

Innovative into the Future – BOY-Injectioneering

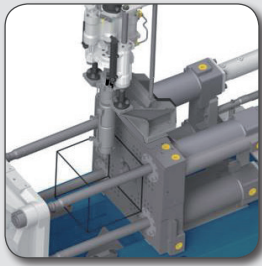


SP 14 / SP 26



SP 11 – SP 96

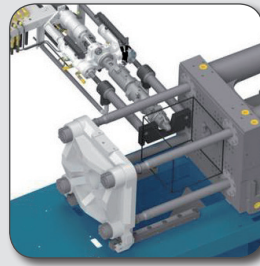
Injection units BOY 2C XS
BOY 2C S



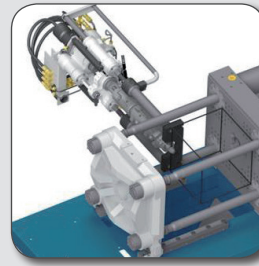
Injection unit in vertical position on top of the fixed platen



Injection unit in vertical / inclined position on top of the mould



Horizontal mounting at the side of the mould (horizontal L – Position)



Vertical mounting



Injection unit in slidable vertical position on top of the fixed platen

The injection unit for the 2nd component is based of the ultra compact **BOY XS E**. It is equipped with its own hydraulic drive and control. Depending on the execution this unit offers a plasticizing volume of up to 76.5 cm³.

The drive unit, which includes the control, is positioned next to the basic machine. Fixed wheels make the unit easy to move to other BOY injection moulding machines or machines from other suppliers that are processing a 2nd component. The controls of both machines communicate with each other via I/O-interface or special adapter cable. This assures a seamless process during the entire injection moulding cycle.

Depending on the application, the 2nd injection unit can be arranged in various positions. This is done space-saving in vertical position on horizontal machines; also a lateral

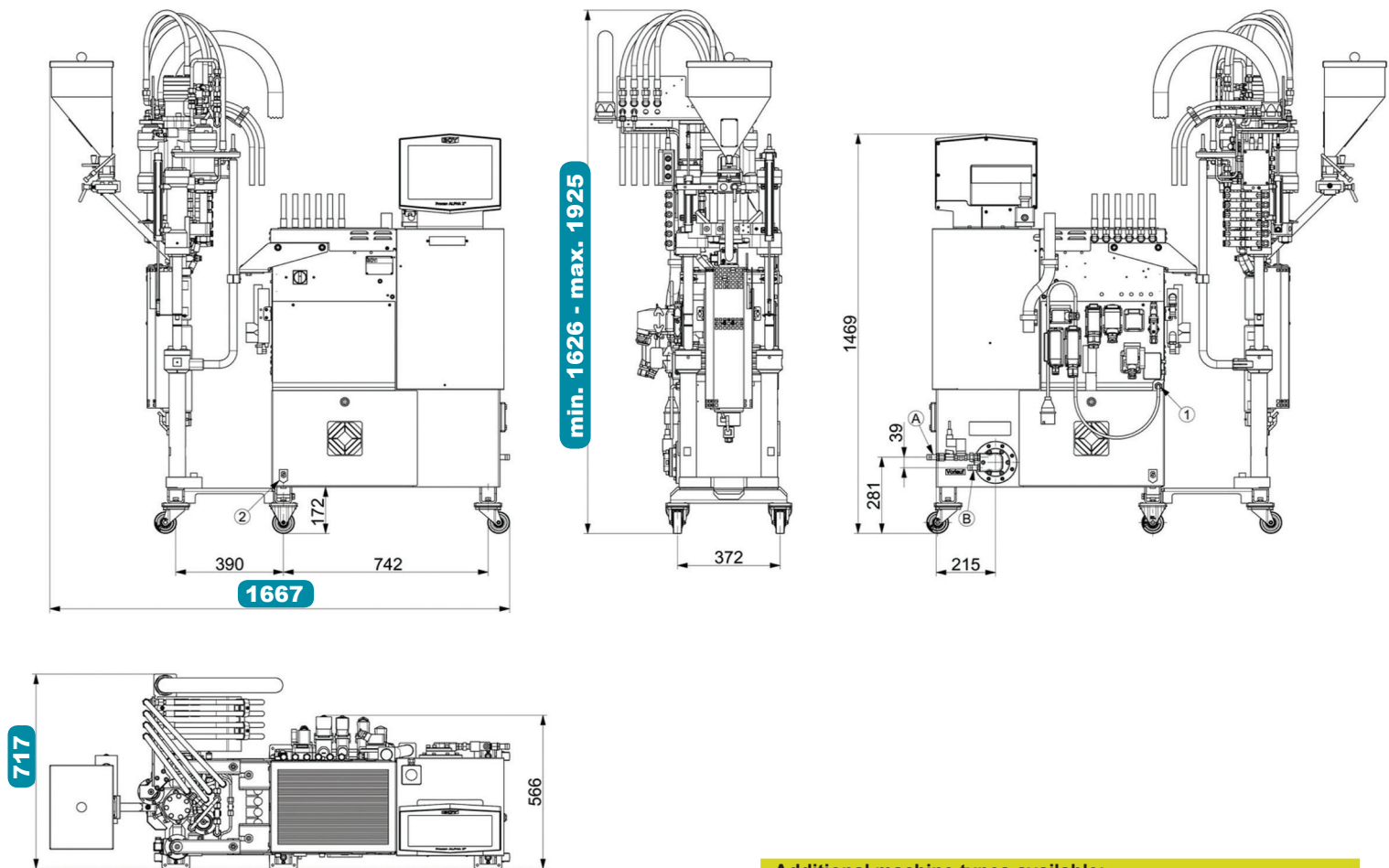
mounting of the injection unit is possible (see graphic representation above).

