

35 t PLUS Series



Leading edge technology in the smallest package
Technology working for you.

Battenfeld
Innovative Injection Molding

Special Features of the PLUS range

The keyword is lean production. Lean production in more than one sense. Ultra-modern hydraulics and control technology packed into smallest space. This combination is simply ingenious and thus highly profitable. A power package: the PLUS UNILOG B2 with 35 t clamping force.

THE PLUS - Compact, powerful and profitable!



1

Maintenance-free hydraulic, 2 tie-bar clamping system with moving platen support

2

Measuring system for all strokes



3

Energy-efficient variable displacement pump with velocity and pressure control via proportional valves



4

Maintenance-free, compact injection unit in EUROMAP 75 with slow-running, hydraulic motor for screw drive



5

Integrated control cabinet. The compact, space-saving control cabinet with an integrated control panel is designed for easy access



6

Control terminal with function keys for direct parameter setting (symbol-guided). Storage of data via USB interface

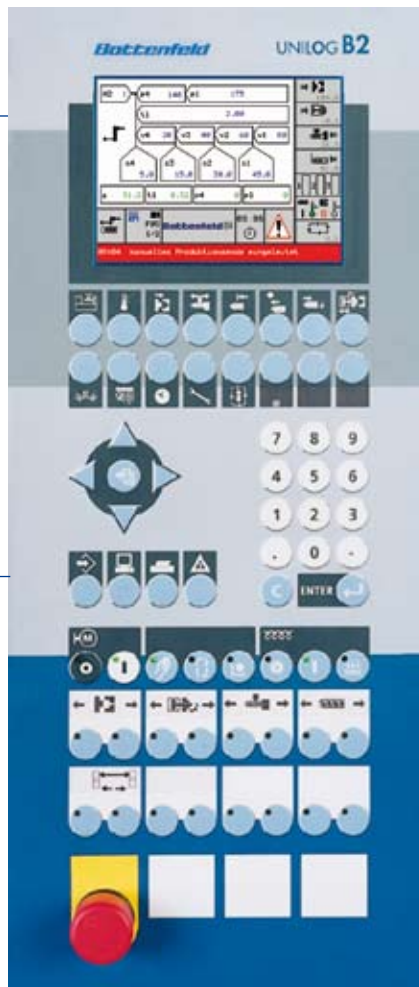


UNILOG B2 is an advanced micro-processor control system designed to meet the requirements of injection molding machine control. The system has been optimized to control all machine movements. The Unilog B2 control system comes with a 116 x 87 mm (5.7" TFT) color monitor. Its operation is straight-forward. Data is entered in a concise entry form displayed on a graphical user interface. The concise dialog box with icons facilitates data input. Selection of individual functions is fast and easy. Only few screen pages are required for symbolic display of the injection molding process, these can be selected by

pressing the function keys. A status bar facilitates diagnostics and provides a precise machine status report. Error identification texts can be displayed in several languages. Access via a password system ensures operation of the equipment according to the skills of the operator. A quality table with accepts / rejects analysis, process monitoring and automatic safety cut-off functions controls the production process. Values that exceed tolerance are clearly marked in red. All parameter settings can be stored via USB interface. Physical units can be displayed either in metric units or as SPI units.

Printer/machine setting stored on USB

Password system



Color display 116 x 87 mm (5.7" TFT); symbolic input dialog on few screen pages; the status bar shows the machine status

Quality table with accepts/rejects detection, process monitoring and safety cut-off

| Clamping unit | | PLUS 35 |
|----------------------------------|-------|-----------|
| Clamping force | kN | 350 |
| Distance between tie-bars | mm | 270 |
| Platen area | mm | 470 x 280 |
| Max. mold height | mm | 150 – 250 |
| Opening stroke/opening force | mm/kN | 200/29,5 |
| Tie bar diameter | mm | 60 |
| Maximum daylight between platens | mm | 450 |
| Ejector force/ejector stroke | kN/mm | 26,2/100 |
| Oil tank capacity | l | 125 |
| Dry cycle time ¹⁾ | s | 1,3 |
| Max. mold weight | kg | 200 |
| Weight | kg | 1.100 |

| Injection unit | | PLUS 35 | | | |
|--------------------------------------|-------------------|---------|------|------|------|
| International size designation | | 75 | | | |
| Screw diameter | mm | 18 | 22 | 25 | 30 |
| Specific injection pressure | bar | 3038 | 2034 | 1575 | 1094 |
| Theoretical shot volume | cm ³ | 25,4 | 38 | 49 | 70,6 |
| Max. shot weight (PS) | g | 23,1 | 34,5 | 44,6 | 64,2 |
| Screw L/D ratio | | 21 | 17 | 15 | 13,5 |
| Max. screw speed | min ⁻¹ | 420 | | | 330 |
| Screw torque | Nm | 200 | | | 240 |
| Plasticising rate (PS) ²⁾ | g/s | 4,9 | 6,6 | 7,5 | 9,2 |
| Nozzle stroke | mm | 150 | | | |
| Nozzle contact force | kN | 27,5 | | | |
| Screw stroke | mm | 100 | | | |
| Injection rate into the air | g/s | 38,4 | 57,3 | 74 | 107 |
| Barrel heating performance | kW | 2,76 | | | |
| Number of heating zones | | 1+2 | | | |
| Drive performance | kW | 7,5 | | | |
| Electrical power input | kVA | 15,5 | | | |

