



AFM Abrasive Flow Machining



VECTOR

Precision Deburring and Polishing System

The VECTOR Abrasive Flow Machining (AFM) system is an extremely flexible machine. It is capable of polishing large extrusion and forming dies, deburring and polishing precision parts in small to medium batch quantities.



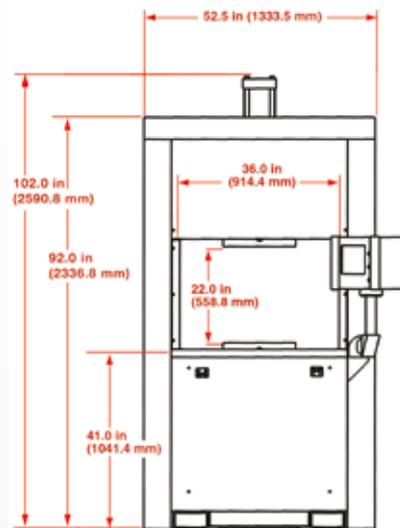
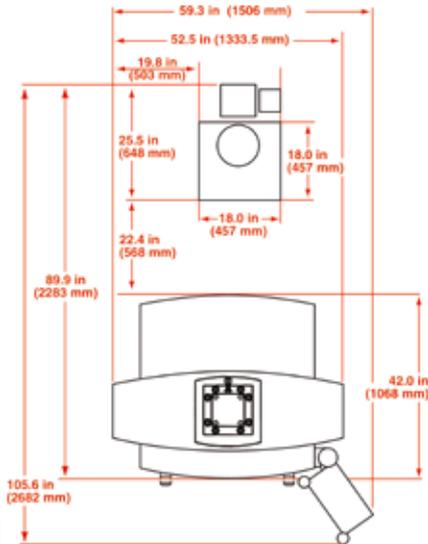
FEATURES and BENEFITS

- + **AUTOFLOW™ Advanced Control**
For maximum process control. State-of-the-art control system stores and monitors all major process data.
- + **Media Temperature Management options**
Controlling the temperature of the abrasive media gives a more consistent machining rate.
- + **Individually configurable AFM system**
Various options create a tailor-made system.
- + **Fast set-up and change of media**
Generously dimensioned work envelope for large workpieces and rapid tool change.
- + **All process data at a glance**
Touch screen interface for easy operation and setup.
- + **Maintain consistent processing**
Media temperature management components such as cooling cuffs are standard along with air and water cooled heat exchangers for power unit.



TECHNICAL INFORMATION

AFM VECTOR



MACHINE SPECIFICATIONS

The standard VECTOR Abrasive Flow Machine consists of a machine with touch screen HMI and a hydraulic power unit.

Height fully open	102" (2590 mm)
Height closed	92" (2335 mm)
Width	52.5" (1335 mm)
Depth	42" (1070 mm)
Tabletop height	41" (1040 mm)
Working distance between clamp columns	36" (915 mm)
Estimated weight	4,300 lbs (1955 kg)

MEDIA DELIVERY

Media delivery is reciprocating between the top and bottom assemblies. Both assemblies consist of media cylinders, pistons, seals and caps.

HYDRAULIC SPECIFICATIONS

Main components of the hydraulic system are a hydraulic power unit, two media hydraulic cylinders, and two clamp cylinders with an air/oil pump assist.

Standard Power Unit

Reservoir	20 gal (75,7 l)
Pump capacity @ 1,750 RPM	5 GPM (18,9 L/min)
Pressure	350–2500 psi (24,1–172,4 bar)

Clamp Cylinders

(Clamping is powered hydraulically)

Bore diameter	5" (127 mm)
Stroke	20" (508 mm)
Maximum opening	22" (558.8 mm)
Minimum opening	2" (50.8 mm)

ELECTRICAL SPECIFICATIONS

The machine is controlled by a PLC. The operator interface terminal is a touch screen. Standard functions include remote media pressure adjustment, automatic and manual mode, displacement counter, cycle counter, and cycle timer. The machine process parameters are preset via the operator interface terminal and can also be monitored on the terminal once the automatic cycle has been initiated.

Electrical

Voltage	230/460 VAC, 3 phase, 60 Hz
	400 VAC, 3 phase, 50 Hz
Motor	7,5 kW
Peak amperage	15/7.5 amps
Standard PLC	Allen Bradley / Siemens

Controls

AUTOFLOW™ Controls are now standard with all VECTOR machines; 10" touch screen HMI.

FLUID CONNECTION SPECIFICATIONS

Hydraulic

Ports	NPT
Hose/Tube	37° JIC

Water

Ports	NPT
Hose/Tube	NPT and/or Push Lock

Pneumatic

Ports	NPT
Hose/Tube	Push Lock

ACCESSORIES/OPTIONS

Manually operated tooling slide cart.

Light curtains.

SYSTEM CONFIGURATIONS

	Media Cylinder Diameter	Hydraulic Cylinder Diameter	Media Stroke Length	Media Capacity	Hydraulic Flow Rate	Media Flow Rate	Media Pressure min/max
Vector 100	4" (100 mm)	6" (150 mm)	12.5" (320 mm)	157 cu.in. (2.6 l)	5 GPM (18.9 L/m)	2.2 GPM (8.3 L/m)	500/4000 psi (34/276 bar)
Vector 150	6" (150 mm)	6" (150 mm)	12.5" (320 mm)	353 cu. in. (5.8 l)	5 GPM (18.9 L/m)	5 GPM (19 L/m)	350/2400 psi (24/163 bar)
Vector 200	8" (200 mm)	6" (150 mm)	12.5" (320 mm)	628 cu. in. (10.3 l)	5 GPM (18.9 L/m)	8.8 GPM (33.3 L/m)	200/1440 psi (13.6/98 bar)
Vector 250	10" (255 mm)	6" (150 mm)	12.5" (320 mm)	981 cu.in. (16.1 l)	5 GPM (18.9 L/m)	14 GPM (53 L/m)	125/960 psi (8.5/65 bar)

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