The open nozzle plasticizing unit is connected to the injection unit for the 2nd component through a corresponding adjustable high-pressure hose line (4 m or 6 m).

The TFT display of the 2nd injection unit is equipped with a longer cable. Therefore, the placement of the monitor can be arranged at the user-side of the basic machine - directly next to the basic machine's Procan ALPHA® monitor.



- 1 The machine design features the best ergonomics and efficient operation.
- 2 Alternatively, the injection unit can also be equipped with sturdy rollers and castor wheels.
- 3 Flexible positioning of the injection unit on the basic machine.
- 4 Optimum control technology with intuitive operation concept.
- 5 Robust machine design with integrated oil tank.



Additional machine types available:

Model	2C XS	2C S				2C M
Injection unit	SP 14	SP 11	SP 16	SP 45	SP 56	SP 205
Screw diameter in mm	12	12	14	18	18	28
	16			22		32
						38

Technical Data – standard version¹⁾

Injection unit for processing thermoplastics		SP 14 (2C XS)	SP 81 (BOY 2C S)	SP 96 (BOY 2C S)		
Screw diameter	mm	14	22	24	28	32
Screw- L/D-ratio		16.9	17.5	22	18.6	16.3
Max. stroke volume (theoretical)	cm³	6.1	30.4	43	58.5	76.5
Max. shot weight in PS (theoretical)	g	5.6	27.7	39.1	53.2	69.5
Injection force	kN	35.4	101	101	101	101
Injection volume flow	cm³/s	30.8	34.6	41.2	56.0	73.2
Max. spec. injection pressure	bar	2298	2656	2231	1639	1255
Max. screw stroke	mm	40	80	95		
Nozzle force / contact pressure	kN	20	24	24		
Nozzle retraction stroke	mm	100	205	205		
Screw torque	Nm	75 (115 bar)	180 (130 bar)	180 / 290 (160 cm³)		
Screw speed (infinitely variable)	U / min.	max. 340 (50 cm³)	300 (80 cm³) / 250 (100 cm³)	max. 250 (100 cm³)	max. 160 (160 cm³)	
Screw pulback force	kN	5	44	44		
Heating power (nozzle + cylinder)	W	1575	4850	8100		
Hopper capacity	litre	3	13	13		
Max. height of the injection unit	mm	1190	1744	1759		
Weight of the injection unit	kg	135	195 ±5	195 ±5		
Injection speed	mm/s	–	91	91		

