# BOY 30 M



## Technical Data

| **Machine Model** | | 30 M | | | |
|---|---|---|---|---|---|
| International size | | 273-105 / 365-105 | | | |
| **Injection unit** | | | | | |
| Screw diameter | mm | 18 | 24 | 28 | 32 |
| Screw L/D-ratio | | 22 | 23 | 20 | 17,5 |
| Max. stroke volume (theoretical) | $cm^3$ | 24,17 | 42,9 | 58,4 | 76,4 |
| Max. shot weight in PS | g | 22 | 38 | 52 | 68 |
| Injection force | kN | 70,9 | 111,8 | 111,8 | 111,8 |
| Max. spec. injection pressure | bar | 2785 | 2475 | 1819 | 1391 |
| Plasticising rate | g/s | 1,9 | 5,55 | 6,66 | 8,33 |
| Max. screw stroke | mm | 95 | | | |
| Nozzle force | kN | 65,8 | | | |
| Nozzle retraction stroke | mm | 180 | | | |
| Screw torque | Nm | 150 | 300 | 300 | 300 |
| Screw speed (continuously variable) | rpm | 10-452 | 10-270 | | |
| Screw pullback force | kN | 25,8 | | | |
| Cylinder heating power | W | 3x970+400 | 3x1420+400 | | |
| Nozzle heating power | W | 200 | 200 | | |
| Hooper capacity | litres | 13 | 29 | | |
| **Clamping unit** | | | | | |
| Clamping force | kN | 273/365 | | | |
| Clearance between bars | mm | 255x255 | | | |

| **Clamping unit** | | |
|---|---|---|
| Max. platen daylight | mm | 500 |
| Max. opening stroke (adjustable) | mm | 300 |
| Min. mould height | mm | 200 |
| Mould opening force | kN | 32,6/37,7 |
| Mould closing force | kN | 18,3 |
| Ejector stroke (max.) | mm | 80 |
| Ejector force pushing/pulling | kN | 18,1/12 |
| **General** | | |
| Installed driving power | kW | 7,5 |
| Installed total power | kW | 12,36 |
| Hydraulic system pressure | bar | 160 |
| Oil tank capacity | litres | 145 |
| Total weight net (without oil) | kg | 1600 |
| Total weight gross (without oil) | kg | 1900 |
| Lenght | mm | 2722 |
| Width | mm | 1030 |
| Height | mm | 1710 |

## Review of Equipment

**Injection Unit**

- Pivoting injection unit ■
- Two screw speed values and one ramp zone in between ■
- Cold start protection ■
- Three injection speed values with two ramp zones in between ■
- Two injection pressure values and one ramp zone in between ■
- Holding pressure, stroke dependent ■
- Holding pressure, time or stroke dependent ■
- Two holding pressure values with two ramp zones in between ■
- Production monitoring at the start of holding press. ■
- Closed loop control for the complete inj. profile incl. inj. speed, holding pressure, and back-pressure □
- Four (4) PID microprocessor-controlled heating zones for barrel + nozzle with set an actual temper. display ■
- Screw decompression with open nozzle ■
- Hydraulically actuated neddle shut-off nozzle ◪
- Slide-away stainl. steel hopper for quick material change ■
- Automatic material loader □
- High wear-resistant plasticising cylinder or units ◪
- Vented plasticising unit ◪
- Thermoset processing unit ◪
- Elastomer processing unit ◪
- Liquid silicone rubber processing unit (LSR) ◪
- Rigid PVC processing unit ◪
- Adjustable nozzle force ■
- Delayed nozzle retraction ■
- Cavity press.-depend. start of holding pressure □
- Hydraulic pressure-dependent start of holding pressure □

**Clamping Unit**

- Four (4) retractable tie bars ■
- Three mould closing speed ranges with two adjustable speeds ■
- Three mould opening speeds ranges with two adjustable speeds ■
- Try again closing after mould safety ■
- Pulsating hydraulic ejector with digitally adjustable pressure, speed, position and number of strokes, 80 mm ■
- Puls. hydr. ejector with adjustable stroke (130 mm) ◪
- Mechanical ejector □
- Hydraulic unscrewing device instead of hydraulic ejector ◪
- Hydraulic unscrewing device, one direction of rotation with intermediate stop (2) □
- Hydraulic unscrewing device, with two directions of rotation, intermediate stop and counter with higher precision (3) □
- Core pull control with 4/3 directional control valve and freely selectable alternative programs (1) □
- Possible combinations: (1) + (1), (1) + (2), (1) + (3) □
- Injection compression (coining) and mould degassing ■
- Connector for safety switch to inhibit mould closing □
- Hydraulic guard safety device ■
- Self-adjusting mechanical drop bar safety system □
- Pneumatically operated safety gate ◪
- Air ejection, position dependent with timer □
- Mould lifting crane □
- Trip chute balance flap with signal for mach. recycling □

**Eletronics**

- Microprocessor control with internal storage capacity for 30 complete processing data records ■
- High resolution visual display unit (VDU) 25 cm ■
- 3,5" Floppy disk drive for practically unlimited data storage ■
- Automatic operator guidance with suggested values and plausibility checks on the inital input of processing data ■
- Digital time setting ■
- Digital pressure and speed setting ■
- Digital temperature setting ■
- Digital keyboard entry of all stroke positions ■
- Function indication by LED-display ■
- Malfunction shut-down with fault display ■
- Microprocessor based alarm fault display in clear text ■
- Mould open timer ■
- Hour meter ■
- Cycle counter ■
- Preselect cycle counter with auto shut-off ■
- Single phase socket 220 V/6 A ■
- Single phase socket with auto shut-down during fault 220 V/16 A □
- Three-phase socket 380 V/16 A □
- Cooling fan for control cabinet ■
- Ammeter for each heating zone □
- Interface for weight checker □
- Standardized interface for robots □
- Serial data port for linkage to host computer or connection to printer or to programming unit for service purpose ■
- Tolerance monitoring of operator limits for temperatures, melt cushion, injection, plasticising and cycling times, injection and plasticising velocity profiles ■
- Tolerance monitoring output signal for rejected parts □
- Statistical process control (process control card) □
- Oil pre-heating programm with automatic temperature limiting ■
- 7-day-timer for automatically switching on the motor and heating before the beginning of the shift or programmable shut-down mode ■
- Additional temperature control for vented barrel □
- Two (2) zone thermocouple monitoring of mould temperature □
- Solid state heat contactors for plasticising unit ◪

**Hydraulics**

- Electronically controlled variable displacement pump ■
- Automatic proportional valve linearization ■
- Oil preheating circuit ■
- Oil temperatur gauge ■
- Thermostatic water-saver valve for oil cooling ■
- Oil level and temperature monitoring ■
- Oil level indication ■
- Oil filter contamination monitor ■

**General**

- Cooling water distributor with electric shut-off valve ◪
- 6 zone cooling water distributor ◪
- Tool kits □
- Spare part packages □
- Oil filling □
- Anti-vibration mounts □

■ = standard ◪ = option □ = additional