



**SINGLE  
SLIDER  
TYPE  
VERTICAL  
INJECTION  
MOULDING  
MACHINE**



## The Perfect Combination. **INSERT MOULDING.**

In many cases having more than 1 is always beneficial, Same is the case of having multiple factors working towards a common goal. Same principle applies when different material are combined.

$$1 + 1 > 2$$

As with all technical parts can only achieve their function and desired characteristics through best manufacturing process and intelligent combination of techniques and different materials.

### **MATERIAL SYNERGY MUST BE UTILIZED CONSISTENTLY.**

Insert Moulding with plastic fuses other materials with plastic to create stronger components, Materials such as metal parts, glass, plastic components, electronic components , wood, adm other pre-manufactured components can be insert moulded to improve their characteristics.

### **OVERMOULDING FUSES PLASTIC WITH OTHER MATERIALS**

Our vertical injection moulding machines are designed with insert moulding in mind. not only does our machine perform insert moulding with maximum efficiency and precision in its class, but also offers whole lot of other features such as ergonomic advantages, better safety, higher production & better customization.

# METAL AND PLASTIC Composite Components

Fast, Efficient, Reliable, Ergonomic, Economic

## More Productivity

Increase production output by saving time and reducing delays, even with complex or multiple insert placement and component removal procedures. Machines equipped with rotary stations or sliding table work with two station operation method, where injection process is performed in parallel with parts handling at primary and secondary stations.

## High Customization

We take pride in our engineering expertise as a result of which we are able to provide high level of customization in our machines to better tailor the machine to your production requirements. Customized machines can have personalized mould sizes, clamping requirements, injection requirements, automation requirements, reach out to us and we'll be happy to help.

## Ergonomic Operation

Horizontal orientation of machine table results in easier placement of inserts as Mould is placed horizontally thus reducing chances of insert movement significantly. Removal of finished component is also made easier due to horizontal placement and vertical ejection of the component from the mould.

## High Safety

Safety should be highest priority. All our machines are equipped with operator safety and mould safety features. Operator safety is ensured by the use of Safety light curtains, closed gates on side of the machine, emergency switches, two cycle start switch. Mould safety is ensured by utilizing variable clamping pressure, and mould protection protocol which prevents machine from applying clamping pressure if foreign object prevents mould from closing.

## High Energy Efficiency

Using Low friction parts and high precision engineering mechanical losses in machine are reduced which in result increase the operational efficiency of machine. Using Swift **Greendrive** servo hydraulics increase overall efficiency to levels previously unattainable (Greendrive is optional).

## Easier Integration

With our customizable controller interface and scalable programming structure with direct support for euromap, we able to provide high level of integration with automation devices and other industry 4.0 devices which can provide easier management or increased productivity.

# CLAMPING UNIT



## Fast and Stable Clamping Pressure.

All single slider type vertical injection moulding machines use ram type clamping unit.

There are significant advantages of ram type clamping unit over the conventional toggle type clamping unit, such as

- No extra maintenance is required.
- No need to regularly lubricate or grease the clamping unit.
- No regular complete cleaning is required.
- Longer operational life.
- High accuracy and precision.
- Better distribution of clamping force.
- Better control over clamping unit pressure and speed settings.
- Stable clamping pressure.
- Fast and smooth clamping unit operation.
- Increased mould safety.

Designed for high stability and reliability, all the machines are designed with four tie-rod style clamping unit for stable and vibration free clamping unit movement, four tie-rods provide high structural strength and smooth operation.

Ram type clamping unit combined with four tie-rod type clamping unit, translates to better distribution of clamping force over the mould, providing a better moulding result.

MODEL	CLAMPING FORCE	CLAMPING STROKE	SYSTEM PRESSURE
SV -30 SS	30 tf	200 mm	140 bar
SV -45 SS	45 tf	250 mm	140 bar
SV -60 SS	60 tf	270 mm	140 bar
SV -90 SS	90 tf	285 mm	140 bar
SV -120 SS	120 tf	285 mm	140 bar
SV -160 SS	160 tf	350 mm	140 bar
SV -200 SS	200 tf	350 mm	160 bar

# INJECTION UNIT



Injection is the only way to control material flow inside mould thus higher control over material flow and injection position is required to achieve high quality moulded components.

With highly customizable injection unit you can choose the injection unit that suits your production requirements.

Using super accurate measuring apparatus and highly sensitive controller we can accurately control the positioning of injection to control exact amount of material entering mould thus producing best moulding results and these results can be reproduced infinite number of times.

