

# VsP Series

Hybrid High-Performance Injection Moulding Machine



# VsP Series

60-260 Tons VsP Series Simple, Productive,  
Economical

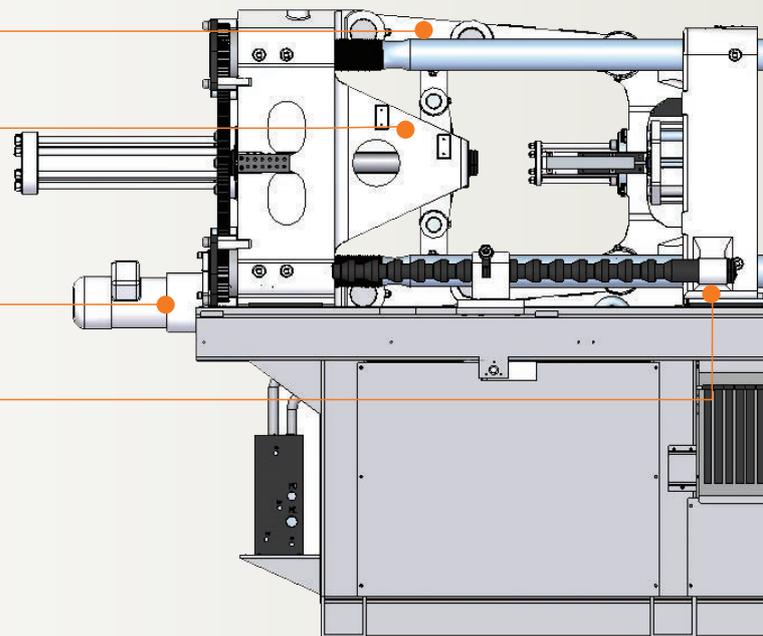


Five-points double toggle clamping system &  
Self-lubricating bushings

Integrated guide armrest design

Electrical mold height adjustment

Sliding shoe support moving platen





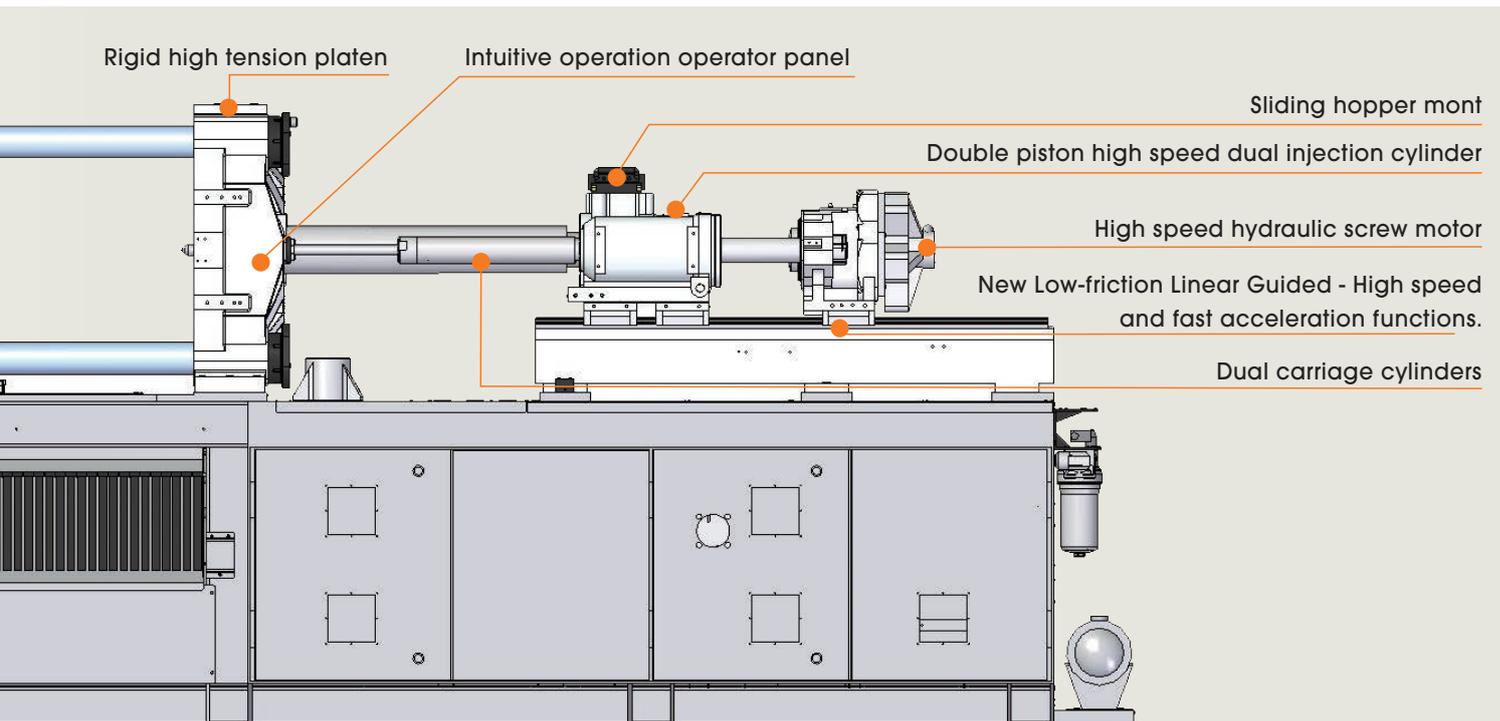
With a powerful AX8 controller and a high efficacy gear pump driven by P.M. Synchronous servomotor to satisfy your energy saving requirement and achieves the outstanding process consistency and repeatability.

Victor Taichung VsP Series injection moulding machine has been developed by fusing of merits of hydraulic injection machines (low maintenance-free operation, long life, and low cost) and electric molding machines (energy-saving, high-velocity injection, quick response, high repeatability, and low operation noise)

The innovative new servo motor with high efficacy gear pump system, achieves energy-saving operation and quick response equivalent to those of all electric injection molding machines.

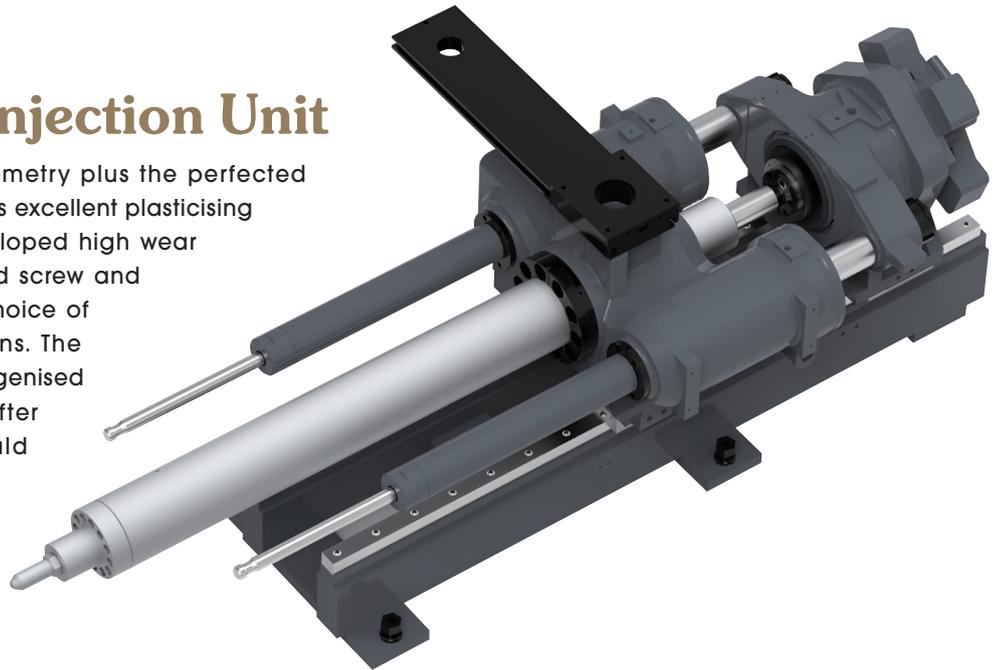


- Energy saving-almost equivalent to all- electric model machine.
- Quick response-Injection response time (Standard mode).
- Stability in low-velocity/low-pressure & wide range-Injection velocity: From ultra-low to high velocity range.
- Linearity-Excellent linearity in both injection velocity and injection pressure.
- Excellent injection holding pressure performance-Capability in sustaining high injection holding pressure longer (as compared with full-electric machine).
- Reduction in the amount of hydraulic oil and cooling water volume.
- Silent! (Low noise gear pump operation) Almost equivalent to all electric injection molding machine.



## High Precision Injection Unit

The VsP Series optimum screw geometry plus the perfected drive and injection concepts provides excellent plasticising and injection capacity. Newly developed high wear and corrosion resistance ion-nitrided screw and barrel gives the customer a wide choice of materials for numerous applications. The gently prepared and properly homogenised melt is metered accurately, shot after shot, and is injected into the mould with high power and high speed.