General

Installed driving power / total power	kW	3.0 / 4.6 (400 V)	3.0 / 7.9 (400 V)	3.0 / 11.1 (400V)		
Duration of the dry cycle (EUROMAP 6)	s – mm	—	—	—	—	—
Hydraulic system pressure	bar	250	210	210	210	210
Oil tank capacity	litre	28	28	28	28	28

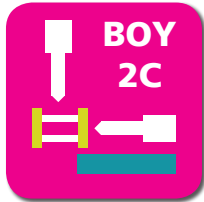
Dimensiones and weights

		2C XS	2C S
Dimensions (LxWxH) / Footprint	mm / m ²	1036 x 547 x 2116 ² / 0.57	1667 x 717 x 1925 ² / 1.20
Total weight net (without oil)	kg	320	422
Total weight gross (pallet & foil / wooden case)	kg	370 / 460	492 / 732
Transport dimensions / case (LxWxH) approx.	m	1.7 x 0.7 x 2.3 / 1.7 x 0.7 x 2.25	2.3 x 1.06 x 2.2 / 2 x 1 x 1.8

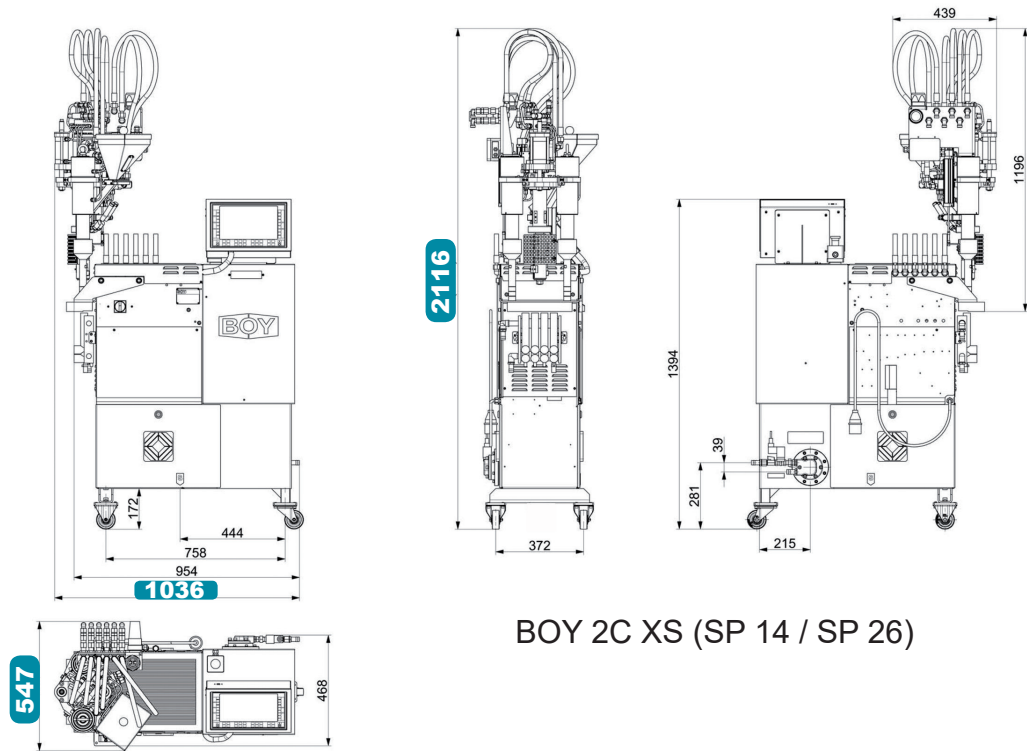
1) more injection units see Technical Data and Equipment 2) in Stand-by-Position



Control



Multi Component



BOY 2C XS (SP 14 / SP 26)

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 (not for BOY 2C XS)	■
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 (not for BOY 2C XS)	○

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	■

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 ~ switched + 230 V ~ (Standard supply 32 A)	□
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	—
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	—

■ standard ○ alternatively □ optional — not available

You would like to learn more about this BOY injection unit?



Data and Equipment (complete overview)



Competence brochure

BOY
Spritzgiessautomaten

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