The Hydraulic injection system is highly reliable and robust with our optional bimetallic screw injection unit can be taken to next level of usage with ultra high density materials.

Multiple Heating Zones provide accurate control over material melting process inside the barrel, you can set custom heating stages for materials and melt the material accurate resulting in reduced time material has to stay at higher temperatures thus preserving material composition and integrity.

Multiple Injection Unit Screw Options depending on your production requirement you can choose your ideal injection unit.

CUSTOMIZABLE  
INJECTION UNITS

MULTIPLE ZONE  
TEMPERATURE SENSING

MULTIPLE  
HEATING ZONES

HIGH ACCURACY  
INJECTION CONTROL

STANDARD SCREW SIZES AVAILABLE PER MODEL

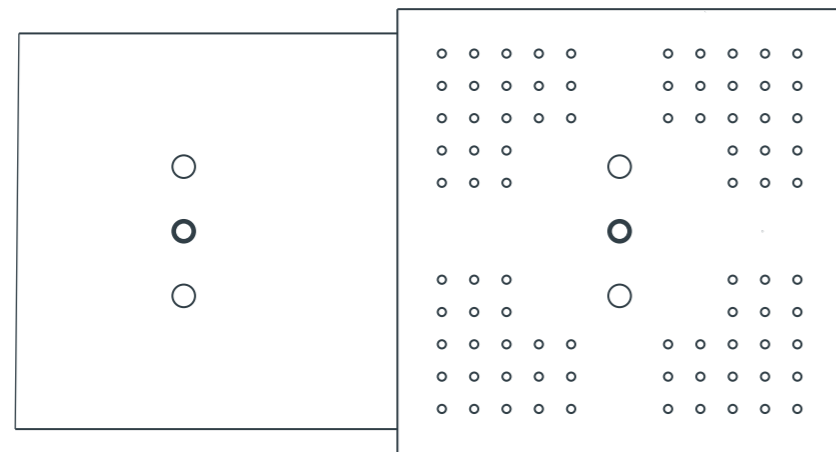
MODEL	22 mm	25 mm	30 mm	32 mm	35 mm	38 mm	40 mm	42 mm	45 mm	50 mm	55 mm	60 mm	70 mm
SV -30 SS	■	■	■										
SV -45 SS			■	■	■								
SV -60 SS				■	■	■							
SV -90 SS							■	■	■				
SV -120 SS								■	■	■			
SV -160 SS										■	■	■	
SV -200 SS											■	■	■

SHOT WEIGHT BASED ON SCREW SIZE PER MODEL

MODEL	22 mm	25 mm	30 mm	32 mm	35 mm	38 mm	40 mm	42 mm	45 mm	50 mm	55 mm	60 mm	70 mm
SV -30 SS	40 g	55 g	79 g										
SV -45 SS			79 g	90 g	108 g								
SV -60 SS				105 g	125 g	148 g							
SV -90 SS							271 g	299 g	343 g				
SV -120 SS								299 g	343 g	424 g			
SV -160 SS									358 g	442 g	534 g		
SV -200 SS											534 g	636 g	865 g



# SLIDE TABLE



## Increased safety and Improved ergonomics

Single slider type vertical injection moulding machines are equipped with a single station sliding table that slides the mould in and out of the clamping area. for better ergonomics and increased safety, with the mould out of the clamping area the operator can easily and safely remove the finished moulded components and load inserts in the mould for the next operational cycle.

The slide table can be hydraulic operated or servo operated depending on customers requirements, the main benefit of a servo operated sliding table is high precision and accuracy, and also improved energy efficiency.

Depending on your mould size, machines with appropriate slide table can be selected, use the chart provided to select the ideal machine depending on your mould size.

SINGLE SLIDER TYPE VERTICAL INJECTION MOULDING MACHINE MODELS							
PARAMETERS	SV - 30 SS	SV - 45 SS	SV - 60 SS	SV - 90 SS	SV - 120 SS	SV - 160 SS	SV - 200 SS
MAX MOULD SIZE	250 X 250 mm	300 X 300 mm	400 X 300 mm	450 X 350 mm	500 X 400 mm	600 X 450 mm	700 X 500 mm
MIN MOULD HEIGHT	150 mm	160 mm	190 mm	240 mm	240 mm	300 mm	300 mm
DISTANCE Btw TIE RODS	435 x 250 mm	485 x 300 mm	585 x 300 mm	695 x 350 mm	745 x 400 mm	845 x 450 mm	945 x 500 mm
MAX OPENING	350 mm	410 mm	460 mm	525 mm	525 mm	650 mm	650 mm
CLAMPING STROKE	200 mm	250 mm	270 mm	285 mm	285 mm	350 mm	350 mm

SINGLE SLIDER TYPE VERTICAL INJECTION MOULDING MACHINE MODELS							
PARAMETERS	SV - 30 SS	SV - 45 SS	SV - 60 SS	SV - 90 SS	SV - 120 SS	SV - 160 SS	SV - 200 SS
HYDRAULIC SLIDE TABLE	■	■	■	■	■	■	■
SERVO SLIDE TABLE			■	■	■	■	■

# CONTROLLER

## ADVANCE FEATURES YET USER FIRENDLY.

All our machines come equipped with LNC controller as standard.