### *The screw and barrel used on the Victor machines has the following properties.*

- Injection screw ACM2 German material
- Surface hardness: 900~1100 HV
- Processed by Nitride (500~520°C for 72hrs)
- Nitrided thickness: 0.4~0.5 mm

Bi-metallic coating screw and barrel (Option) - SKD 61 base material. Excellent wear-resistant, corrosion resistant screw & barrel for the processing of materials with fiber additives and also fire retardant materials. Victor general purpose screw and barrels can process any kind of material like PE, PP, PA, ABS, AS. We also supply an optional screw & barrel for engineering materials like PC, PBT, PET, with an L/D ratio from 18, 20, 22.

The multi-notch locking style screw tip. the locking style tip is useful for stabilizing part weight and increasing product precision comparing the convectional screw tip. the gap between the screw and check ring is reduced to the least, thereby the back flow resin can be reduced to minimum.



## Heavy Duty, Rigid, Clamping Unit

Every component in the clamping unit that is subjected to a mechanical stress was designed and checked using the F.E.M (Finite element method) method of structure analysis. All VsP Series machines feature a unique, ultra-reliable, five-point toggle clamping mechanism, which is characterised, by an almost ideal kinematic velocity feature. This system has fast speed, high force ratio, sensitive mould protection and good energy saving capabilities. The large square cast iron platens are extremely robust and the widely spaced tie bars allow for even the most complex of moulds.

The large, square cast iron platens virtually eliminate deflection. The bushings are manufactured from graphite impregnated phosphor bronze. Designed to run totally oil-free, there's no chance of contaminating molds, and maintenance is limited to long periodic greasing.



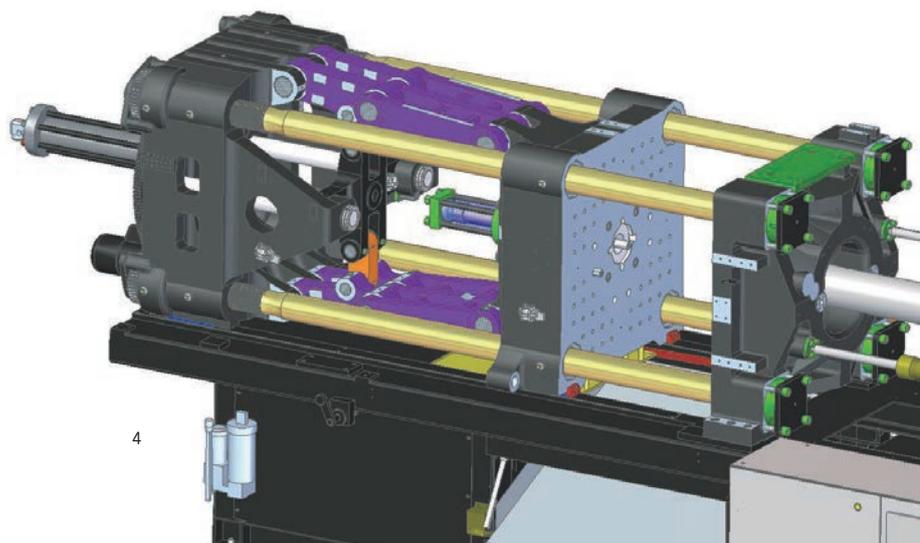
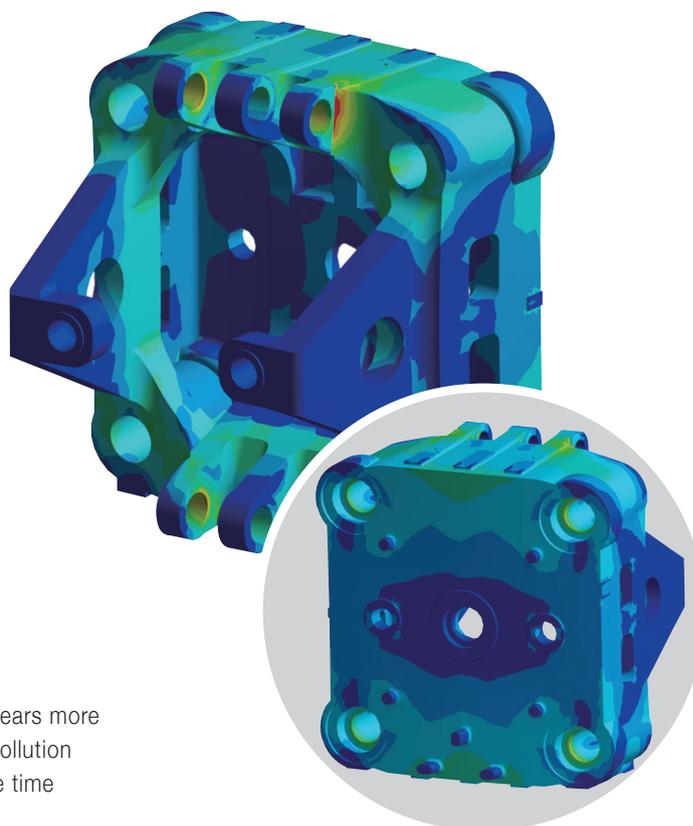
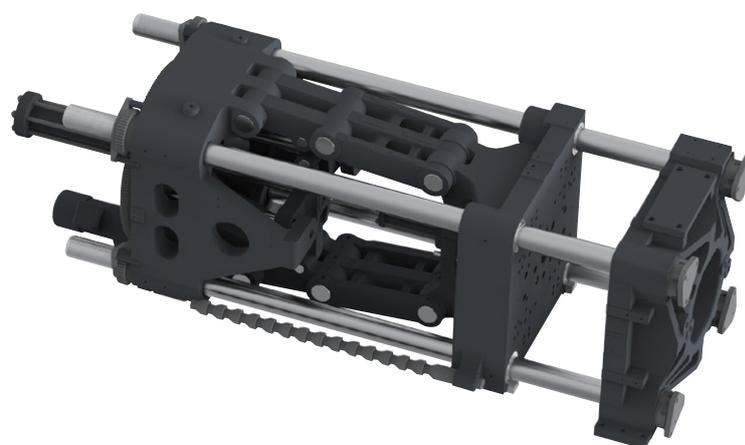
### Material:

Platen: Meehanite casting FCD 55  
 Tie bar: NH48MV (from Japan)  
 Toggle pin: SCM440 (hard chrome plating)

### Advantage:

- \* Machine life = 15 years more
- \* Eliminates the oil pollution
- \* Saves maintenance time

Mould height adjustment, which is the bull gear system, is operated by an electrical brake motor and when co-ordinated with a precision circuit breaker proceeds to prevent the possibility of overloading by force and cause machine damage.

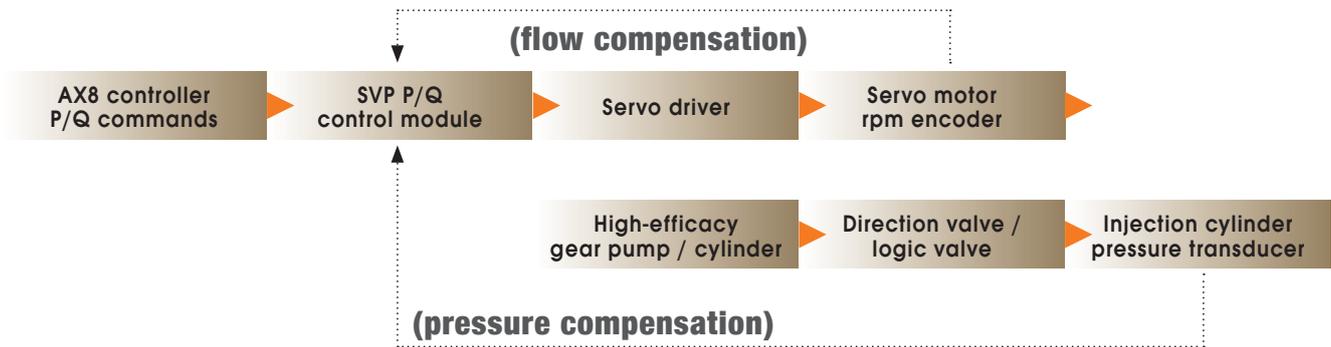


# Energy Saving system (Option)

The VsP Series (150T~260T models) adopts logic valves in its hydraulic system circuits. The logic valves give high response performance in injection and mould travelling stages and offers 5% energy reduction due to low-pressure loss, and can guarantee a long service life. Less energy loss means lower heat build-up in addition to a substantial reduction in the requirement of cooling water. This is further help automatic regulation of the hydraulic oil temperature.

## VsP Energy Saving SVP system (Injection close-loop feedback control):

The pressure transducer measures the real injection cylinder and feedback to P/Q control module for the close-loop pressure compensation. The servo motor rpm encoder measures and feedback the pump flow to P/Q control module for the speed compensation to get precision relativity control.



