

New BLS-1530 Fiber Laser
Highly Productive – Cost Efficient Solution



Global powerhouse local solution provider.
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Baykal
MACHINE TOOLS



Baykal Machinery, which is one of the leading manufacturers regarding metal sheet processing machines since it is establishment in 1950, has delivered its quality all over the world with its manufactured machines, press, shears and laser system.

Baykal Machinery with a production line of 70.000 m² total in three different factories has one of the largest machinery manufacturing facilities in Europe. Baykal Machinery with a total of 650 professional staff, including 80 engineers, perform all the manufacturing and assembly operations at its site by using advanced technology and modern production equipment for CNC machine in the computer-aided design environment.

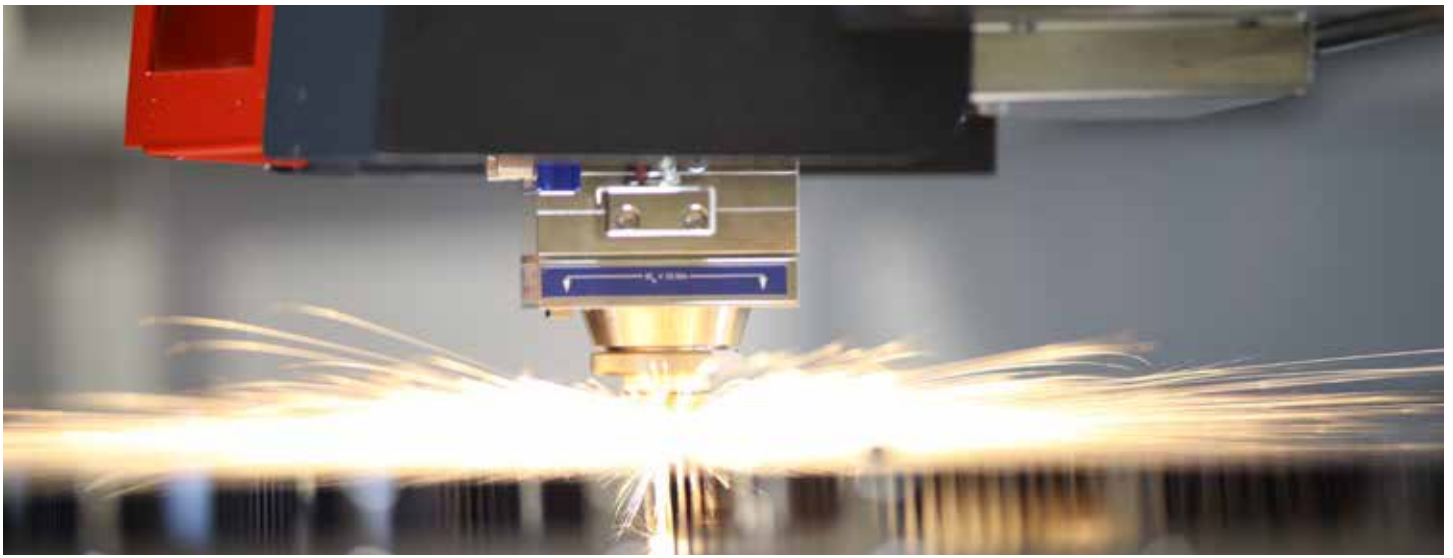
65 years high experience.

Baykal Machinery, which has the largest manufacturing facilities of Europe with a total of 70.000 square meters manufacturing area in three different factories, has been providing service for sheet metal processing machinery for 65 years with production capacity exceeding 5000 units annually.



Baykal Machinery owns the German TÜV certified ISO 9001 Quality Certificate and performs Turkish TSE documented and European Union CE marking production. Baykal Machinery, which has a sales network in almost all regions of the world extending from America to Australia, is progressing by constant improvement in its production quality and brand value in the last 40 years.

Baykal Machinery, which is a brand aware of its power and responsibility, will strengthen the position of "the machinery manufacturer, who has a corner in the industry" with the understanding of making no compromises in its quality.



BLS Series Fiber Laser Cutting Machines cover a wide range of industrial applications. Manufactured as "All in One Box" Design structure, the BLS has built in Resonator, Chiller with dual motorized table. A range of fiber power sources starting from 500W to 2500 W are Available. The "BLS" uses new generation high performance linear axis system with high performance rack and high performance class pinion.