LNC controller are best in segment, they provide high level of control and precision and advanced features that many controllers in this segment can not provide.

We have two controllers depending on the machine model that you choose

In5800 - LNC controller with an 8 inch HMI display and similar performance to the other higher end lnc controller.

In6800 - LNC controller with an 10 in HMI display, high end features and top of the line performance.

Both controllers have advanced features for machine control and user inputs, while being user friendly and easy to operate.

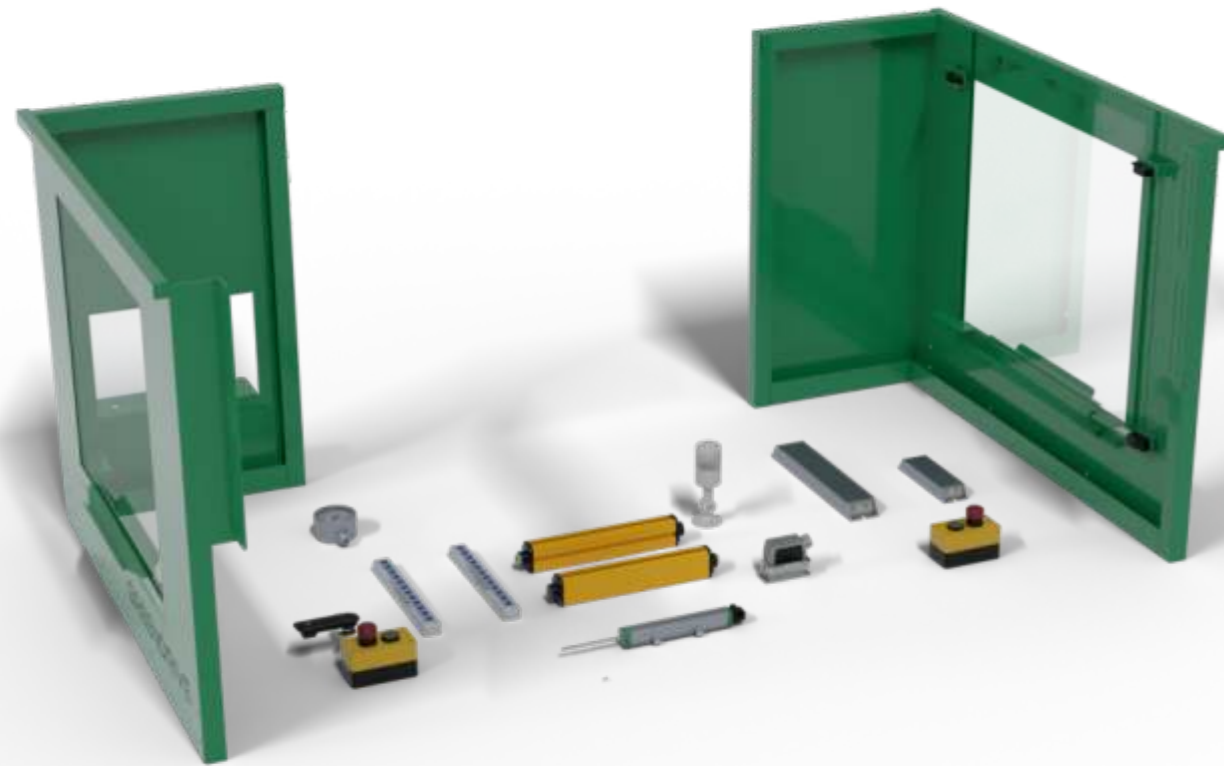
Equipped with features like remote diagnostics for problems resolutions, EUROMAP configuration, remote monitoring, inter machine data compatibility, customizable functions, easier integration for automation devices such as robots, Easier integration of industry 4.0 technology and much more.

We also provide other controllers depending on our customers requirements but we recommend LNC controllers with our machines over all other controllers.



