

ABSTRACT
DEVICE FOR POSITIONING A MACHINING SPINDLE
USING ITS PILOT ROD

The means for aligning this device comprise a sphere holder (17) placed on a support (4) with the possibility, in the phase of positioning the spindle (6), of it shifting in all directions of the horizontal plane, a spherical core (13) mounted in the sphere holder (17) with the possibility of rotating freely, a substantially vertical sheath (10) which can be shifted axially in the core (13) and carries the spindle for driving the tool.

According to the invention, the spherical core (13) carries masses which, balancing the mass of the means for driving the sheath (10) in translation and the mass of this sheath and of the spindle when these are in the lowered alignment position, bring the centre of gravity (G) of the assembly substantially onto the axis (x,x') of the sheath (10), while the electric means (28,29) for powering the spindle (6) are arranged in the sheath (10) and in such a manner that when this sheath is in the lowered alignment position, the centre of gravity of this sheath is on the axis (x',x) and close to the centre (C) of the spherical core (13), that the means for generating the flat cushion between the support (4) and the sphere holder (17) comprise nozzles (47) arranged in the support (4) facing the sphere holder (17) and able to deliver a film of uniform thickness and that the clamping means comprise tubes (62) distinct from the lift nozzles (47) and able to be connected to a source of vacuum.

Figure 2