## Comparison with traditional fixed pump with constant speed.

### Example: Load sensing

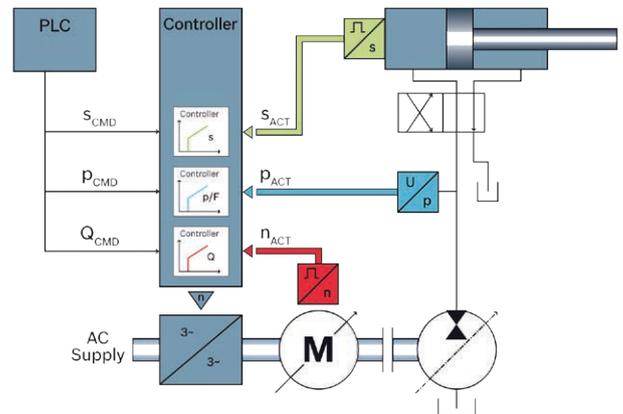
72.3% energy saving

Model: VsP-60T

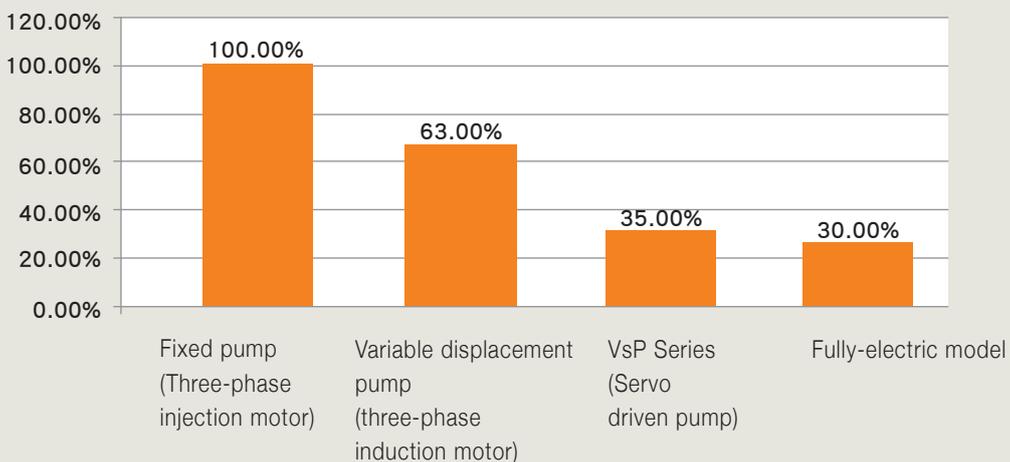
75s cycle times

const. speed (15kW): 2.9 kW

SVP: 0.8 kW



## Power consumption

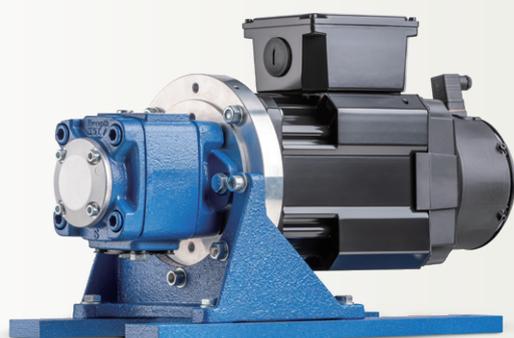


## Hybrid Hydraulic Control (servomotor pump)

VsP Series injection molding machine every moving steps require pressure and flow control by high-efficacy gearpump collocating with powerful permanent-magnet synchronous servo motor. This series machine is availability of energy saving up to 60~75% as compared with the traditional hydraulic machine.

### Servo driven pump with variable speed drives for injection moulding machine.

Cost reduction by energy efficiency in Plastic Machinery.



#### Request on drive system

- Reduced energy cost.
- Reduced installed power.
- Less secondary measures for reduction of noise.
- Reduced cost for oil cooling.



#### Position seal uses UK made Hallite to reduce the leakage and extend piston life.

- |                |             |
|----------------|-------------|
| Piston seal:   | Hallite(UK) |
| Cylinder seal: | NOK (Japan) |
| O-Ring:        | NOK (Japan) |
| Back-up Ring:  | NOK (Japan) |

# New Generation AX8 Controller

## Intuitive 15 inch touch screen framed with keyboard

The swivel mounted 15" LCD high resolution touch screen, graphical user interface, can be optimally positioned for each operator, allowing an easy setting position and easy access to the mould area.

Lighted on/off manual movement buttons for each axis.

## Simple Friendly Operation Interface

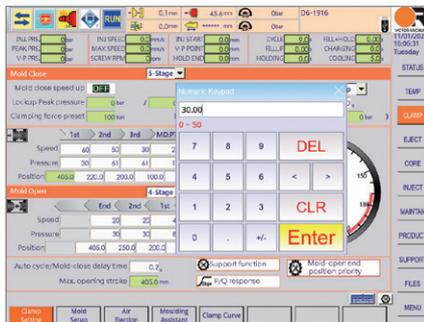
### Application & Control Precision

- Convenient access to USB data, mold parameters and display screens.
- Control supports OPC UA communication protocol for Industrial Interoperability towards Industry 4.0 and Industrial Internet of Things (IIoT).
- Barrel heat zones are accurate to 0.1°C to ensure stable material plasticizing.
- Screw position is controlled with in 0.1mm to precisely control shot size and cushion position.
- Control reaction time in 0.5ms.



### Overall setting screen

- Single screen for setting clamp, ejector, injection, temperature, air-blast and charging etc.
- Great for quick setups and adjustments.
- Improves operator setup efficiency.



### Pop-up keyboards for data and text entry

Touch screen panel/Pop-up keyboard for data and text entry. Drop down selection boxes for choosing items from a list.



### SPC/SQC Production management - quality control

Process cycle data maintains information over the last 10,000 cycles allowing for quick analysis of process history. This data can be printed, and save to USB sticker, for off line Excel analyzing.

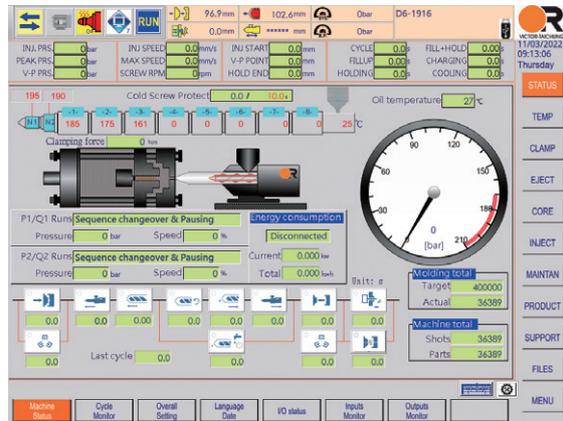


# The MMI Operation of AX8 Control

## Screen Menu



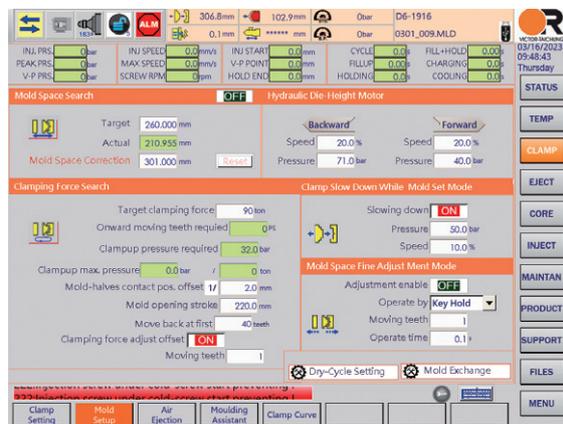
## Machine Status



## Maintain Plan



## Mold Setup



## Bringing Industry 4.0 to all

DIaEBOX solution (Option) is the concept which allows you to connect online to the production process via your smartphone or tablet with just a simple click.

DIaEBOX is compatible with OPC UA communication protocol. DIaEBOX solution gives a molding machine OPC UA server functions. It enables an IMM to provide an MES with about 200 types of data, including operating status, production quantity, product information and molding conditions.

## Molding Machine Menu

Displays all connected molding machines in each plant.



