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MODULE Q

Welding machines for resistance welding

Description of equipment resistance welding machines



Welding equipment

- Resistance welding equipment consists of two parts - one part is electric, the second mechanical.
- Electrical part heats the welding material at the weld and consists of a welding transformer (for small and medium power of a single, higher power for three-phase) component of the current conducting and control devices.
- Mechanical welding machines of a device for clamping and pressing the welded part.
- Clamping and the pressing force can be gauged mechanically, pneumatically or hydraulically.

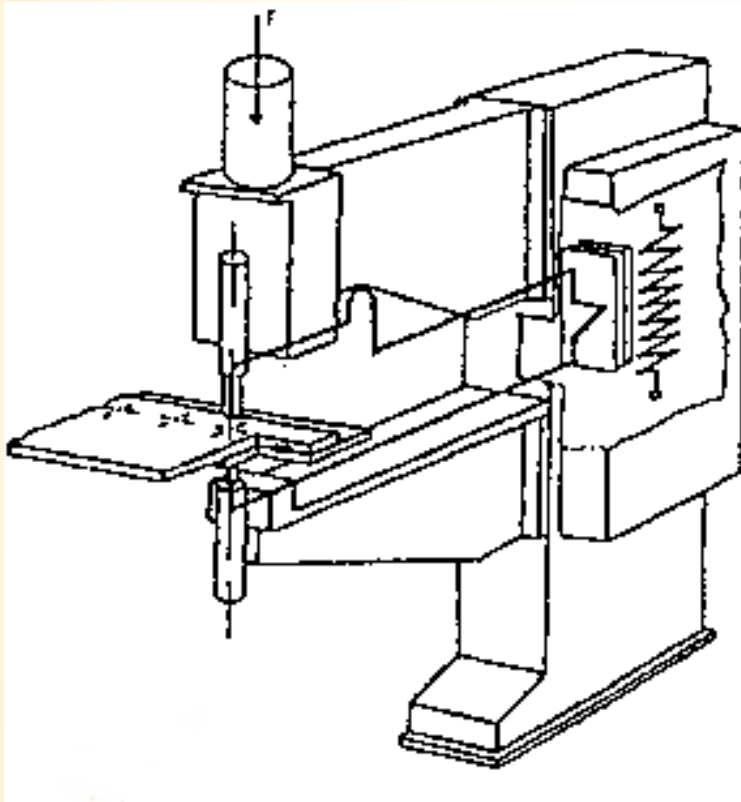


Machines for the resistance spot welding and

- ▶ Machines for the resistance spot welding can be classified according to several criteria.
- ▶ Most often are divided into portable (welding tongs, suspended spot welding), spot welding stable universal (single point or multipoint) and spot welding dedicated (special).
- ▶ According to input of the spot welding machine 20 to a small kVA, mean 20 kVA 250 kVA and a 250 kVA.



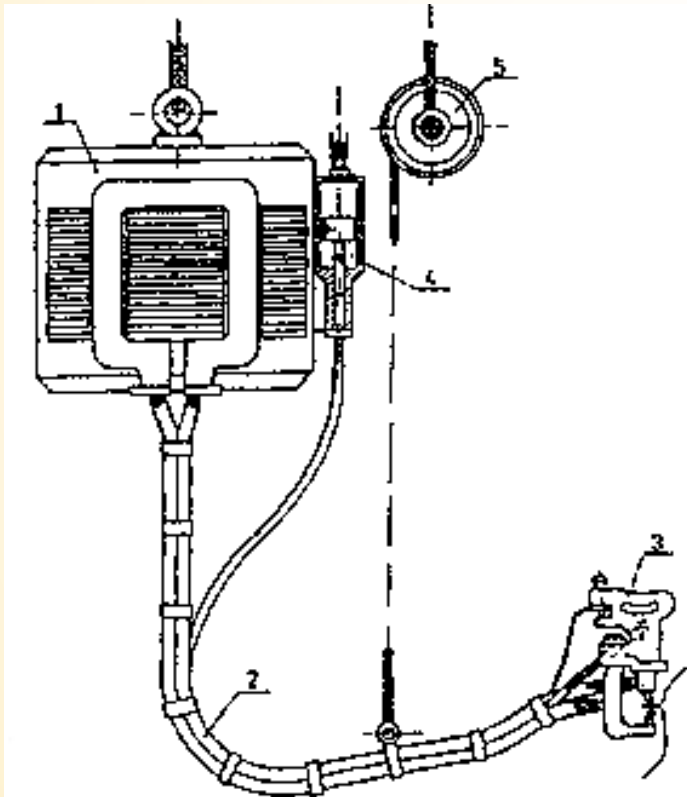
Universal spot welder



KUBÍČEK, J. DANĚK, L. KANDUS, B. *Technologie svařování a zařízení. Učební texty pro kurzy svařovacích inženýrů a technologů.* Plzeň: ŠKODA WELDING, s. r. o., 2011. s. 132.



