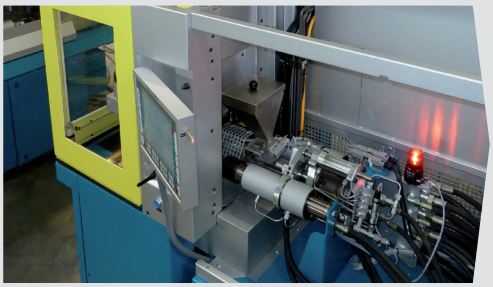
BOY®

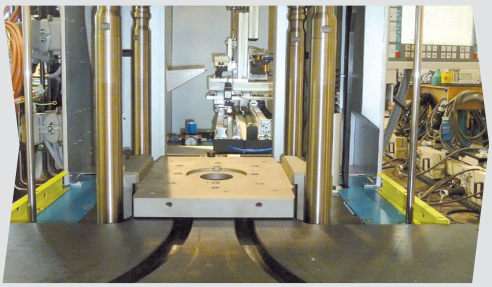
Spritzgiessautomaten

Innovative into the Future – BOY-Injectioneering

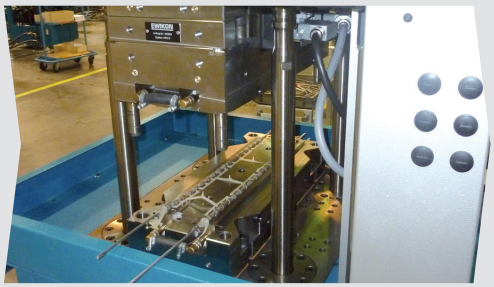
Insert molding machines BOY 35 E VV
BOY 35 E VH



Injection unit for 2C injection molding tightly mounted on the machine table



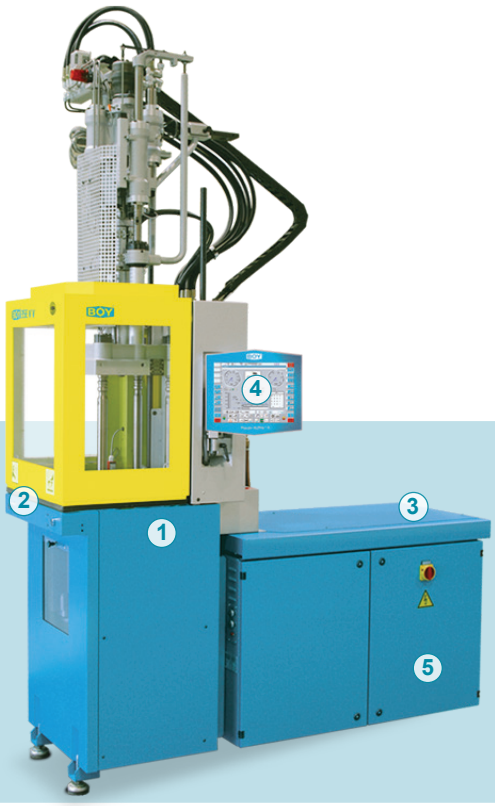
Y-table with curved tracks and integrated automation on the machine table



Continuous production of distance pieces of saw chains

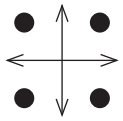
- **Four-tie bar** insert molding machine
- Fixed lower platen, a shifting of the inserted parts is excluded
- User-friendly automation possibilities (e.g. with Y-table, robots, light barriers, etc.)
- **Speed injection** with injection unit 16 and unit 45 (higher injection speed)
- Processing of thermoplastic material, thermoset, PVC, elastomer, silicone (LSR), MIM, Hotmelt, etc.

The basic concept of the 35 E V is quiet similar to the BOY 35 E horizontal injection molding machine - merely the injection and clamping unit were **arranged vertically** by a 90° rotation. The lower platen **is fixed**. Therefore, a shifting of the insert parts during mold closing is excluded.



