

INSTRUCTION MANUAL
MANUAL VALVE CONTROL

MATERIAL TESTING MACHINE

MN-FL.21.1

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CONTENTS

Safety Warnings 3

Sequence of Operation 4

Functions of the Control Valve 5

WARNINGS / CAUTIONS

ONLY QUALIFIED PERSONNEL MAY OPERATE EQUIPMENT TAKING NOTE OF THE FOLLOWING

MOVING PARTS CAN CRUSH AND CUT – Keep hands clear of moving parts while operating machinery!

WEAR SAFETY GLASSES WHILE OPERATING EQUIPMENT – Always wear safety glasses while operating machinery!



SEQUENCE OF OPERATIONS

Machines Equipped with Manual Control Valve

NOTE: Only qualified personnel should operate FORNEY machinery taking pre-cautions that moving parts that can crush and cut!

1. Select and install any breaking heads and spacers as needed for test type. Typical maximum piston travel is 2.5", do not exceed maximum travel!
2. Place valve in the retract or hold position.
3. Turn on electric pump. If starting cold, let unit warm up for 10-15 minutes.
4. Carefully center specimen in machine. Use "Metered" and "Full Advance" valve positions as needed to advance piston and seat breaking head on specimen per test type requirements. Zero any load readouts just before applying load to specimen.
5. Position valve (control handle No. 1) to the "Metered Advance" position. It is normal for the valve to take a little time to fill with fluid and resume loading when switching to this position.
6. Adjust the metering knob to the desired loading rate. To increase the rate of loading, turn Control Knob No 2 counterclockwise. To decrease the rate of loading, turn Control Knob No. 2 clockwise.
7. If a fast preload is desired, position the valve to "Full Advance".
8. Watch the load monitor closely and when the desired preload has been attained, move the valve back to the "Metered Advance" position.
9. To hold pressure at any desired point, position the valve to the "Hold" position. Note that the hold is not leakage free and the system will bleed some pressure back to tank while in the hold position.
10. To release pressure so that the piston will return after a test has been completed, position the valve to the "Retract" position.

FUNCTIONS OF THE HA-0619 CONTROL VALVE

(REFER TO FIG. 1)

Metered Advanced Position

This position of the Control Handle No. 1 allows the operator to adjust the rate of loading. Using Control Knob No. 2 as the adjustment, turn the control knob clockwise for a decrease and counterclockwise for an increase in the rate of load.

Full Advance Position of Control Handle No. 1

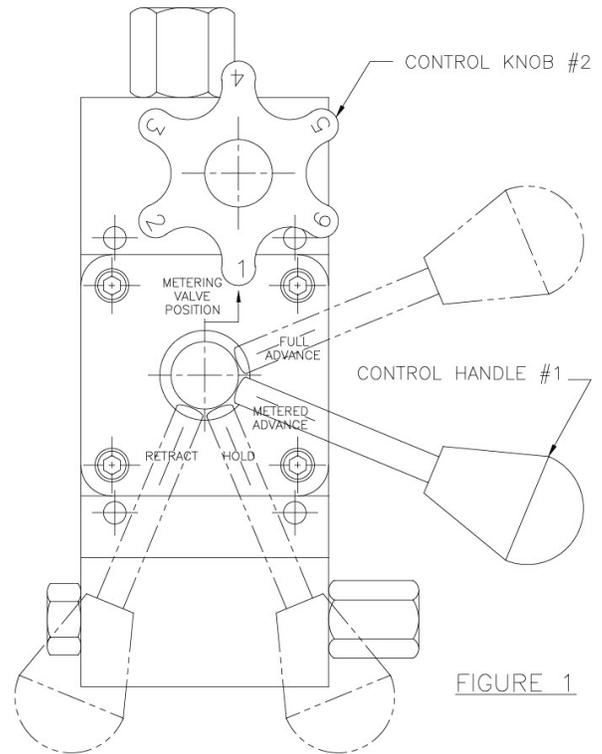
This places the machine in a rapid advance, non-controlled rate. This is used primarily for setting a pre-load or positioning the crosshead.

Hold Position of Control Handle No. 1

This position holds the pressure. It is normal for some pressure to bleed to tank when in the hold position.

Control Knob No. 2

With valve Control Handle No. 1 in the metered advance position, this knob allows the operator to control the loading rate. Turn the control knob clockwise for a decrease and counterclockwise for an increase in the rate of load.



FUNCTIONS OF CONTROLS
HA-0619 CONTROL VALVE

Retract Position of Control Handle No. 1

This position directs all ports back to the reservoir, releasing pressure, and allowing the piston to retract.

Note: During operation, the flow control valve will go through a significant temperature rise. Do not be alarmed, as this rise will not affect the operation of the testing machine.