

Title (en)
Rotary vane hydraulic actuator.

Title (de)
Hydraulisches Schwenkflügelstellglied.

Title (fr)
Actionneur hydraulique à clapet oscillant.

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Application
EP 87104197 A 19870321

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US 87194486 A 19860609

Abstract (en)
A rotary actuator for operation at fluid pressures in the order of 8000 psi utilizes a generally cylindrical housing (10) with top and bottom flat portions to enable operation along the hinge line of a control surface forming part of a thin section wing. An output shaft (18) passing through the housing (10) and supported in endcaps (12, 14) attached thereto is rotatable over a range of up to about +/- forty degrees and is moved by means of fluid pressure acting on a pair of diametrically opposed vanes (50, 52). A pair of elongated ribs (42, 44) are formed in the inside of the cylindrical housing (10) opposite the flat portions which ribs (42, 44) have arcuate surfaces (46, 48) supporting the shaft (18). Elongated dynamic seals (34, 36) are carried in the ribs (42, 44) which seal against the shaft (18). The vanes (50, 52) constitute relatively thick lobes with arcuate surfaces (54, 56) movable adjacent the inside walls of the housing (10). Elongated dynamic seals (66, 68) are carried in the internal housing walls and the endcaps (12, 14) which seal against the arcuate surfaces (54, 56) and the end surfaces of the vanes (50, 52). Other dynamic seals (105) are carried in the endcaps (12, 14) which seal against the shaft (18). An alternate embodiment (90) utilizes a single vane (100).

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Citation (search report)
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