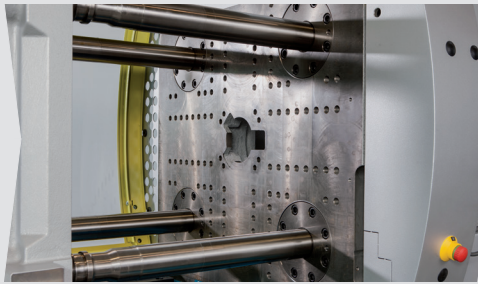


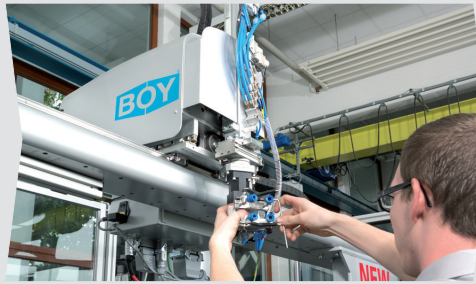
Innovative into the Future – BOY-Injectioneering



Injection moulding machine BOY 125 E



Tie bar distances enlarged up to 18.50" x 16.39"



Simplest possibilities to integrate a four-axis industrial robot



Electrically driven material hopper / -conveying device for an easier refilling

- Fully controlled
- Four-tie bar, two-platen clamping unit with a max. platen distance of 32.48 inch
- 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

Significantly stronger, larger and more powerful, were the requirements for the development of BOY 125 E. In addition to the larger tie bar distance of 470 mm and a maximum platen distance of 32.48 inch, the new BOY top model offers a clamping force increase of 25%. 137.5 US Tons clamping force characterizes now the new machine upper limit at BOY.

Given the easy handling of the machine, the users of the BOY 125 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 mould, which entails short set-up times and a rapid start of production.

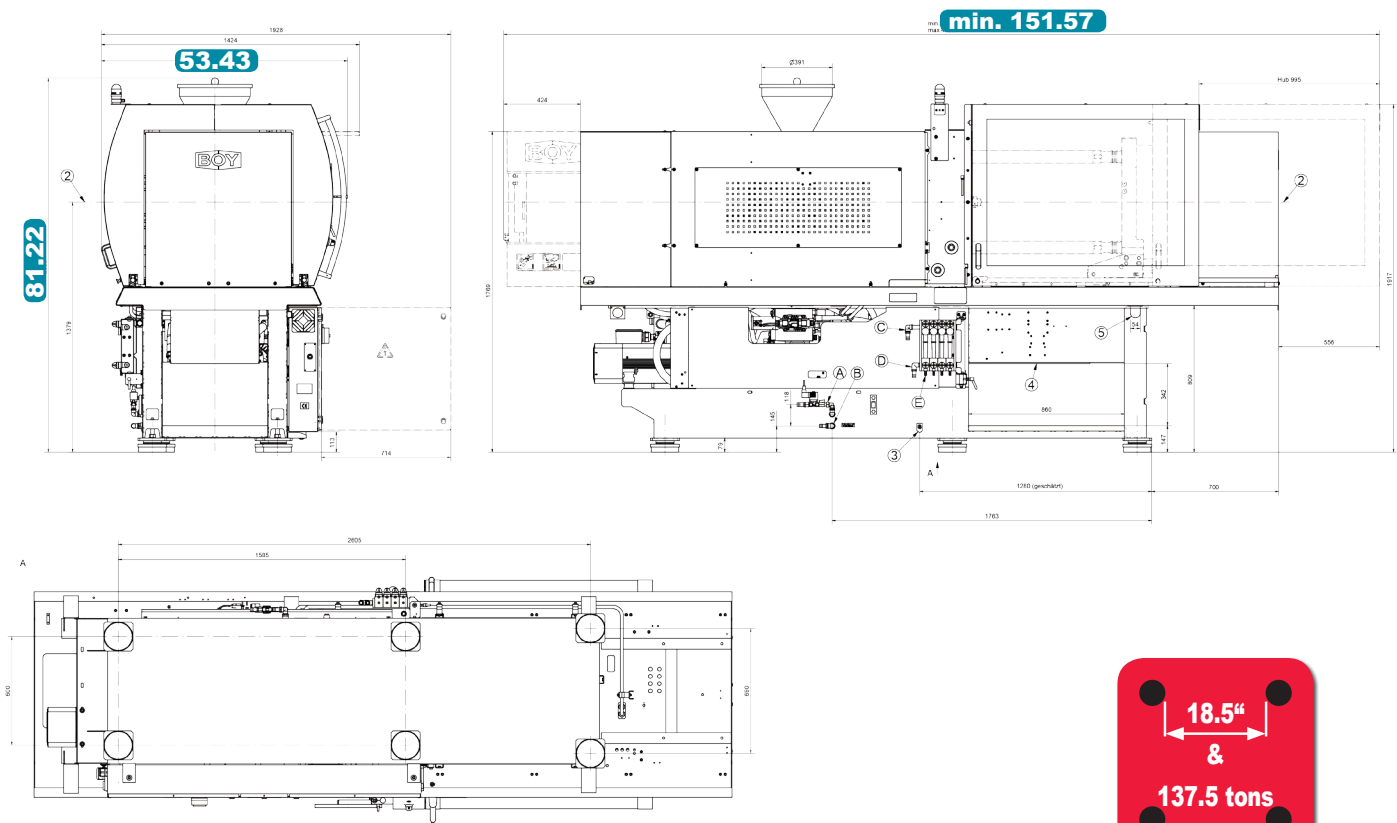
Powerful software applications of the **Procan** series can be chosen for the control of the injection moulding machine. Clearly designed menu structures offer **maximum ease of operation** with optimum results. A multitude of **thermo-plastics, elastomers, silicones** and **thermosets** as well as **metals**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

Despite the many intelligent, balanced components and a multitude of optional equipment, the injection moulding machine from BOY makes do with little floor space (just under 8095 square inches).

