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(54) **INTERSTAGE CAPACITY CONTROL VALVE WITH SIDE STREAM FLOW DISTRIBUTION AND FLOW REGULATION FOR MULTI-STAGE CENTRIFUGAL COMPRESSORS**

(57) Centrifugal compressors can incorporate a side stream flow of intermediate pressure vapor between stages of that compressor. The side stream flow can be controlled by a side stream injection port controlled by a throttle ring disposed between stages of the compressor. The throttle ring can allow or obstruct flow through the side stream injection port. The throttle ring

can extend and retract in a direction substantially perpendicular to the direction of flow from the first stage impeller to the second stage impeller. A method of operating a centrifugal compressor can include actuating a throttle ring by rotating a drive ring to adjust a flow of interstage fluid into the second stage impeller.

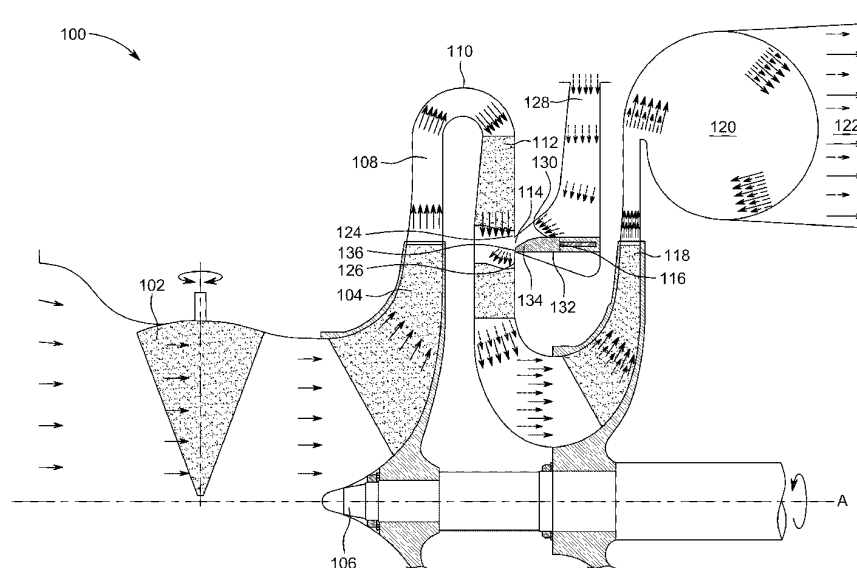


Figure 1A

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Place of search		Date of completion of the search	Examiner
The Hague		28 May 2026	Kolby, Lars
CATEGORY OF CITED DOCUMENTS		T : theory or principle underlying the invention E : earlier patent document, but published on, or after the filing date D : document cited in the application L : document cited for other reasons & : member of the same patent family, corresponding document	
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