

Engineering Data—Hydraulic Holomatic Power Feed Units, Series A6 4", 6", 10" Stroke

Basic Unit Hydraulic powered and controlled feed device.

Accessory Description

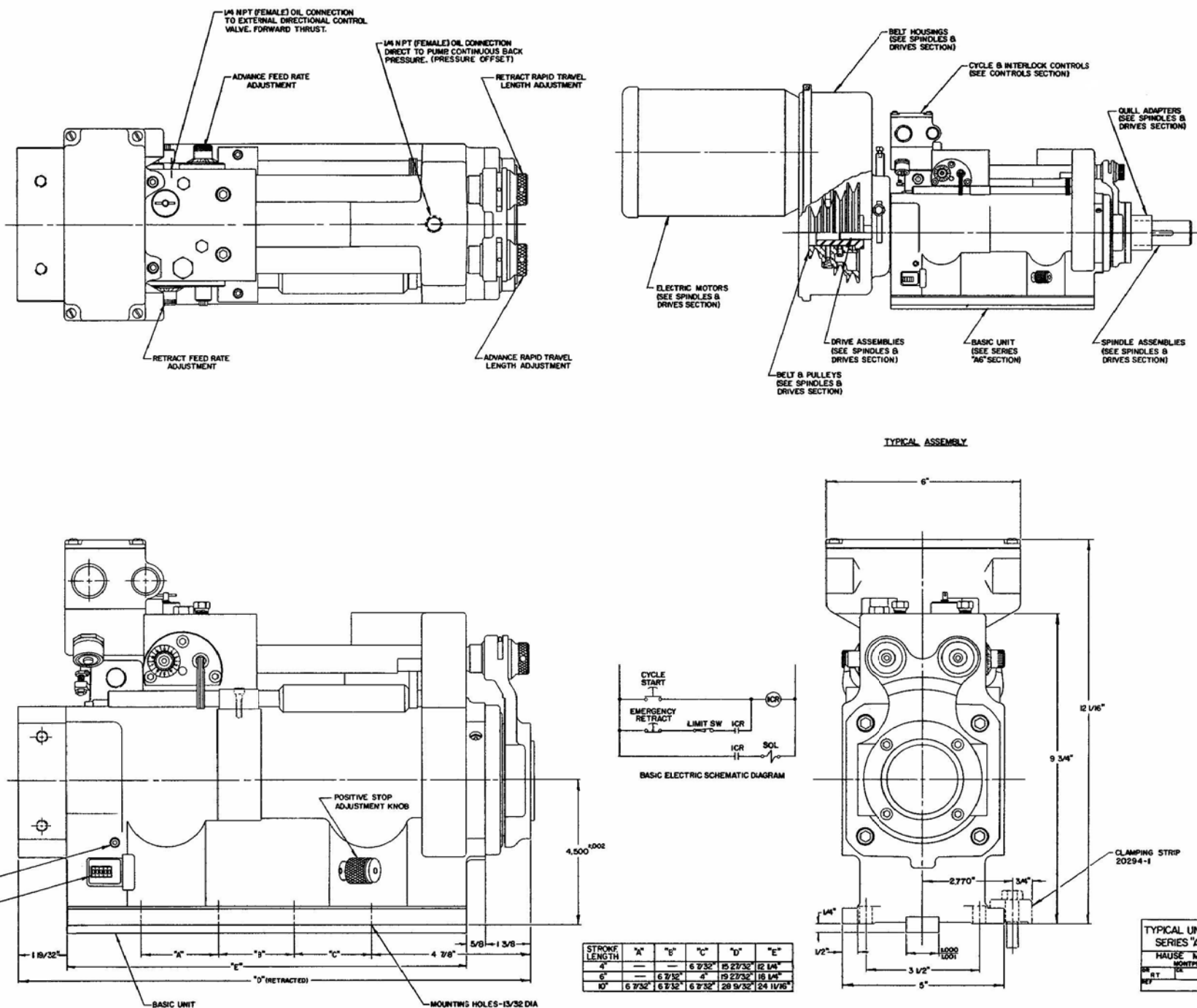
- Spindle** Mounts tools, available with #33 Jacobs O.D. Taper, 3/4", 1 1/16", and 1 3/8" Adjustable Adapter and #2 and #4 Morse Taper Sockets
Ref.: Spindle and Drive section
- Quill Adapter** Non-rotating, round or flange types secure multiple heads, etc. to quill.
Ref.: Spindle and Drive section
- Drive Assembly** Transmits motor power to spindle, mounts vee or timing pulleys. Regular and high torque. Standard and reduction types and direct motor type.
Ref.: Bul. No. Spindle and Drive section
- Belt Housings** Belt housings mount NEMA "C" flange frame motors to the unit either extended or overhead.
Ref.: Spindle and Drive section
- Motors** NEMA "C" flange and foot frame motors in 1/2, 3/4, 1, 1-1/2, 2, 3 and 5 HP sizes with 900, 1200, 1800 and 3600 RPM speeds for use with 3 phase, 60 Cycle, 220/440 volt electricity rotate and power the spindle.
Ref.: Spindle and Drive section
- Pulleys and Belts** Step vee pulleys and belts develop spindle speeds to 7300 RPM, and speeds as low as 40 RPM are possible with reduction drives. Timing pulleys and belts are also available.
Ref.: Spindle and Drive section
- Motor Reversing Control** Synchronizes stroke action of unit with motor rotation for tapping and threading.
Ref.: Dwg. No. 20268-00
- Threading Head Operator** Synchronizes opening and closing action of threading heads with stroke action of units for thread cutting or rolling.
Ref.: Dwg. No. 30138-0

