

## Innovative into the Future – BOY-Injectioneering

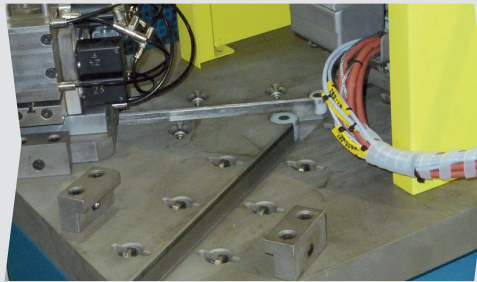


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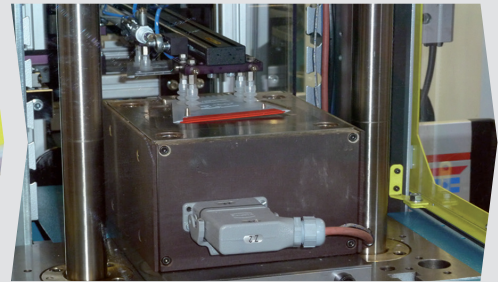
Insert molding machines BOY 25 E VV  
BOY 25 E VH



Automated LSR overmoulding.  
Integrated removal handling



Y-table with partially open safety gate,  
two-hand operation and BG approval



Insertion/removal of overmoulded parts  
by handling through the open mould.

- Fixed lower platen, a shifting of the inserted parts is excluded
- User-friendly automation possibilities (e.g. with Y-table, robots, light barriers, etc.)
- Space saving assembly of peripheral devices on the machine frame
- Optional two-hand operation with freely accessible safety gate
- Unparalleled price/performance ratio
- Extremely low operating and energy costs

The BOY 25 E VV insert moulding machine is the replacement of the BOY 22 A VV. With **further optimizations** such as the use of high speed pistons and an hydraulic pump with 10 % more conveying volume, a clear increase of the

machine speeds, **improved dynamics** and a shorter dry cycle time could be achieved.

It is suited for manual operation and also for fully automatic over-moulding of insert parts, or for integration into in-line production units. Because of the **fixed lower mould platen**, easy insertion is guaranteed; furthermore, a shifting of the inserted parts upon closing of the mould is excluded.

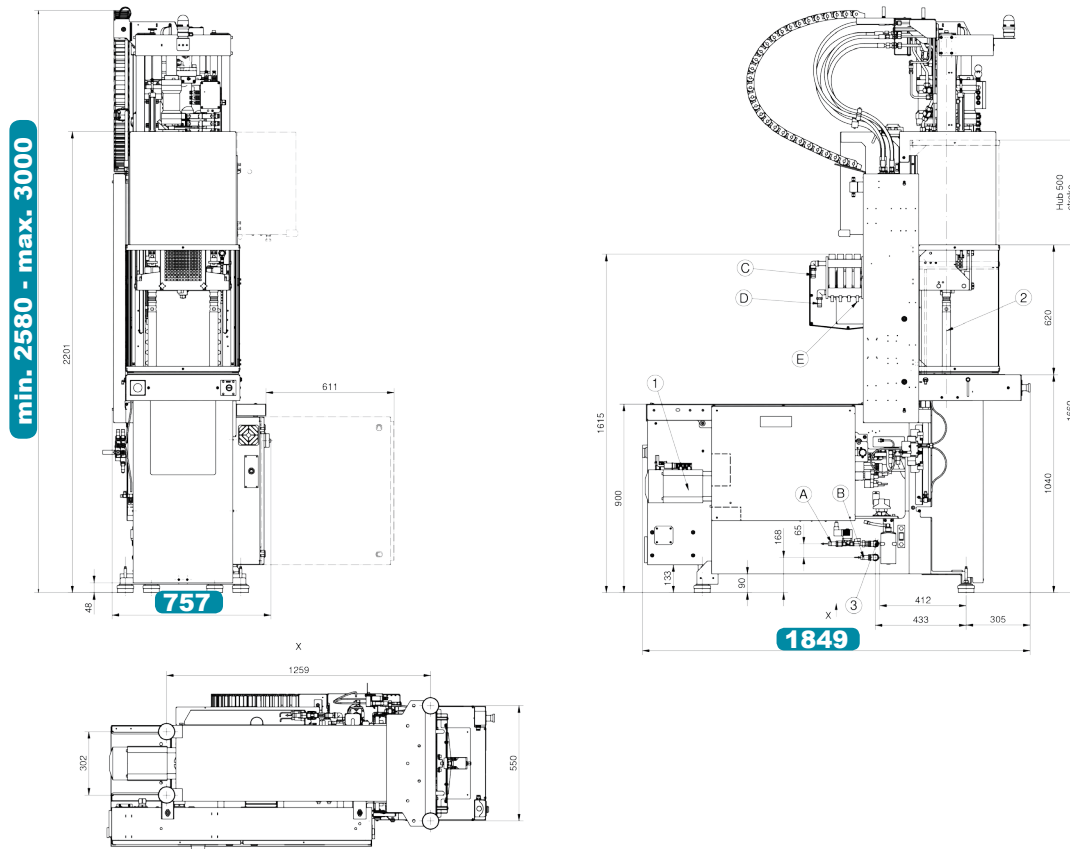
Users appreciate additionally the good working ergonomics; suitable working heights result in a low distance to the mould area.

