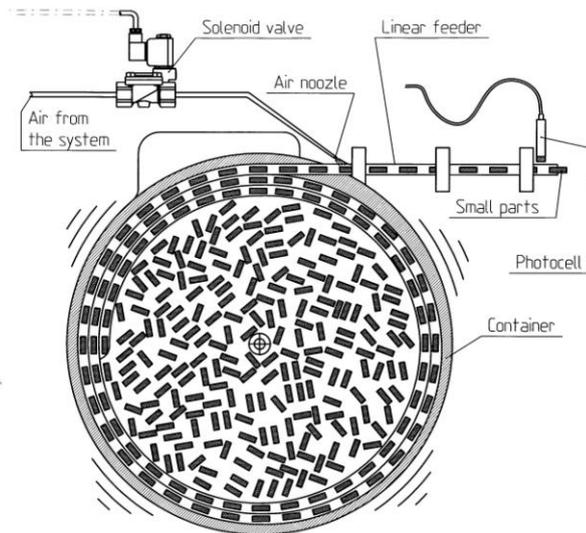


VIBRATING FEEDERS



Vibrating feeders are used to automatically deliver bulk small parts at a selected speed or in the requested position. They are also used as counters and can be combined with operating machines, spinners, etc. By employing special devices, small parts can be ejected on one or more tracks placed side by side or superimposed. In some cases foreign or defective pieces and parts out of tolerance are put aside. Vibrating feeders are used in the packing, mechanical, electro technical, electronic, hydraulic and plastic sectors and other sectors of industrial automation. Processed parts are made of metal, wood, plastic, glass, cork, rubber and other materials, provided they are rigid enough not to cancel the vibration they are subject to.

CONSTRUCTION DIAGRAM OF THE SYSTEM



SOLENOID VALVE APPLICATION

A circular vibrator consists of a vibrating base, a container and a separate electronic controller for setting the excursion of the vibration. Containers can be of various shapes: cylindrical, conical, or stepped; they have a spiral guider in the internal wall that allows small parts to ascend to the linear feeder. A magnet operates a pulsating force on the container and the vibrations thus produced move the small parts forwards along a track inside the container. A series of traps at the end of the track select parts in a wrong position and let them fall at the centre of the container, so that only properly positioned parts are ejected. A solenoid valve intercepts compressed air from the system and shoots it against the small parts to push them into the assembly machine. A photocell is positioned at the mouth of the feeder. When the container is empty, the system detects a failure, the vibrator stops, a warning light turns on and the de-energized solenoid valve interrupts the blast of air. Only the intervention of an operator can reset the process. The most frequent failures are due to not properly positioned parts getting stuck or to the container being empty.

SOLENOID VALVES USED



TYPE D203/D204/D205
2/2 way NC pilot operated solenoid valves with series 7 coils

WE RECOMMEND:

Pilot operated solenoid valves are recommended for this application and in the automation field in general because they are expected to operate daily at high pressures for a great number of cycles (in order to increase productivity). This application is theoretically simple but severe and therefore solid and therefore solid and durable valves are needed.