Specifications

- Capacity** Drills to 1 1/4 inch diameter in steel with 500 PSI hydraulic supply when properly equipped. Tapping to 1 inch—8 pitch in steel with high torque drive.
- Stroke (3 models)** Adjustable 0 to 4 inches. Adjustable 0 to 6 inches. Adjustable 0 to 10 inches.
- Cycle Control** Use three-way (pressure offset) or four-way (double acting) directional valve mounted at the remote hydraulic power supply.
- Thrust Power** Developed by double acting area differential hydraulic cylinder.
- Input Pressure** 600 PSI Maximum.
- *Developed Thrust** Advance (pressure offset hookup)—2750 lbs. with 500 PSI oil.
Advance (double acting hookup)—4250 lbs. with 500 PSI oil.
Retract—1500 lbs. with 500 PSI oil.
- Cylinder Displacement** 8 1/2 cubic inches per inch of stroke with pressure offset hookup.
11 1/2 cubic inches per inch of stroke with double acting hookup.
- Stroke Movement Control** Meter in advance thru adjustable load compensated valve.
Meter out retract thru adjustable load compensated valve.
- Advance Rapid Distance** Adjustable 0 to maximum stroke length of unit model.
- Advance Rapid Travel Rate** 240 inches per minute with 500 PSI hydraulic pressure.
- Advance Feed Rate** 1/4 to 75 inches per minute. (load compensated).
- Retract Rapid Travel Distance** Full stroke except when Retract Stroke Control installed.
- with Retract Stroke Control** Adjustable 0 to maximum stroke of unit.
- Retract Rapid Travel Rate** 200 inches per minute with 500 PSI hydraulic pressure.
- Retract Feed Rate** 1/4 to 60 inches per minute. (load compensated).
- Stroke length** .005 inch, with positive stop operated limit switch.
- Repeatability** .0005 inch.
- **with DwellControl** .0005 inch.
- Mounting Positions** Unlimited, mount in any position at any angle.
- Weight** Average, less motor, 4"-90 lbs.; 6"-120 lbs.; 10"-175 lbs.; with 56C frame motor, add 25 lbs.

NOTE:
Bulletins and Drawings referenced above are included in the Service Manual furnished with each unit.

