive medias are remarkable in their ability to flow without clogging or separating, to be stored for long periods without degradation, and to not break down after continuous cycling and working. A broad menu of both standard and custom formulations are available.

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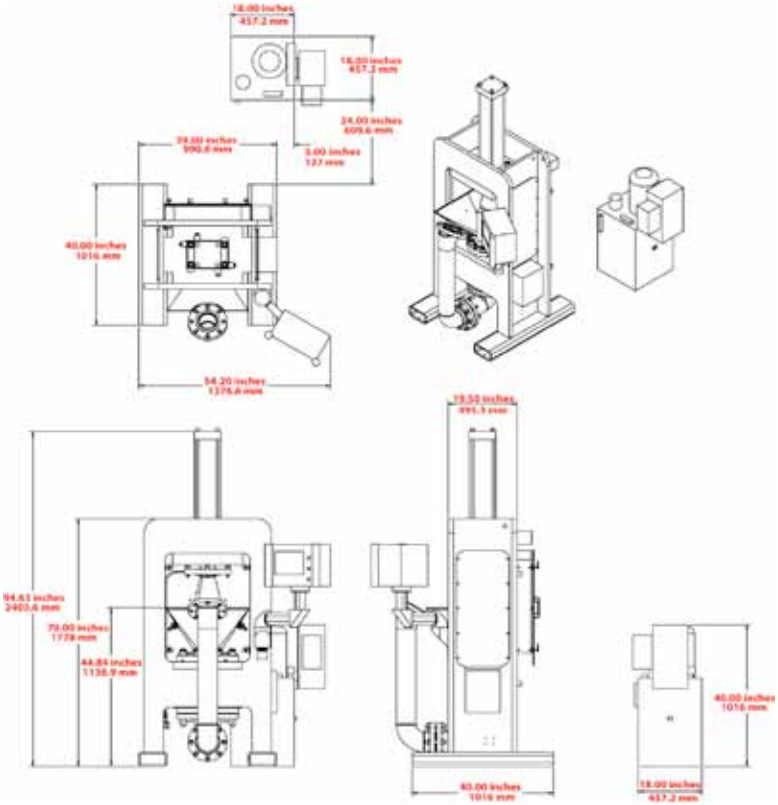

Flexible Tooling and Media Delivery Options

In ONE WAY FLOW AFM, the abrasive media flows through a workpiece in only one direction.

Tooling can be provided to handle nearly any application. The above photos show fixturing to accomodate four fuel rails in one operation.

The ONE WAY FLOW AFM process is extremely flexible. Extrude Hone can configure tooling and media delivery specifically to your application.

ONE WAY FLOW AFM System with 12" (320mm) Stroke

Media/Hydraulic Cylinder	Media Volume (per stroke)	Max Media Pressure	Max Media Flow Rate*
10/8" (250/200mm)	980 cu. in. (18 l)	1280 psi (88 bar)	23 GPM (87 L/min)

Standard Hydraulic Power Unit

2000 psi (138 bar)

15 GPM (57 L/min)

Electrical Specifications

Voltage: 230/460 VAC, 3 phase, 60 Hz
400 VAC, 3 phase, 50 Hz

Motor: 20 horsepower

Peak amperage: 30 amps

Standard PLC: Allen Bradley

Standard Equipment

- Stroke counter.
- Cycle complete light and horn.
- Start/stop.
- Automatic/manual mode.
- Advance/retract.
- Allen Bradley PLC.
- Media displacement counter.
- High flow hydraulic power unit.

* Maximum media flow rate measured without tooling

NOTE: Specifications and availability are subject to change without notice.

KENNAMETAL® EXTRUDE HONE®

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