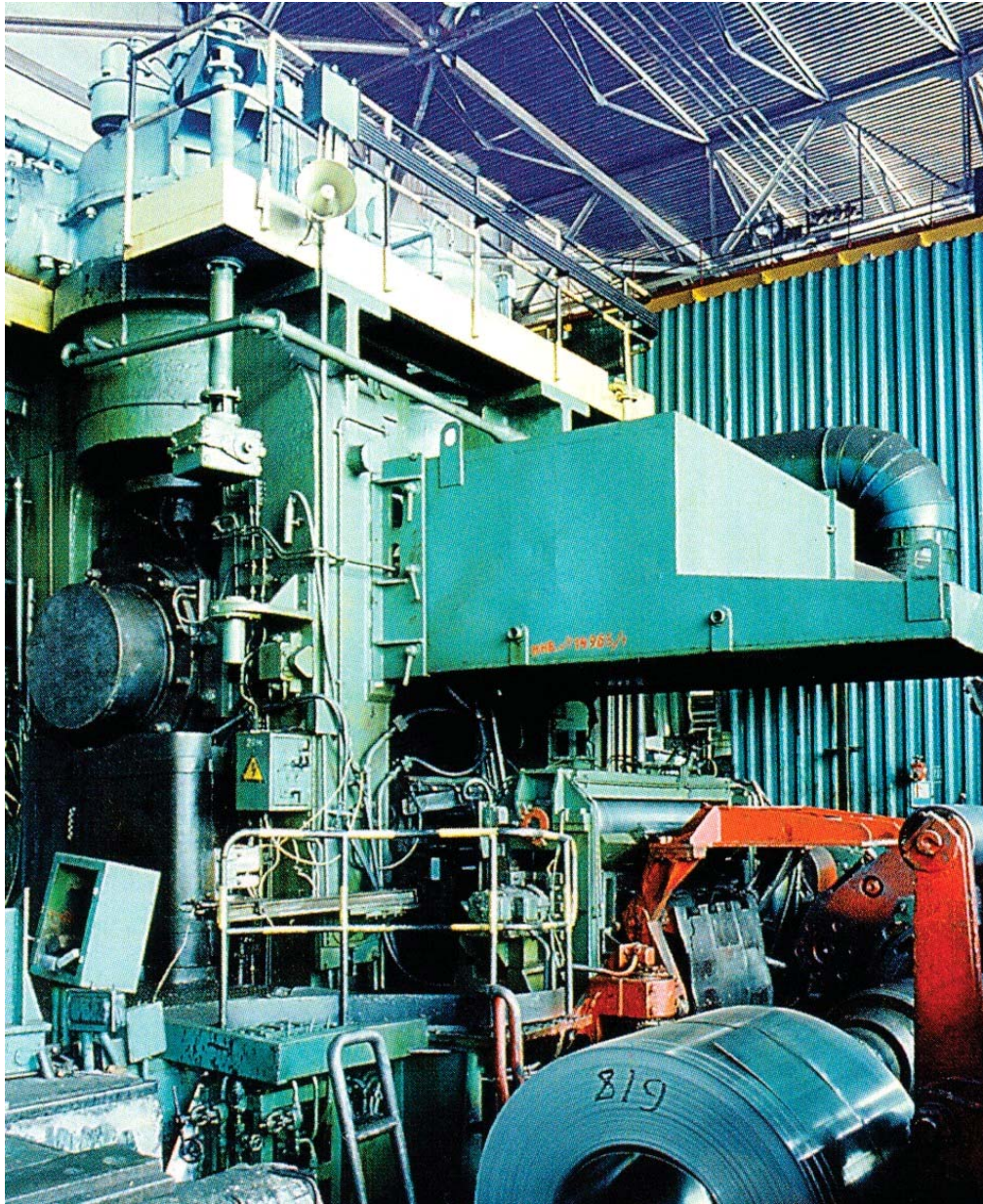


Rolling mill equipment and rolls. Cold rolling mills



Cold rolling mills for aluminum and steel strips production are working nowadays at many ferrous and non-ferrous metallurgical works in CIS countries and abroad.

When designing the rolling mills a package of software on automated calculation, design and optimization both of technological schedules and structural parameters of future equipment are implemented.

At that a number of the following main actual tasks is being solved:

- rolling mills fitting with hydraulic fast acting high-sensitive screw-down mechanisms as well as with high-efficient mechanisms of preliminary and prompt strip control;
- optimization of reduction schedules and usage of high-efficient rolling lubricants;
- development, research and mastering of the new rolling processes enabling intensification of technological schedules and the finished product quality improvement

Rolling mill equipment and rolls. Cold rolling mills

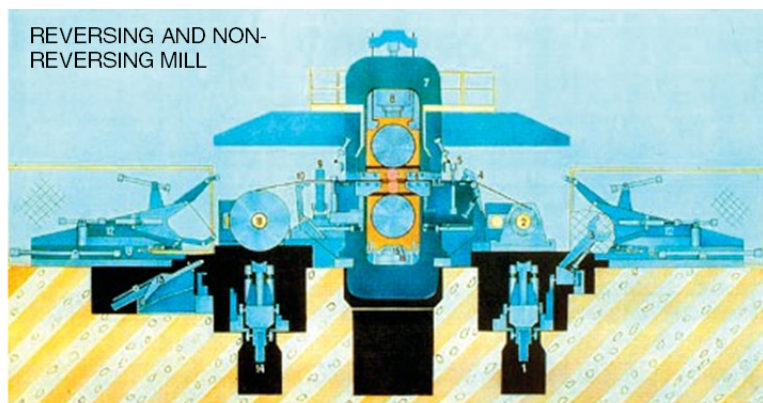
We created an original concept of reversing and non-reversing rolling mill in the field of cold rolling of strips of aluminum and its alloys.