SINGLE SLIDER TYPE VERTICAL INJECTION MOULDING MACHINE MODELS							
CONTROLLERS	SV - 30 SS	SV - 45 SS	SV - 60 SS	SV - 90 SS	SV - 120 SS	SV - 160 SS	SV - 200 SS
LNC IN - 5800	■	■	■	■			
LNC IN - 6800			■	■	■	■	■

# SAFETY



## SAFETY IS HIGHEST PRIORITY

When operating machines that are designed to operate at high temperature and pressure, safety should be the highest priority, with our machines safety is core part of the design as we have integrated multiple safety features in our machines to reduce the amount of accidents to zero.

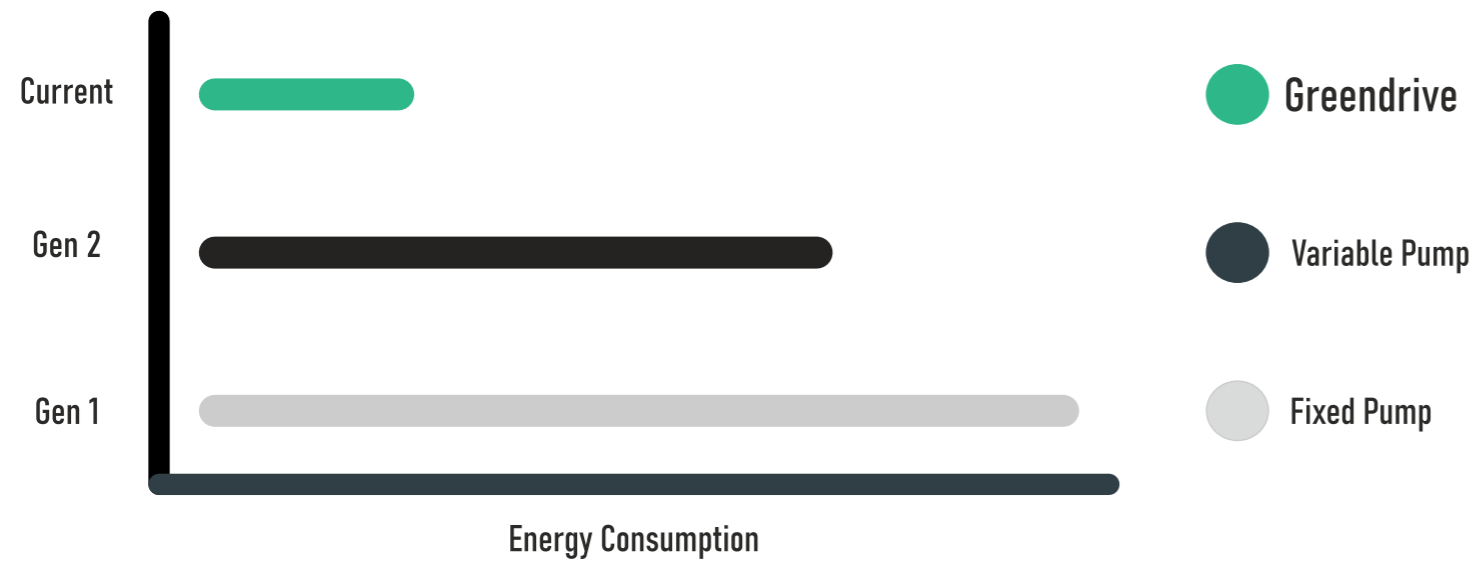
Equipped with multiple safety devices such as.

- Safety light curtains
- Side safety doors
- Emergency switches
- mechanical pressure indicators
- electrical redundancies
- electrical safety
- emergency light with buzzer
- mechanical safety for mould and machine safety.

All safety devices work together to create a total safe operating experience for the operator, reducing the chance of accidents to almost zero.



# GREENDRIVE



## OVERALL INCREASED EFFICIENCY

Efficiency is not just about saving electrical power, true energy efficiency comes from both, electrical and mechanical efficiency. Greendrive hydraulic system is designed to obtain maximum efficiency from both mechanical and electrical components of the machine.

Greendrive translates to serious energy savings, when compared to conventional hydraulic systems, greendrive hydraulics system enables you to save up to 60% energy.

As added bonus of increased efficiency, there are other advantages too, such as, Reduced noise level while the machine is operational, Lower requirement for external cooling, reduced hydraulic oil temperature, increased system operational life. stable and fast buildup of system pressure.

How is it achieved?, with the help of servo motors and next gen mechanical design, the hydraulic pump and motor stays operational for the time period when any movement is taking place in machine hydraulics, otherwise the motor will go to sleep consuming close to zero power, thus saving huge amount of power and increasing efficiency.

