Product Info

Concatenation of a machining center, turning machine, measuring machine, and deep-hole boring machine with a FANUC R-2000i robot with B-controller

Parts: Main shafts
Year of construction: 2002
Work piece types: 8

Task description:
Reception of parts by chain conveyor with IR-FANUC R2000i, loading and unloading of two intermediate stores, loading and unloading of the Heller machining center device (2 clamping actions), storage in intermediate store, loading and unloading of Boehringer boring machine, loading and unloading of measuring machine, loading and unloading of deep-hole boring machine, intermediate storage at drainer station, placing of parts on synchronized chain conveyor and transportation for external machining (shaping, milling, and cleaning). Subsequent reinsertion of shafts onto processing line in a defined position for finishing on the Heller machining center.

Process description:
The operator places the raw parts onto the transport system. They are then forwarded to the robot cell. The robot cell places the parts on the robot station for removal.
The robot passes 4 raw parts one after the other to the Heller machining center and places them in the relevant clamping device deposit (step 1).
Following machining, the robot removes the parts and places them into the 4-compartment intermediate store. In step 2, it transports one shaft to the Boehringer turning machine, removes the part that has already been machined, and places the unprocessed part into the work piece receiver.
It then takes a part to the inspection table in step 2A and to the deep-hole boring machine in step 3. The parts are then stored in a 2-compartment drainer station and finally placed on conveyor 3 for discharge (external step).
Once the external steps (4 - 7) have been completed, the shafts are placed back onto chain conveyor 3. From here, the robot takes the parts to a further intermediate store (8A, capacity for 4 parts) and then loads the Heller device without delay. Following processing, the robot removes the shafts one by one and places them directly into the work piece receivers on conveyor 4. They are then removed by a member of staff. This process is repeated until there are no more raw parts to be processed or until the system is converted to process another article. Following the second clamping action on the Heller machining center, a part can be removed from the processing line, checked, and then reinserted.