With usage of fiber laser technology there is no need to move the laser source or plate, thus allowing high speed, high accuracy cutting and coupled with dual full size pallets maximum production throughput. Machines have simple and User-friendly operator interface and extensive cutting database.

New BLS 1530 Innovations and Gains

- **All in one box Design**
- **Low Investment and Training Cost**
- **Range from 500 W to 2500 W**
- **Motorized Transfer Table**
- **Small Footprint**
- **Easy Transportation**
- **Fast and Simple Installation**
- **Easy and Quick Operation**

Impressive Cutting Solutions.

New BLS-1530 fiber laser cutting system offers the best and most economic solution to the user for cutting quality, precision, high speeds, low cost and small foot print.

New BLS-1530 makes it possible to cut big or special size plates and offers competitive performances against similar fiber laser cutting machines in the industry.



The Best Fiber Laser For You.

New BLS offers the optimum solution for all your needs with lower investment and operating costs.

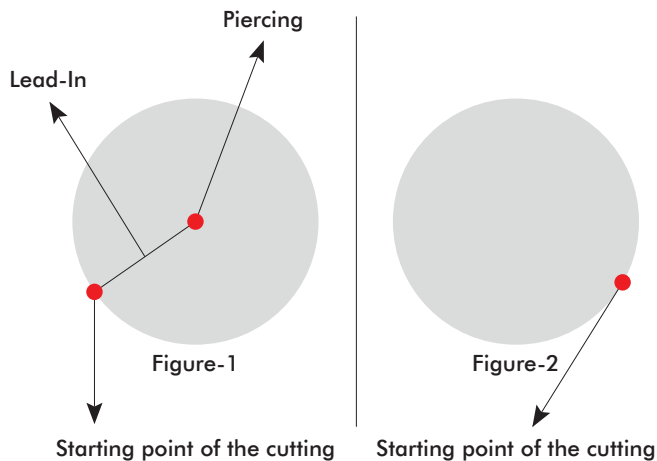
Besides, extraordinary robustness, it guarantees to get results in accuracy beyond your expectations via supply rigidity, which was created by using innovative concepts and designed as one piece.

Everything is under control in the first entry.

No-pierce is a faster cutting entry process for some materials. The principle is simply to penetrate the material on the actual contour path as quickly as possible using the highest level of acceptable power.

The average laser power always remains under the foaming limit to prevent uncontrolled burning of material due to the No-Pierce. Consequently, the entrance holes are obtained by preventing the formation of craters.

Time savings compared to conventional piercing can be greater than 50% in thicker materials with the No-pierce option. Total plate processing time is shortened significantly when there are a large number of pieces required.



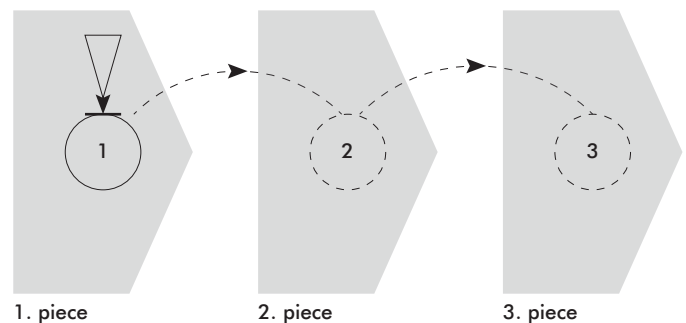
- Cutting with Piercing and Lead-In. (Figure-1)
- Cutting with No-Piercing and No-Lead-In. (Figure-2)

Fly-Cut: Faster processing – High acceleration.

In thin sheet processing with high numbers of holes or penetrations, we recommend you use Fly-Cut technology. The advantage of Fly-Cut technology in thin sheet cutting, i.e. materials up to 1.5mm in thickness is such that you can process material up to 50% faster than conventional piercing routines. This strategy utilises the systems high acceleration in combination with ultra high speed beam switching which allows processing of circular and equilateral penetrations on the fly, with almost uninterrupted movement through the contour path.

