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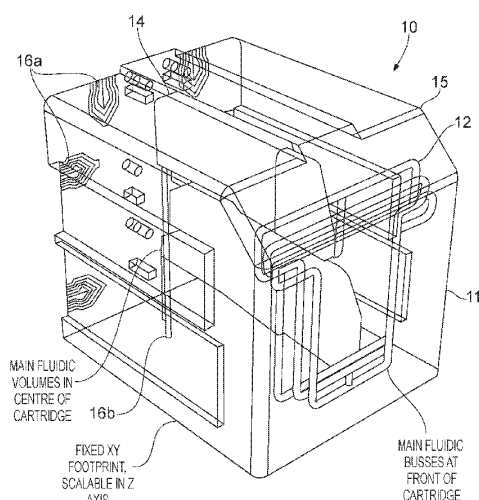


FIG. 4A

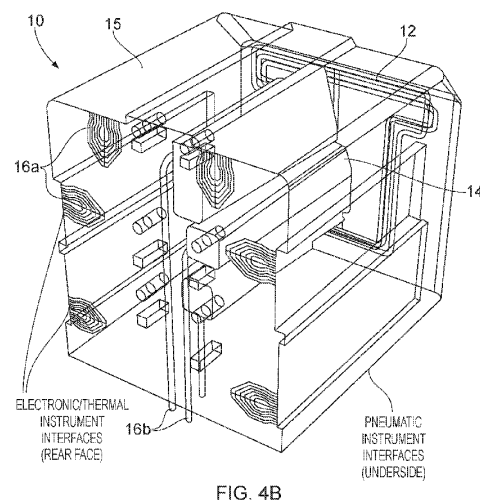


FIG. 4B

(57) Abstract: Aspects of the present invention provide a modular reactor device having an outer housing, and a plurality of components contained within the outer housing, the components including: a reaction chamber; a fluid pathway connected to the reaction chamber; and a valve arranged to control flow of fluid within the device, wherein the outer housing has a plurality of connection ports providing connections from the exterior of the device to the interior, the connection ports including: a fluid input and a fluid output; an electrical input; and a pneumatic input; wherein either the electrical input or the pneumatic input is connected to the valve to provide for control of the valve, and either the fluid input or the fluid output is connected to the reaction chamber or the fluid pathway. Other aspects provide a base station for receiving and controlling a modular reactor device and methods for manufacturing the modular reactor device and for performing reactions using a modular reactor device.

[Continued on next page]

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