



Hydraulic shear

Hydraulic shears are the preferred tool for separating the strand in the casting line during the manufacture of non-ferrous metal strip by horizontal continuous casting. The advantage of shears over cold circular saws or parting off grinders is that the cast product is separated without chipping. The hydraulic shear developed for this purpose is made of solid steel plate and consists of a machine body to be anchored in the foundation so as to travel in the direction of casting. A hydraulic cylinder in the base frame returns the machine body to the starting position after each cut.

The machine body contains one or two cutting units, depending on the cutting/casting programme. Each unit

consists of a stationary bottom blade and a top blade operated by a hydraulic cylinder.

Since cutting of the strand is preferably automatic, a length-measuring device is used to generate the pulse to initiate the electro-hydraulic cutting operation. The desired cutting length is preset on the monitor of the withdrawal machine. The top blade is lowered hydraulically when the pulse is generated by the length-measuring device. The strip is pressed against the bottom blade, while the machine body is driven forward by the moving strip during the pressure build-up and the subsequent cutting process. The machine returns to its initial position after the top blade has been raised and a limit switch actuated.



The pulse can also be generated manually. In that case, the cutting operation is also automatic. Scrap cutting with a minimum length of 300 mm can also be manual or automatic.

The pressurised oil supply is provided by a hydraulic unit that should preferably be mounted to the base frame of the machine.

The electrical equipment is housed in a control box mounted on the hydraulic power unit.

The controls are grouped on a panel at the front of the machine.

The hydraulic shear has a centralised lubrication system.

MACHINE CHARACTERISTICS

Cast material	Cu alloys
Strip thickness	max. 20 mm
Machine clearance	50 x 1,100 mm
Strip width, 1-strand	up to 1,070 x 12-20 mm
Strip width, 2-strand	up to 500 x 12-20 mm
Cutting units	1-2
Cutting force	3,000 - 6,000 kN
Operating mode	manual, automatic
Travel distance	200 mm

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