Unique features:

- High speed beam switching at fixed height with precise positioning accuracy produces very high speed uninterrupted profiling with minimal axis stopping or deceleration.
- The blasting of right-angled separated contours, which are located on plane, to avoid corner processing.
- Speed is reduced in only a very small number of changes in direction.



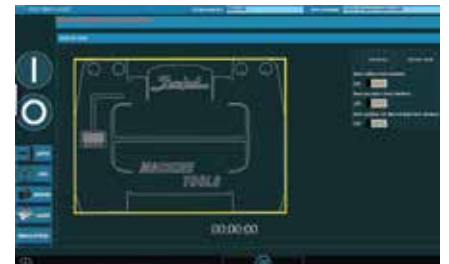
User-friendly and reliable controller.

The multi-touch panel series from Beckhoff offers the greatest possible flexibility. The Beckhoff multi-touch panels with projective capacitive touch screen (PCT) technology feature a high touch-point density, which enables accurate, safe and jerk-free operation even in minute steps.

Familiar functions from the world of smartphones and touchpads, such as zooming, scrolling, object turning, flicks etc. are now also usable for industrial applications with the multi-touch devices.

EASY TO USE AND USER FRIENDLY HMI

- Very easy to use Baykal made HMI
- One touch menu to reach all machine HMI pages
- Multi-touch part program graphic view
- Safety warnings and graphical diagnostic
- Zooming on cutting parts
- Extensive cutting parameters database
- Detects errors during cutting process
- Fly Cut and Style Cut Option
- Control of laser power on different materials
- Automatic sheet edge detection
- Automatic multiple sheet cutting process
- Allows to change parameters during cutting process
- Easy to find every counters with "Block Search"



High performance and high precision rack and pinion system.

New BLS-NEO axis motion system uses new generation high precision and high performance rack and pinion system. This system is ideal for high speed and acceleration; also it is ideal for high cutting speeds, which require performance and accuracy.

Unique features:

- High cut speed
- High axis optimization
- Dynamic axis movements
- Low energy consumption
- Maintenance free operation
- Automatic lubrication

Consistently Good Results

nLIGHT alta™ fiber lasers are the next generation of high power fiber lasers. Designed to meet the performance and reliability requirements for industrial applications, nLIGHT alta™ compact is the highest power, smallest footprint fiber laser.



Improved Cutting Performance:

nLIGHT alta™ is capable of delivering a modulation rate up to 100 kHz and rise and fall time of less than 5 μ s. Enabled by next generation electronics, these capabilities allow faster piercing, faster processing of fine features, and smaller heat affected zones.

Back Reflection Isolation:

nLIGHT's novel back reflection isolation technology allows uninterrupted full power processing of highly reflective materials.

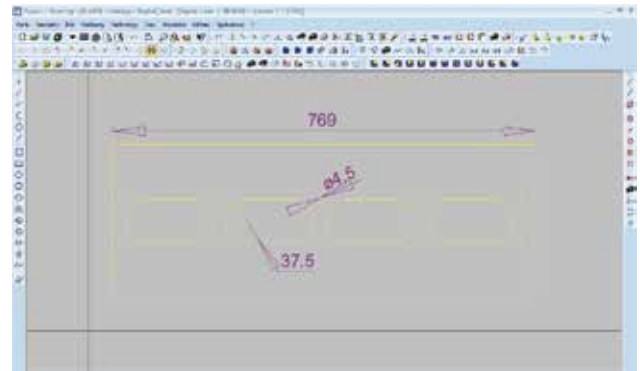
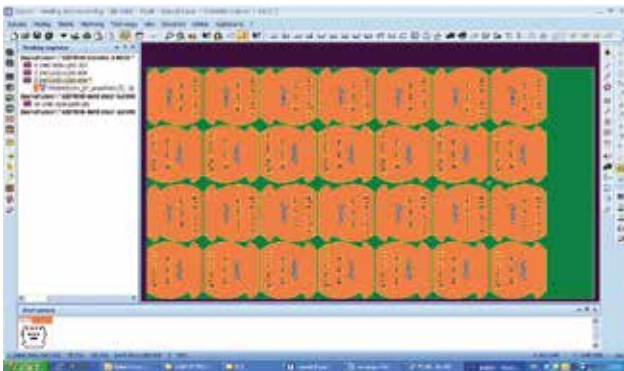
Design-for-service:

nLIGHT alta™ incorporates a unique, proprietary fiber laser architecture that enables tool integrators or end users to manage common field service events, resulting in higher machine uptime, lower cost of ownership and an improved customer experience.

