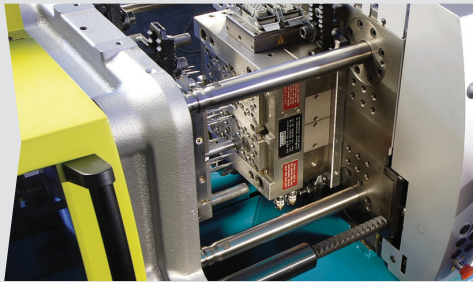


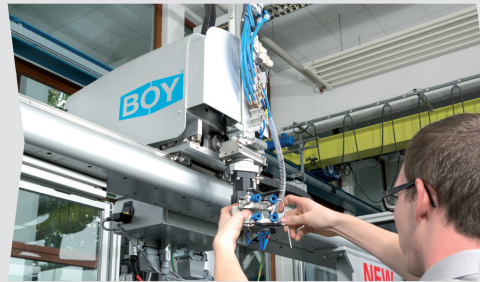
Innovative into the Future – BOY-Injectioneering



Injection molding machine BOY 100 E



Great distances between tie bars and platens for mounting larger molds



Simplest possibilities to integrate a four-axis industrial robot



Most efficient technology with servo-motor pump drive

- Fully controlled
- Four-tie bar, cantilevered **two-platen clamping system**
- Patented pressure intensifier with **integrated valve function**
- Most exact positioning of the moving platen via proportional valve and servo drive technology
- Divided safety gate for the clamping unit
- Easily accessible ejector
- Optimum L/D ratio of the screw
- **Different injection units** for thermoplastic, thermoset, LSR, and elastomer processing
- **Lateral swivel-out** injection unit
- Robust machine frame with integrated oil tank
- Optional with energy-efficient and high wear-resistant **EconPlast** unit

Some more of everything - that was the motto when the BOY 100 E was developed. A greater daylight between tie bars (430 x 360 mm) and larger platen distances of 725 mm, as well as a **clamping force of 112.4 US Tons** characterize BOY's model.

And as befits a **leader**, the BOY 100 E disposes of the

same excellent characteristics of all BOY injection molding machines feature.

Given the easy handling of the machine, the users of the BOY 100 E enjoy **maximum flexibility**. All components - from the injection unit to the four-tie bar clamping system - **are easily accessible**. The divided safety gate of the clamping unit is easy to open and offers **optimum accessibility** of the mold, which entails short set-up times and a rapid start of production.

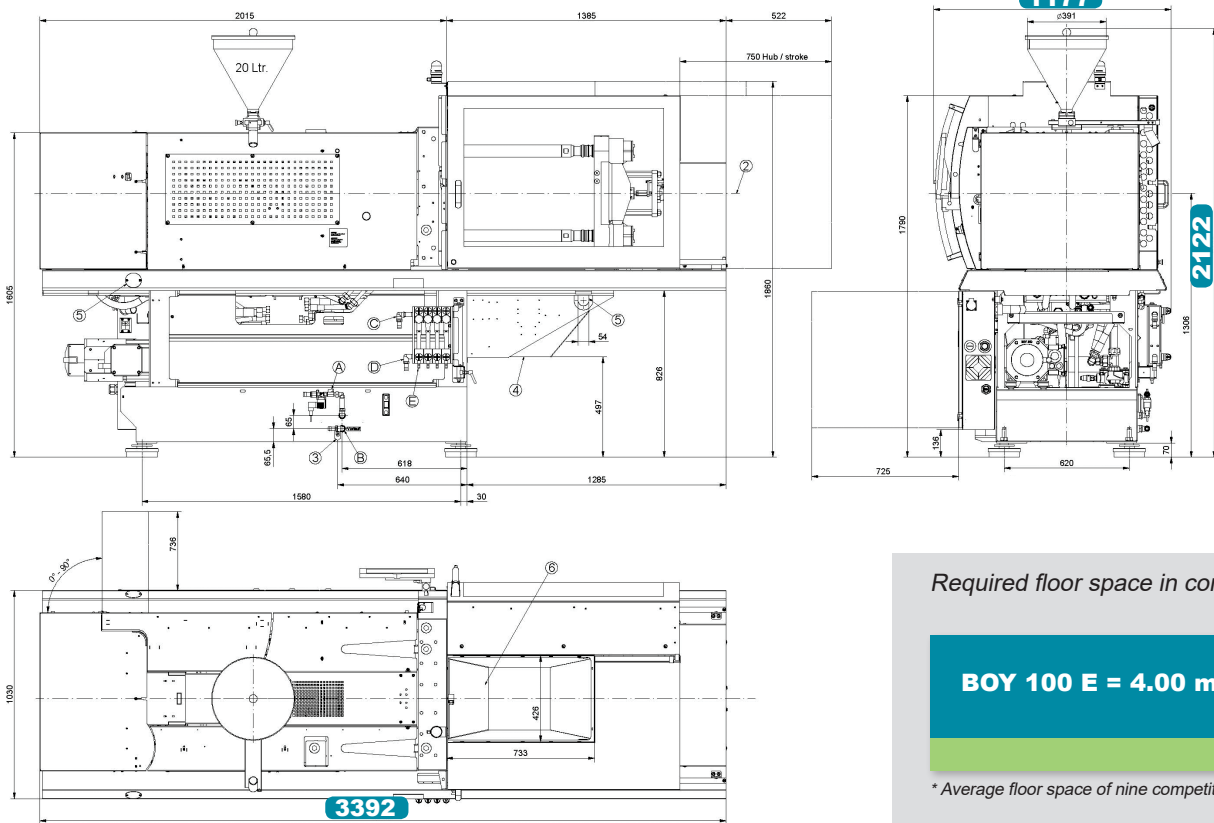
Powerful software applications of the **Procan** series can be chosen for the control of the injection molding machine. Clearly designed menu structures offer **maximum ease of operation** with optimum results. A multitude of **thermo-plastics, elastomers, silicones** and **thermosets** as well as **metals** and **ceramics** (PIM-Technologie) can be processed trouble-free.

