CLAIMS

1. Device for generating percussive pulses or vibrations for a construction machine, with
   - a housing (6),
   - a piston (8) which is reversibly reciprocable in a working space in the housing (6) between a first reversal point and a second reversal point,
   - a pressure fluid supply (P), through which pressure fluid can in each case be led into and out of the working space in the region of the first reversal point and the second reversal point, wherein the piston (8) can be set into the reversible movement in order to generate the percussive pulses or vibrations,
   - at least one controllable valve (9), through which the pressure fluid can be led into and/or out of the working space, and
   - a control unit (PLC) which is connected to the at least one controllable valve (9), wherein by the control unit (PLC) the movement of the piston (8) in the working space can be controlled and changed,

   c h a r a c t e r i z e d in that
   - the control unit (PLC) is designed to move the piston (8) at a frequency that corresponds to a resonance frequency of an overall arrangement comprising the piston and the pressure fluid.

2. Device according to claim 1,
   c h a r a c t e r i z e d in that
   the valve (9) is an electromagnetic valve.

3. Device according to claim 1 or 2,
   c h a r a c t e r i z e d in that
   a measuring means (10) for determining a position of the piston (8) in the working space is provided.

4. Device according to claim 3,
   c h a r a c t e r i z e d in that
   the measuring means (10) has a linear sensor.

5. Device according to any one of claims 1 to 3,
   c h a r a c t e r i z e d in that
   on at least one reversal point a percussion surface is arranged, onto which the piston (8) strikes specifically to generate a percussive pulse.

6. Device according to any one of claims 1 to 4,
   c h a r a c t e r i z e d in that
   the overall arrangement also comprises the housing.

7. Device according to any one of claims 1 to 5,
   c h a r a c t e r i z e d in that
   the mass of the piston (8) and/or the housing can be changed by mounting or removing adjustment weights.

8. Construction machine
   c h a r a c t e r i z e d in that
   a device for generating percussive pulses or vibrations according to any one of claims 1 to 7 is arranged.

9. Construction machine according to claim 8,
   c h a r a c t e r i z e d in that
   this is an earth drilling apparatus.

10. Construction machine according to claim 7,
    c h a r a c t e r i z e d in that
    this is a pile driver or a vibrator.

11. Method for generating percussive pulses or vibrations for a construction machine, in particular with a device according to any one of claims 1 to 6,
    in which
    - a piston (8) is reversibly reciprocated in a working space in a housing between a first reversal point and a second reversal point,

- wherein, for the purpose of generating the percussive pulses or vibrations, the piston (8) is set into a reversible movement by means of a pressure fluid and the pressure fluid is led into and out of the working space in the region of the first reversal point and the second reversal point,
- wherein a control unit (PLC) controls at least one controllable valve (9), through which pressure fluid is led into and/or out of the working space,
  and
- by the control unit (PLC) the movement of the piston (8) is controlled,

c h a r a c t e r i z e d in that

- the at least one valve (9) is controlled by the control unit (PLC) such that the piston (8) is moved at a frequency that corresponds to a resonance frequency of an overall arrangement comprising the piston (8) and the pressure fluid.