Flexible – Perfect software.

Expert Cut is CAD/CAM system, which was designed specifically to automate the programming of sheet metal cutting machines (oxy-cut, plasma, laser, water jet). It is the product of 20 years experience in close cooperation with manufacturers and users. It perfectly combines the machine technology with programming and management requirements of customers.

Lantek Expert Cut has a design, which is sufficient for users to follow the steps that system shows. System provides easy and efficient working capability for users via this software.



CAD design.

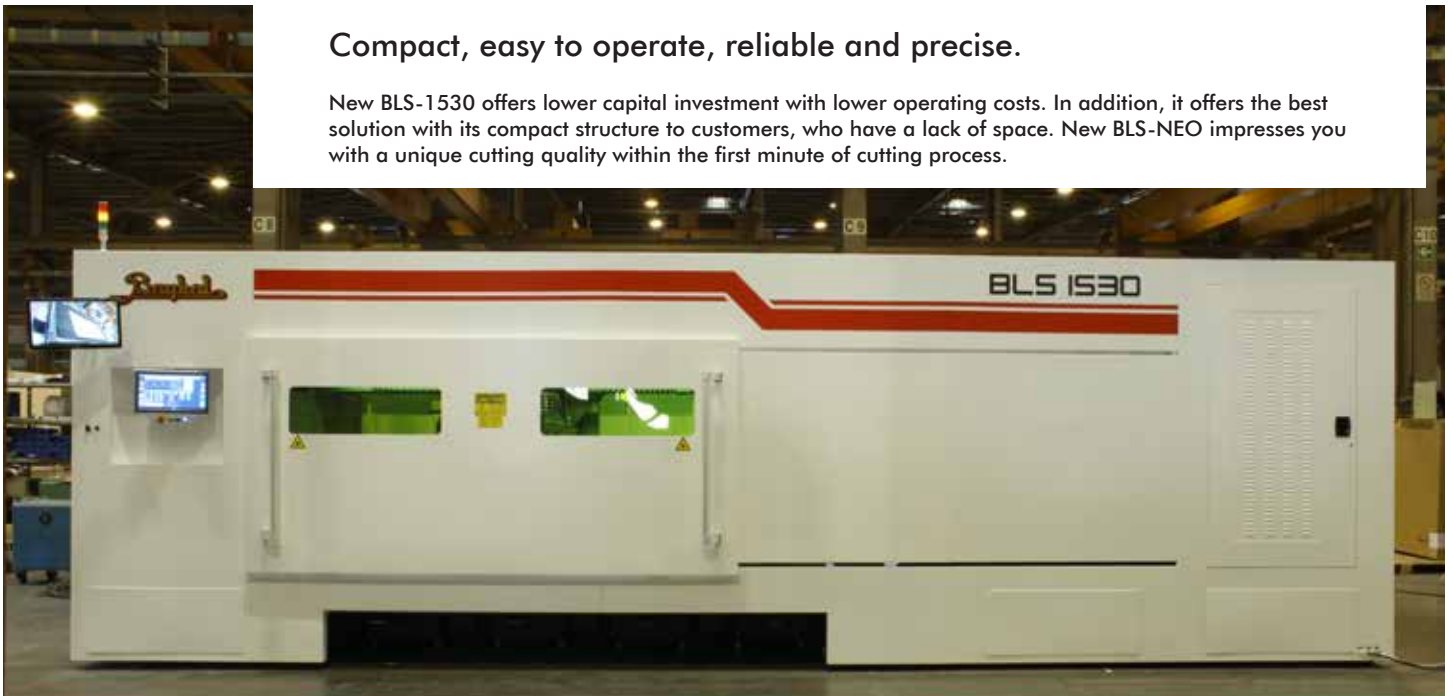
The drawing module provides for a strong and capable base to make 2D dimensional part drawing. This module offers a wide range of technical drawing skills to the user. There are 10 different ways of drawing even a simple circle. It can easily perform special applications, which are ready for complex shaped parts as sheet metal manufacturing based CAD module.

Automatic nesting.

