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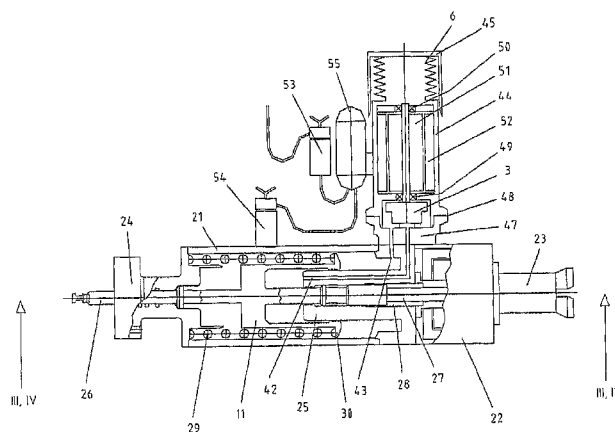


FIG 2

(57) **Abstract:** A sub sea valve actuator system is disclosed, comprising a piston (25) and cylinder (H) assembly and a return spring (29) arranged in an actuator housing (21, 22), a hydraulic pump (3) and electric motor (1) assembly associated with 5 the piston (25) and cylinder (11) assembly, hydraulic flow lines (42, 43) for hydraulic medium driving the piston and cylinder in relative displacement against the force of the return spring (29). The valve actuator system is characterized in that detection means are arranged for detecting an end-of-stroke position of the piston (25) and cylinder (11) assembly, said detection means is at 0 least one of: a motor current monitoring circuit unit (94); a hydraulic medium pressure sensor unit (98); a position sensor unit (99); and a linear variable differential transformer unit (100), wherein an electromechanical arresting mechanism is arranged to be energized for releasably arresting the return spring in a compressed state in result of the detected end-of-stroke position. A method 5 for operation of a sub sea valve actuator system is likewise disclosed, by which an end-of-stroke position for a piston (25) and cylinder (11) assembly in a sub sea valve actuator system can be determined.