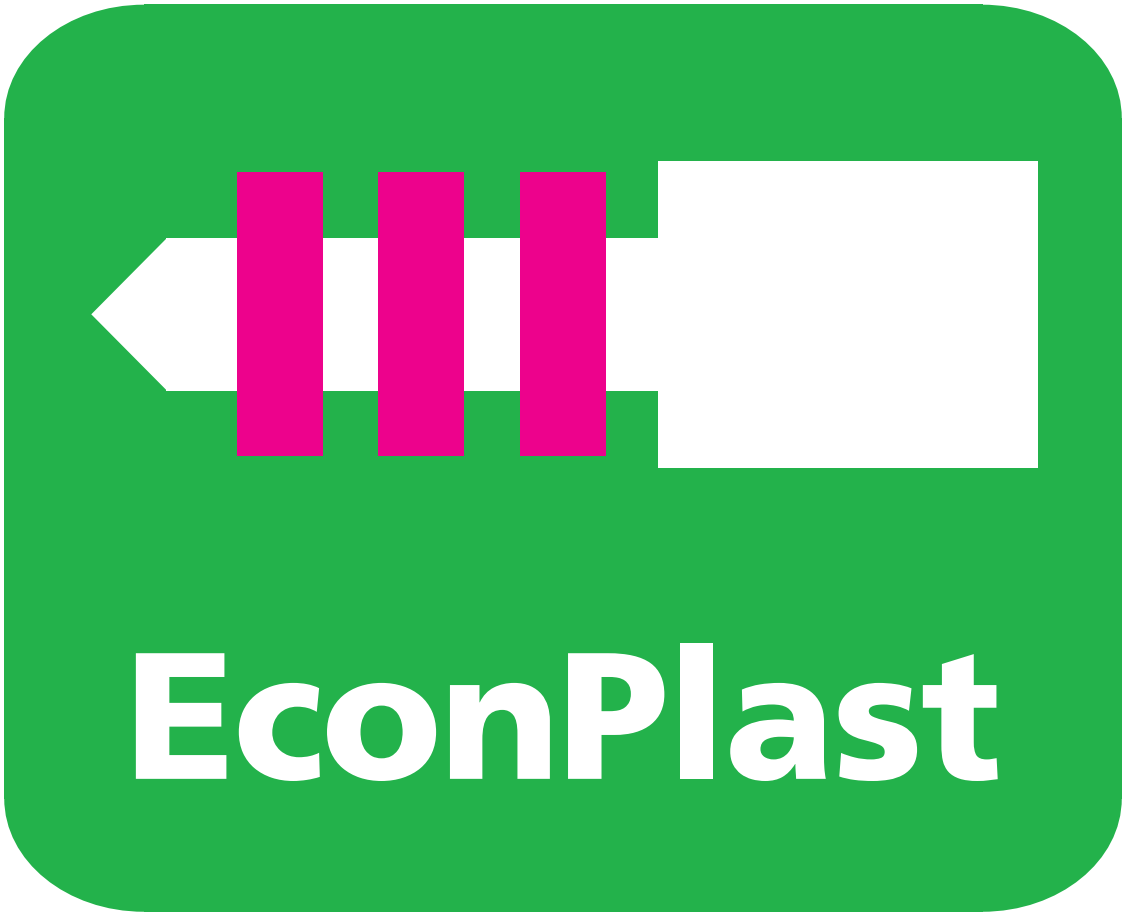
BOY®

Spritzgiessautomaten

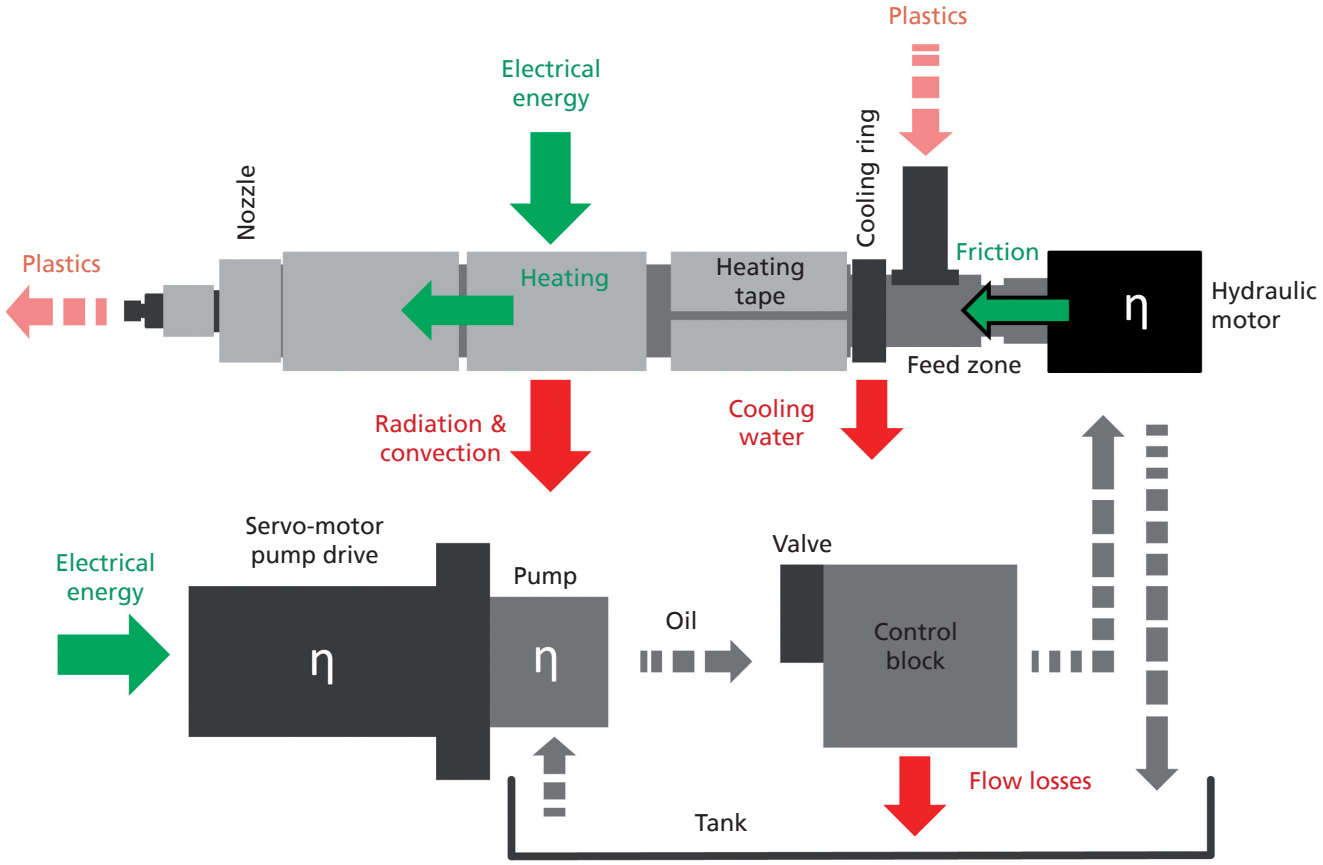


“The proper response to rising electricity prices is energy efficiency“

Annegret-Cl. Agricola / Department Head of the German Energy Agency

It requires considerable amounts of energy in processing plastics because the plastics have to be melted (“plasticized”) first. The lion’s share of energy consumption of an injection moulding machine is used for energy heating and driving energy for rotary movement of the plasticizing screw during dosing.

Therefore, it is logical to optimally schedule energy consumption. With our newly developed EconPlast concept, we reduce energy consumption significantly in plasticizing plastics.



Schematic representation of the plasticizing process with supplied energy (green) and energy losses (red)

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The main advantages of **EconPlast** units are:

- Reduction of energy consumption up to 40% during heating
- Around 60% less energy losses during dosing
- Faster and also more precise temperature regulation
- Thereby shorter startup and warm-up times
- Lower scrap rate due to material-friendly and low friction processing of different materials
- Longer service life of the EconPlast unit because of the highly wear-resistant plasticizing unit
- Improved cooling of the feed zones with much less energy losses
- Improvement of the material melting with optimized homogeneity
- Optionally available for all BOY injection moulding machines with a screw diameter of at least 18 mm

What are the benefits of using the **EconPlast** units?

This question can be most impressively answered by the diagram shown on the right:

The graph shows the saving potential on energy costs, depending on the flow rate of material per hour and the number of working hours per year. The higher the flow rate of materials the more efficient the working time, hence greater saving potential on energy costs.

The red dashed line in the example shows the flow rate of materials of a BOY 60 E in three-shift operation. It can save energy costs by € 3,528 per year.

The through plasticizing saved energy amount of 23,520 kWh in this example corresponds to a CO_2 reduction of over 14 tons (!) per year according to calculations of the German Federal Environmental Agency.

The green line shows a BOY 25 E in single-shift operation, which uses € 580 less for the used energy per year.