## Injection Unit

	VsP-60	VsP-90	VsP-120	VsP-150	VsP-180	VsP-220	VsP-260
Pivoting injection unit	S	S	S	S	S	S	S
Cold start protection	S	S	S	S	S	S	S
Six injection speed & pressure steps	S	S	S	S	S	S	S
Four holding pressures stages	S	S	S	S	S	S	S
V-P switchover time, position and cylinder pressure dependent	S	S	S	S	S	S	S
V-P switchover cavity pressure dependent	O	O	O	O	O	O	O
Control for intrusion injection	S	S	S	S	S	S	S
PID temperatures control	S	S	S	S	S	S	S
Thermocouple controlled nozzle zone	S	S	S	S	S	S	S
Screw suck back with open nozzle	S	S	S	S	S	S	S
Spring shut-off nozzle	O	O	O	O	O	O	O
Hydraulic or pneumatic actuated needle shut-off nozzle.	O	O	O	O	O	O	O
Slide-away stainless steel hopper for quick material change	S	S	S	S	S	S	S
High wear resistant plasticising units	S	S	S	S	S	S	S
Thermoset processing unit	O	O	O	O	O	O	O
Rigid PVC processing unit	O	O	O	O	O	O	O
Adjustable nozzle force	O	O	O	O	O	O	O
Delayed nozzle retraction	S	S	S	S	S	S	S
Stainless steel barrel cover	S	S	S	S	S	S	S
Nozzle guarding	S	S	S	S	S	S	S
Automatic heating and pre-heating	S	S	S	S	S	S	S
Additional temperature zones	O	O	O	O	O	O	O
RPM display	S	S	S	S	S	S	S
Control for automatic purging	S	S	S	S	S	S	S
Low torque / Extra high speed hydraulic screw motor	O	O	O	O	O	O	O
Screw speed adjustable via screen	S	S	S	S	S	S	S
Bimetallic screw and barrel	O	O	O	O	O	O	O
Ceramic heater bands	O	O	O	O	O	O	O
Feed throat zone temperature display	S	S	S	S	S	S	S
Feed throat zone temperature control	O	O	O	O	O	O	O
Hopper (+ magnet)	O	O	O	O	O	O	O
Auto loader	O	O	O	O	O	O	O
Barrel temperature display with set value and deviation	S	S	S	S	S	S	S
Plasticising time monitor	S	S	S	S	S	S	S
Injection unit forward / back speeds adjustable	S	S	S	S	S	S	S
Suck-back before or after metering	S	S	S	S	S	S	S
Thermocouple breakage alarm	S	S	S	S	S	S	S
Injection endpoint control	S	S	S	S	S	S	S
Barrel cooling fan	O	O	O	O	O	O	O
Twin carriage cylinder	S	S	S	S	S	S	S
Insulated blanket for plasticizing barrel	O	O	O	O	O	O	O
Long nozzle	S	S	S	S	S	S	S
Injection controlled by linear transducer	S	S	S	S	S	S	S
Carriage controlled by linear transducer	O	O	O	O	O	O	O
Oil heated barrel (some thermoset materials)	O	O	O	O	O	O	O
Far Infrared heater hands	O	O	O	O	O	O	O

S=Standard O=Option



## Clamping Unit

	VsP-60	VsP-90	VsP-120	VsP-150	VsP-180	VsP-220	VsP-260
Five mould closing / open speed ranges with four adjustable speeds	S	S	S	S	S	S	S
Mould height adjustment by electric break motor	S	S	S	S	S	S	S
Hydraulic ejector with adjustable speed, pressure and position and no. strokes	S	S	S	S	S	S	S
Hydraulic unscrew device	O	O	O	O	O	O	O
Core pull x 1, Air blow x 1	S	S	S	S	S	S	S
Core pull x 2, Air blow x 2	O	O	O	O	O	O	O
Core pull x 3, Air blow x 3	O	O	O	O	O	O	O
Mechanical scotch bar	S	S	S	S	S	S	S
Pneumatic operated safety gate	O	O	O	O	O	O	O
Stainless steel drop chute	S	S	S	S	S	S	S
Mould lifting crane	O	O	O	O	O	O	N/A
Phosphor bronze, graphite impregated toggle bushings	S	S	S	S	S	S	S
Chromium plated tie bars	S	S	S	S	S	S	S
Clamping measurement by linear transducer	S	S	S	S	S	S	S
Mould safety devices (Low pressure protection)	S	S	S	S	S	S	S
Platen holes and locating ring to Euromap or SPI or JIS specifications	S	S	S	S	S	S	S
Additional mould height	O	O	O	O	O	O	O
Mould safety gate operator and rear side	S	S	S	S	S	S	S
Robot fixing holes on top of fixed platen	S	S	S	S	S	S	S
Manual lubrication system	S	S	S	S	S	S	S
Auto clamping force set-up	S	S	S	S	S	S	S
Ejector stroke controller by linear transducer	S	S	S	S	S	S	S
Ejector retract confirmed interface (Euromap-13)	O	O	O	O	O	O	O
FCD 55 casted platens	S	S	S	S	S	S	S
Ejector forward when safety door open (Semi-auto mode / motion switch)	S	S	S	S	S	S	S
Next cycle start by closing safety door	S	S	S	S	S	S	S
Mould insulation plate	O	O	O	O	O	O	O

## Hydraulic System

	VsP-60	VsP-90	VsP-120	VsP-150	VsP-180	VsP-220	VsP-260
Servo motor pump system	O	O	O	O	O	O	O
Pressure electronic display for system monitoring	S	S	S	S	S	S	S
Return line oil filter	S	S	S	S	S	S	S
Oil suction filter	S	S	S	S	S	S	S
Maintenance hatch for cleaning and checking oil tank	S	S	S	S	S	S	S
High performance oil seals	S	S	S	S	S	S	S
Water / Air chiller	O	O	O	O	O	O	O
High precision directional / flow valves	S	S	S	S	S	S	S
Steel braded hydraulic pipe	S	S	S	S	S	S	S
Oil level detect and monitoring	O	O	O	O	O	O	O

S=Standard O=Option N/A=Not Available

## Control & Electrical Unit

	VsP-60	VsP-90	VsP-120	VsP-150	VsP-180	VsP-220	VsP-260
Modular assembly, compact microprocessor with 1000 mould data storage	S	S	S	S	S	S	S
Data interface for printer via USB memory stick	S	S	S	S	S	S	S
Data interface for printer (Softcopy & printout via USB memory stick)	S	S	S	S	S	S	S
Data interface for computer connection (RJ 45/OPC UA)	S	S	S	S	S	S	S
Reference hints and problem indicators in clear text	S	S	S	S	S	S	S
Hour, minute, second counter	S	S	S	S	S	S	S
Cycle counter	S	S	S	S	S	S	S
Part piece counter	S	S	S	S	S	S	S
Preselectable cycle counter with auto shut-off	S	S	S	S	S	S	S
Air eject programmable start and blow time	S	S	S	S	S	S	S
Tolerance monitoring of parameters	S	S	S	S	S	S	S
Standard SPC / SQC program	S	S	S	S	S	S	S
7-day timer for auto heating and preheating	S	S	S	S	S	S	S
Additional temperature control zones	O	O	O	O	O	O	O
Interface for temperature control devices	O	O	O	O	O	O	O
Alarm log	S	S	S	S	S	S	S
Multi language choice	S	S	S	S	S	S	S
Cycle, Filling & metering time indicator	S	S	S	S	S	S	S
Parts counter	S	S	S	S	S	S	S
Reject counter	S	S	S	S	S	S	S
Cushion control	S	S	S	S	S	S	S
Servo system transformer (220V/240V)	O	O	O	O	O	O	O
Power Consumption display	O	O	O	O	O	O	O

## General Features

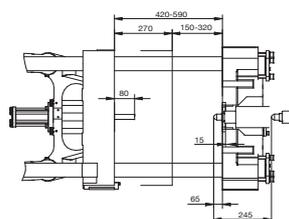
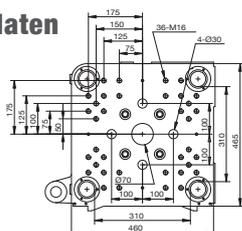
	VsP-60	VsP-90	VsP-120	VsP-150	VsP-180	VsP-220	VsP-260
3 Phase auto loader socket x1 220 / 380 / 460 Volts	S	S	S	S	S	S	S
Cabinet ventilation by fan	S	S	S	S	S	S	S
Heating and motor power are on separate circuits, switchable on or off	S	S	S	S	S	S	S
Solid state relay heating	S	S	S	S	S	S	S
Selective Catalytic Reduction (S.C.R.) for Heating power saving	O	O	O	O	O	O	O
Part chute with sensor indicator cycle restart	O	O	O	O	O	O	O
Parts removal from both sides	O	O	O	O	O	O	O
Anti-vibration floor pads	S	S	S	S	S	S	S
Pneumatic cores pull	O	O	O	O	O	O	O
Mold water manifold (4~7 zones)	S	S	S	S	S	S	S
Mould heating zones	O	O	O	O	O	O	O
Hot runner regulators	O	O	O	O	O	O	O
Euromap 12/67 for robot interface	O	O	O	O	O	O	O
Conveyor belt	O	O	O	O	O	O	O
Masterbatch colour dosing interface	O	O	O	O	O	O	O
Tool kit	S	S	S	S	S	S	S
Euromap 13 Core-pulling interface	O	O	O	O	O	O	O
Euromap for mold heating interface	O	O	O	O	O	O	O
Electric power consumption display meter	O	O	O	O	O	O	O

S=Standard O=Option

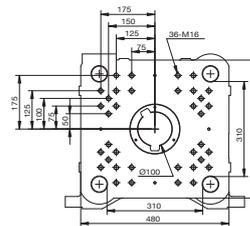
# JIS Platen Information

## Moving platen

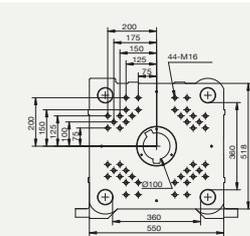
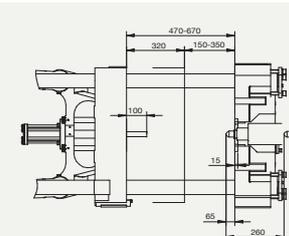
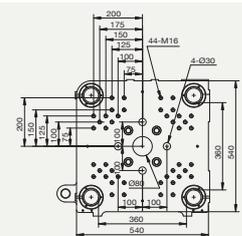
VsP-60