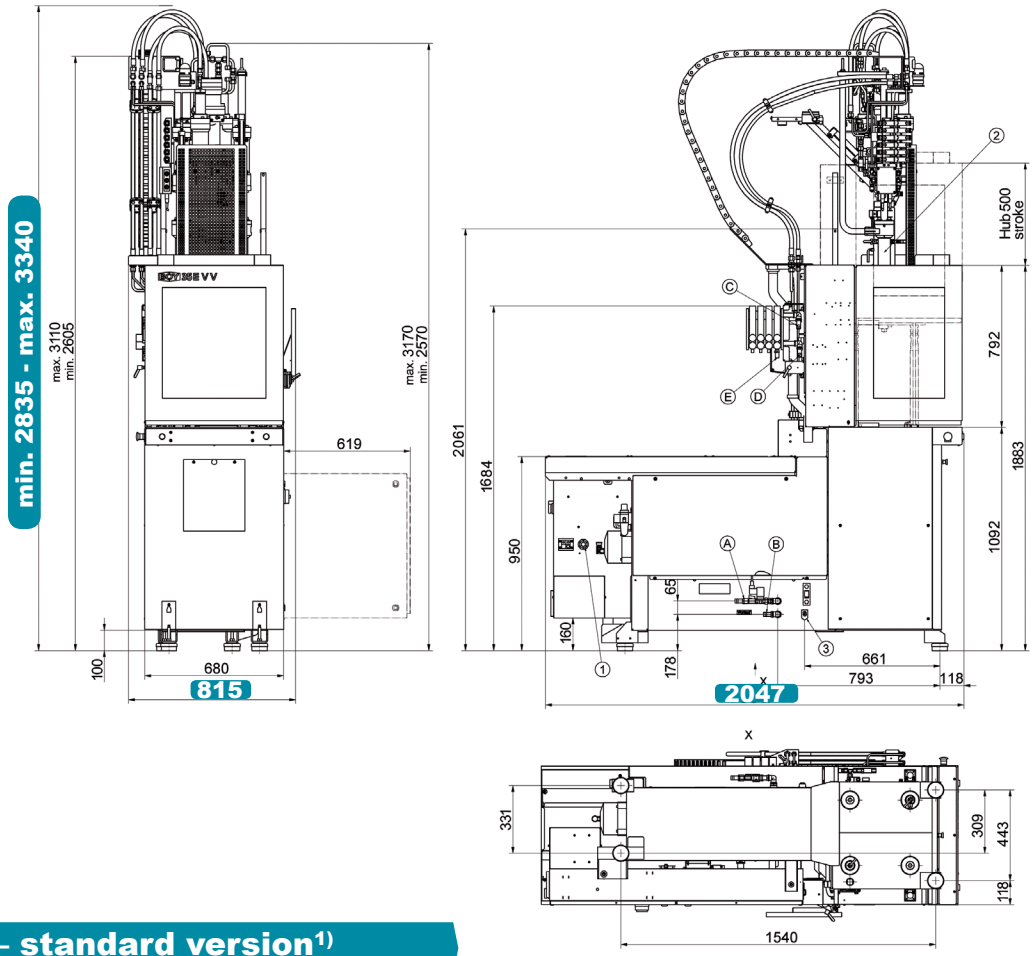
Shot weights of up to 69.5 g (PS) for highly precise applications, compact dimensions, **ample space** for peripheral equipment on the machine frame, as well as the possibility to also use smaller injection units make the BOY 35 E VV an ideal solution for **fully automatic over-molding** of insert parts.

User-friendly automation possibilities (e.g. with Y-tables, robots, light barriers, etc.)



