

THE NEW BOYS HAVE ARRIVED

BOY introduces the XS and the E-Series.

MaXimum performance in the Smallest area.

If the reception the BOY XS and BOY XS V received at NPE 2009 was an indicator of its acceptance into the small machine marketplace, then the future is very bright for these horizontal and vertical 11 U.S. ton machines. The BOY XS comes standard with the patented Procan ALPHA® Control. It offers the best possibilities for micro molding, single cavity molding and insert molding. The footprint is only nine square feet and is available mounted on wheels.

The BOY XS is also ideally suited for schools, universities and laboratories.

The BOY XS is designed with a



The BOY XS V provides all of the design advantages found in this successful machine configuration.

two-platen, cantilevered clamping unit. The entire design of the BOY XS, including the diagonally arranged tiebars, provides easy access to the clamping unit, the plasticizing unit, the mold area, the ejectors and provides a perfect solution for automation.

The BOY XS is available with 12 mm and 14 mm plasticizing units for processing thermoplastics. A 14 mm unit is available for processing LSR and a 16 mm unit for processing elastomers.

Review of Basic Features

- Extremely compact
- Cantilevered clamping unit
- Diagonally arranged tiebars
- Easy access and optimum design for automation
- Designed for 24/7 production
- Equipped with the new Procan ALPHA® control
- Highly precise and repeatable

continued on page 4

Editorial



Carl Schiffer,
Managing Partner
Dr. Boy GmbH & Co. KG

NPE 2009 presented BOY with the opportunity to introduce to the North American marketplace the new BOY XS and the new E-Series injection molding machines.

The introduction of these important new products and technologies is yet another example of how we have continuously established new standards for the plastics machinery industry.

During NPE 2009, our new machine models and technologies were keenly embraced by the large number of visitors to our booth. Based upon our meetings and subsequent activities, we are experiencing very favorable results. Thank you all very much for visiting with us during NPE 2009 and for your continued interest in BOY.



BOY XS / XS V and the E-Series machines debuted in the U.S.A. at NPE 2009 in Chicago

The E-Series Machines

BOY 55E and BOY 90E with servo-motor pump drive.

BOY has always embraced the philosophy of offering new energy saving technologies. With the introduction of the E-Series, another breakthrough has been achieved.

The E-Series, which includes the BOY 55 E and BOY 90 E, incorporate a servo-motor pump drive that reduces energy consumption by as much as 50%, is 20% quieter, and is 10% faster and more dynamic.

Here's How it Works

The servo-driven pump motor controls the throughput rate of the hydraulic pump, depending on the RPM. When no pump capacity is needed, the motor switches off and no longer requires energy. The motor restart is accomplished without delay. The energy savings are significant, so almost no heat needs to be evacuated. Oil temperature control is the only function that is maintained.

Significant Advantages

Energy efficiency matches the value of electro-mechanical machines but without the inherent disadvantages such as wear, high investment, spare parts costs, and the high connected load. Compared to machines with electronically controlled variable displacement pumps, the energy consumption of the drive is reduced by half and even lower than that of



The E-Series from BOY:
MORE ECONOMICAL. QUIETER. FASTER. MORE PRECISE.

electro-mechanical machines.

The new drive technology also ensures that significant improvement in noise levels, precision and dynamics are achieved. The noise level is reduced by as much as 20%. This reduction is achieved by:

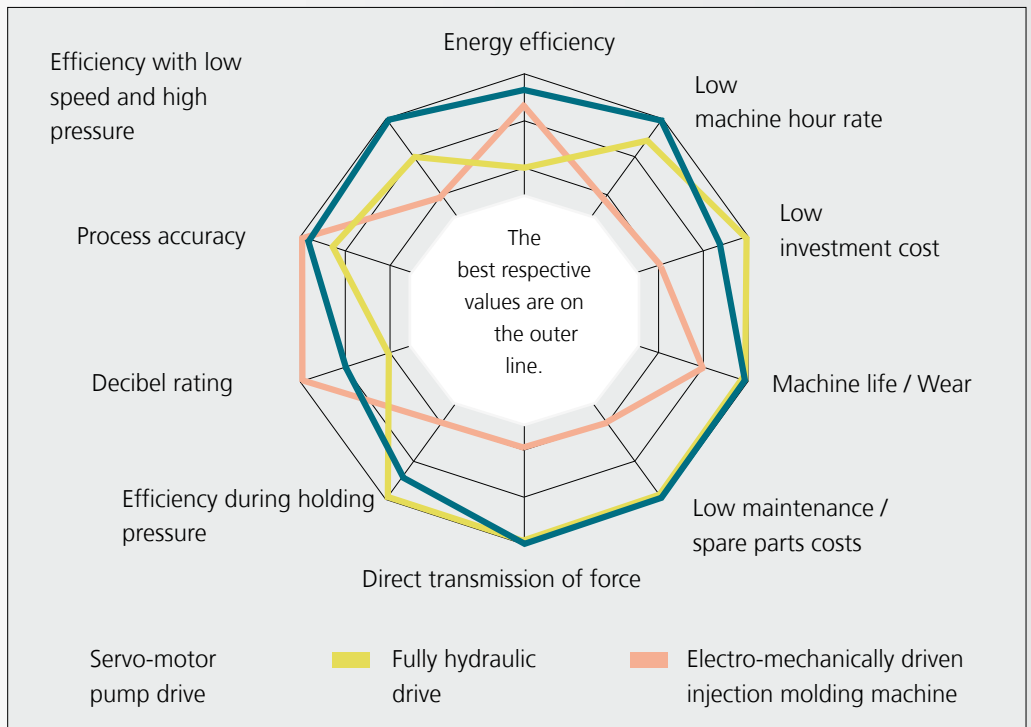
- Motor speed adjustments. Motor is silent when inactive
- Special motor torque control
- Use of constant delivery pumps
- Prevention of pressure variations
- Prevention of abrupt sequencing