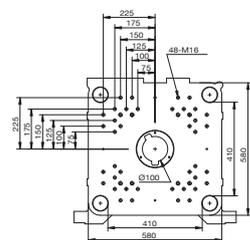
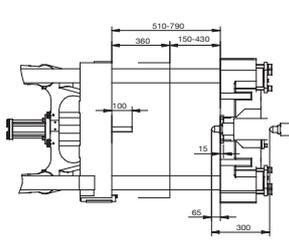
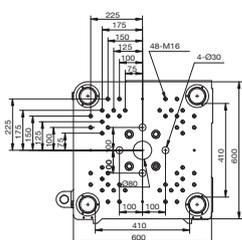
## Fixed platen



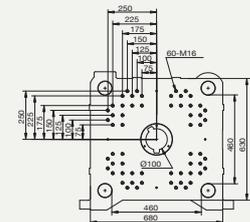
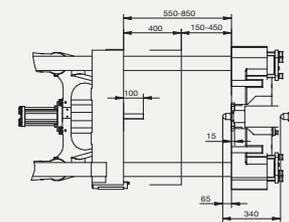
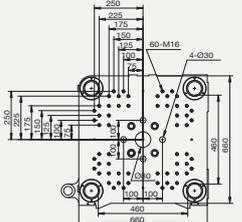
VsP-90



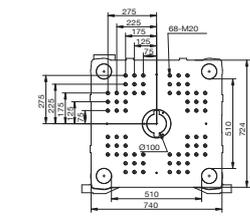
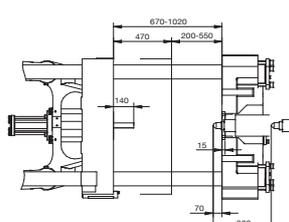
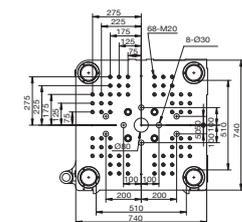
VsP-120



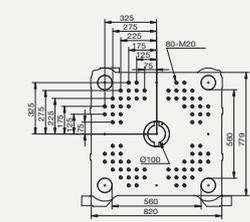
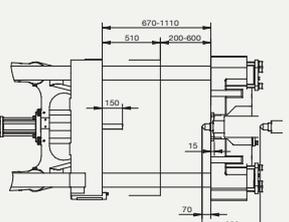
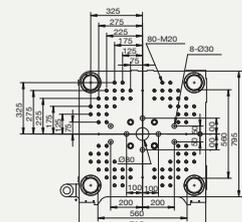
VsP-150



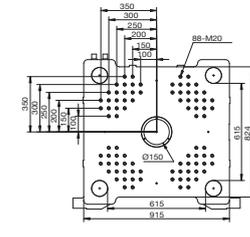
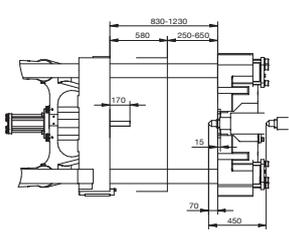
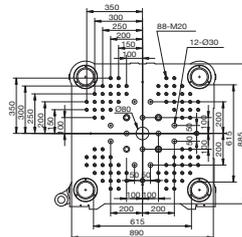
VsP-180



VsP-220



VsP-260

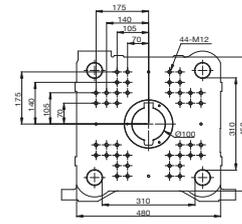
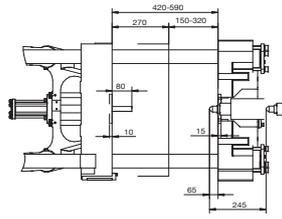
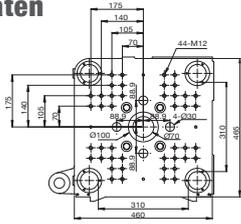


# Euromap Platen Information

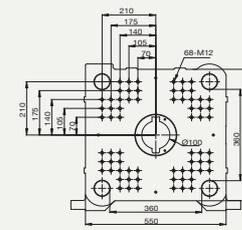
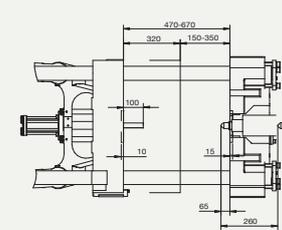
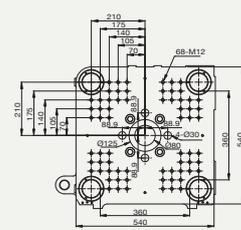
## Moving platen

## Fixed platen

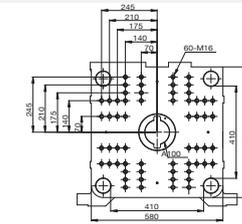
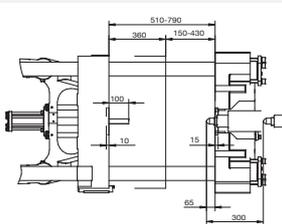
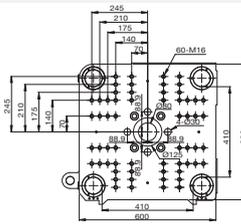
VsP-60



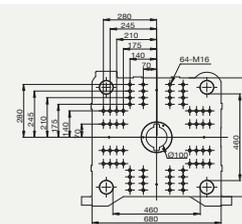
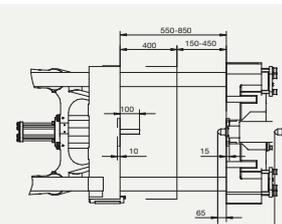
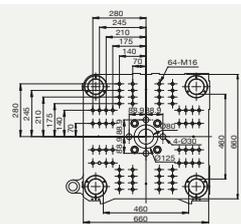
VsP-90



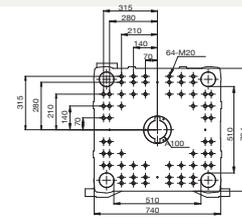
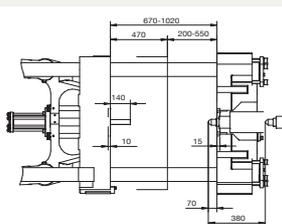
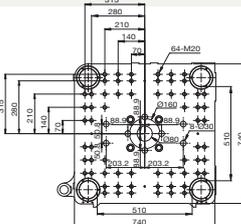
VsP-120



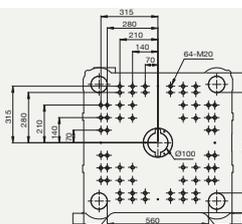
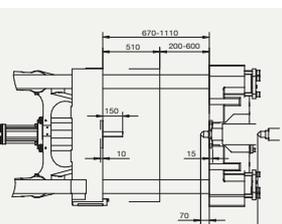
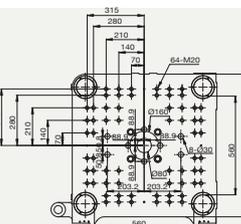
VsP-150



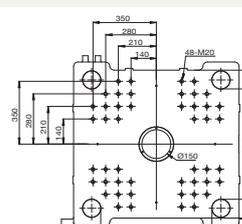
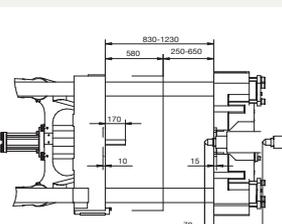
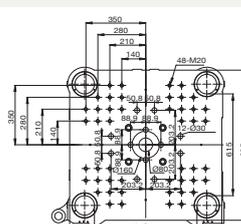
VsP-180



VsP-220



VsP-260

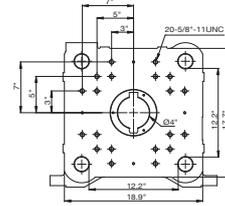
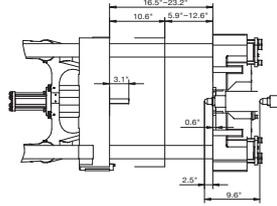
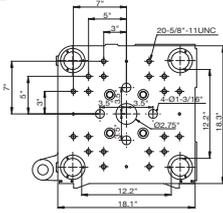


# SPI Platen Information

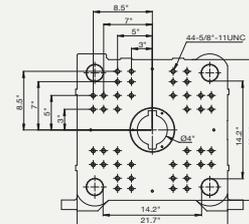
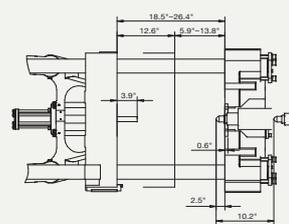
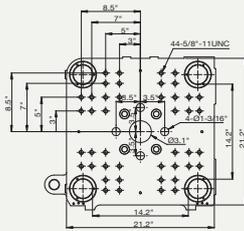
## Moving platen

## Fixed platen

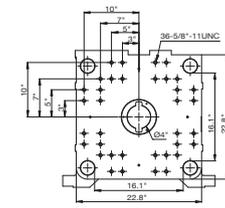
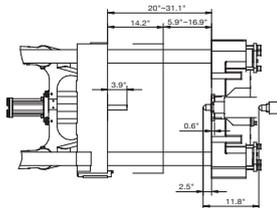
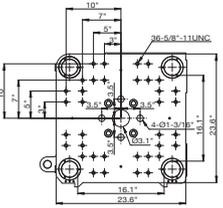
VsP-60