1) according to EUROMAP 6

2) according to Wittmann Battenfeld Standard

Shot weight conversion table

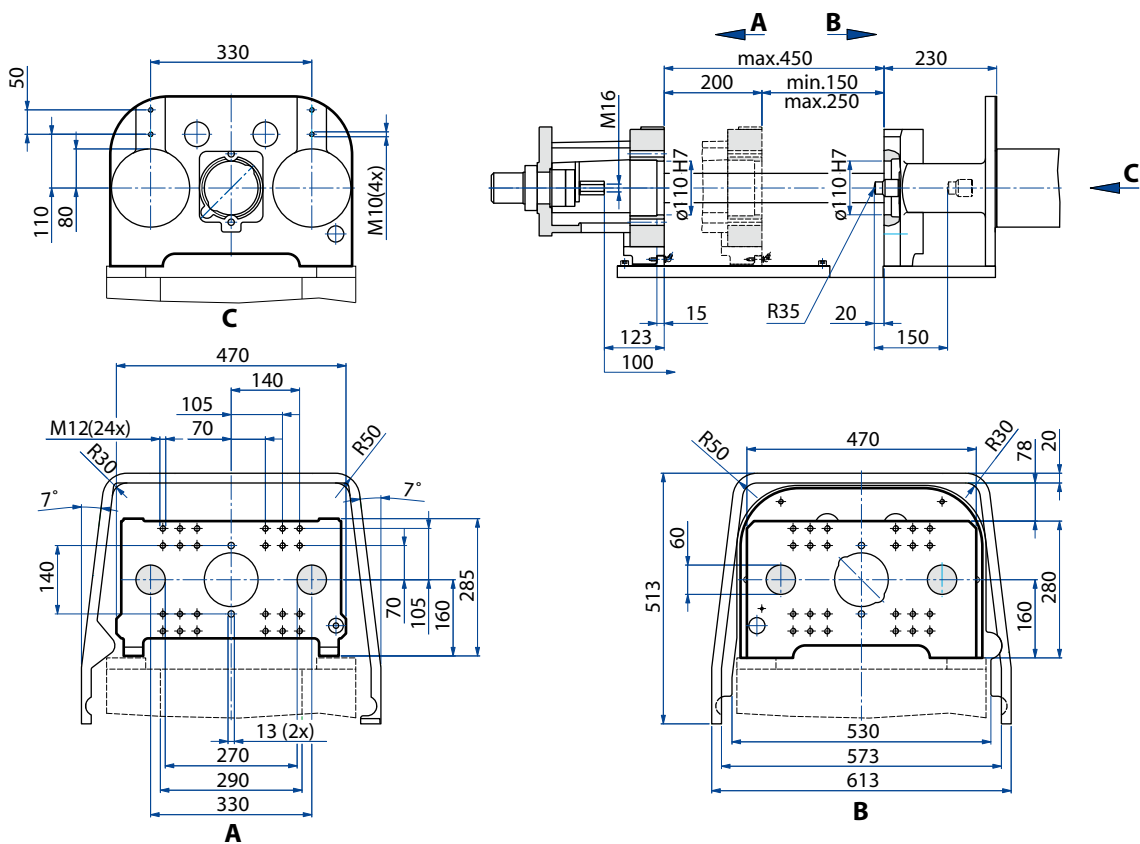
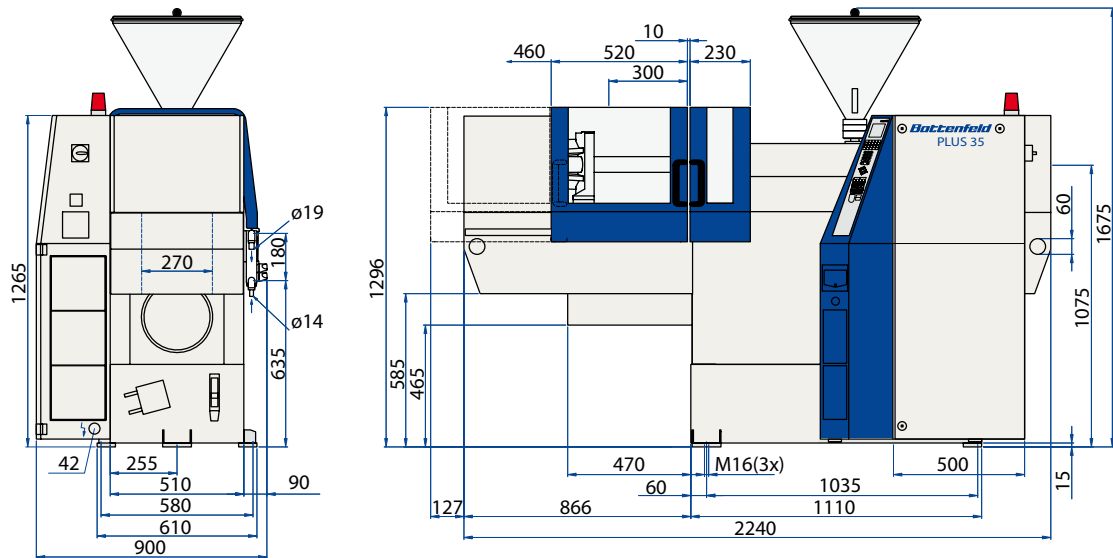
| Material | Factor |
|----------|--------|
| ABS | 0,88 |
| CA | 1,02 |
| CAB | 0,97 |
| PA | 0,91 |
| PC | 0,97 |
| PE | 0,71 |
| PMMA | 0,94 |
| POM | 1,15 |
| PP | 0,73 |