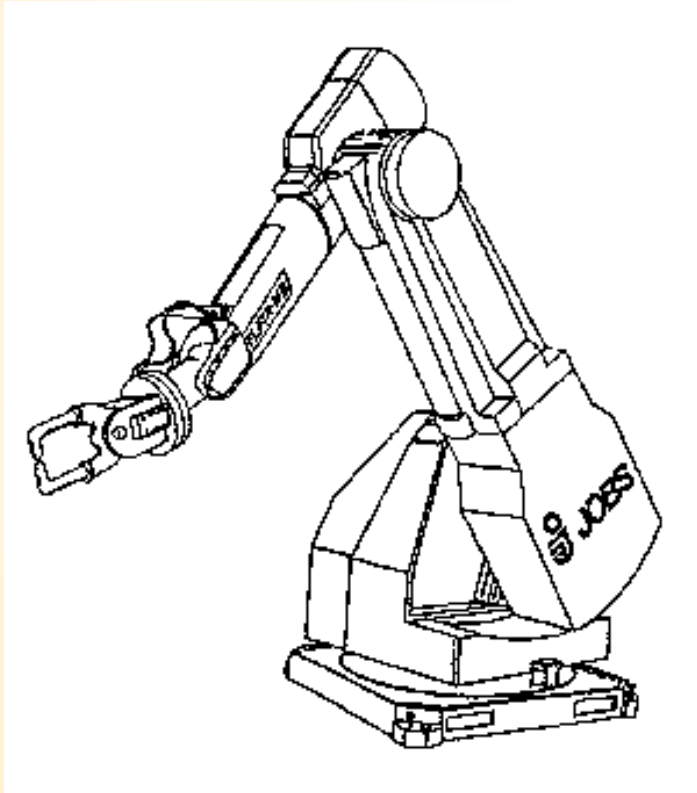
hanging spotlight



KUBÍČEK, J. DANĚK, L. KANDUS, B. *Technologie svařování a zařízení. Učební texty pro kurzy svařovacích inženýrů a technologů.* Plzeň: ŠKODA WELDING, s. r. o., 2011. s. 132.



Welding robot



KUBICEK, J. DANEK, L. KANDUS B. *Welding technology and equipment. Textbooks courses for welding engineers and technologists.* Plzeň: ŠKODA WELDING sro, 2011. p. 132.



Spot welder





Setting the parameters for spot welding machine





Machines for resistance seam welding

- ▶ Structures resemble spot welders, and divides the seam welding with the longitudinal movement of the parts to be welded, seam welding with the transverse movement of parts to be welded and seam welding universal for both of these possibilities.
- ▶ According to a method of switching the welding current is divided into seam welding machine for welding the continuous and discontinuous (current modulators).

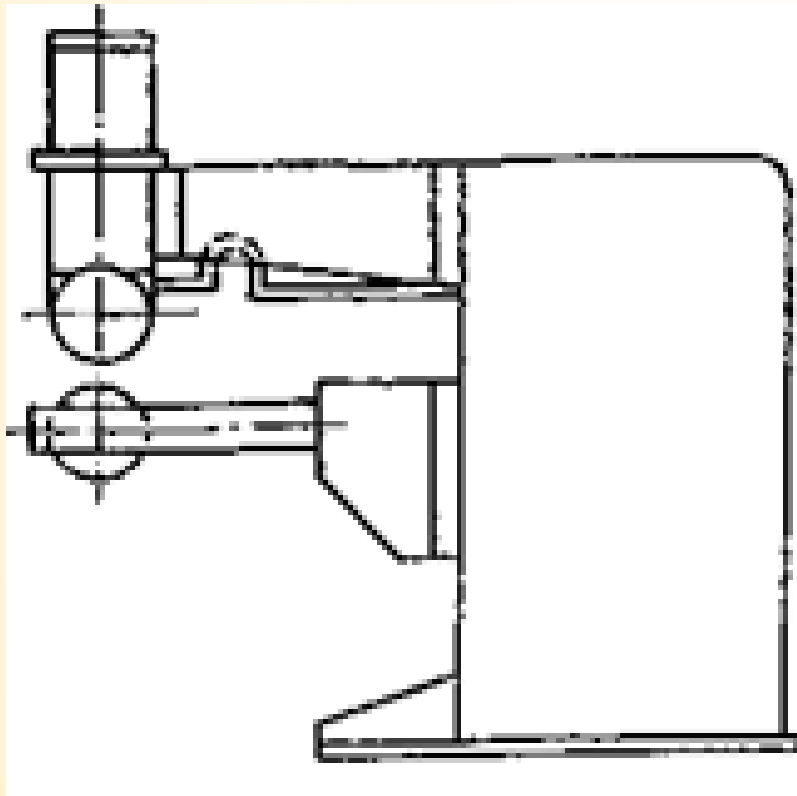


Machines for resistance projection welding

- ▶ They are most often referred to as welding machines.
- ▶ They flat plate electrodes with grooves for holding fixtures or products.
- ▶ According to shape is divided into presses with a "C" frame having a smaller rigidity, but better access to the working space and presses gantry stiffer, but with less handling area.



