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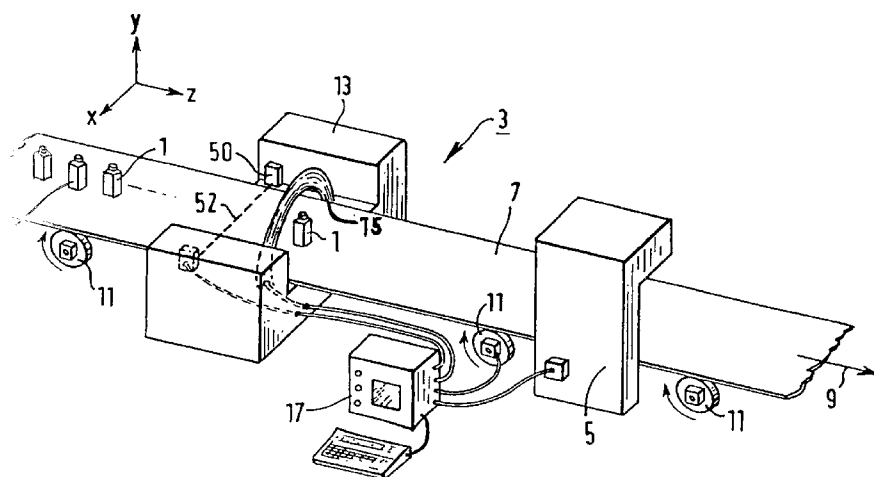
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(54) Title: NMR MEASURING SYSTEM FOR WEIGHT AND HUMIDITY OF POWDERS



(57) Abstract: An improvement in a magnetic resonance method for determining the mass of samples wherein the samples (1) include powdered solid materials, including applying a first magnetic field in a first direction in an interrogation zone (103) for creating a net magnetisation within a sample (1) located within the interrogation zone (103); applying an alternating magnetic field in a second direction in the interrogation zone (103) for temporarily changing the net magnetisation of the sample (1); monitoring energy emitted by the sample (1) as the net magnetisation of the sample (1) returns to its original state and generating an output signal having a characteristic which is proportional to the energy emitted; comparing the output signal characteristic with like data obtained from at least one similar sample of known mass; and, determining the mass of the sample (1); the improvement being one of generating the static magnetic field having a field strength on the order of about 0.5T, or disposing the samples (1) within a distance of about 0.5mm from the surface of the magnetic probe (13) generating the static magnetic field; applying the alternating magnetic field to the sample (1); sensing the free induction decay energy of the sample and generating a corresponding output free induction decay signal.



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