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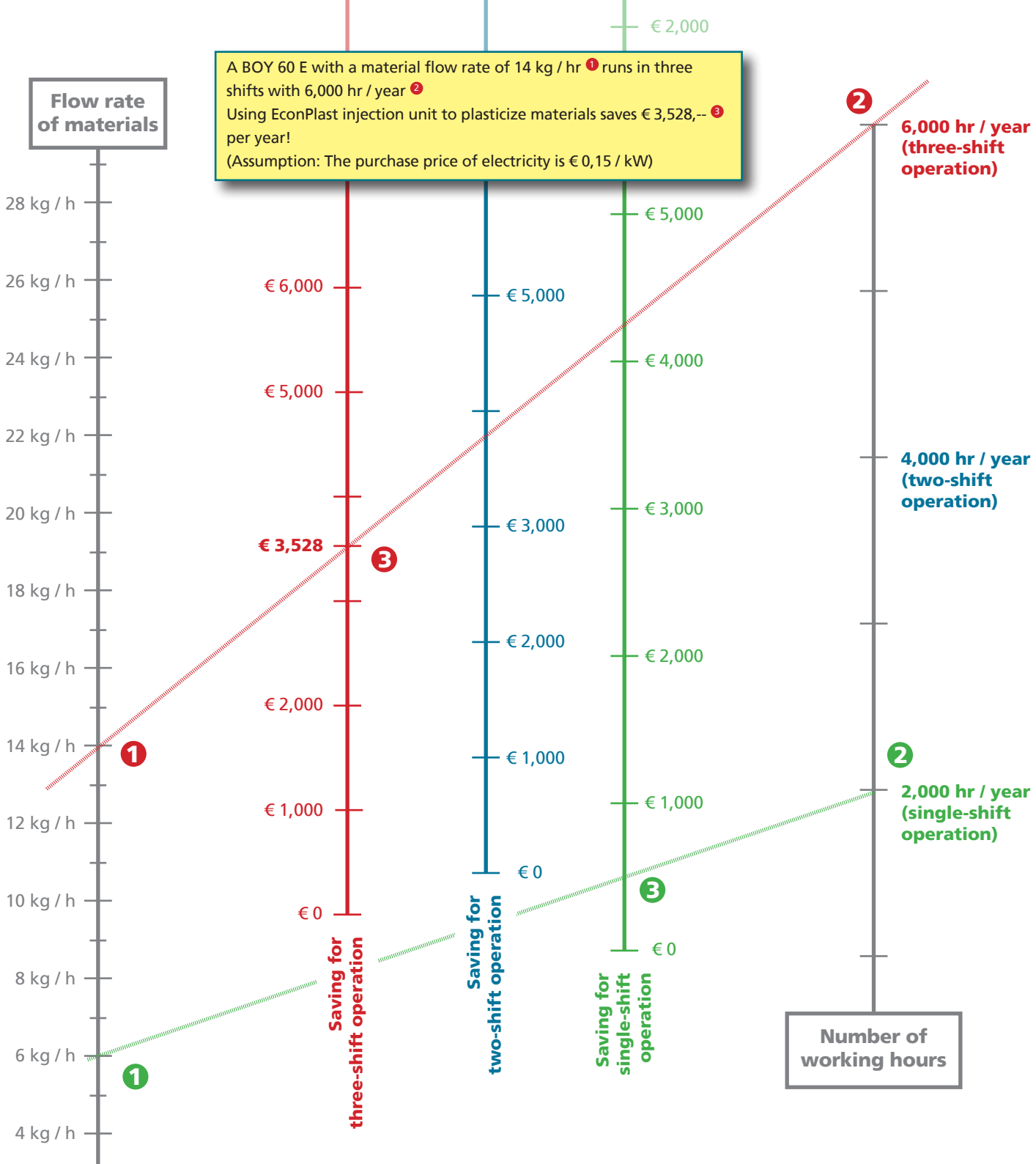
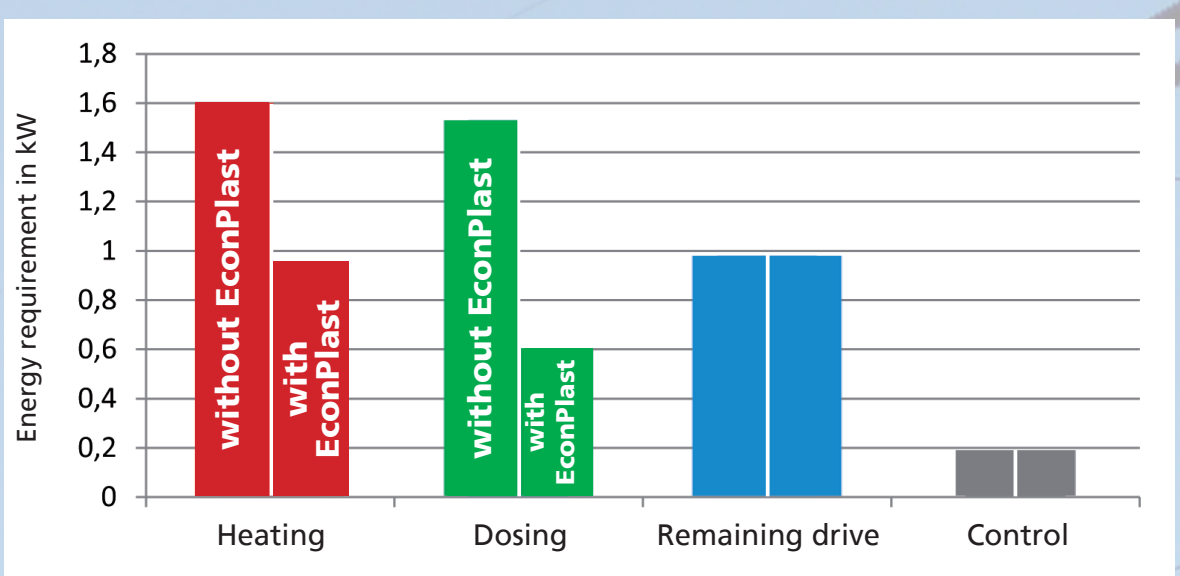
BOY – App
free of charge at
http://app.dr-boy.de