- Perfect flexibility and maximum performance of manual and automatic nesting.
- Perfect combination of automatic and semi-automatic nesting process with powerful manual placement process such as copy, move, rotate, align, etc.
- Lantek Expert automatically nest the parts on the plate in the best possible way.
- Also, Lantek Expert can nest easily on remnants or dropouts. Borders can be defined for remnants, as for the plates.

Compact, easy to operate, reliable and precise.

New BLS-1530 offers lower capital investment with lower operating costs. In addition, it offers the best solution with its compact structure to customers, who have a lack of space. New BLS-NEO impresses you with a unique cutting quality within the first minute of cutting process.



Continuous cutting solutions.

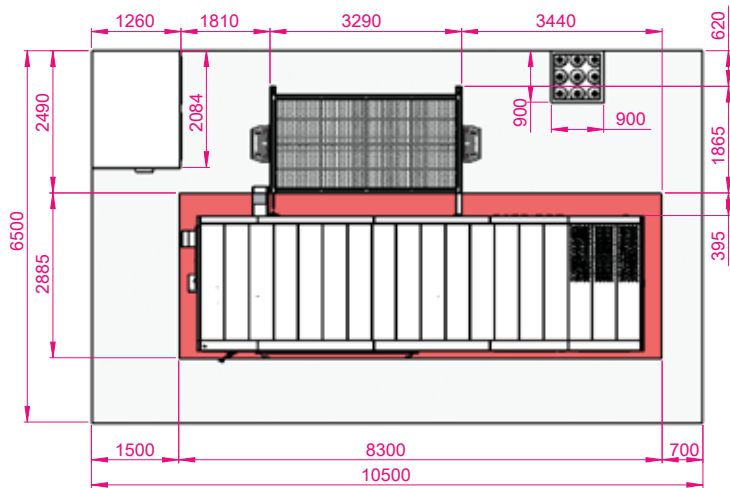
BLS Neo is equipped with dual pallet hydraulic lift transfer table. This allows to continue cutting during loading and unloading.

- More parts per hour every single day of operation.
- Loading and unloading during operation.
- Pallet changing controlled by either CNC or manual control panel.
- Tables driven by Chain System
- Hydraulic lift up system equipped with CNC synchronized cylinders.

The flexibility of different materials.

The New BLS-NEO can process a wide range of material such as Brass, Copper, Carbon Steel, Stainless Steel, Aluminium, Tool Steel and much more. Dependant on Laser Power available carbon steel up to 20 mm in thickness can be processed burr-free with good edge quality.





Model	BLS 1530 Fiber Laser Cutting Systems
CNC Control Unit	Beckhoff CNC (15" TFT Color Monitor - Windows 7)
Nesting Software	LANTEK CAD / CAM System
Work Piece Dimensions	1500 x 3000 mm
X Axis (Rack & Pinion)	3000 mm
Y Axis (Rack & Pinion)	1500 mm
Z Axis (Ball Screw)	100 mm
Rapid Traverse (X and Y axis)	90 m / min
Vector Speed	130 m/min
Acceleration	1,2 G (12m/s ²)
Absolute Positioning Accuracy	± 0.08 mm
Feed Rate	Programmable up to 50 m/min. Actual feedrate depends on material and thickness.
Repeatability(X and Y axis)	± 0.03 mm
Beam Quality (mm - mrad)	≤ 2.3 with 50 μm fiber ≤ 4 with 100 μm fiber
Focusing Lenses	125 mm
Transfer Table	Motorized - Automatic Exchange
Max. Load Capacity	900 kg
Automatic Nozzle Cleaning and Calibration	Standart
Cutting Head	Precitec Light Cutter

Type	Maximum Cutting Capacity	
	1 kW	2 kW
Mild Steel	12 mm	15 mm
Stainless Steel	4 mm	8 mm
Aluminium	3 mm	6 mm
Copper	2 mm	3 mm
Brass	2 mm	3 mm



We are Baykal.

Baykal Machinery continues to improve production process with modern production facilities, the latest technology in machinery, computer supported production control systems and qualified workforce.