The maximum shot weights (g) are calculated by multiplying the theoretical swept volume (cm³) by the above factors.

| Material | Factor |
|-----------------|--------|
| PP + 20% Talcum | 0,85 |
| PP + 40% Talcum | 0,98 |
| PP + 20% FR | 0,85 |
| PS | 0,91 |
| PVC-U | 1,12 |
| PVC-P | 1,02 |
| SAN | 0,88 |
| SB | 0,88 |
| PF | 1,3 |
| UP | 1,6 |

Dark grey boxes = thermosets

Dimensions of PLUS 35



Standard- and Optional Features PLUS

| Standard equipment | B2 |
|--|---------------------------|
| Screen 5.7" colour TFT | • |
| USB data storage/port | • |
| Quality table | • |
| Parts counter with good/bad detection | • |
| Pre-selection shot counter | • |
| Error signal lamp | • |
| Thermocouple failure monitoring | • |
| Barrel heating with solid state relays | • |
| Nozzle pyrometer | • |
| Electrically and hydraulically secured safety gate | • |
| Oil pre-heating | • |
| Oil temperature monitoring | • |
| Oil level monitoring | • |
| Electrical oil filter monitoring | • |
| Operating hours counter | • |
| Shot counter | • |
| Cooling water manifold with four cooling circuits | • |
| Stainless steel material hopper | • |
| Linear stroke transducers | • |
| Temperature readout in F° | • |
| Start-up waste program | • |
| Seven day timer | • |
| Painting: Machine | RAL 9002 greywhite |
| Operating column | RAL 5002 ultramarine blue |

| Additional equipment | B2 |
|---|----|
| Hydraulics | |
| Hydraulic or pneumatic core pull | ◦ |
| Larger oil cooler | ◦ |
| Injection unit | |
| Ceramic heater bands | ◦ |
| Wear-resistant barrel BATTalloy AK+ | ◦ |
| Thermoset kit | ◦ |
| Liquid silicon rubber kit including shut-off nozzle | ◦ |
| Material loader UNIFEED A1 | ◦ |

| Injection unit | B2 |
|--|----|
| Spring loaded shut-off nozzle | ◦ |
| Pneumatically operated shut-off nozzle | ◦ |
| Defined nozzle contact pressure | ◦ |
| Digitally adjustable back pressure | ◦ |
| High torque screw motor | ◦ |

| Clamping unit | |
|---|---|
| Ejector platen safety | ◦ |
| Mechanical safety scotch-bar | ◦ |
| Unscrewing device with hydraulic motor in lieu of ejector | ◦ |
| Parts chute hopper | ◦ |
| Parts chute slide with photo electric ejection monitoring | ◦ |
| Parts chute slide for accepts/rejects separation | ◦ |
| Air valve with timer | ◦ |

| Cooling and temperature control | |
|---|---|
| Four additional cooling circuits | ◦ |
| Shut-off valve for cooling water manifold | ◦ |
| Closed loop feed throat temperature control | ◦ |

| Control and electrical system | |
|---|---|
| Hot runner control zones | ◦ |
| EUROMAP 67/SPI robot interface | ◦ |
| Initiate next cycle with closing safety gate (Gate Start) | ◦ |
| Screw speed indicator | ◦ |
| Audible alarm | ◦ |
| Potential-free contact parallel to metering | ◦ |
| Single phase socket | ◦ |
| CEE socket | ◦ |
| Interface for conveyor belt | ◦ |
| Interface for vacuum pump | ◦ |
| Potential-free contact in the event of machine fault | ◦ |
| Hydraulic pressure-dependent switchover to holding pressure | ◦ |
| Temperature control zone for hot runner | ◦ |
| Additional power sockets including safety cut-off | ◦ |
| Mobile Airmold interface | ◦ |
| Manual parts removal | ◦ |

| Accessories | |
|---------------|---|
| Leveling pads | ◦ |
| Tool kit | ◦ |

• Standard, ◦ Option



Technology working for you.

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