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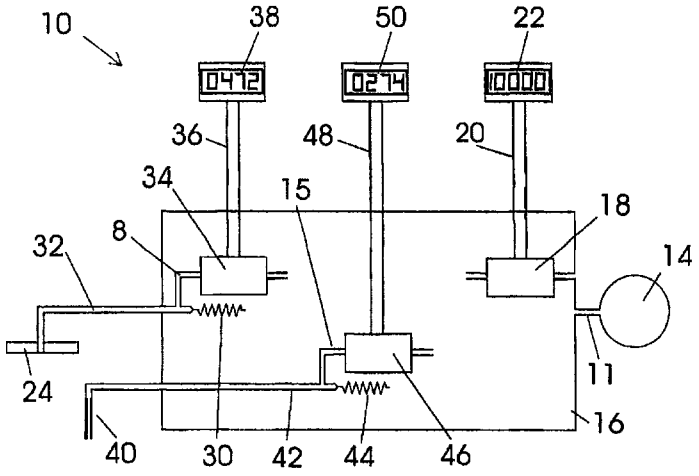
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(54) Title: APPARATUS AND METHOD FOR MEASUREMENT OF PERMEABILITY OR STRAIN IN PERMEABLE MATERIALS



(57) Abstract: Apparatus 10 for measuring permeability of a material 12 includes a substantially constant vacuum source 14 coupled via duct 11 to a fluid capacitance vessel 16 which contains pressure transducer 18 coupled by conductors 20 to an amplifier and display 22 for monitoring the source 14. Fluid impervious disc 24 is provided with placement on surface 26 on the material 12 to define, between disc 24 and surface 26 a fluid flow cavity 28. Disc 24 is coupled by conduit 32 to a restriction tube 30 which provides a high impedance to fluid flow. An opposite end of the restriction tube 30 is in fluid communication with vessel 16. A transducer 34 is coupled across restriction tube 30 to provide a measure of fluid flow. Fluid impervious seal 60 forms a seal about the periphery of disc 24 and extends radially outwardly on the surface 26. Assuming the material 12 has some degree of permeability, air will be able to permeate through the material 12 from beyond the periphery of the seal 60 and to the cavity 28. This flow produces a steady state of pressure differential across the tube 30 which is detected by transducer 34 and which can be read from display 38, to provide a measure of permeability.

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