

VISTA VH SERIES

CINCINNATI
MILACRON

VH400 Hydraulic Injection Molding Machine

Design Advantages

Energy efficient variable volume pump with proportional hydraulics
Interchangeable screw/barrel combinations for full process versatility
Efficient, precise twin cylinder injection units
Low profile design

Easy-to-use nozzle alignment devices
Twin guide rod injection unit carriage to maintain nozzle alignment
Controlled-stress tie rods
Tri-directional part removal base design

Hydraulics integrated in base for simpler, cleaner operation
Full time oil filtration with indicator
Generous mold space for production versatility
Traverse cylinders
Shuttle tank with simplified pre-fill design

Standard Features

Control

Closed-loop injection velocity and pressure control
Multi-microprocessors with diagnostics and audible alarms
Liquid crystal display
Internal data storage for 40 molds
Process monitoring displays and alarms
Complete digital set-up and display
Linear position transducers
Oil over-temperature alarm
Feed throat temperature readout
Barrel high/low temperature alarm
Alarms logged with time/date
Clogged filter alarm
Control cabinet temperature monitor with alarm
Low lube alarm

Clamp

Rigid cast platens
Adjustable moving platen supports
Pulsating hydraulic eject
Ejector forward dwell timer
Self-adjusting, ratchet type, die safety jam bar
Ejector retract override for faster cycles
SPI knockout pattern with drilled ejector plate
Low pressure mold protect with try-again circuit
Automatic tie rod lubrication with independent frequency adjustment
Prefill designed for fast trouble-free operation

General

DC solenoids
Closed-loop oil temperature control
Oil preheat sequence
Robot mounting capability
Resettable cycle counter
Overall cycle timer
Machine hour meter

Injection

5-stage injection pressure;
(1) injection high, (2) pack, (2) hold
5-stage profiled injection velocities
2-stage back pressure control
2-stage screw rpm
Dual torque/rpm piston type extruder motor
Adaptive shot control
PID temperature control of nozzle and barrel
Extruder start time delay
Sprue break
Slide shutoff on hopper
Cold screw start protection
Injection transfer on position, hydraulic pressure, or time
A-B-C screw and barrel combination
27,000 psi injection pressure on 'A' barrels
Injection unit swivel
Hopper discharge chute
Ball check or slider screw tip

Available Options

Hopper magnet
16 sequence hydraulic core pull
Leveling pads
230 volt connecting electrics
Bimetallic barrel

Hardened injection screws
Mixing screws
Robot interface
1-2 stage air eject
No motion safety inhibit

Increased injection rate
Nozzle shut-off valve
Power factor capacitors
Water manifolds
PVC molding

Injection Unit Specifications

		English					Metric		
		A	B	C			A	B	C
Injection Capacity, Max.									
G. P. Polystyrene.....	oz.	21	29	34	g.		588	812	952
Theoretical Disp.	in ³	37.7	52.7	61.1	cm ³		621	868	1006
Injection Pressure, Max.	psi	27,648	19,794	17,066	bar		1906	1365	1177
Injection Rate	in ³ /sec	19.4	27.1	31.4	cm ³ /sec		318	445	515
Injection Screw Stroke	in	10.24	10.24	10.24	mm		260	260	260
Screw Diameter	in	2.165	2.559	2.756	mm		55	65	70
Screw L/D Ratio.....		23.6:1	20:1	18.6:1			23.6:1	20:1	18.6:1
Screw Performance									
Low Torque Screw Speed, Max.	rpm	335			rpm		335		
Low Torque at Screw.....	in-lb	15,912			Nm		1798		
		@2500 psi					@172 Bar		
Hi Torque Screw Speed, Max.	rpm	220			rpm		220		
Hi Torque at Screw	in-lb	24,246			Nm		2739		
		@2500 psi					@172 Bar		
Barrel Heat Control									
Number of Pyrometers (Barrel/Nozzle)		3/1					3/1		
Total Heat Cap.	kw	31.3			kw		31.3		
		A	B	C			A	B	C
Injection Capacity, Max.									
G. P. Polystyrene.....	oz.	41	54	68	g.		1148	1512	1904
Theoretical Disp.	in ³	75.1	98.1	124.2	cm ³		1237	1616	2046
Injection Pressure, Max.	psi	27,483	21,042	16,625	bar		1895	1451	1146
Injection Rate	in ³ /sec	21.2	27.7	35.03	cm ³ /sec		348	454	574
Injection Screw Stroke	in	12.60	12.60	12.60	mm		320		
Screw Diameter	in	2.756	3.150	3.543	mm		70	80	90
Screw L/D Ratio.....		22.9:1	20:1	17.8:1			22.9:1	20:1	17.8:1
Screw Performance									
Low Torque Screw Speed, Max.	rpm	176			rpm		176		
Low Torque at Screw.....	in-lb	30,252			Nm		3418		
		@2500 psi					@172 Bar		
Hi Torque Screw Speed, Max.	rpm	115			rpm		115		
Hi Torque at Screw	in-lb	46,176			Nm		5217		
		@2500 psi					@172 Bar		
Barrel Heat Control									
Number of Pyrometers (Barrel/Nozzle)		3/1					3/1		
Total Heat Cap.	kw	31.6			kw		31.6		

Machine Specifications

Dimensions, Overall

		English		Metric	
Length	in	320		mm	8127
with injection unit retracted	in	344		mm	8737
Width	in	69.8		mm	1773
Height	in	98.1		mm	2491
Shipping Weight (Est.)	lbs	32,496		Kg	14,740

