



## MICROFLOW Flow Tuning



# MICROFLOW

### High precision flow targeting technology in a robust, production-ready system

This new MICROFLOW design is the result of decades of fuel system processing experience on large scale automated systems. The new MICROFLOW 100 brings the same precise processing of a fully automated targeting system, now packed into a smaller package as a stand alone machine.

Designed for small holes and features requiring a specific flow rate, this stand alone production unit is capable of delivering precision results. The small-scale robust design is scalable to your production requirements and delivers a combination of high precision, reliability, accuracy, and ease of use.



MICROFLOW DUPLEX

## FEATURES and BENEFITS

- + **Robust industrial design setup for production environment**  
Remote service tracking and standardized components offer production stability.
- + **Flexible manufacturing capability**  
Modular design enables scalable production to meet varying production needs.
- + **Automation ready**  
Easily integrate into part handling and robotic cells.
- + **Manual or automatic mode**  
The new MICROFLOW works as a lab machine or a production workhorse.
- + **Full process capability with a smaller footprint**  
New enclosure design is only 750mm wide x 2030mm deep.
- + **Easy to use, easy setup**  
Intuitive controls and HMI - easy media changeover.





EXTRUDE  
HONE®

## TECHNICAL INFORMATION

# MICROFLOW



### MACHINE SPECIFICATIONS

Loading height from floor	1050mm (41.50")
Overall size	750mm (30") W x 2030mm (80") L x 220mm (8.5") H
Weight	approx. 1250 kg

### PROCESSING CAPACITY

Maximum processing pressure	14 MPa
Minimum processing pressure	2 MPa (NOTE: At pressures <10 MPa, flow correlation may diminish.)
Pressure control	±0.1% achieving stability in <3 seconds
Process media temperature range	18–35 °C controlled to ±1.5 °C

### FLOW RATE

MICROFLOW 50	300gram/min @ 14 MPa
MICROFLOW 100	300-3000 gram/min @ 14 MPa

### HYDRAULICS

Power unit	L-shaped reservoir with flooded suction pumps.
Motor	5 hp (3,7 kW) motor for media pressure supply.
Indicators	Temperature and fluid levels are displayed on HMI.
Filtration	High pressure – 10 µm canister type with dirty filter indicator. Low pressure – 12 µm spin-on cartridge with dirty filter indicator.
Noise	Maximum working noise level is 75 dBA.
Location	Inside machine base.
Cooling	A water-/oil-type heat exchanger sized to remove required heat at maximum ambient temperature of 40 °C. An air-/oil-type heat exchanger is optional.
Fittings	Straight-thread, o-ring, seal-type SAE J1926-1 (ISO 11926-1).

### MEDIA

This Machine will only use Extrude Hone low viscosity media.

### PROCESS METHODS

One step to target flow processing

Capability to target to ±2% of specified flow rate.  
(NOTE: Targeting to ±1% or better is possible in properly developed applications dependant on hole geometry and other factors.)

Time-based processing

Process at a fixed media pressure for a specified time:

Fixed time – operator specified process time.

Variable time – process time is based on pre-process flow rate, target flow rate, and parameters relating flow difference and process time.

Constant pressure-fixed displacement processing

Process at a constant pressure for a specified volume of media:

Fixed volume – operator specified media volume.

Variable volume – displacement is based on pre-process flow rate, target flow rate, and parameters relating flow difference and displacement.

### PNEUMATICS

5 bar minimum input pressure.

Equipped with automatic pressure release at E-Stop.

Equipped with input pressure switch to ensure incoming pressure is suitable for operation.

### ELECTRICAL

Input power	200–480 VAC, 3 Phase, 50/60 Hz
Input current	50/25 A depending on input voltage

### CONTROLS

Programmable Logic Controller (PLC)	Allen Bradley (NA), Siemens (EU)
Software	Allen Bradley/Siemens
Human Machine Interface (HMI)	10" industrial touch screen
Remote connectivity	Fast ethernet switch enables remote access to PLC and HMI and dial-in modem.
Data collection	Production data logging and process data filing.

### CHILLED WATER

Supplied by customer as specified by Extrude Hone – incoming at 10 °C.

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