Despite the many intelligent, balanced components and a multitude of optional equipment, the injection molding machine from BOY makes do with **little floor space** just 4.0 (!) square metres.

It also stands for **efficiency** and an unparalleled price/performance ratio. Compared to the competitors, the **material throughput** of the BOY 100 E is markedly higher than that of comparable machines. Available options include controls for handling devices, picker as well as brush units, unscrewing devices, core pulls, and integrated hot runner controls.



- 1 The machine design features the best ergonomics and efficient operation.
- 2 The ejector chute, open on three sides, guarantees optimum removal of the molded parts.
- 3 Easy handling and flexibility with regard to additional equipment due to the cantilevered clamping system.
- 4 Optimum control technology with intuitive operation concept.
- 5 Stable machine design with integrated oil tank.



Required floor space in comparison

BOY 100 E = 4.00 m²	6.08 m^{2*}
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* Average floor space of nine competitors

Technical Data – standard version¹⁾

Injection unit for processing thermoplastics		SP 220 ²⁾		SP 400 (Standard)		
Screw diameter	mm	36	36	42	48	52
Screw- L/D-ratio		23	23	20	17	16
Max. stroke volume (theoretical)	in ³	9.94	9.94	13.53	17.67	20.74
Max. shot weight in PS (theoretical)	oz	5.23	5.23	7.12	9.29	10.91
Injection force	US Tons	15.4		28		
Injection volume flow	in ³ / sec	17.4	9.9	13.5	17.7	20.7
Max. spec. injection pressure	psi	19551	35534	26107	19986	17027
Max. screw stroke	mm / in	160 / 6.3				
Nozzle force / contact pressure	US Tons	7.31				
Nozzle retraction stroke	mm / in	243 / 9.57				
Screw torque	ft / lbf	368.78 (18.3 in ³ / 1885 psi) / 390.91 (21.2 in ³ / 1885 psi)				
Screw speed (infinitely variable)	rpm	280 (18.3 in ³) / 250 (21.2 in ³)				
Screw pulback force	US Tons	5.96				
Heating power (nozzle + cylinder)	W	11250				
Hopper capacity	Us gal.	5.28				
Injection speed	in / sec	11.02		6.3		

Clamping unit		
Clamping force	US Tons	112.4
Distance between tie bars	in (h x v)	16.93 x 14.17
Max. daylight between platen	mm / in	725 / 28.54
Max. opening stroke (adjustable)	mm / in	475 / 18.7
Min. mold height	mm / in	250 / 9.84
Max. mold weight on moveable clamping side	lb (max)	1102.31
Mold opening force	US Tons	6.5
Mold closing force	US Tons	4.63
Ejector stroke (max.)	mm / in	130 / 5.12 (150 / 5.91)
Ejector force pushing / pulling	US Tons	2.29 / 1.52 (4.8 / 3.37)

General		
Total power	V / Amps / 3 phase	230 V / 80 A / 3 phase
Duration of the dry cycle (EUROMAP 6)	s (mm)	2.1 (301)
Hydraulic system pressure	psi	2828
Oil tank capacity	US gal.	52.83

Dimensiones and weights		
BOY 100 E		
Dimensions (LxWxH) / Footprint	in / square in	134.25 x 43.98 x 83.35 / 5904
Total weight net (without oil)	lb	6316
Total weight gross (pallet & foil / wooden case)	lb	8741 / 9579
Transport dimensions / case (LxWxH) approx.	in	155.5 x 47.2 x 86.6 / 156.7 x 50.4 x 80.7

1) more injection units see Technical Data and Equipment 2) Speed injection



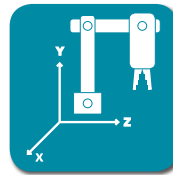
Servo-Drive



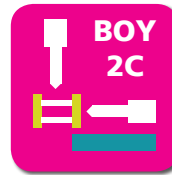
Control



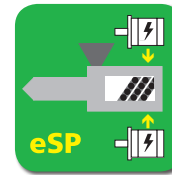
EconPlast



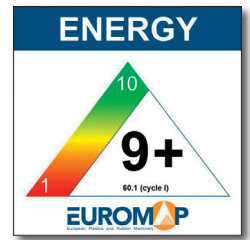
Automation



Multi Component



E-Drive



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 ²	□
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

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



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