Electric and Hydraulic

Machine Hyd. System Pressure, Max.	PSI	2,784	bar	192
Hydraulic Pump Cap. @ 100 psi (Total) ..	GPM	73	L/min	227
Variable volume capacity	GPM	58	L/min	220
Fixed volume capacity	GPM	15	L/min	57
Electric Motor	hp	60	kw	45
Total Oil Reservoir Capacity	gal.	385	L	1463

Water Requirements

Heat Exchanger*	GPM	15	L/min	58
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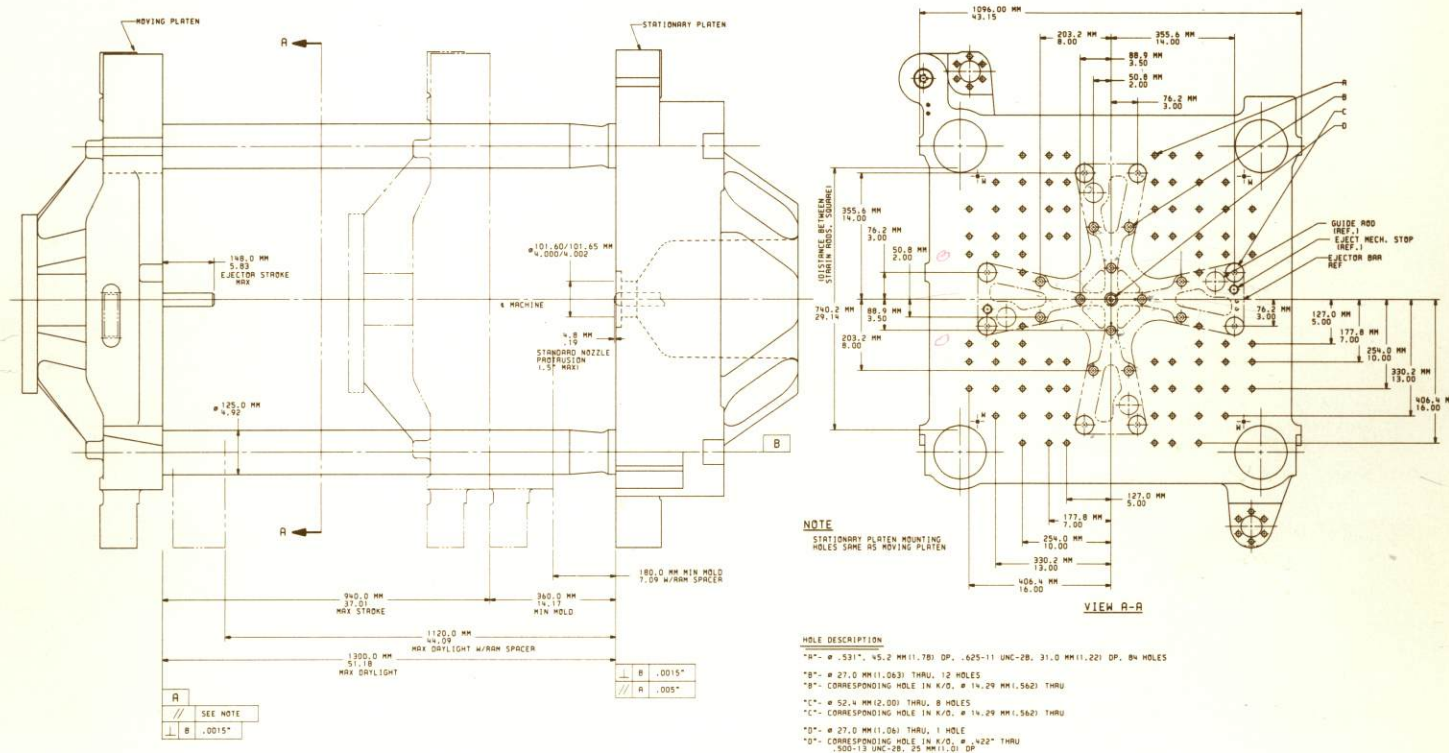
*Note: Based on standard motor horsepower, 85°F (29.4°C) water in, 10°F (5.5°C) temperature rise through heat exchanger.

Clamp Unit Specifications

	English		Metric
Clamp Force	Tons 400		Tons 360
Clamp Opening Force	Tons 22.8		Tons 20.7
Clamp Stroke	in 37.0		mm 940
Clamp Speed			
*Dry cycle time (typical)	sec 4.0		sec 4.0
Maximum Daylight	in 51.2		mm 1300
With Spacer	in 44.7		mm 1136
Minimum Mold Thickness	in 14.2		mm 360
With Spacer	in 7.1		mm 180
Platen Size (H x V)	in 40.9 x 40.9		mm 1040 x 1040
Distance between Tie Rods (H x V)	in 29.1 x 29.1		mm 740 x 740
Tie Rod Diameter	in 4.92		mm 125
Ejector Stroke (Max.)	in 5.8		mm 148
Ejector Force	Tons 8.3		Tons 7.5
*Measured: Clamp open, clamp closed, build tonnage, clamp open			

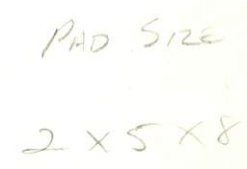
Die Space

Moving Platen



All specifications reflect average values based on typical machine layouts. Actual figures will vary depending on final machine configuration. If you require more specific data, consult a certified installation print for your particular machine. Performance specifications are based on theoretical data. Shipping weights reflect average historical values. Due to continual improvements, specifications are subject to change without notice.

*Scale $\frac{1}{4}" = 1$ foot Millimeters
Inches



*These templates should only be used for general layout. For more detailed technical data, please write to:

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