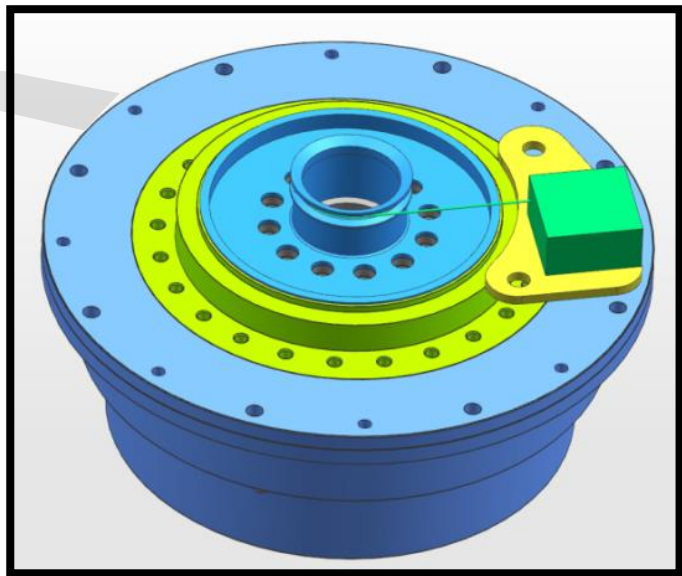
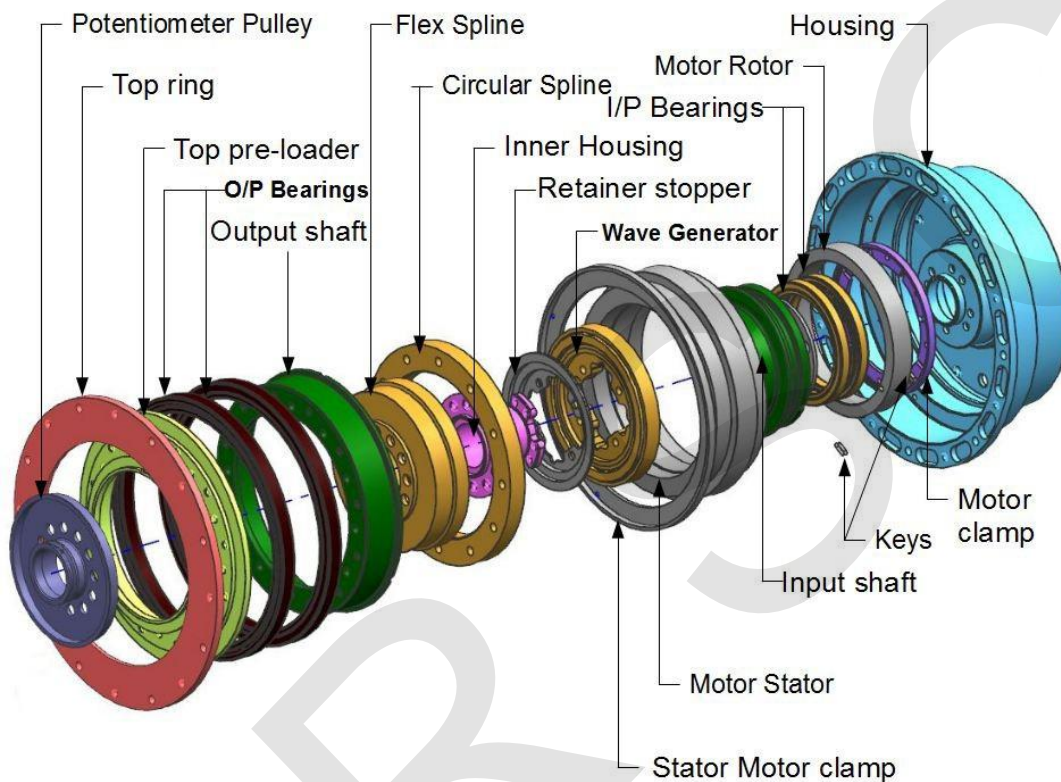


Rotary Actuator Mechanism (DM-25)

U R Rao Satellite Centre (URSC) of Indian Space Research Organisation (ISRO) has developed Rotary Actuator Mechanism (DM-25) is a high precision drive mechanism (DM) used in deployment, pointing and tracking payloads and appendages. The Rotary Actuator Mechanism (DM-25) has high torque capacity, load carrying capacity, precision and accuracy and comparable with space-grade actuators available worldwide. It has application for space, aerospace, defence/military, medical and similar industries, where such capabilities in actuators are required. The Mechanism employs the stepper motor and strain wave gearing system which ensures backlash free and high precision motion. The angular contact ball bearing pairs are used to support and provide load carrying capabilities desired for payloads and appendages.





Salient Features

- ❖ Rotary Actuator has low mass with high torque and high precision
- ❖ It provides backlash free motion at output.
- ❖ Good Torque to mass and torque to power ratio.
- ❖ Modular design with features to customise input and output assemblies.
- ❖ Provision for building angle readout devices on both input and output ends.
- ❖ Compact, ease of assembly and fully testable.

Major Specifications

SI No	Specification	Units	Value
1	Output step angle	Degree	$1/161 = 0.00621^{\circ}$
2	Range of Operation	Degree	Continuous (0° - 360°)
3	Gear ratio	-	161:1
4	Power	Watts	~10.5
5	Output torque	N-m	40
6	Holding torque: un-powered	N-m	8
7	Shaft Moment capacity	N-m	330
8	Radial load capacity	N	15000
9	Axial Load capacity	N	13000
10	In Plane natural frequency	Hz	960
11	Out of plane natural frequency	Hz	680
12	Assembly weight	kg	1.25
14	Over all dimension	mm	Dia 120mm x 52mm(h)
15	Centre Through Hole for cable	mm	17

Technology Transfer

URSC-ISRO offers to transfer this technology of Rotary Actuator Mechanism (DM-25) developed by URSC to industries in India with adequate experience and facilities. Industries interested in obtaining know how may write giving details of their present activities, infrastructure and facilities.

Technology Transfer & Industry Coordination Division (TTID),
Programme Planning and Evaluation Group (PPEG),

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🌐 <https://www.ursc.gov.in/industry/index.jsp>