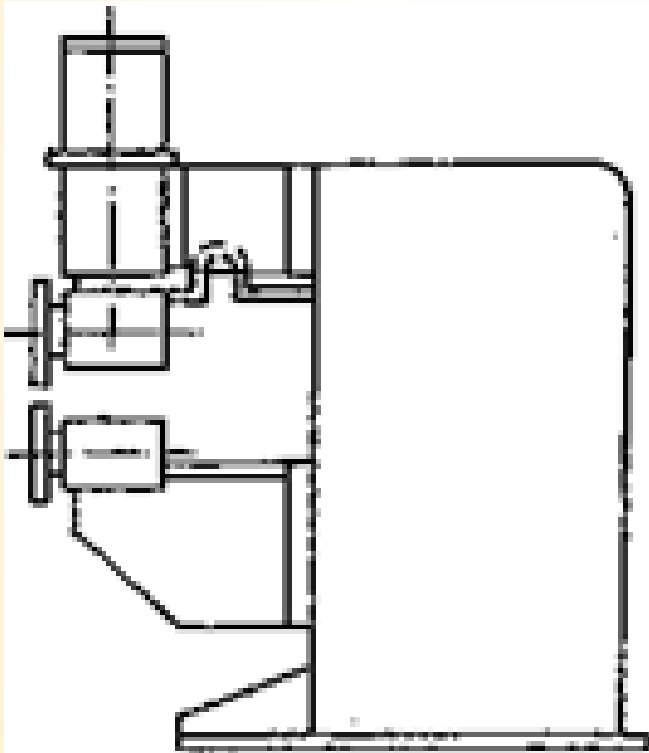
Machines for resistance seam welding longitudinal movement discs



KUBÍČEK, J. DANĚK, L. KANDUS, B. *Technologie svařování a zařízení. Učební texty pro kurzy svařovacích inženýrů a technologů.* Plzeň: ŠKODA WELDING, s. r. o., 2011. s. 132.



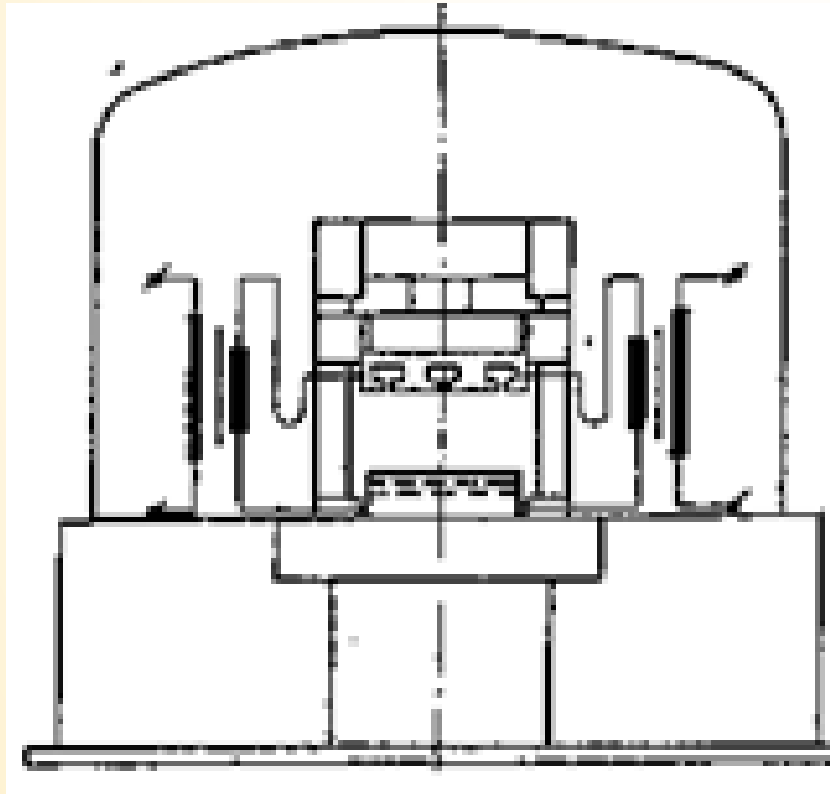
Machines for resistance seam welding with the transverse movement of the pulley



KUBÍČEK, J. DANĚK, L. KANDUS, B. *Technologie svařování a zařízení. Učební texty pro kurzy svařovacích inženýrů a technologů.* Plzeň: ŠKODA WELDING, s. r. o., 2011. s. 132.