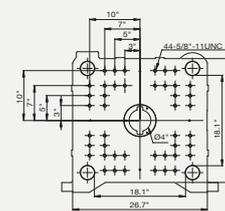
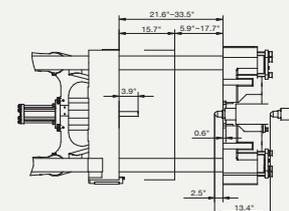
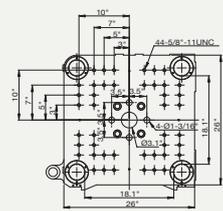
VsP-90



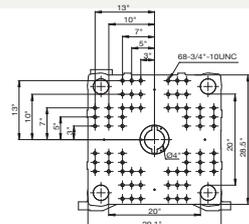
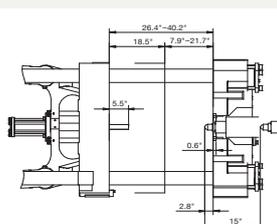
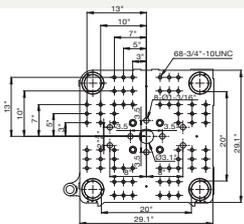
VsP-120



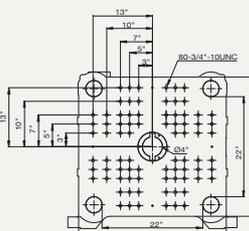
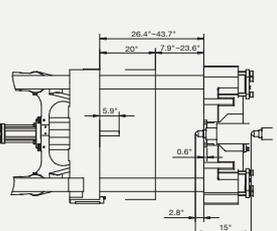
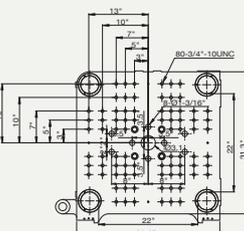
VsP-150



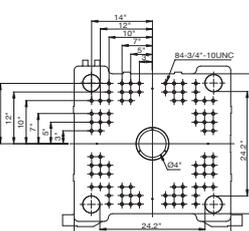
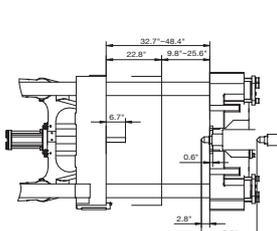
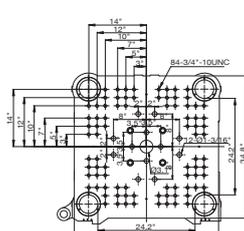
VsP-180



VsP-220



VsP-260



# Euromap Specifications

		VsP-60					VsP-90					VsP-120							
<b>Injection Unit</b>																			
<b>Injection unit size</b>		<b>S</b>		<b>K</b>			<b>S</b>		<b>K</b>			<b>M</b>			<b>K</b>			<b>M</b>	
Screw diameter	mm	22	25	28	32	36	22	25	28	32	36	32	36	40	28	32	36	32	36
Calculated injection capacity	cm <sup>3</sup>	38	49	62	80	102	38	49	62	80	102	117	148	182	62	80	102	117	148
Actual shot weight-PS	grams	36	46	58	75	95	36	46	58	75	95	109	138	171	58	75	95	109	138
	oz	1.3	1.6	2.0	2.7	3.4	1.3	1.6	2.0	2.7	3.4	3.8	4.9	6.0	2.0	2.7	3.4	3.8	4.9
Actual plasticizing capacity-PS	g/s	5.55	8.05	10.00	14.44	19.72	5.55	8.05	10.00	14.44	19.72	11.11	15.00	20.00	10.00	14.44	19.72	11.11	15.00
Actual plasticizing capacity-PS	kg/hr	20.00	29.00	36.00	52.00	71.00	20.00	29.00	36.00	52.00	71.00	40.00	54.00	72.00	36.00	52.00	71.00	40.00	54.00
Injection pressure-Max.	kgf/cm <sup>2</sup>	2500	2333	2500	2017	1594	2500	2333	2500	2017	1594	2490	1968	1594	2500	2017	1594	2490	1968
Injection rate	cm <sup>3</sup> /sec	52	67	83	109	138	64	83	104	136	172	110	140	172	104	136	172	110	140
Calculated injection speed-Max.	mm/sec	136		136			169		169			137			169			131	
L/D ratio		22.7	20	22.9	20	17.8	22.7	20	22.9	20	17.8	22.5	20	18	22.9	20	17.8	22.5	20
Screw speed	rpm	402		375			399		375			282			375			282	
Screw stroke	mm	100		100			100		100			145			100			145	
Calculated nozzle contact force	ton	5		5			5		5			5			5			5	
Total heating wattage	kW	7.2		10.35			7.2		10.35			11.43			10.35			11.43	
<b>Clamping unit</b>																			
Clamping force	ton	60					90					120							
Tie-Bar distance (H×V)	mm	310×310					360×360					410×410							
Mold thickness (Min-Max.)	mm	150-320					150-350					150-430							
Clamp stroke-Max.	mm	270					320					360							
Open daylight-Max.	mm	590					670					790							
Platen dimensions (H×V)	mm	490×460					560×540					600×580							
Ejector stroke	mm	80					100					100							
Ejector force	ton	4					4					4							
Dry cycle time	sec	1					1					1.4							
<b>General</b>																			
Motor (Standard)	Hp(kW)	20 (15)					25 (18.5)					25 (18.5)							
Servo motor pump (ES Option)	kW	16					16					16							
Oil tank capacity (Standard)	litre	130					175					175							
Oil tank capacity (ES model)	litre	105					130					130							
Hydraulic sys. pressure	kgf/cm <sup>2</sup>	170					170					170							
Machine weight	ton	2.3					2.9					3.4							
Machine size (L×W×H)	mm	3876×1095×1918					4122×1265×1928					4348×1231×2000							

Notes: Due to continual improvements, specifications technical information and dimensions are subjected to change without prior notice.



VsP-150				VsP-180				VsP-220				VsP-260												
M		G		G		F		G		F		F		E										
40	32	36	40	36	40	46	36	40	46	46	50	55	36	40	46	46	50	55	46	50	55	55	60	68
182	117	148	182	163	201	266	163	201	266	332	393	475	163	201	266	332	393	475	332	393	475	570	679	872
171	109	138	171	153	188	249	153	188	249	312	368	445	153	188	249	312	368	445	312	368	445	534	636	817
6.0	3.8	4.9	6.0	5.4	6.6	8.8	5.4	6.6	8.8	11.0	13.0	15.7	5.4	6.6	8.8	11.0	13.0	15.7	11.0	13.0	15.7	18.8	22.4	28.8
20.00	13.61	18.88	25.00	16.11	21.38	31.66	20.55	27.50	40.27	26.94	33.61	41.66	20.55	27.50	40.27	26.94	33.61	41.66	33.88	41.94	52.22	31.66	39.44	52.77
72.00	49.00	68.00	90.00	58.00	77.00	114.00	74.00	99.00	145.00	97.00	121.00	150.00	74.00	99.00	145.00	97.00	121.00	150.00	122.00	151.00	188.00	114.00	142.00	190.00
1594	2490	1968	1594	2428	1967	1487	2428	1967	1487	2250	1904	1574	2428	1967	1487	2250	1904	1574	2250	1904	1574	2065	1735	1351
172	138	175	216	141	175	231	181	224	296	195	231	279	181	224	296	195	231	279	244	289	349	266	317	407
172		139		178		118		178		118		147		112										
18	22.5	20	18	22.2	20	17.4	22.2	20	17.4	21.7	20	18.2	22.2	20	17.4	21.7	20	18.2	21.7	20	18.2	21.8	20	17.6
353		302		378		253		378		253		323		196										
145		160		160		200		160		200		200		240										
5		5		5		5		5		5		5		7.9										
11.43		13.9		13.9		22.6		13.9		22.6		22.6		33.23										

150	180	220	260
460×460	510×510	560×560	615×615
150-450	200-550	200-600	250-650
400	470	510	580
850	1020	1110	1230
690×660	750×724	795×779	890×860
100	140	150	170
4	5.6	5.6	8.5
1.3	1.3	1.9	1.7

30 (22)	40 (30)	40 (30)	50 (37)
20	20	20	16+16
215	320	320	390
155	205	205	255
170	170	170	170
4	5.4	6.2	9.3
4466×1280×2072	5268×1487×2289	5548×1497×2349	6330×1582×2388