## SERVICE



## CONTINUOUS SUPPORT

We are based in Gujarat Ahmedabad, where all our machines are designed and manufactured. giving us total control over the quality and reliability of our manufacturing process, we design our machines to achieve excellent mechanical reliability, to make sure there is close to zero down time for machine.

But in the end as is with all electro mechanical machines, there is bound to be some problems during production life of the machine, no matter how well we design and manufacture machines, there will always be some error of margin, due to human error or some other aspect, rest assured as we will be there to help you out.

Our team of service engineers make sure that when the inevitable happens, we are there to support you and reduce the down time of the machine as much as possible to reduce your production down time and get the machine production ready as soon as possible.

We have service engineers present all around INDIA to make sure that when you require our support, we will be there to assist you with your problems.

Our machines are also equipped with multiple advanced features which can help our support team remotely diagnose small problems and help you solve them.

# SPECIFICATIONS

PARAMETER	UNITS	SV - 30 SS			SV - 45 SS			SV - 60 SS			SV - 90 SS			SV - 120 SS			SV - 160 SS			SV - 200 SS		
SCREW DIAMETER	mm	22	25	30	30	32	35	32	35	38	40	42	45	42	45	50	45	50	55	55	60	70
INJECTION PRESSURE	kgf/cm <sup>2</sup>	2126	1646	1143	1143	1004	840	1661	1388	1177	1680	1523	1327	1523	1327	1075	1327	1075	888	888	746	548
THEORETICAL INJECTION VOLUME.	cm <sup>3</sup>	47.5	61	88	88	100	120	116	139	164	301	332	381	332	381	471	397	491	593	593	706	961
MAX. INJECTION WEIGHT(P.S)	gr	40	55	79	79	90	108	105	125	148	271	299	343	299	343	424	358	442	534	534	636	865
INJECTION RATE	cm <sup>3</sup> /sec	38	48	94	94	120	144	89	87	158	111	122	140	122	140	173	175	173	262	367	437	595
INJECTION SPEED	mm/s	130			150			100			88			88			131			155		
INJECTION STROKE	mm	125			125			145			240			240			250			250		
SCREW ROTATION SPEED	RPM	0 - 300			0 - 300			0 - 300			0 - 300			0 - 300			0 - 300			0 - 300		
NOZZLE OUT OF PLATENS	mm	40			40			40			40			40			40			40		
<b>CLAMPING UNIT</b>																						
CLAMPING FORCE	tf	30			45			60			90			120			160			200		
CLAMPING STROKE	mm	200			250			270			285			285			350			350		
MIN. MOULD HEIGHT	mm	150			160			190			240			240			300			300		
MAX. OPENING	mm	350			410			460			525			525			650			650		
DISTANCE BETWEEN TIE-RODS	mm	435 x 250			485 x 300			585 x 300			695x 350			745 x 400			845 x 450			945 x 500		
MAX. MOULD SIZE (LxW)	mm	250 x 250			300 x 300			400 x 300			450 x 350			500 x 400			600 x450			700 x 500		
EJECTOR STROKE	mm	145			145			145			145			145			145			145		
EJECTOR FORCE	mm	2.2			2.2			2.7			4.6			4.6			4.6			4.6		
SYSTEM PRESSURE	mm	140			140			140			140			140			140			160		
OIL TANK CAPACITY	L	210			225			250			270			320			360			420		
PUMP MOTOR POWER	kw(hp)	5 (7.5)			7.5 (10)			7.5 (10)			15 (20)			18.5 (25)			22.5 (30)			30 (40.2)		
HEATING POWER	kw	3.4	3.4	5	5	5.8	5.8	5.8	5.8	6	6.6	7.5	7.5	7.5	7.5	8.3	7.5	8.3	9.1	9.1	10.1	11
<b>OTHER</b>																						
TOTAL WATTAGE	kw	8.4	8.4	10	12.5	13.3	13.3	13.3	13.3	13.5	21.6	22.5	22.5	26	26	26.8	30	30.8	31.6	39.1	40.1	41
TOTAL WEIGHT	T	1.6			2.4			2.8			4.2			5.8			7.2			8.1		
MACHINE DIMENSION (LxWxH)	Mtr	1.8 x 1.3 x 2.9			2 x 1.6 x 3.2			2.5 x 1.8 x 3.5			2.6 x 2 x 3.6			2.8 x 2 x 3.8			3 x 2.5 x 4			3.5 x 2.7 x 4.2		

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