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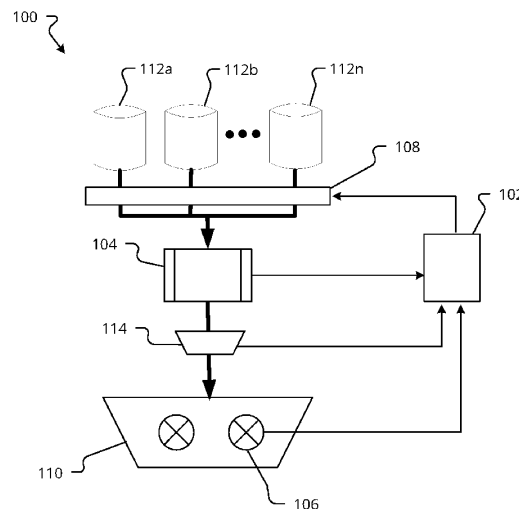


FIG. 1

(57) Abstract: Methods, systems (100) and computer programs encoded on computer-readable storage media for preparing a concrete mixture. The methods include controlling an ingredient metering system (108) to measure and add a plurality of ingredients from storage hoppers (112a, 112b, ..., 112n) to a concrete mixture in a mixing vessel (110), measuring characteristics of at least one ingredient of the ingredients using a particle analyzer (104), determining an estimated rheometry measurement of the concrete mixture based on the measured characteristics, obtaining an actual rheometry measurement of the concrete mixture, and selectively controlling the ingredient metering system (108) to add one or more additional ingredients to the concrete mixture based on a comparison of the estimated rheometry measurement with the actual rheometry measurement.

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