

FOG200

ROBOTIC SURFACE AND CHAMFER GRINDING MACHINE

MAIN FUNCTION

Performs grinding of friction surfaces and parallel and radial chamfers of brake pads

DESCRIPTION

The FOG200 robotic grinding machine has an innovative concept for grinding friction surfaces. In this operation, the gripper attached to the robot wrist with the pad to be machined is clamped in the work station and the tool, i.e. the grinding wheel, slides on special precision guides under the pad and smooths the friction surface. This system allows greater precision of parallelism and flatness of the ground surface.

The FOG200 is a machine housed inside an accident prevention cabin, equipped with dust extraction hoods.

It essentially consists of an electro-welded steel base to which the following components are attached:

- A 6-axis robot for gripping and machining brake pads;
- A unit consisting of an electro-head on which the grinding wheel is inserted for planing and chamfering;

- A unit consisting of an electro-head on which the grinding wheel is inserted to perform chamfers and J-cuts;
- A unit for automatic jig change;
- A dispensing unit for brake pads;

The brake pads arrive at the same position via a conveyor, which feeds the robot through an automatic dosing unit.

A single pad is released from the dosing unit and stops on a jig.

The robot picks up and locks the brake pad by means of a system of suction cups and a pneumatic gripper and moves to the grinding position of the table, then to the stations dedicated to chamfering and cutting.

Based on the operator settings on the control panel, the robot performs the necessary machining operations.



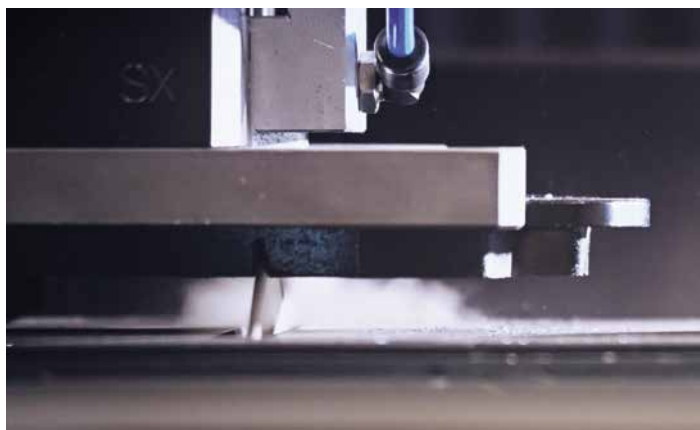
SPECIFICATIONS

CYCLE / SEQUENCE OF OPERATIONS

- Release of pad from dispenser;
- Clamping of the pad in the robot gripper using suction cups and gripping fingers;
- Displacement of the robot gripper and clamping in the plane grinding unit;
- Working stroke of the X-axis with the grinding wheel on board for plane grinding;
- Movement of the X-axis to the defined position for radial, tangential chamfers;
- Parallel movement of the robot in the working zone dedicated to chamfers;
- Chamfer execution (chamfer on one side);
- Possible 180° rotation of the robot wrist for chamfering on the other side;
- Possible movement of the robot towards the unit to perform J-bevels and cuts;
- Displacement of the robot towards the conveyor;
- Release of the pad onto the conveyor.

PRODUCTIVITY

Variable depending on brake pad characteristics.



Cutting process



Automatic jig change

Watch video by scanning the QR CODE or go to the following link:
www.aseo.srl/video/fog200.mp4



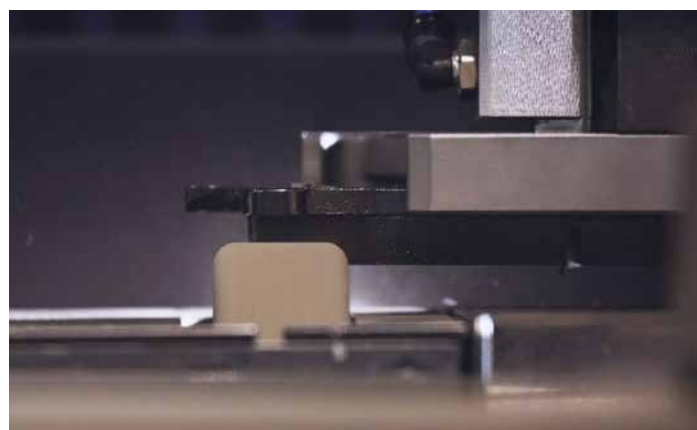
OPTIONAL

The brake pad type change involves replacing the pick-up jig and the robot gripper. The last operation is carried out automatically by the robot. The gripper and the jig are previously loaded manually in special positions outside the cabin in safety with the machine being worked on, and it is the robot that, by means of a quick coupling, deposits the gripper and the jig of the previous type and picks up the ones for the type of pad to be made.

The gripper pick-up unit, for each type of pad, consists of the following parts:

- Stop jig on conveyor;
- Suction cup block;
- Right and left jaw.

In the working areas of the grinding wheel, there is a hood system to allow dust extraction.



Chamfering process



Brake pad kit change

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www.aseo.srl/eng/catalogues/