The press frame with a C



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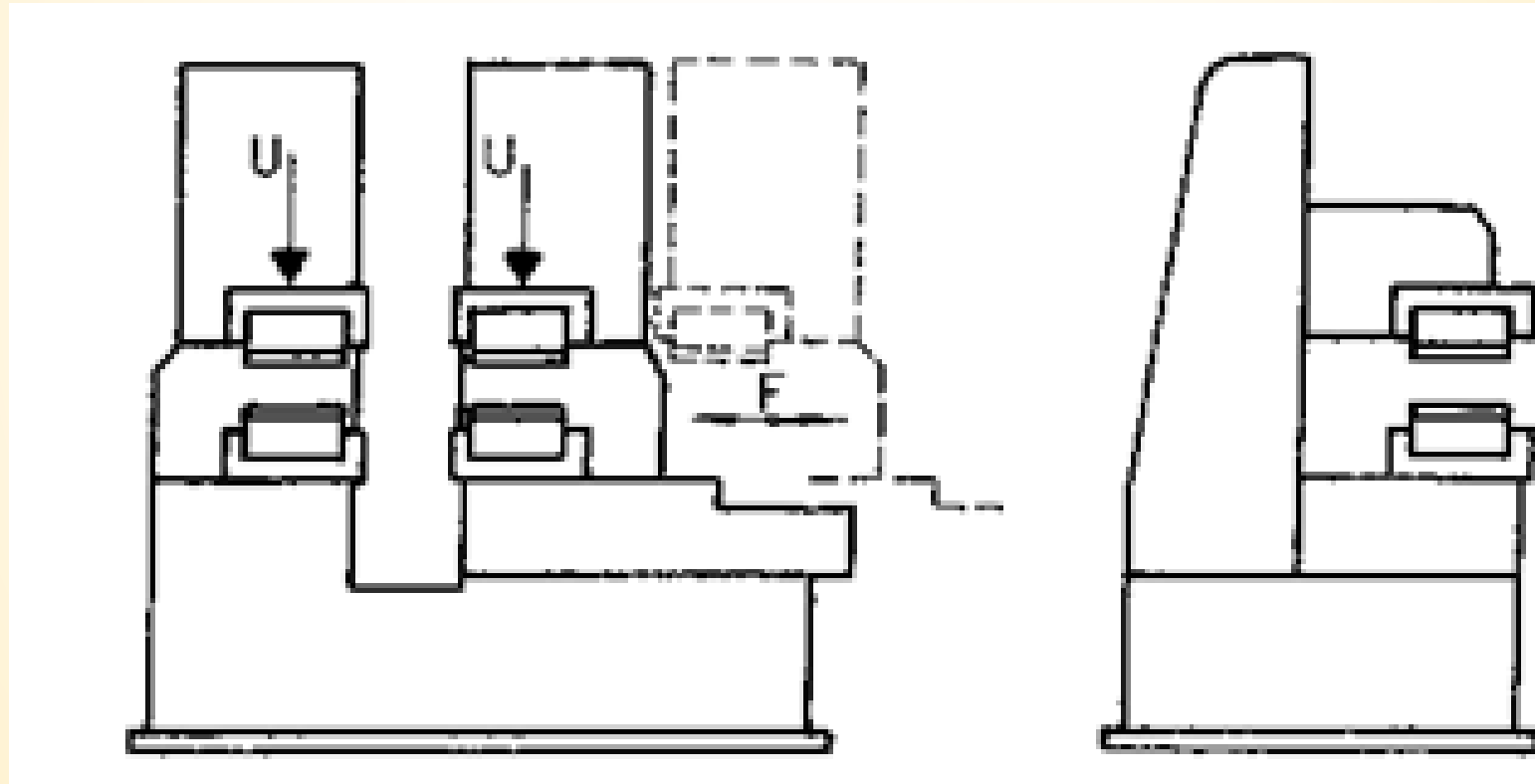


Machines for contact butt welding

- ▶ Pressure or deposition welding device comprising a welding current source, and apparatus for controlling switching of the current leads the welding current to the clamping jaws and the mechanisms that produce the necessary welding pressure and allow sliding parts to be welded against each other.
- ▶ Contact deposition welders have a massive structure in comparison to welders for butt pressure welding.



Deposition cover welder



*U - clamping force
F - welding power*

KUBÍČEK, J. DANĚK, L. KANDUS, B. *Technologie svařování a zařízení. Učební texty pro kurzy svařovacích inženýrů a technologů. Plzeň: ŠKODA WELDING, s. r. o., 2011. s. 133.*