Improvements to precision and dynamics are achieved by:

- More precise, repeatable acceleration and slow-down performance of the motor-pump unit
- The high torque optimized motor and constant delivery pump feature low moments of inertia
- Converter with high reaction dynamics

The use of a servo-motor pump drive makes it possible to achieve and / or surpass the positive features of electro-mechanical machines.

The diagram below compares the different drive concepts and provides information on the advantages of the servo-motor pump drive.



BOY offers LSR Solutions

Limtech, Inc., is a privately owned custom molder who specializes in producing LSR parts. Located in Sturtevant, Wisconsin, the company operates twenty-five BOY machines dedicated to their LSR molding department.

Intrusion Molding

Several years ago, Limtech faced a challenge of trying to injection mold a large LSR part on an undersized BOY press. After some trial and error, Limtech developed a new process capability that could benefit other LSR molders that have a similar situation.

Limtech was asked to mold a 12" x 22" mat used inside sterilization trays for medical instruments. Bob Albrecht, General Manager & Operations V.P., initially thought the part was more than what Limtech could handle. "We realized that the 1.2 pounds of material required for the part exceeded the 8-ounce shot capacity of the largest BOY machine we had, but we also knew that the mold would phy-



25 BOY injection molding machines are still working at the LSR molding department of Limtech

sically fit into one of our BOY 88-ton machines".

Working together with BOY, Limtech found the solution by using the intrusion molding process, a capability that is offered as a standard programming feature on all BOY machines.

Soon, Limtech was producing 25,000 mats per year in a single-cavity process at a lower cost than what was possible with the transfer molding technique.

Anti-Drift Circuit

Limtech recently faced another LSR molding challenge. The most common set-up for processing two-component LSR includes a check valve that is installed between the LSR feed tube and barrel inlet. The check valve prevents high pumping pressures from being continually applied to the screw. These pressures can cause the screw to drift back after screw recovery especially when long vulcanized times are used. This screw "drift" can cause shot to shot inconsistencies and the production of excessive scrap.

Since their LSR department required many daily mold changes, Limtech had chosen to process LSR without the check valve, as each mold change also meant that the check valve had to be thoroughly cleaned. This task is both time consuming and labor intensive. So, they eliminated the cleaning step, but they experienced screw drift. They asked BOY for a solution.

In response to Limtech's request, BOY designed an anti-drift circuit that can now be field installed. The circuit simply prevents the oil from behind the injection cylinder from returning to tank. This action occurs in all machine functions except metering, decompression and injection. An analysis of this solution has revealed that the shot to shot position of the screw is repeatable to within 1mm or less of the set point.

After successfully testing the anti-drift circuit on one BOY LSR machine, Limtech has already retrofitted twenty-four additional machines.

BOY Seminars 2010

Procan CT®
Setup and Processing
April 12-13 2010
Workshop # CSE 4

Procan CT®
Maintenance and
Troubleshooting
April 14-16 2010
Workshop # CME 4

Procan MD®
Setup and Processing
June 7-8 2010
Workshop # PSE 6

Procan MD®
Maintenance and
Troubleshooting
June 9-11 2010
Workshop # PME 6

To learn about the entire 2010 seminar schedule, please call BOY at 610-363-9121 ext. 144 and request a printed copy of the 2010 Training Seminar leaflet or go the www.boymachines.com and download the leaflet.



The New BOYS Have Arrived

Some Special Features

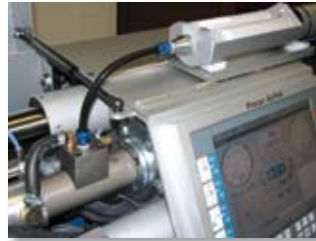
Drying, feeding, and coloring: These processes have been integrated to the machine without the need for additional floor space.

Flexible mold concept: Using a permanently affixed mold base, cavity inserts can be exchanged easily and in a timely manner.

Insertion / Demolding: A compact parts handling device, which can be mounted on the fixed or moving platen, is available.

Sprueless elastomer processing: BOY has designed a special nozzle that permits the sprueless processing of elastomers and eliminates the need for a cold runner system.

Specialized plasticizing unit for LSR: For processing two-component LSR, BOY has designed an economical double cartridge system that replaces the expensive mix-metering unit.



Spritzgiessautomaten

BOY Machines, Inc.
199 Phillips Road
Exton, PA 19341

Phone: (610)-363-9121
Fax: (610)-363-0163

www.boymachines.com
sales@boymachines.com

4

SIMPLY PRECISE

FIRST CLASS
MAIL
U.S. POSTAGE
PAID
EXTON, PA
PERMIT NO. 17

Spritzgiessautomaten



www.boymachines.com
sales@boymachines.com

Phone: (610)-363-9121
Fax: (610)-363-0163

Boy Machines Inc.
199 Phillips Road
Exton, PA 19341