

## Pneumatic Probe with Renishaw TP20 Magnetic Head

Article No. OAO1121R / OAO1121S for use with M10 Pro

The optional integrated pneumatic probe has many different functions for various applications. One function is, the standard probe has the ability measure irregular material surfaces and compensate automatically to that typography. For example, you can probe an irregular surface and then execute a program that has already been programmed as if it were a flat work piece. The Z axis will move up and down based on the measured points. This feature is ideal in situations where precision depths are required on large work pieces, such as engraving on a large panel. This can be a huge time saver in the set-up of work pieces. The probe can also be used to measure a single point, as a quick way to find a work surface. The single probe feature can be activated by a touch of a button on the hand held remote control.

The integrated probe is mounted on the side of the Z axis. It comes complete with an industry standard Renishaw TP20 break-away magnetic head. In case of a machine crash, the magnetic head will typically break loose from the assembly, avoiding damage. The Renishaw head is more precise than the standard Datron probe and is ideal for measurements of tight tolerance applications. The TP20 head also facilitates a wide range of Ruby stylus tips for varying applications.

When prompted by the operator or a program, the Z axis will rise and the probe arm will swing down pneumatically into place, just below and near the tool tip. Upon contact of the probe tip to the material surface, the switch within the TP20 head will detect and record the co-ordinate points. Therefore the probe is not sensitive to conductive or non-conductive materials. Upon completion of the measurements, the Z axis will rise upward and retract the probe back into place. There are sensors to stop the machine in case the probe does not lower or retract properly. In most cases, the sensors will even stop the machine from damaging the probe if there is a programming error.

The software that comes with the probe allows the operator full control of many features. The operator can measure various size fields and adjust the density of the measuring points. You can also take the measuring points and write the data to an ascii (text) file. In a sense, the probe can be used as a rudimentary CMM system to check after a part has been machined. The probe can even be used to measure a specific co-ordinate point of a work piece to see if the reading is within a designated tolerance range. If not, you can have the machine alarm the operator (example: check to see if a part is mounted properly).

The entire probe assembly is a plug and play component and can be installed in the field. This typically can be done by the customer if desired. Machines are pre-wired for the probe option. Scheduled maintenance is minimal for the probe. An oil reservoir needs to be monitored monthly which is used for a dampening effect on the arm motion.

The probe measuring tolerance is rated at +/- 0.01mm (0.0004").

**NOTE:** This probe does not allow you to edge find unless it is ordered with the 3D software extension.