Injection into the parting line – no problem with the **BOY 35 E VH**. Especially in this market segment, BOY has worldwide a very big market share. With horizontal arranged injection unit and vertically clamping unit, injection of the materials is done into the parting line of the mold. Thus, injection points on decor surfaces can be prevented. A complex and expensive 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 molding 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[1)]

Injection unit for processing thermoplastics		SP 96 (Standard)		
Screw diameter	mm	24	28	32
Screw- L/D-ratio		22	18.6	16.3
Max. stroke volume (theoretical)	in^3	2.62	3.57	4.66
Max. shot weight in PS (theoretical)	oz	1.38	1.88	2.45
Injection force	US Tons	11.4		
Injection volume flow	in^3 / sec	4.6	6.3	8.2
Max. spec. injection pressure	psi	32358	23772	18202
Max. screw stroke	mm / in	95 / 3.74		
Nozzle force / contact pressure	US Tons	5.4 / 2.7[2]		
Nozzle retraction stroke	mm / in	205 / 8.07		
Screw torque	ft / lbf	132.8 (6.1 in^3/1885 psi) / 213.9 (9.8 in^3/1885 psi)		
Screw speed (infinitely variable)	rpm	400 (6.1 in^3) / 250 (9.8 in^3)		
Screw pulback force	US Tons	4.95		
Heating power (nozzle + cylinder)	W	5800		
Hopper capacity	Us gal.	– / 5.28[2]		
Injection speed	in / sec	6.57		
Clamping unit				
Clamping force	US Tons	39.34		
Distance between tie bars	in (h x v)	11.02 x 10		
Max. daylight between platen	mm / in	500 / 19.69[3]		
Max. opening stroke (adjustable)	mm / in	300 / 11.81		
Min. mold height	mm / in	200 / 7.87[3]		
Max. mold weight on moveable clamping side	lb (max)	485.02 / >330.69[4]		
Mold opening force	US Tons	3.32		
Mold closing force	US Tons	2.41		
Ejector stroke (max.)	mm / in	80/3.15 / 130/5.12		
Ejector force pushing / pulling	US Tons	2.68 / 1.78		
General				
Total power	V / Amps / 3 phase	230 V / 50 A / 3 phase		
Duration of the dry cycle (EUROMAP 6)	s (mm)	1.5 (196)		
Hydraulic system pressure	psi	3046		
Oil tank capacity	US gal.	17.17		

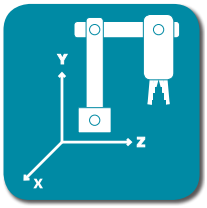
Dimensiones and weights		BOY 35 E VV	BOY 35 E VH
Dimensions (LxWxH) / Footprint	in / square in	80.59 x 32.09 x 111.61[5] / 2586	80.59 x 31.57 x 91.97[7] / 2545
Total weight net (without oil)	lb	3131	3197
Total weight gross (pallet & foil / wooden case)	lb	4200 / 4740	4266 / 4806
Transport dimensions / case (LxWxH) approx.	in	90.6 x 47.2 x 90.6[6] / 90.6 x 47.2 x 88.6[6]	90.6 x 47.2 x 90.6 / 90.6 x 47.2 x 88.6

1) more injection units see Technical Data 2) VH-Maschine 3) optional 3.9 inch larger 4) optional moving platen support recommended 5) max. 131.5 inch 6) with injection unit removed 7) max. 101 inch

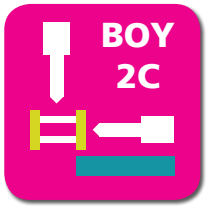

Servo-Drive

Control

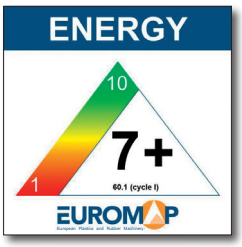
Injection Unit



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 mm²	☐
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 temperatur 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

A 000771
A 02/26

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


Technical Data and Equipment
(complete overview)


Competence brochure

BOY®
Spritzgiessautomaten

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

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

BOY-APP
free of charge at
http://app.dr-boy.de