*These are theoretical stall point values with no allowance for internal or external resistance due to friction or weight. For efficient operation, the estimated maximum thrust requirement in either direction should not exceed 2/3 of these values.
**Ref.: Control Section Bul. 21830-01.



TYPICAL UNIT INSTALLATION
SERIES 'A6' HOLOMATIC
HAUSE MACHINES INC
MONTPELIER, OHIO
RT DR SCALE 1/2"=1'-0"
REF NO 21796-91

INSTALLATION AND SETUP INSTRUCTIONS

Ref.: Dwg. 22739-00

INSTALLATION

Assembly

Holomatic units are normally shipped from the factory assembled with motors, belt housings, pulleys and belts mounted. Care in aligning pulleys and adjusting motor positions for proper belt tension will assure maximum life of belts, motor and drive bearings.

Mounting

Holomatic units have a standardized and interchangeable mounting design that incorporates side flanges for clamping strips, screw holes for fixed position mounting and a central one-inch wide key on the bottom for alignment purposes. The use of a matching keyway in the machine base or in an adapter plate secured to the machine base simplifies initial alignment and subsequent service efforts.

Hydraulic Power Input

Two hydraulic hose lines are required to connect the hydraulic pressure source. 1/2" I.D. cycle line to the directional control valve at the pump is used for forward thrust and a 3/8" I.D. continuous backpressure line is connected directly to the pump. A minimum of 5 GPM pump capacity per unit is recommended.

Electric Power Input

Spindle drive motors operate on three phase, 50 to 60 HZ., 230 or 460 volts electricity depending on the user's requirement. Motor nameplates should always be checked for characteristics before hookup.

Remote Cycle and Interlock Controls

Components are available to operate from circuits using 110 volt 60 HZ., one phase electricity for power. Phone the factory for information and pricing.

Lubrication

Fill hydraulic system with 150-200 S.U.S. at 100°F - non-detergent hydraulic oil or as recommended by pump manufacturer. For compatibility with Holomatic seals use oil with an aniline point value of 205/215. See Maintenance Procedure in last section of this manual.

SETUP PROCEDURE FOR DRILLING

Set advance rapid travel length adjustment at extreme clockwise position for zero rapid travel. If included in the basic unit, set retract rapid travel length adjustment at extreme counterclockwise position for full rapid travel.

Set advance feed rate adjustment to about five turns counterclockwise from full closed position for a moderate feed rate. Retract feed rate adjustment is unimportant for drilling.

Set stroke length adjustment for the desired total stroke with the positive stop-adjusting knob, flush with the end of the shaft gives about 2" or maximum. The amount the shaft extends beyond the nut represents the decrease in length of stroke.

With hydraulic power source pressurized, cycle unit with remote directional valve. The spindle will automatically retract from the stroke length adjustment setting by means of the retract limit switch.

Reset the advance rapid travel length adjustment to a point just short of where a tool would contact the workpiece.

Reset the advance feed rate adjustment to an amount suitable for the tool in use and the material to be cut. We suggest the Hause Machining Computer as a guide for spindle speeds, feeds and machining time estimating. Available free on request.

SETUP PROCEDURE FOR TAPPING AND THREADING

(Units equipped with retract stroke control)

Use an automatic reversing control (motor) and a tension-type axial float tap holder in the spindle nose. Request for typical reversing controls should be made to the factory.

In addition to the procedure outlined for drilling, consideration must be given to regulating of the retract stroke. This involves setting of the retract feed rate adjustment to an amount corresponding to the thread produced.

Set retract rapid travel at extreme clockwise position (no rapid travel). When other adjustments are completed, reset this to start rapid retract immediately after tool clears workpiece.

Signal from the Holomatic to a switch in the automatic reversing control signals the motor controller to change the direction of spindle rotation.

Refer to Hause Machining Computer for suggested spindle speeds. Available free on request.

For basic unit sub-assembly descriptions refer to: Bulletin 22740-00.

For maintenance information, refer to individual sub-assembly bulletins.