

## Innovative into the Future – BOY-Injectioneering



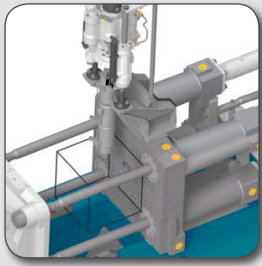
SP 14 / SP 26



SP 11 – SP 96

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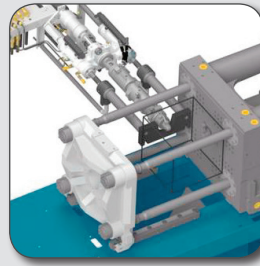
Injection units BOY 2C XS



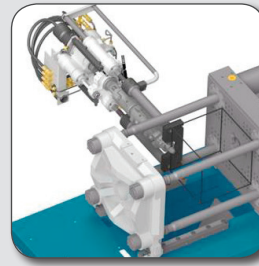
Injection unit in vertical position on top of the fixed platen



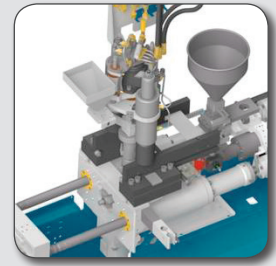
Injection unit in vertical / inclined position on top of the mould



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



Vertical mounting



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

The injection unit for the 2nd component is based on the ultra compact **BOY XS**. It is equipped with its own hydraulic drive and control. Depending on the execution this unit offers a plasticizing volume of up to 4.67 in<sup>3</sup>.

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

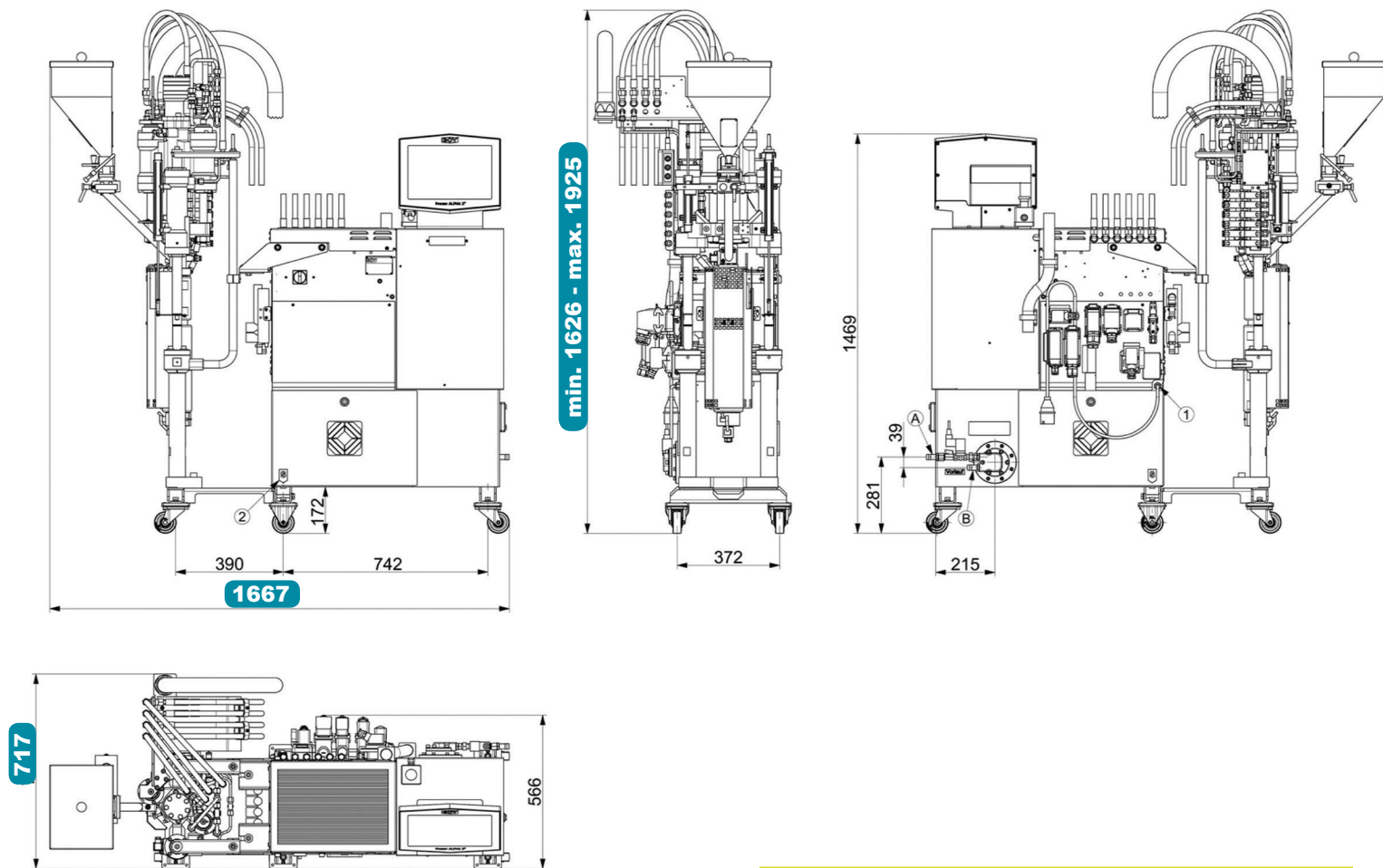
mounting of the injection unit is possible (see graphic representation above).

