

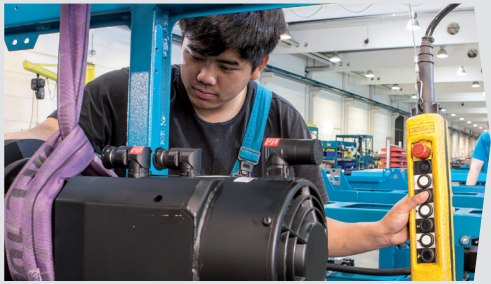


Spritzgiessautomaten

Innovative into the Future – BOY-Injectioneering



Injection molding machine BOY 25 E



Most efficient technology with servo-motor pump drive



Optional EconPlast technology from screw diameter 18 mm



Optional LSR processing - precise from small to large

- Attractive price/performance ratio
- Robust, well thought-out design with cantilevered two-platen clamping unit
- High efficiency through low machine hour rates
- Generous tie bar and platen distances
- Optionally with high wear-resistant EconPlast technology (only with SP 82)

The BOY 25 E is based on a well proven design. Since 1968, more than 25.000 machines of this series have been delivered.

Significant innovation is the increase to 250 kN clamping force and the possibility of a differential injection, which provides increased injection speeds.

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.

The BOY 25 E is characterized by highest precision and reliability. With a footprint of 2.1 m², the extremely compact injection molding machine is simple, clear and ergonomic-

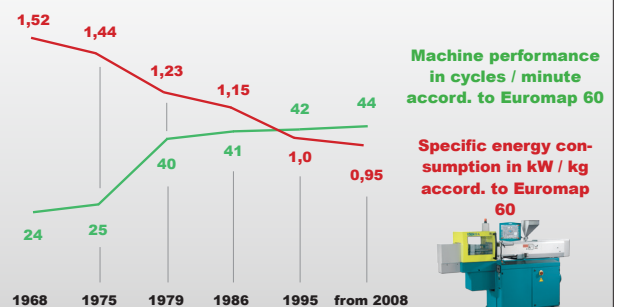
ally designed. The cantilevered clamping unit features easy access and room for numerous options including automated systems.

Six different sized injection units combined with seven different screw diameters offer a wide range of individual equipment options.

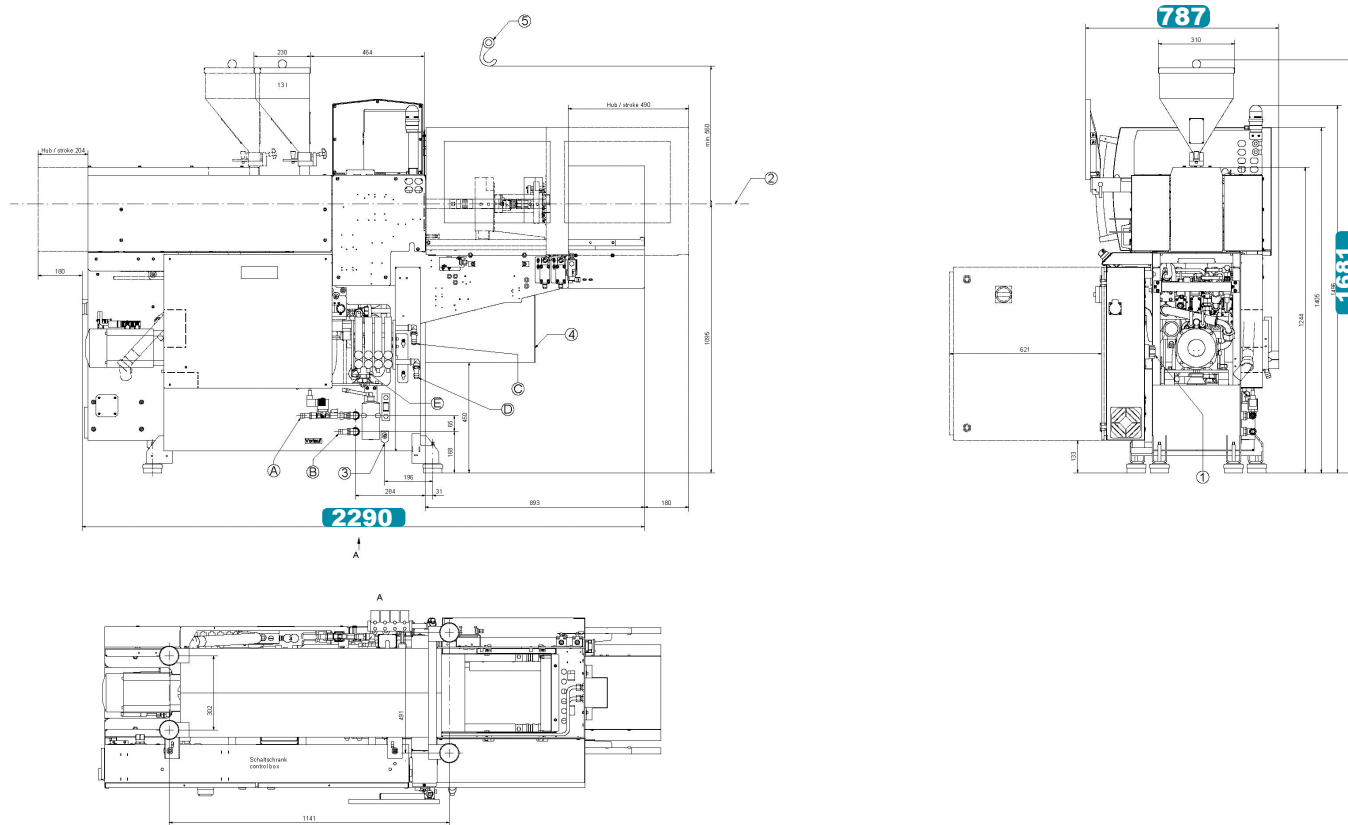
Thus, higher injection speeds are possible by differential injection with the 250-11, 250-16, and the 250-39 units.