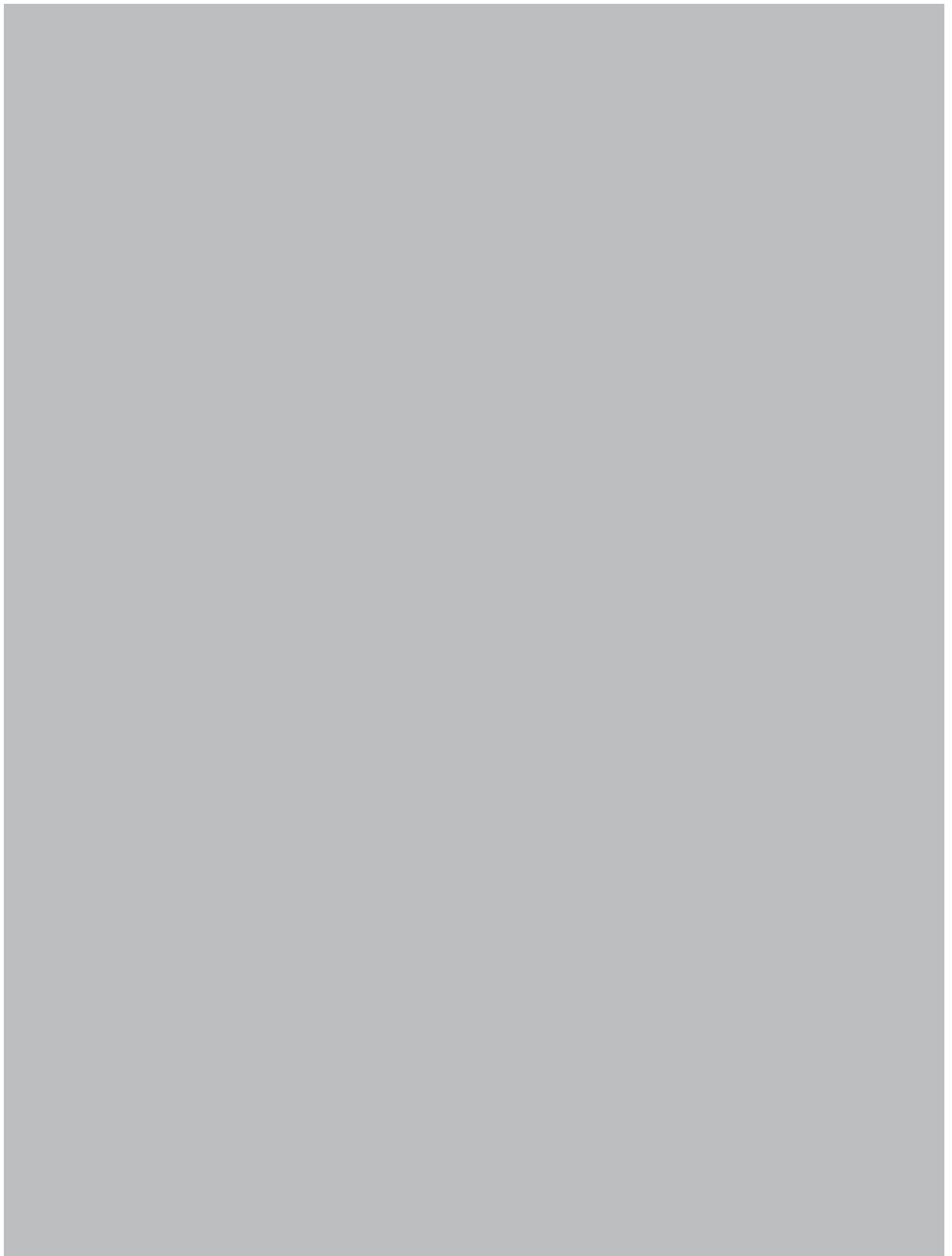
Our management is implementing experience and innovative of for more than 65 years. Baykal Machinery has maintained being a leader as the first company, which completes computer supported production-management system integration.



This brochure includes photos and descriptions of machines with options that may not form part of the standard equipment supplied, but may be purchased at additional cost. Only our official quotation may be used for a full description of what forms our offer to you. Machine safety guarding may have been removed or partially opened for demonstration purposes in this document. Baykal Machinery reserves the right to make changes without notice to the products and or specifications shown in the brochure.

TS EN ISO 9001:2008 certificated.







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