

AFM • Abrasive Flow Machining

VECTOR™

Precision Deburring and Polishing System

The Kennametal Extrude Hone 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.

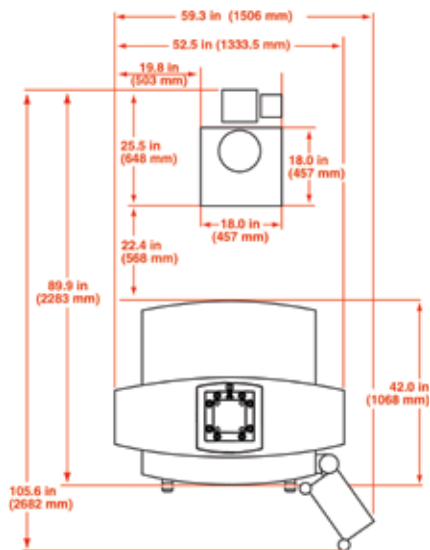
A wide selection of available media cylinder diameters offer a broad choice of pressure ranges to meet specific production requirements. The VECTOR features an ergonomic and robust design that is easy to maintain and will deliver years of reliable service. A large work envelope accommodates large components and tooling.

A standard feature on the VECTOR is an easy-to-use touch screen operator interface – monitoring and saving all major processing data. A standard 10 hp hydraulic power unit delivers a generous range of process pressures. The AUTOFLOW Advanced Control is also standard



Features and Benefits

- **AUTOFLOW™ advanced control standard**
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 setup 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.



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" (2590mm)
Height closed	92" (2335mm)
Width	52.5" (1335mm)
Depth	42" (1070mm)
Tabletop height	41" (1040mm)

Working distance between clamp columns 36" (915mm)

Estimated weight 4,300 lbs (1.955 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.

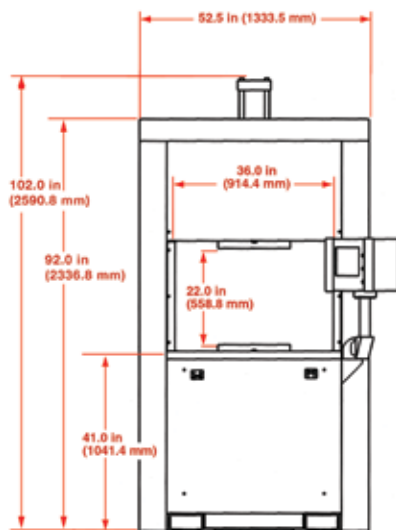
Standard Power Unit

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" (127mm)
Stroke	20" (508mm)
Maximum opening	22" (558,8mm)
Minimum opening	2" (50,8mm)



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 10 hp
 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 Lok
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	expansion diameter max*
VECTOR 100	4" (100mm)	6" (150mm)	12.5" (320mm)	157 cu. in. (2,6 l)	5 GPM (18,9 L/min)	2.2 GPM (8,3 L/min)	500/4000 psi (34/276 bar)	N/A
VECTOR 150	6" (150mm)	6" (150mm)	12.5" (320mm)	353 cu. in. (5,8 l)	5 GPM (18,9 L/min)	5 GPM (19 L/min)	350/2400 psi (24/163 bar)	6.5" (165mm)
VECTOR 200	8" (200mm)	6" (150mm)	12.5" (320mm)	628 cu. in. (10,3 l)	5 GPM (18,9 L/min)	8.8 GPM (33,3 L/min)	200/1440 psi (13.6/98 bar)	8.7" (221mm)
VECTOR 250	10" (255mm)	6" (150mm)	12.5" (320mm)	981 cu. in. (16,1 l)	5 GPM (18,9 L/min)	14 GPM (53 L/min)	125/960 psi (8.5/65 bar)	10.9" (277mm)

*Maximum expansion diameter at maximum media pressure.

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

Kennametal Extrude Hone GmbH
 Berghauser Str. 62
 D-42859 Remscheid
 Germany
 Tel: +49 2191 900250
 Fax: +49 2191 900254
 remscheid.information@kennametal.com

Kennametal Extrude Hone Limited
 1 Sovereign Business Park
 Joplin Court, Crownhill
 Milton Keynes MK8 0JP
 United Kingdom
 Tel.: +44 (0) 1908 26 36 36
 Fax: +44 (0) 1908 26 21 41

Kennametal Extrude Hone GmbH
 Memminger Straße 37
 D-87746 Erkheim
 Germany
 Tel.: +49 8336-8005-0
 Fax: -500
 erkheim.information@kennametal.com

www.extrudehone.com

