

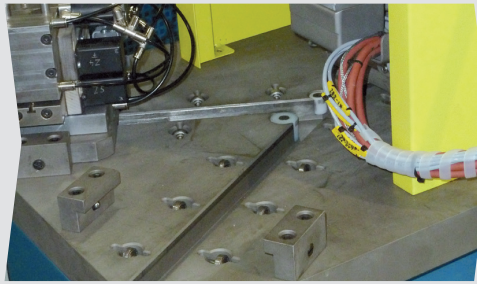
Innovative into the Future – BOY-Injectioneering



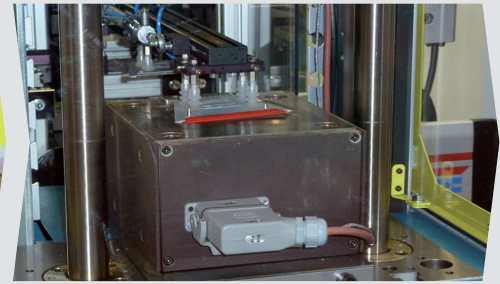
Insert moulding machines BOY 25 E VV
BOY 25 E VH



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.

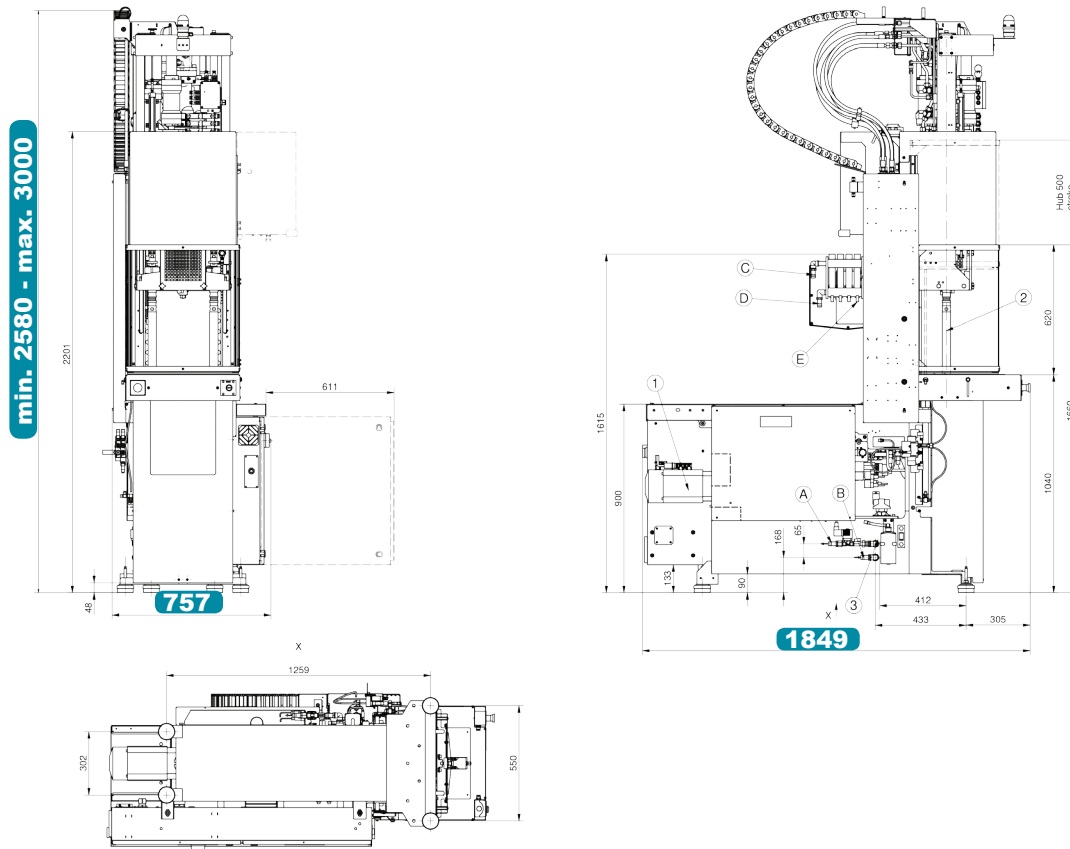
Users appreciate additionally the good working ergonomics; suitable working heights result in a low distance to the mould area.