50 %
more efficient in plasticizing

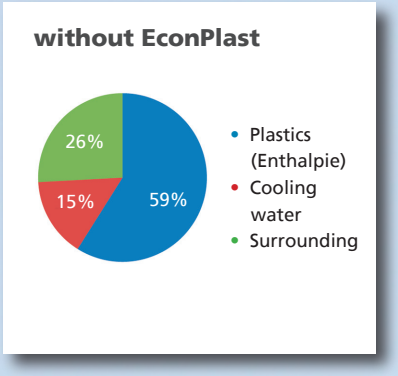
For further details please go to
www.econplast.de

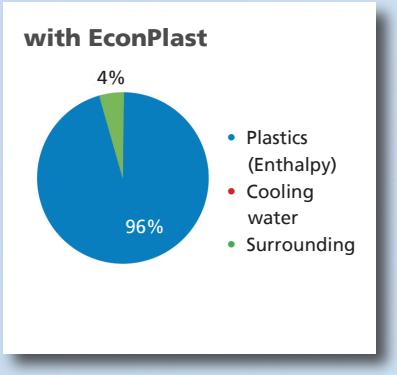

A BOY 60 E with a material flow rate of 14 kg / hr 1 runs in three shifts with 6,000 hr / year 2
Using EconPlast injection unit to plasticize materials saves € 3,528,-- 3 per year!
(Assumption: The purchase price of electricity is € 0,15 / kW)
Flow rate of materials
28 kg / h
26 kg / h
24 kg / h
22 kg / h
20 kg / h
18 kg / h
16 kg / h
14 kg / h
12 kg / h
10 kg / h
8 kg / h
6 kg / h
4 kg / h
€ 6,000
€ 5,000
€ 3,528
€ 2,000
€ 1,000
€ 0
Saving for three-shift operation
€ 5,000
€ 4,000
€ 3,000
€ 2,000
€ 1,000
€ 0
Saving for two-shift operation
€ 2,000
€ 5,000
€ 4,000
€ 3,000
€ 2,000
€ 1,000
€ 0
Saving for single-shift operation
6,000 hr / year (three-shift operation)
4,000 hr / year (two-shift operation)
2,000 hr / year (single-shift operation)
Number of working hours



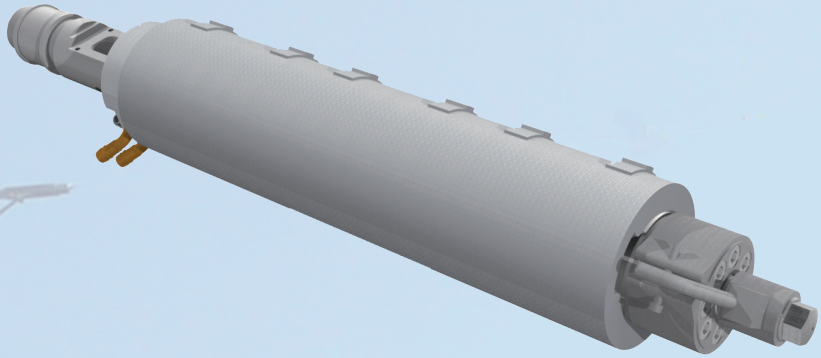
Plasticizing process (6,48 kg/h) according to Euromap 60.1

Distribution of energy balance of heating:





Energy losses to the surroundings and the cooling water can be minimized drastically – energy is saved.