Rolling process at this mill is performed like at the non-reversing mill – by batches. Initially every coil of batch is rolled in reversing mode. Then the whole batch is rolled, using non-reversing rolling technology. Productivity of the mill is 10-15% higher, compared to non-reversing rolling mill due to better ratio of processing and auxiliary time. Energy consumption at this mill is reduced. Operational life of some machines and mechanisms is increased. Size of mechanized coils storages is considerably reduced.

Work stand is equipped with hydraulic screw-down mechanism, work rolls positive and negative bending system, plates automatic changing mechanism, wedge mechanism of rolling level control. Six-high stand is also available. Coiler and floating uncoiler with overhung drum and swing support are connected with twin-motor drives, providing wide range of tension.

Gearboxes of working stand drives, coilers and uncoilers are made as speed gearboxes, providing minimal energy consumption of the mill.

The mill is equipped with automated system with rolling process control system, diagnostics, mill setup to preset range of products, maximum possible automation of the backup and work rolls changing process, as well as other systems, providing the rolling process.



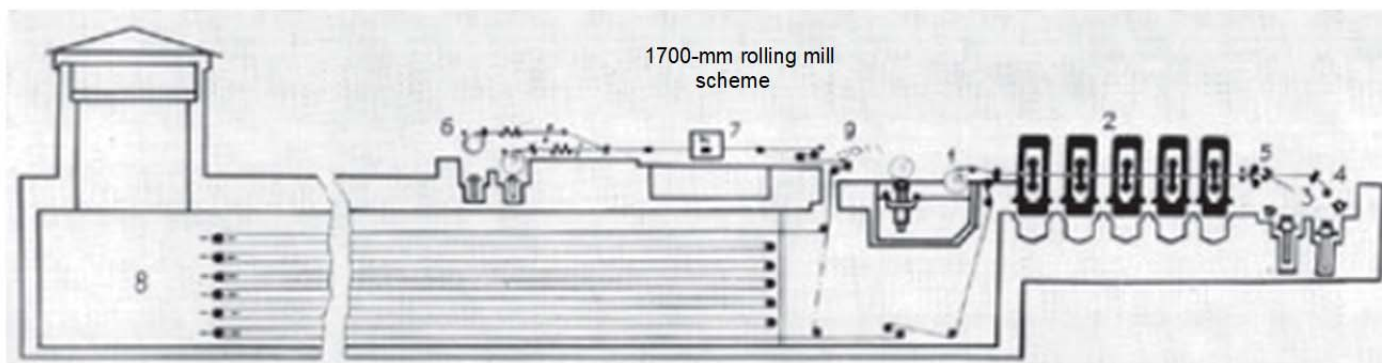
We are engaged in designing and manufacture of cold rolling mills for the production of strips of carbon, transformer and stainless steels: reversing; non-reversing three-, four-, five-, six-stand; endless rolling; temper two-stand mills.

Initial blank: - Strip thickness, mm - Strip width, mm - Coil weight, t	0,8 - 6 1000 - 1600 Up to 22
Finished products: - strip thickness, mm	0,15 - 4
Four-high mill stand: - work roll diameter, mm - backup roll diameter, mm - work roll barrel length, mm - max. rolling force, kN - max. Rolling speed, m/s	510 - 560 1500 - 1600 1800 25000 25
Productivity, t/h	60

Rolling mill equipment and rolls. Cold rolling mills

1700-mm rolling mill

During the construction of cold-rolling mills for steel strip in new and reconstructed workshops, the option of transforming a continuous roll mill into an endless rolling mill and, in the future, the creation of continuous pickling and rolling mills can be proposed. This will allow the customer to receive finished products in the shortest possible time and to perform stage construction of the complex with minimal costs.



1. Double-drum uncoiler;
2. Five-stand mill;
3. Coiler with wrapper and kickoff mechanism;
4. Second coiler;
5. Rotation shears;

6. Double position uncoiler;
7. Butt-welding machine;
8. Linear accumulator;
9. Helicoidal guides.

The mill is equipped with:

- roll bending, axial shifting and heat contouring of work rolls;
- highly mechanized work roll changing with the availability of strip in stands;
- high accuracy constant rolling level maintaining device;
- hydraulic screw-down mechanism;
- automated process control.

Strips section - width, mm	800 - 1550
Thickness:	
- upstream, mm	2 - 4
- downstream, mm	0,35 - 2
Coil weight, t	15 - 35
Strip speed:	
- upstream the mill, m/s	4 - 6
- downstream the last stand, m/s	25
Working stands – rolls barrel length:	
- backup, mm	1700
- workx, mm	2000
Diameter of work rolls, mm	560/510
Diameter of backup rolls, mm	1500/1430
Work rolls axial shifting value, mm	+150
Rolling force, kN	25000
Capacity, mln t/year	Up to