A multitude of thermoplastics, elastomers, silicones and thermosets as well as metals and ceramics (PIM-Technology) can be processed trouble-free on the BOY 25 E.

Technology development of BOY 22 / BOY 25 E



- 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 Robust machine design with integrated oil tank.



Technical Data – standard version¹⁾

Injection unit for processing thermoplastics		SP 69		SP 82	
Screw diameter	mm / in	22 / 0.87	24 / 0.94	28	32
Screw- L/D-ratio		17.5	22	18.6	16.3
Max. stroke volume (theoretical)	in ³	1.86	2.62	58.5	76.4
Max. shot weight in PS (theoretical)	oz	0.98	1.38	53.2	69.5
Injection force	US Tons	9.8			
Injection volume flow	in ³ / sec	3.5	4.2	93.6	122.2
Max. spec. injection pressure	psi	33025	27746	1405	1076
Max. screw stroke	mm / in	80 / 3.15		95 / 3.74	
Nozzle force / contact pressure	US Tons	5.4			
Nozzle retraction stroke	mm / in	205 / 8.07			
Screw torque	ft / lbf	132.8 (1885 psi)	132.8 (6.1 in ³ /1885 psi) / 213.9 (9.8 in ³ /1885 psi)		
Screw speed (infinitely variable)	rpm	400 (4.9 in ³)		400 (6.1 in ³) / 250 (9.8 in ³)	
Screw pulback force	US Tons			4.27	
Heating power (nozzle + cylinder)	W	3550		5800	
Hopper capacity	Us gal.			3.43	
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)	1.24 (178)
Hydraulic system pressure	psi	2611
Oil tank capacity	US gal.	17.17

Dimensiones and weights		BOY 25 E
Dimensions (LxWxH) / Footprint	in / square in	90.16 x 30.98 x 66.18 / 2793
Total weight net (without oil)	lb	1653
Total weight gross (pallet & foil / wooden case)	lb	2480 / 2888
Transport dimensions / case (LxWxH) approx.	in	90.6 x 41.7 x 82.7 / 90.6 x 41.3 x 70.9

1) more injection units see Technical Data and Equipment



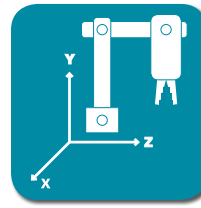
Servo-Drive



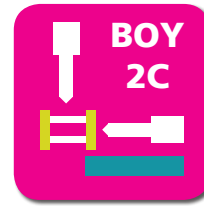
Control



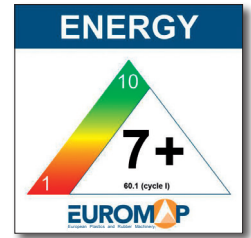
Injection Unit



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 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?



Technical Data and Equipment (complete overview)



Competence brochure



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