The open nozzle plasticizing unit is connected to the injection unit for the 2nd component through a corresponding adjustable high-pressure hose line (13 ft alt. 20 ft)

The TFT display of the 2nd injection unit is equipped with a 33 feet long 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 version<sup>1)</sup>

Injection unit for processing thermoplastics		SP 14 (2C XS)	SP 81 (BOY 2C S)	SP 96 (BOY 2C S)		
Screw diameter	mm / inch	14 / 0.55	22	24 / 0.94	28 / 1.1	32 / 1.26
Screw- L/D-ratio		16.9	17.5	22	18.6	16.3
Max. stroke volume (theoretical)	in <sup>3</sup>	0.37	1.86	2.62	3.57	4.67
Max. shot weight in PS (theoretical)	oz	0.20	0.98	1.38	1.88	2.45
Injection force	US Tons	3.89	11.11	11.11	11.11	11.11
Injection flow (theoretical)	oz/s	0.99	1.11	1.32	1.80	2.35
Max. spec. injection pressure	psi	33,330	38,522	32,357	23,771	18,202
Max. screw stroke	mm / inch	40 / 1.57	80 / 3.15	95 / 3.74	95 / 3.74	95 / 3.74
Nozzle force / contact pressure	US Tons	2.20	2.64	2.64	2.64	2.64
Nozzle retraction stroke	mm / inch	100 / 3.94	205 / 8.07	205 / 8.07	205 / 8.07	205 / 8.07
Screw torque	ft / lbf	55.3 (1668 psi)	115.4 (1886 psi)	132.7 / 213.9 (9.8 in <sup>3</sup> )		
Screw speed (infinitely variable)	rpm	max. 340 (50 cm <sup>3</sup> )	300 (80 cm <sup>3</sup> ) / 250 (100 cm <sup>3</sup> )	max. 250 (6.1 in <sup>3</sup> )	max. 160 (9.76 in <sup>3</sup> )	
Screw pulback force	US Tons	0.55	4.84	4.84	4.84	4.84
Heating power (nozzle + cylinder)	W	1575	4850	8100	8100	8100
Hopper capacity	US gal.	0.8	3.4	3.4	3.4	3.4

#### General

Installed driving power / total power	kW	3.0 / 4.6 (400 V)	3.0 / 8.2 (400 V)	3.0 / 11.1 (400V)		
Duration of the dry cycle (EUROMAP 6)	s – mm	–	–	–	–	–
Hydraulic system pressure	psi	3626	3046	3046	30456	3046
Oil tank capacity	US gal.	7.4	7.4	7.4	7.4	7.4

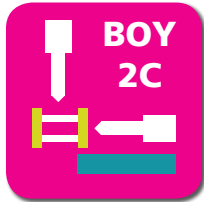
#### Dimensiones and weights

		2C XS	2C S
Dimensions (LxWxH) / Footprint	inch / in <sup>2</sup>	40.8 x 21.5 x 83.3 <sup>2</sup> / 877	65.6 x 28.2 x 75.8 <sup>2</sup> / 1850
Total weight net (without oil)	lb	705	930
Total weight gross (pallet & foil / wooden case)	lb	815 / 1014	1084 / 1675
Transport dimensions / case (LxWxH) approx.	inch	66.9 x 27.6 x 90.6 / 66.9 x 27.6 x 88.6	90.6 x 41.7 x 86.6 / 78.7 x 39.4 x 70.9

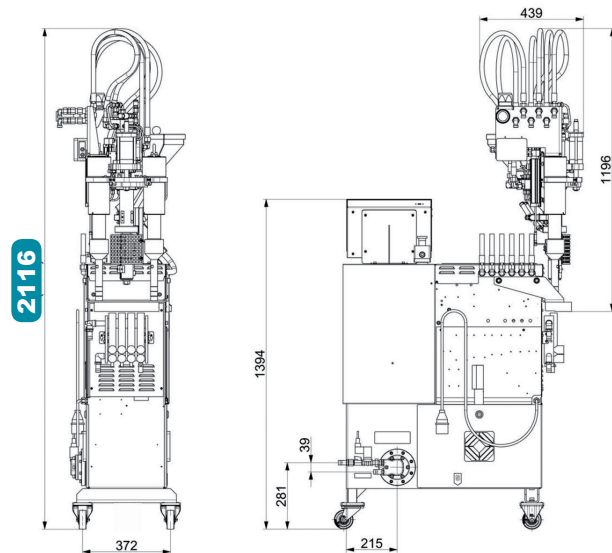
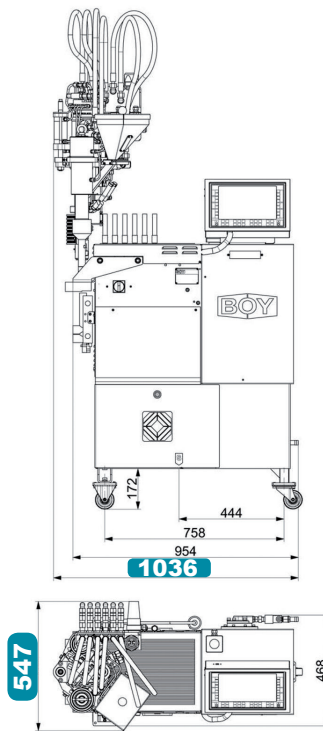




Procan ALPHA®



Multi Component



BOY 2C XS (SP 14 / SP 26)

All dimensions in mm

## 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 ~ / 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	–
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



Spritzgiessautomaten

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