It also stands for **efficiency** and an unparalleled price/performance ratio. Compared to the competitors, the **material throughput** of the BOY 125 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 For an easier refilling the material hopper / -conveying device are electrically driven.
- 3 Precise support for large / heavy moulds up to 1499.4 lb on the moving locking side.
- 4 Optimum control technology with intuitive operation concept.
- 5 Stable machine design with integrated oil tank.



BOY 125 E

Technical Data – standard version¹⁾

Injection unit for processing thermoplastics

SP 420 (Standard)

	mm / inch	36 / 1.4	42 / 1.65	48 / 1.89	52 / 2.05
Screw diameter	mm / inch	23	20	17	16
Screw- L/D-ratio	in ³	9.93	13.52	17.67	20.74
Max. stroke volume (theoretical)	oz	5.22	7.11	9.29	10.91
Max. shot weight in PS (theoretical)	US Tons	28.93	28.93	28.93	28.93
Injection force	oz/s	6.86	9.34	12.19	14.37
Injection flow (theoretical)	psi	37,478	27,543	21,088	17,970
Max. spec. injection pressure	mm / inch	6.30	6.30	6.30	6.30
Max. screw stroke	US Tons	7.15	7.15	7.15	7.15
Nozzle force / contact pressure	mm / inch	9.57	9.57	9.57	9.57
Nozzle retraction stroke	ft / lbf	368.7 ¹ / 390.8 ²	368.7 ¹ / 390.8 ²	368.7 ¹ / 390.8 ²	368.7 ¹ / 390.8 ²
Screw torque	rpm	280 ² / 250 ³	280 ² / 250 ³	280 ² / 250 ³	280 ¹ / 250 ²
Screw speed (infinitely variable)	US Tons	5.83	5.83	5.83	5.83
Screw pulback force	W	11250	11250	11250	11250
Heating power (nozzle + cylinder)	US gal.	5.28	5.28	5.28	5.28
Hopper capacity					

Clamping unit

	US Tons	137.5	137.5	137.5	137.5
Clamping force	inch (h x v)	18.50 x 16.93	18.50 x 16.93	18.50 x 16.93	18.50 x 16.93
Distance between tie bars	inch	32.48	32.48	32.48	32.48
Max. daylight between platen	mm / inch	20.67	20.67	20.67	20.67
Max. opening stroke (adjustable)	mm / inch	11.81	11.81	11.81	11.81
Min. mould height	lb	1499.4	1499.4	1499.4	1499.4
Max. mould weight on moveable clamping side	US Tons	5.34	5.34	5.34	5.34
Mould opening force	US Tons	5.41	5.41	5.41	5.41
Mould closing force	mm / inch	(5.12) 5.91	(5.12) 5.91	(5.12) 5.91	(5.12) 5.91
Ejector stroke (max.)	US Tons	2.24 / 1.49	(4.70 / 3.30)		
Ejector force pushing / pulling					

General

	kW	22.5 / 33.8 (400 V)	22.5 / 33.8 (400 V)	22.5 / 33.8 (400 V)	22.5 / 33.8 (400 V)
Installed driving power / total power	s – mm	2.5 – 329	2.5 – 329	2.5 – 329	2.5 – 329
Duration of the dry cycle (EUROMAP 6)	psi	2785	2785	2785	2785
Hydraulic system pressure	US gal.	58.1	58.1	58.1	58.1
Oil tank capacity					

Dimensiones and weights

	inch / in ²	151.6 x 53.4 x 81.2 / 8095
Dimensions (LxWxH) / Footprint	lb	10364
Total weight net (without oil)	lb	10849 / 11841
Total weight gross (pallet & foil / wooden case)	inch	154.7 x 63.0 x 85.4 / 157.5 x 63.0 x 85.4
Transport dimensions / case (LxWxH) approx.		

¹⁾ more injection units see Technical Data and Equipment

²⁾ using a hydraulic motor with 300 cm³ stroke volume

³⁾ using a hydraulic motor with 348 cm³ stroke volume



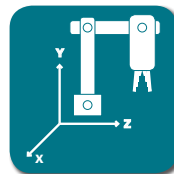
Servo-Drive



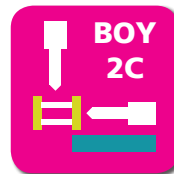
Procan ALPHA®



Technology



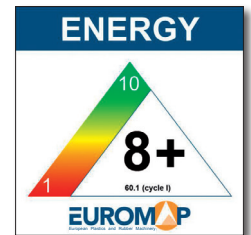
Automation



Multi Component



Servo-Plast



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	■
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 (for XS = 50 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 3 x 400 V ~ / 3 x 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

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