

babyplast® UAI

The Autonomous Injection Unit



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A Plug and Play solution

The original concept of this Autonomous Injection Unit has been developed based on the experience accumulated from thousands of applications using the Babyplast injection moulding machine.

The Autonomous Injection Unit Babyplast (UAI) is comprised of an injection unit which can be installed directly onto a mould and a control unit, on wheels, which contains the proportional hydraulic and electronic control units.

The connection to the injection moulding machine can be carried out quickly and easily, thanks to a simple interface using standard Euromap 62 or 67 contacts. Any injection moulding thermoplastic material can be processed with processing temperatures up to 420°C.

Advantages

The advantage of the Babyplast injection unit, for multi-component moulding, is that the unit is completely autonomous, at least as far as the electronics and hydraulics are concerned, from the main machine. By means of a simple interface using free contacts, it is possible to connect the unit to any injection moulding machine or automatic production line. The connection to the injection moulding machine can be carried out quickly and easily, via standard Euromap 62 or 67 interface.

There are various versions of the injection unit which can satisfy most of the requests for multi shot applications. The injection unit is available as a fully hydraulic version or hybrid (Hy) version which has electric injection for greater speed and precision. The range of injection units provides possible injection volumes: from 3 to 15 cm³ for the I/12 and I/12Hy machine, up to 36 cm³ for the I/25 and I/25Hy machines and up to 60cm³ for the I/60Hy machine. This enables Babyplast UAI to obtain a very precise shot size with minimum processing temperatures and residence time.

User friendly display

- Colour touch screen display
- Easy to consult and user friendly display
- Handles and stores over 100 tool settings
- Back-up to USB stick
- Cycle log showing last 20 cycles
- Ethernet and WiFi connections: modbus TCP or OPC UA (optional)
- Log File production monitoring
- Alarm history log



The Autonomous Injection Unit (UAI), offers an economical and practical solution for transforming an existing, standard, single component injection moulding machine, into a multi-component machine. The injection unit of the UAI, thanks to its compact size, can be installed directly onto the mould, either horizontally or vertically, and either on the fixed half or on the moving half. This simplifies the mould construction considerably and allows the freedom to choose the best injection point for the second component.

a **small** unit
for **big** machines



Compatible with



Standard features include:

- Colour touch-screen display
- Quality control (cycle time/cushion/ injection time and plastification/ injection pressure)
- Automatic shut down, in case of alarm or out of tolerances
- Decompression
- Back pressure (UAI Hy)
- Temperature tolerance band
- PID temperature control
- Multi language
- Easy to consult and user friendly display
- Handles and stores over 100 tool settings
- Cycle log showing last 20 cycles
- USB socket
- Intrusion programme
- Hour counter
- Sprue break
- Injection piston position controlled by linear transducer
- Pressure transducer
- Motor controlled by inverter
- 4 heater zones
- Ethernet and WiFi connections
- Alarm history log
- Log File production monitoring
- Modbus data protocol

Configurations

Versions available



Hydraulic UAI I/12 - I/25

All movements are fully hydraulic. Proportional hydraulic system. Injection volume from 3 to 15 cm³, for the I/12 injection unit and up to 36 cm³ for the I/25 injection unit.



Hybrid (Electric injection) UAI I/12 Hy - I/25 Hy

Electric injection, Hydraulic control for plastification and injection carriage. Injection volume up to 15cm³ with maximum speed of 250mm/sec for the I/12 Hy injection unit and up to 36 cm³ for the I/25 Hy injection unit with speeds up to 125mm/sec.

Injection unit



I/12 - I/12 Hy

Injection volume from 3 to 15 cm³.
Horizontal or vertical installation



I/25 - I/25 Hy

Injection volume up to 36 cm³.
Horizontal or vertical installation



I/60 Hy

Injection volume up to 60 cm³.
Horizontal or vertical installation

Optional

- Mixer nozzle (static)
- Nozzle with hotrunner tip
- Shut off nozzle (spring/ pneumatic)
- Accumulator for injection speed (Hydraulic version UAI)
- Output for hotrunner shut off nozzles (single or sequence)
- LSR injection unit
- High temperature kit
- Venturi loader
- Interface cable for Euromap 62/67
- Protocol OPC UA (Babyplast)