# SPI Specifications

	VsP-60						VsP-90						VsP-120						
<b>Injection Unit</b>																			
<b>Injection unit size</b>		<b>S</b>		<b>K</b>			<b>S</b>		<b>K</b>			<b>M</b>			<b>K</b>				
Screw diameter	in	0.86	0.98	1.1	1.25	1.41	0.86	0.98	1.1	1.25	1.41	1.25	1.41	1.57	1.1	1.25	1.41	1.25	
Calculated injection capacity	in <sup>3</sup>	2.31	2.99	3.78	4.88	6.22	2.31	2.99	3.78	4.88	6.22	7.14	9.03	11.1	3.78	4.88	6.22	7.14	
Actual shot weight-PS	g	36	46	58	75	95	36	46	58	75	95	109	138	171	58	75	95	109	
	oz	1.3	1.6	2.0	2.7	3.4	1.3	1.6	2.0	2.7	3.4	3.8	4.9	6.0	2.0	2.7	3.4	3.8	
Actual plasticizing capacity-PS	g/s	5.55	8.05	10.00	14.44	19.72	5.55	8.05	10.00	14.44	19.72	11.11	15.00	20.00	10.00	14.44	19.72	11.11	
Actual plasticizing capacity-PS	kg/hr	20.00	29.00	36.00	52.00	71.00	20.00	29.00	36.00	52.00	71.00	40.00	54.00	72.00	36.00	52.00	71.00	40.00	
Injection pressure-Max.	Psi	35557	33168	35557	28687	22671	35557	33168	35557	28687	22671	35415	27976	22657	35557	28687	22671	35415	
Injection rate	in <sup>3</sup> /sec	3.17	4.08	5.06	6.65	8.42	3.90	5.06	6.34	8.29	10.49	6.71	8.54	10.49	6.34	8.29	10.49	6.71	
Calculated injection speed-Max.	in/sec	5.35		5.35			6.65		6.65			5.39			6.65				
L/D ratio		22.7	20	22.9	20	17.8	22.7	20	22.9	20	17.8	22.5	20	18	22.9	20	17.8	22.5	
Screw speed	rpm	402		375			399		375			282			375				
Screw stroke	in	3.937		3.937			3.937		3.937			5.7			3.937				
Calculated nozzle contact force	U.S. ton	5.5		5.5			5.5		5.5			5.5			5.5				
Total heating wattage	kW	7.2		10.35			7.2		10.35			11.43			10.35				
<b>Clamping unit</b>																			
Clamping force	U.S. ton	66.1						99.2						132.2					
Tie-Bar distance (H×V)	in	12.2×12.2						14.1×14.1						16.1×16.1					
Mold thickness (Min-Max.)	in	5.9-12.59						5.9-13.77						5.9-16.92					
Clamp stroke-Max.	in	10.629						12.598						14.173					
Open daylight-Max.	in	23.228						26.377						31.102					
Platen dimensions (H×V)	in	19.2×18.1						22.0×21.2						23.6×22.8					
Ejector stroke	in	3.149						3.937						3.937					
Ejector force	U.S. ton	4.409						4.409						4.409					
Dry cycle time	sec	1						1						1.4					
<b>General</b>																			
Motor (Standard)	HP(kW)	20 (15)						25 (18.5)						25 (18.5)					
Servo motor pump (ES Option)	kW	16						16						16					
Oil tank capacity (Standard)	litre	130						175						175					
Oil tank capacity (ES model)	litre	105						130						130					
Hydraulic sys. pressure	Psi	2417						2417						2417					
Machine weight	U.S. ton	2.535						3.086						3.747					
Machine size (L×W×H)	in	152.59×43.11×75.51						162.28×49.8×75.91						171.18×48.46×75.51					

Notes: Due to continual improvements, specifications technical information and dimensions are subjected to change without prior notice.



VsP-150					VsP-180					VsP-220					VsP-260										
M	M		G		G		F		G		F		F		E										
1.41	1.57	1.25	1.41	1.57	1.41	1.57	1.81	14.1	1.57	1.81	1.81	1.96	2.16	1.41	1.57	1.81	1.81	1.96	2.16	1.81	1.96	2.16	2.16	2.36	2.67
9.03	11.1	7.14	9.03	11.1	9.94	12.2	16.2	9.94	12.2	16.2	20.2	23.9	28.9	9.94	12.2	16.2	20.2	23.9	28.9	20.2	23.9	28.9	34.7	41.4	53.2
138	171	109	138	171	153	188	249	153	188	249	312	368	445	153	188	249	312	368	445	312	368	445	534	636	817
4.9	6.0	3.8	4.9	6.0	5.4	6.6	8.8	5.4	6.6	8.8	11.0	13.0	15.7	5.4	6.6	8.8	11.0	13.0	15.7	11.0	13.0	15.7	18.8	22.4	28.8
15.00	20.00	13.61	18.88	25.00	16.11	21.38	31.66	20.55	27.50	40.27	26.94	33.61	41.66	20.55	27.50	40.27	26.94	33.61	41.66	33.88	41.94	52.22	31.66	39.44	52.77
54.00	72.00	49.00	68.00	90.00	58.00	77.00	114.00	74.00	99.00	145.00	97.00	121.00	150.00	74.00	99.00	145.00	97.00	121.00	150.00	122.00	151.00	188.00	114.00	142.00	190.00
27976	22657	35415	27976	22657	30949	27976	21149	30991	27976	21149	32001	27080	22387	30991	27976	21149	32001	27080	22387	32001	27080	22387	29370	24676	19215
8.54	10.49	8.42	10.67	13.18	8.60	10.67	14.09	11.04	13.67	18.06	11.90	14.09	17.02	11.04	13.67	18.06	11.90	14.09	17.02	14.89	17.63	21.29	16.23	19.34	24.83
5.15	6.77		5.47		7		4.64		7		4.64		5.78		4.4										
20	18	22.5	20	18	22.2	20	17.4	22.2	20	17.4	21.7	20	18.2	22.2	20	17.4	21.7	20	18.2	21.7	20	18.2	21.8	20	17.6
282	353		302		378		253		378		253		323		196										
5.708	5.708		6.299		6.299		7.874		6.299		7.874		7.874		9.448										
5.5	5.5		5.5		5.5		5.5		5.5		5.5		5.5		8.7										
11.43	11.43		13.9		13.9		22.6		13.9		22.6		22.6		33.23										

	165.3					198.4					242.5					286.5				
	18.1×18.1					20×20					22×22					24.2×24.2				
	5.9-17.71					7.87-21.65					7.87-23.62					9.84-25.59				
	15.748					18.503					20.078					22.834				
	33.464					40.157					43.7					48.425				
	27.1×25.98					29.52×28.5					31.29×30.66					35.03×33.85				
	3.937					5.511					5.905					6.692				
	4.409					6.172					6.172					9.369				
	1.3					1.3					1.9					1.7				

	30 (22)					40 (30)					40 (30)					50 (37)				
	20					20					20					16+16				
	215					320					320					390				
	155					205					205					255				
	2417					2417					2417					2417				
	4.409					5.952					6.834					10.251				
78.74	175.82×50.39×81.57					207.4×58.54×90.11					218.42×58.93×92.48					249.21×62.28×94.01				

## Example of standard/ optional equipment

Accessory	Stand	Option
Tool/ fuse kit	●	
Part drop chute	●	
Conveyor belt		●
Standard 5-in's/ 5-out's water regulator without flow indicator	●	
4 or extra zones water regulator with the flow indicator		●
220V/ 380VAC outlet x 1 for auto loader	●	
110VAC outlet receptacle (power sourced by customer)		●
110VAC outlet receptacle (power sourced via machine)		●
AC 220V/ 380VAC outlet receptacle (power sourced by customer)		●
AC 220V/ 380VAC outlet receptacle (power sourced via machine)		●
Transformer for local power source		●



### Notes:

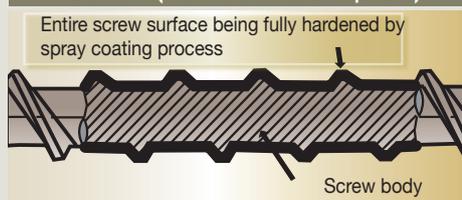
- There are A, B and C three grades of bimetallic screw & barrel available, which can be selected by customer depending on what abrasive/corrosive engineering resin & additives used for molding application.
- For further information details, please contact Victor's sales.



**A Grade** bimetallic barrel and screw set- with 40% tungsten carbide composition included in the barrel's bimetallic content, coupled with a screw which entire surface is fully hardened through HP/HVOF coating treatment process.

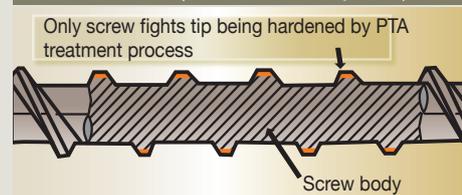
**B Grade** bimetallic barrel and screw set- with 25% tungsten carbide composition included in the barrel's bimetallic content, coupled with a screw which entire surface is fully hardened through HP/HVOF coating treatment process.

#### Sectional drawing of screw spindle with HP/HVOF treatment (A & B Grade Screw Spindle)



**C Grade** bimetallic barrel and screw set- with 9.5% tungsten carbide composition included in the barrel's bimetallic content, coupled with a screw which only the flights-tip is hardened through PTA Bimetallic alloy treatment process.