Higher injection speeds are possible due to **differential injection** with the units 250-11, 250-16 und 250-39.

For special applications which do not allow injecting into the centre of the mould BOY offers the BOY 25 E VH, a machine configuration with horizontal injection unit, for parting-line application. Among other things, this ensures that sprue marks are not quite as obvious. A complex hot runner technique is not required; the production of sprues can be avoided.



- 1 The machine design features the best ergonomics and efficient operation.
- 2 Characteristic for all BOY insert moulding machines is the fixed lower platen.
- 3 Free machine table for integration of automation equipment. (higher injection speed)
- 4 Optimum control technology with intuitive operation concept.
- 5 Robust machine design with integrated oil tank.



## Technical Data – standard version<sup>1)</sup>

Injection unit for processing thermoplastics		SP 69		SP 82	
Screw diameter	mm / in	22 / 0.87	24 / 0.94	28 / 1.1	32 / 1.26
Screw- L/D-ratio		17.5	22	18.6	16.3
Max. stroke volume (theoretical)	in <sup>3</sup>	1.86	2.62	3.57	4.66
Max. shot weight in PS (theoretical)	oz	0.98	1.38	1.88	2.45
Injection force	US Tons	9.8			
Injection volume flow	in <sup>3</sup> / sec	3.5	4.2	5.7	7.5
Max. spec. injection pressure	psi	33025	27746	20378	15606
Max. screw stroke	mm / in	80 / 3.15			
Nozzle force / contact pressure	US Tons	2.7			
Nozzle retraction stroke	mm / in	205 / 8.07			
Screw torque	ft / lbf	132.8 (1885 psi)	132.8 (6.1 in <sup>3</sup> / 1885 psi) / 213.9 (9.8 in <sup>3</sup> / 1885 psi)		
Screw speed (infinitely variable)	rpm	400 (4.9 in <sup>3</sup> )	400 (6.1 in <sup>3</sup> ) / 250 (9.8 in <sup>3</sup> )		
Screw pulback force	US Tons	4.27			
Heating power (nozzle + cylinder)	W	3550	5800		
Hopper capacity	Us gal.	- / 3.43 <sup>3</sup>			
Injection speed	in / sec	5.98			

### Clamping unit

Clamping force	US Tons	28.1
Distance between tie bars	in (h x v)	10
Max. daylight between platen	mm / in	400 / 15.75
Max. opening stroke (adjustable)	mm / in	200 / 7.87
Min. mold height	mm / in	200 / 7.87
Max. mold weight on moveable clamping side	lb (max)	330.69
Mold opening force	US Tons	1.98
Mold closing force	US Tons	1.98
Ejector stroke (max.)	mm / in	80 / 3.15
Ejector force pushing / pulling	US Tons	2.03 / 1.35

### General

Installed driving power / total power	kW	7.4 / 10.95 (400 V)	7.4 / 13.2 (400 V)
Duration of the dry cycle (EUROMAP 6)	s (mm)	1.75 (178)	
Hydraulic system pressure	psi	2611	
Oil tank capacity	US gal.	17.17	

### Dimensiones and weights

		BOY 25 E VV	BOY 25 E VH
Dimensions (LxWxH) / Footprint	in / square in	72.8 x 29.8 x 101.57 <sup>4</sup> / 2170	79.76 x 36.89 x 83.7 / 2942
Total weight net (without oil)	lb	1720	1746
Total weight gross (pallet & foil / wooden case)	lb	2568 / 3109	2595 / 3135
Transport dimensions / case (LxWxH) approx.	in	90.6 x 41.7 x 90.6 <sup>2</sup> / 90.6 x 47.2 x 88.6 <sup>2</sup>	90.6 x 41.7 x 90.6 / 90.6 x 47.2 x 88.6

1) more injection units see Technical Data    2) with injection unit removed    3) VH-machine    4) max. 118.1 inch



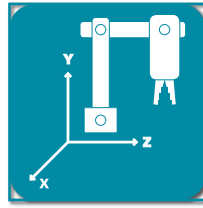
Servo-Drive



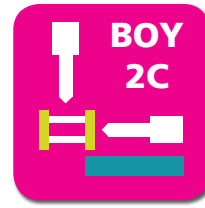
Control



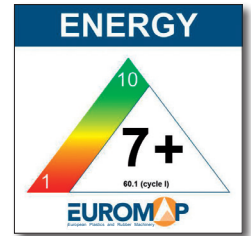
Injection Unit



Automation



Multi Component



The specified efficiency classification is achievable depending on the respective machine equipment.