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 version¹⁾

Injection unit for processing thermoplastics		SP 69	SP 82	SP 82	SP 82
Screw diameter	mm	22	24	28	32
Screw- L/D-ratio		17.5	22	18.6	16.3
Max. stroke volume (theoretical)	cm ³	30.4	43	58.5	76.5
Max. shot weight in PS (theoretical)	g	27.7	39.1	53.2	69.5
Injection force	kN	87	87	87	87
Injection flow (theoretical)	g/s	52.6	62.6	85.1	111.2
Max. spec. injection pressure	bar	2277	1913	1405	1076
Max. screw stroke	mm	80	95	95	95
Nozzle force / contact pressure	kN	24	24	24	24
Nozzle retraction stroke	mm	205	205	205	205
Screw torque	Nm	180 (130 bar)	180 ² / 290 ³	180 ² / 290 ³	180 ² / 290 ³
Screw speed (infinitely variable)	U / min.	400	400 ² / 250 ³	400 ² / 250 ³	400 ² / 250 ³
Screw pulback force	kN	38	38	38	38
Heating power (nozzle + cylinder)	W	3550	5800	5800	5800
Hopper capacity	litre	– / 13 ⁴	– / 20 ⁴	– / 20 ⁴	– / 20 ⁴

Clamping unit

Clamping force	kN	250	250	250	250
Distance between tie bars	mm (h x v)	254	254	254	254
Max. daylight between platen	mm	400	400	400	400
Max. opening stroke (adjustable)	mm	200	200	200	200
Min. mould height	mm	200	200	200	200
Max. mould weight on moveable clamping side	kg	150	150	150	150
Mould opening force	kN	17.6	17.6	17.6	17.6
Mould closing force	kN	17.6	17.6	17.6	17.6
Ejector stroke (max.)	mm	80	80	80	80
Ejector force pushing / pulling	kN	18.1 / 12	18.1 / 12	18.1 / 12	18.1 / 12

General

Installed driving power / total power	kW	7.4 / 11.0 (400 V)	7.4 / 13.2 (400 V)	7.4 / 13.2 (400 V)	7.4 / 13.2 (400 V)
Duration of the dry cycle (EUROMAP 6)	s – mm	1.75 – 178	1.75 – 178	1.75 – 178	1.75 – 178
Hydraulic system pressure (clamping / injection pressure)	bar	185 / 180	185 / 180	185 / 180	185 / 180
Oil tank capacity	litre	65	65	65	65

Dimensiones and weights

		BOY 25 E VV	BOY 25 E VH
Dimensions (LxWxH) / Footprint	mm / m ²	1849 x 757 x 2580 ⁵ / 1.40	2026 x 937 x 2126 (2164) / 1.9
Total weight net (without oil)	kg	780	792
Total weight gross (pallet & foil / wooden case)	kg	855 / 1100	867 / 1112
Transport dimensions / case (LxWxH) approx.	m	2.3 x 1.06 x 2.3 / 2.3 x 1.2 x 2.25	2.3 x 1.06 x 2.3 / 2.3 x 1.2 x 2.25

1) more injection units see Technical Data

2) hydraulic motor with stroke volume 100 cm³ / 130 bar3) hydraulic motor with stroke volume 160 cm³ / 130 bar

4) VH-machine

5) max. 3000 mm



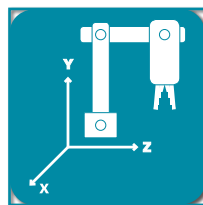
Servo-Drive



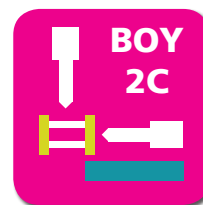
Procan ALPHA®



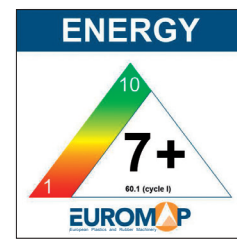
Technology



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	8
Number of set points of injection pressure	2
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	8
Production monitoring at start of holding pressure	■
Closed loop control for the complete injection profile and back pressure	■
Control for intrusion-injection	■
PID microprocessor-controlled heating zones for cylinder + nozzle set and temp. display	5
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	○

Clamping unit

Reduced mould height by 50 mm	□
Moving platen support to improve the precision when using large moulds	–
Number of set points of mould closing speed / opening speed	8/8
Number of reopening attempts after mould closing	■
Hydr. ejector with dig. adjustable pressure, speed, position + no. of strokes, intermediate stop position	■
Hydraulic ejector with adjustable stroke 80 mm	■
Hydraulic ejector with adjustable stroke 130 mm	–
Hydraulic ejector with adjustable stroke 150 mm and 42,7 kN force	–
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 programmes	□
Injection compression (coining) and breathing with mould 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	□
Mould lifting crane	–
Simultaneous ejector movement (with double pump)	–
Integrated sprue picker	–

Electronics

USB interface for access and data exchange	■
Interface kit: Serial/Temperature device, USB/Printer 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 can be switched off)	■(□)
CEE socket outlet 400 V ~ / 16 A (alternatively can be switched off)	□(□)
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 mould 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	■
Optical oil filter contamination indicator	–
Proportional action valve for the clamping unit	–
Proportional valve with stroke feedback and positioning action for clamp unit	–

General

Cooling water distributor with electric shut-off valve for injection mould	○
Temperature control for feed 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 moulding machine?



Data and Equipment (complete overview)



Competence brochure

BOY
Spritzgiessautomaten

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