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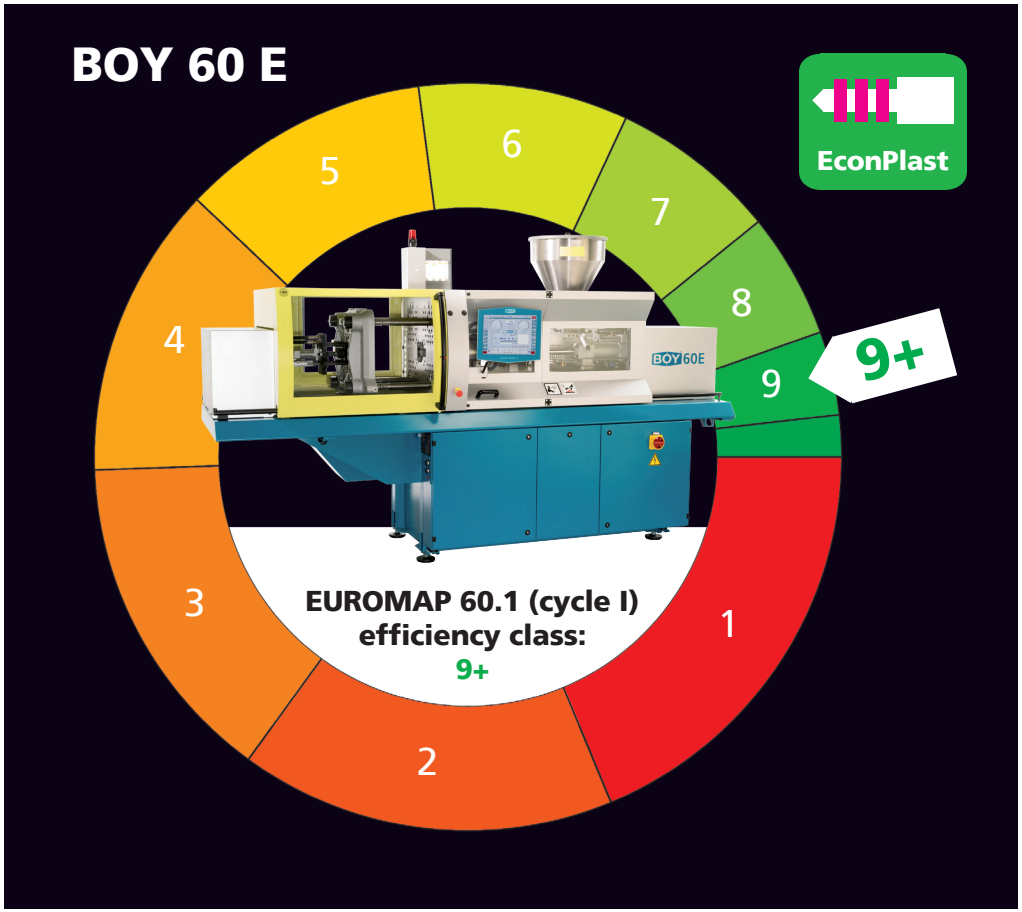
In compliance with EUROMAP



The specific use of energy measured according to the EUROMAP 60.1 Standard in the example of BOY 60 E with 600 kN clamping force and the newly developed EconPlast unit is less than 0.32 kW per kg of material flow rate.

The classification **9+** in accordance with EUROMAP 60.1 is a top value in this class of clamping force.

The plus represents machines having an energy consumption of under 1kW during idle.

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Efficient plasticizing with EconPlast

EconPlast

All BOY injection molding machines – from the ultra compact BOY XS with a clamping force of 100 kN, through the insert moulding machines, to the BOY 100 E with a clamping force of 1,000 kN – are highly precise, reliable and extremely economical. Low machine hour rates are the basis for an even more cost-effective production of parts.

You can also profit from this advantage. We would be pleased to inform you.
For further information please contact us via phone, e-mail or fax.

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Reserve the right to modify machine specifications E 04/17 A 000 690