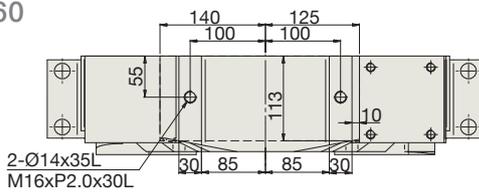
#### Sectional drawing of screw spindle with PTA treatment (C Grade Screw Spindle)



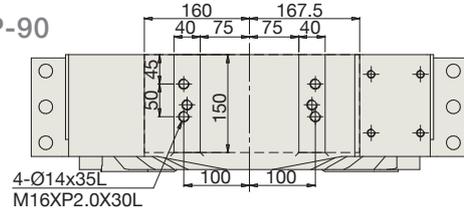
# Robot Installation Measurement Stationary Platen top View part

Robot mounting holes & Robot seat available mounting space

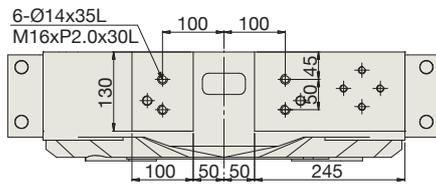
VsP-60



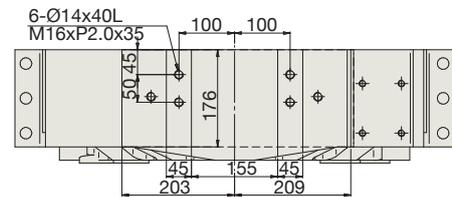
VsP-90



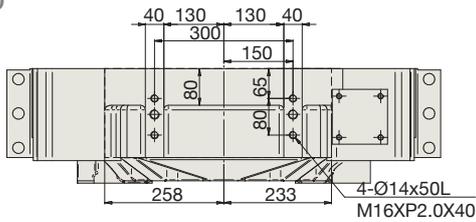
VsP-120



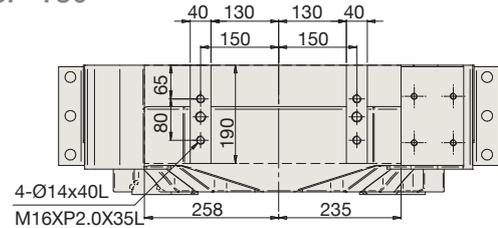
VsP-150



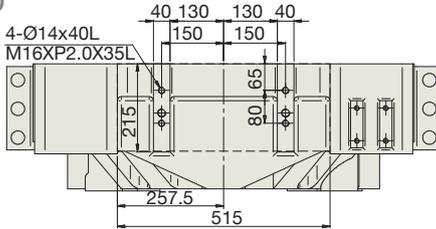
VsP-220



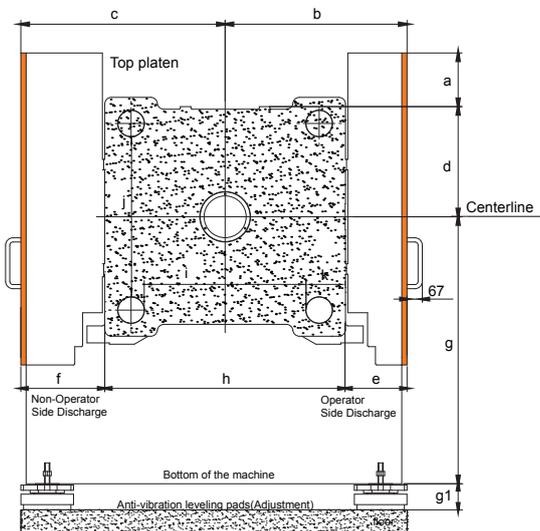
VsP-180



VsP-260



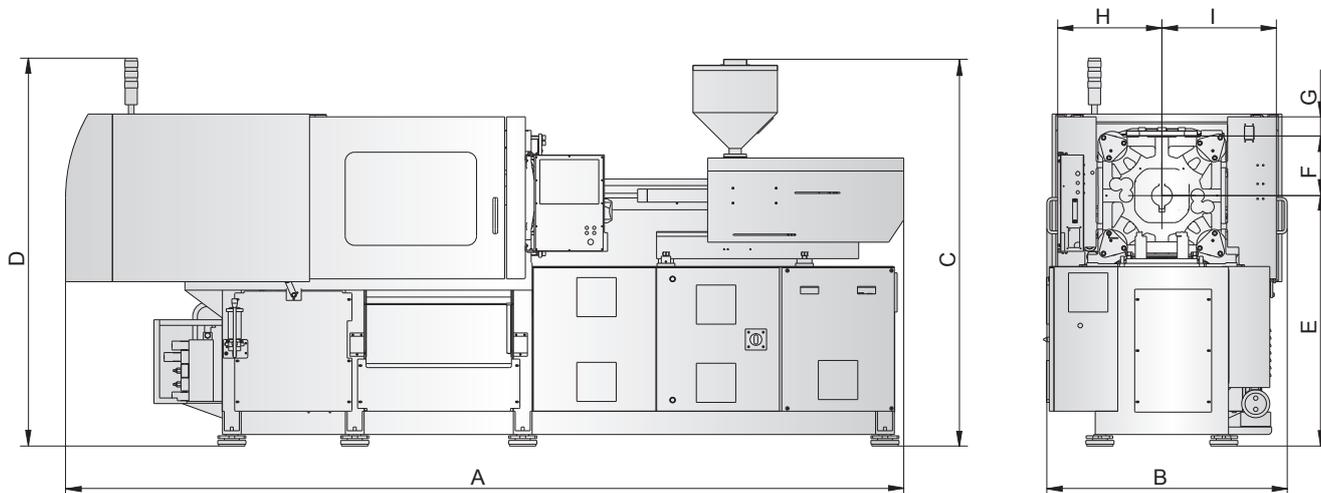
## Various measurement relations



Model	a	b	c	d	e	f	g
VsP-60	113	455	525	230	215	285	1155
VsP-90	98	480	546	264	205	271	1193
VsP-120	92	530	585	310	240	295	1248
VsP-150	103	555	610	320	215	270	1283
VsP-180	103	595	645	372	225	275	1318
VsP-220	98	658	672	390	248	262	1378
VsP-260	206	692	777	422	234	319	1308
Anti-vibration pads (g1)				h	i	j	k
VsP-60	67~95			480	310	310	85
VsP-90	67~95			550	360	360	95
VsP-120	67~95			580	410	410	85
VsP-150	67~95			680	460	460	110
VsP-180	67~95			740	510	510	115
VsP-220	67~95			820	560	560	130
VsP-260	67~95			915	615	615	150

Unit : mm

# Machine Layout



	A	B	C	D	E	F	G	H	I
<b>VsP-60</b>	3876 / 152.5	1095 / 43.11	1918 / 75.51	1901 / 74.84	1255 / 49.41	258 / 10.16	70 / 2.756	455 / 17.91	525 / 20.67
<b>VsP-90</b>	4122 / 162.2	1265 / 49.8	1928 / 75.91	1932 / 76.06	1255 / 49.41	292 / 11.49	70 / 2.756	480 / 18.90	546 / 21.50
<b>VsP-120</b>	4348 / 171.1	1231 / 48.46	2000 / 78.74	2025 / 79.72	1310 / 51.57	338 / 13.31	64 / 2.52	530 / 20.87	585 / 23.03
<b>VsP-150</b>	4466 / 175.8	1280 / 50.39	2072 / 81.57	2083 / 82.01	1345 / 52.95	348 / 13.01	75 / 2.95	555 / 21.85	610 / 24.02
<b>VsP-180</b>	5268 / 207.4	1487 / 58.54	2289 / 90.11	2175 / 85.63	1380 / 54.33	400 / 15.75	75 / 2.95	595 / 23.43	645 / 25.39
<b>VsP-220</b>	5548 / 218.4	1497 / 58.93	2349 / 92.48	2247 / 88.46	1440 / 56.69	417.5 / 16.44	69.5 / 2.74	658 / 25.91	672 / 26.46
<b>VsP-260</b>	6330 / 249.2	1582 / 62.28	2388 / 94.01	2332 / 91.81	1380 / 54.33	450 / 17.72	178 / 7.01	692 / 27.24	777 / 30.59

Unit: mm / inch



## TAIWAN

<http://www.victortaichung.com>  
E-mail: [info@mail.or.com.tw](mailto:info@mail.or.com.tw)

- Victor Taichung Machinery Works Co., Ltd.  
No. 1, Jingke Central 2nd Rd.,  
Nantun Dist., Taichung 40852,  
TAIWAN, R.O.C.  
TEL : 886-4-23592101  
FAX : 886-4-23593389

## FRANCE

- Victor France  
TEL : 33-1-64772000  
FAX : 33-1-64772063

## GERMANY

- Victor GmbH  
TEL : 49-2261-478434  
FAX : 49-2261-478327

## SOUTH AFRICA

- Victor Fortune (PTY) Ltd.  
TEL : 27-11-3923800  
FAX : 27-11-3923899

## MALAYSIA

- Victor Machinery (M) SDN. BHD.  
TEL : 60-3-56337180  
FAX : 60-3-56337191

## THAILAND

- Victor (Thailand) Co. Ltd.  
TEL : 66-2-9263735  
FAX : 66-2-9032373

## INDONESIA

- PT. Victor Machinery Indonesia  
TEL : 62-21-88958504  
FAX : 62-21-88958513

## USA

- Fortune International Inc.  
TEL : 1-732-2140700  
FAX : 1-732-2140701

## CHINA

- Zhongtai Precision Machinery  
(Guangzhou)  
TEL : 86-20-82264885  
FAX : 86-20-82264861