Other options on request

LSR



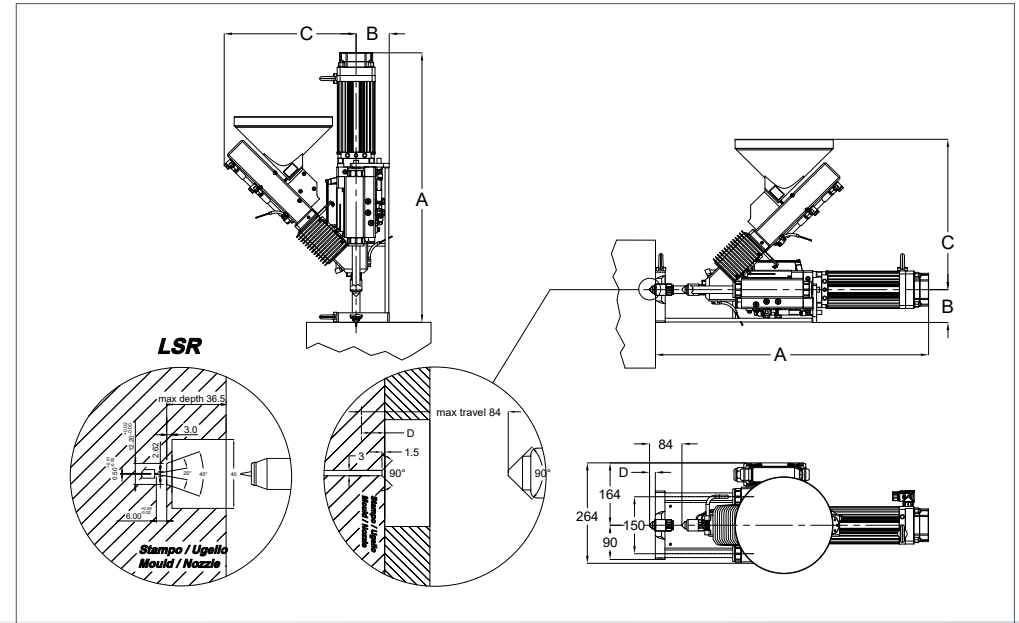
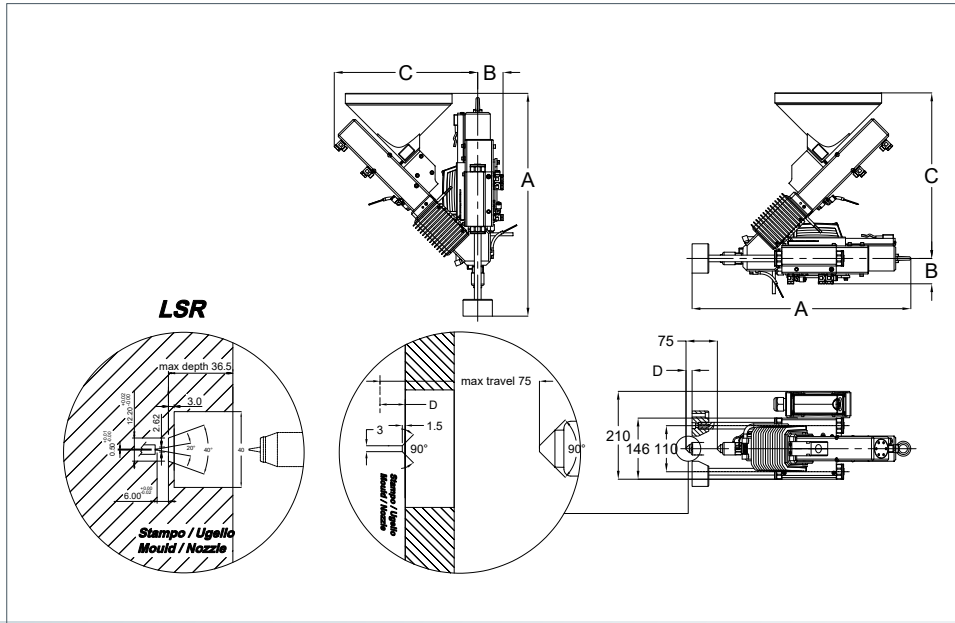
I/12 LSR - I/25 LSR

For processing Liquid Silicon Rubber (LSR) available in two sizes I/12 LSR (max 15 cm³) and I/25 LSR (max 36 cm³). Available in two versions „Hydraulic“ or „Hybrid“. Can be used with LSR dosing units (20Kg+20Kg containers) or pre mixed cartridge system (0.5 Kg cartridge).

Compatible materials

With Babyplast (UAI) it is possible to process most thermoplastic materials (PP, PA, PC, POM, PBT, PEEK ecc) also MIM, CIM and WAX. Maximum temperature 4w20°C. The LSR version can process two component LSR





Injection unit (Hydraulic)

	I/12					I/25				
	Piston Diameter (mm)	10	12	14	16	18*	16	18	20	22*
Volume (cm ³)	4,7	6,8	9,2	12	15	16	20	25	30	36
Injection pressure (bar)	2025	1830	1340	1030	815	1535	1210	980	812	680
Injection speed (mm/sec)	55					50				
Rated power (Kw)	3					3,5				
Weight of injection unit (Kg)	25					35				
Total weight (Kg)	145					155				
Hydraulic pressure (bar)	130					130				
Oil tank capacity (L)	15					15				
Power supply	3F - 230/400V - 50/60 Hz					3F - 230/400V - 50/60 Hz				
Injection unit dimensions vertical (mm) A-B-C-D	535 - 65 - 345 - 14					570 - 70 - 415 - 34				
Injection unit dimensions horizontal (mm) A-B-C-D	525 - 65 - 395 - 14					570 - 70 - 440 - 34				
Dimensions of control unit on wheels (cm)	790 x 500 x 1030h					790 x 500 x 1030h				

Hybrid injection unit (electric injection)

I/12 Hy					I/25 Hy					I/60 Hy					
Piston Diameter (mm)	10	12	14	16	18*	16	18	20*	22*	24*	16	18	20*	22*	24*
Volume (cm ³)	4,7	6,8	9,2	12	15	16	20	25	30	36	27	34	42	51	61
Injection pressure (bar)	2050	1950	1430	1095	865	1240	980	795	660	550	1240	980	795	660	550
Injection speed (mm/sec)	250					125					125				
Rated power (Kw)	7					7,5					8				
Weight of injection unit (Kg)	50					60					70				
Total weight (Kg)	170					180					190				
Hydraulic pressure (bar)	130					130					130				
Oil tank capacity (L)	15					15					15				
Power supply	3F - 400V - 50/60 Hz					3F - 400V - 50/60 Hz					3F - 400V - 50/60 Hz				
Injection unit dimensions vertical (mm) A-B-C-D	685 - 86 - 342 - 15					756 - 86 - 412 - 35					915 - 86 - 475 - 15				
Injection unit dimensions horizontal (mm) A-B-C-D	685 - 86 - 395 - 15					756 - 86 - 440 - 35					915 - 86 - 527 - 15				
Dimensions of control unit on wheels (cm)	790 x 500 x 1030h					790 x 500 x 1030h					790 x 500 x 1030h				

* recommended for low viscosity materials only



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