Claims

1. Method for controlling a hydraulically actuated drive unit (1-3) with a predetermined displacement especially for a valve or control device, wherein at least on a part of the displacement of the drive unit the displacement speed (v') is detected and compared with a predetermined target displacement speed (v) by means of a combination of distance measurement and time measurement of the displacement at at least two measuring points,
whereupon in the case of a difference between actual value (v') and target value (v) of the speed, the controlling of the drive unit (1-3) is changed such that the displacement speed (v') of the drive unit is adapted to the target value (v), so that the drive unit (1-3) travels the predetermined displacement in a predetermined, constant displacement time, wherein the displacement speed (v') of the drive unit (1-3) is measured on a partial section (S1 to S3) and used as a basis for calculating the time for displacing over the remaining displacement path for satisfying the predetermined displacement time.

2. Method according to claim 1, wherein the displacement speed (v') at the beginning of the displacement is measured on a partial section (S1-S3) starting from the end position (S1).

3. Method according to claim 1, wherein the displacement speed (v') of the drive unit (1-3) is detected continuously and compared with the predetermined target displacement speed (v), whereupon in the occurrence of a difference between target value and actual value the controlling of the drive is continuously changed such that the predetermined target displacement time is maintained.

4. Method according to one of the preceding claims, wherein for a drive unit having a spring-loaded piston (1), the hydraulic pressure acting on the piston is controlled by changing the passage cross-section in a return line (10).

5. Method according to one of claims 1 to 4, wherein for a drive unit having a piston (1) acted on by hydraulic fluid on both piston sides, the hydraulic fluid is controlled by changing the passage cross-section in the pressure-conducting hydraulic line (4.4).

6. Method according to one of claims 1 to 2, wherein for an electrohydraulic drive the controlling of the drive unit is controlled by means of a change in the motor rotational speed or by means of switching on and off of the motor (M).

7. Device for controlling a hydraulically actuated drive unit, especially of a valve, comprising a piston (1) spring-loaded by a spring (3) in a hydraulic cylinder (2) with a predetermined displacement,
a hydraulic pump (6) for pressurising the spring-loaded piston (1) through a feed line (4),
at least a control valve (8, 9) in a return line (10) for opening and closing a cross-section of the return line, and
a processing unit (11) connected to a control unit (14) for storing a predetermined displacement time for the displacement and for comparing the actual value of the piston speed (v') with a target displacement speed (v) and for outputting a control signal to the control unit (14) such that the predetermined displacement time is satisfied,
wherein the cross-section of the return line (10) is controlled by the control unit (14).

8. Device for controlling a hydraulically actuated drive unit, especially of a valve, comprising a piston (1) acted on by hydraulic fluid on both piston sides in a hydraulic cylinder (2) with a predetermined displacement,
a hydraulic pump (6) for pressurising the piston (1),
a control valve (15) for switching the hydraulic lines (4.1, 4.2) leading to the hydraulic cylinder (2) between feed line and return line,
a throttle (17) arranged in the feed line between pressure source (6, 16) and control valve (15), which throttle is bypassed by a bypass line (4.41) in which a valve (18) is arranged for opening and closing the bypass line, and
a processing unit (11) connected to a control unit (14) for storing a predetermined displacement time for the displacement and for comparing the actual value of the piston speed (v') with a target displacement speed (v) and for outputting a control signal to the control unit (14) such that the predetermined displacement time is satisfied,
wherein the passage cross-section of the feed line (4.4) and the valves (15, 18) are controlled by the control unit (14).

9. Device for controlling a hydraulically actuated drive unit, especially of a valve, comprising

a hydraulic pump (6) driven by a drive motor (M) for acting on a piston (1) of the drive unit having a predetermined displacement, with hydraulic fluid,
a processing unit (11) connected to a control unit (14) for storing a predetermined displacement time for the displacement and for comparing the actual value of the piston speed (v') with a target displacement speed (v) and for outputting a control signal to the control unit (14) for synchronised operation manner of the motor (M) or for a change in the rotational speed of the motor (M) so that the predetermined displacement time is satisfied,
wherein the drive motor (M) is controlled by the control unit (14).

10. Device according to one of claims 7 to 9, wherein for detecting the displacement speed of the drive unit, path-dependent switches (S1 to S4) are provided on at least a partial section of the displacement path.

11. Device according to one of claims 7 to 9, wherein the displacement of the drive unit is detected by means of a potentiometer.