

Single / Multiple Head Drilling Systems



Single Head Servo Feed Drill - with laser auto height setting feature

Glassline provides the highest quality single and multiple head glass drilling machines in both air and servo head designs, with special features to fit your unique plant and fabrication needs. The main frame of all Glassline Drill Heads is fabricated from structural rectangular tubing and steel plate which is then thermally stress relieved, sandblasted and precision machined. On the back of the main frame, linear rails are mounted forming the axis of motion for the upper and lower spindle arms.

Spindle arms are also fabricated from rectangular tubing and stress relieved, sand blasted and machined; then bolted to the upper and lower slides formed by the rail bearings and arm mounting plates – forming a strong rigid member to mount the spindles and motors. Mounting the spindle and motor on the same moving member eliminates the need for traveling timing belts that historically cause problems. Spindle shafts are mounted in angular thrust bearings which are pre-loaded for accuracy. Bearings are lubricated by an oil mist system which is activated any time the spindles are running.

A PLC controls the sequencing of the heads and are normally networked to the servo drives, which power the feeding of the drill into the glass in order to set part specific requirements. A small operator interface is provided as a setup, control, and feedback device.

Glassline Diamond Core Drills are mounted into the drill spindles via collets for fast change over. These collets are made of stainless steel and accept a standard 3/8 inch drill shank.

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Servo Feed Drill Systems – For this model, each spindle arm and slide arrangement is driven up and down by a servo motor and ball screws with zero backlash nut assemblies. These assemblies mount to the top of the main frame for easy access. The servo motors and their associated controls allow precise motion in feed rate and positioning. The servo control provides for easier set-up, improved speed and chamfering ability. The drills are set to a length outside of the drill head, the operator then selects glass thickness, drill diameter, and presses the reset button.

Air Drill Systems – The spindle arm and slide arrangement is driven up and down by an air cylinder. These cylinders are connected to the spindle arms by alignment couplers and drive rods. The top spindle uses a multi-stage air cylinder which gives a short stroke for drilling and a long stroke for core drill replacement. Air cylinders are connected to each spindle arm assembly to counterbalance arm weight. Each spindle arm uses a hydraulic feed check to control spindle feed rate during drilling.

SPECIFICATIONS

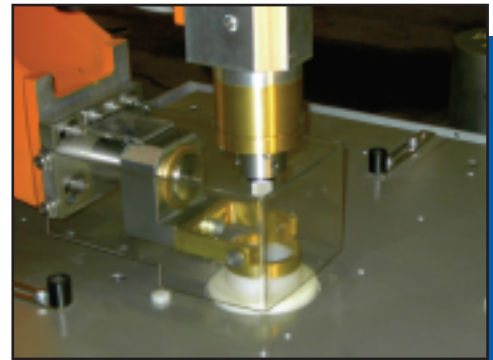
Drill Head	Standard Specifications
Glass Thickness Range	3 - 12 mm (other thicknesses optional)
Hole Diameter (Min.)	4 mm (smaller sizes optional)
Hole Diameter (Max.)	45 mm (larger sizes optional)
Throat Depth	20 inches (others optional)
Misalignment Tolerance	Maximum .05 mm (distance between top and bottom of drill centers)
Spindle Run Out	within 0.0125mm
Drill Shank Run Out	within 0.038mm (one inch from spindle nose)
Finished Part Hole Concentricity	within 0.0762mm eccentricity, top and bottom approach
Tool Type	3/8" diameter straight shank (ADA optional)

FEATURES

- ▶ Spindle heads are removable for repair or rebuild
- ▶ Alignment System incorporated – providing fast, easy alignment of the upper spindle to the lower spindle
- ▶ Coolant water supplied directly to the spindles via a rotary joint and valving – restricts flow during non-drilling time
- ▶ Lubrication – Oil Mist System for spindles is included

OPTIONS

- ▶ Servo Feed
- ▶ Larger Hole Capability
- ▶ Auto Load/Unload (in-line systems)
- ▶ Auto Squaring
- ▶ Auto Positioning Systems for Drill/Glass
- ▶ Auto Stoning
- ▶ Laser Drill Bit Measurement
- ▶ Granite Bases



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GLASSLINE

Glassline Corporation
28905 Glenwood Road
P.O. Box 147
Perrysburg, Ohio 43552-0147

Phone: (419) 666-5942
Fax: (419) 666-1549
E-mail: sales@glassline.com

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