## Equipment

### Injection unit

Pivoting injection unit	-
Preset screw speed values with ramping transition	■
Cold start protection	■
Number of set points of injection speed	9
Number of set points of injection pressure	9
Start of holding pressure dependent on hydraulic pressure. stroke and time	■
Start of holding pressure, cavity pressure-dependent	□
Number of set points of holding pressure	9
Production monitoring at start of holding pressure	■
Closed loop control for the complete injection profile and back pressure	■
Control for intrusion-injection (not for BOY 2C XS)	■
PID microprocessor-controlled heating zones for cylinder + nozzle set and temp. display	■
Hydraulically actuated needle shut-off nozzle (pneumatic for XS-LSR)	○
Slide-away for quick material change (25 + 35 + 60 VV / 35 HV / 2C M without hopper)	■
Automatic material loader / feeder	□
Adjustable nozzle force	■
Delayed nozzle retraction	■
Servo-electric screw drive (separate feed line required)	○
High wear-resistant plasticizing units	○
High wear-resistant EconPlast unit	○
Speed injection (not for BOY 2C XS)	○
Clamping force build-up can be activated parallel to injection	-
Electromechanical injection movement	-

### Clamping unit

Reduced mold height by 50 mm	□
Moving platen support to improve the precision when using large molds	-
Number of set points of mold closing / opening speed	9
Number of reopening attempts after mold closing	■
Hydr. ejector with adjustable pressure, speed, position + no. of strokes, intermediate stop position	■
Hydraulic ejector with adjustable stroke 80 mm (for XS E = 50 mm)	■
Hydraulic ejector with adjustable stroke 130 mm	-
Hydraulic ejector with adjustable stroke 150 mm and 42.7 kN force	-
Electromechanical ejector 150 mm	-
Hydraulic unscrewing device, one or two directions of rotation with intermediate stop	-
Hydraulic unscrewing device, two directions, proportional valve and pulse generator	-
Core pull control with 4/3 way directional control valve and freely selectable operational programs	□
Injection compression (coining) and breathing with mold degassing control	□
Hydraulic guard safety device	■
Self adjusting mechanical drop bar safety system with electronic monitor	■
Safety gate for handling devices	-
Electronically operated safety gate	■
Selection flap	-
Air ejection	□
Mold lifting crane	-
Simultaneous ejector movement (with double pump/Electric)	-
Integrated sprue picker	-
Mold holder 75 x 75 mm	-

### Electronics

USB interface for access and data exchange	■
Interface kit: Serial/Temperature device, USB and Ethernet	□
OPC interface	□
4 freely programmable inputs/outputs	□
Piece counter	■
Preselect cycle counter with auto shut-off	■
Grounded socket outlet 230 V ~ / 10 A, (alternatively switched)	■(□)
CEE socket outlet 400 V ~ / 16 A (alternatively switched)	□(□)
Socket distributor 400 V ~ switched + 230 V ~ (Standard supply 32 A)	-
Socket distributor 400 V ~ / 230 V ~ switched (separate feed line required)	□
Energy distributor with four fixed connections, up to 5 x 400 V CEE + 3 x 230 V (sockets can be switched off optionally). Standard supply 125 A / 5 x 50 mm <sup>2</sup>	□
Switch cabinet ventilation	■
Standardized interface for handling units EUROMAP 67	□
Separate feeder (heating and motor current)	■
7-day timer	■
Additional temperature control	□
Brush control	□
Connector for safety switch to inhibit mold closing	□
Integrated hot runner control, 8/16-fold (separate feed line required)	□
Air conditioning unit for control cabinet	□
Alarm signal with sound	□

### Hydraulics

Electronically controlled variable pump	-
Servo-motor pump drive (Servo-drive)	■
Oil preheating circuit automatic	■
Oil temperature gauge / Controlled oil cooling / Oil level indicator	■
Oil level and temperature monitoring	■
Proportional valve with stroke feedback and positioning action for clamp unit	-

### General

Cooling water distributor with electric shut-off valve for injection mold	○
Temperature control for feet throat	□
6- / 8-zone water distributor	○
Tool kit	□
Spare parts package	□
Oil filling	□
Anti-vibration mounts	■

■ standard    ○ alternatively    □ optional    - not available

You would like to learn more about this BOY injection molding machine?



Technical Data and Equipment (complete overview)



Competence brochure



Boy Machines, Inc.  
199 Philips Road  
Exton, Pennsylvania 19341

Phone: (610) 363-9121  
Fax: (610) 363-0163  
sales@boymachines.com  
www.boymachines.com



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