
	HYDRO TURBINE ENGINEERING DIVISION	SPECIFICATION NO.	REV NO. 00
	TITLE : SPECIFICATION OF LINEAR VARIABLE DIFFERENTIAL TRANSFORMER (LVDT)	SAMPLE	Page 1 of 4

This specification covers detail of Linear Variable Displacement Transducer (**LVDT**) **Spring Loaded** to sense displacement of Guide Vane Servomotors (Hydraulic Cylinder) and MDV.

1. TECHNICAL PARTICULARS OF LVDT:-

PARTICULARS	FOR GUIDE VANE SERVO FEEDBACK		
Quantity	10 Sets		
Electrical Stroke Length	170 mm		
Mechanical Stroke Length	To be decided / furnished by supplier		
Type of shaft	Spring Loaded		
Input Voltage	24 V DC		
Output Signal	4-20 mA as per Sketch No. HTE/GC/265		
Type of Mounting	Clamp mounting type as per Sketches enclosed. Two (02) Nos. clamp assy. (M.S. Material) along with screw & washer in assembled condition with each LVDT.		
Resolution	Infinity		
Linearity	Less than 0.5%		
Output Ripple	0.5% peak to peak of output		
Frequency Response	10% Degradation at 20Hz		
Temperature Range	-20° to +85° C		

REV.NO.		DISTRIBUTION.	QTY.	APPROVED:			
PREPARED							
CHECKED		HTE	01	PREPARED	CHECKED	ISSUED	DATE
APPROVED		MM(H)	04				
DATE							

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Temperature coefficient	0.1% of output volts per °C
Insulation Resistance input/output/earth at 500V DC	100 MΩ
Flying Leads	5 Meters PTFE insulated 7 / 0.2 mm Long
Protection	Protection against surge voltage, over voltage, reverse voltage & short circuit
Wiring	Furnish the wiring diagram with color code along with dimensional drawing by the supplier along with the offer.

Remark: When LVDT shaft is fully pressed, output should be 4 mA and when LVDT shaft is fully extended, output should be 20 mA.

2. DOCUMENTS:

- i) Technical leaflets
- ii) Mounting details & over all dimension in mm


3. GUARANTEE:

Guarantee for trouble free operation for a period of 18 months from the date of dispatch or 12 month from the date of commissioning.

4. TESTING & CERTIFICATION:

The inspecting agency shall certify that the testing has been witnessed as per applicable standard. Acceptance or waive of inspection does not absolve the supplier of his responsibility to rectify the equipment in case it does not perform satisfactorily at site where in it is actually used. The following test to be conducted at supplier works

- a) Visual inspection
- b) Insulation testing at 500 V DC
- c) Continuity test
- d) Calibration /linearity test ,stroke in mm Vs output signal
- e) Testing for surge voltage protection
- f) Testing for over voltage, Reverse polarity & short circuit

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5. STORAGE AND HANDLING:

Supplier should indicate the method of storage & handling instruction to avoid any damage and its safe operation. If any special precaution is required for handling the item it should be clearly indicated in the name plate as “**CAUTION**”.

6. PACKING:

Item shall be packed in a thermo Cole box with silica gel packed and placed in a cartoon or case with adequate cushioning material and water proof cover to minimize the movement of the internals and ensure that the item is capable of withstanding the transit condition with damages.

7. IDENTIFICATION:

Item shall be identified with following information.

i) Manufacturer’s Name

ii) Manufacturer’s Model No. & Serial No.

iii) Input voltage


iv) Output signal

v) Input/output connection

vi) Electrical stroke length in mm

vii) LVDT’s to be clearly marked with “Caution” that these are to connected/ disconnected in circuit only on off condition.

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9. DATA TO BE FURNISHED BY SUPPLIER ALONG WITH OFFER:

DATA	FOR GUIDE VANE SERVO FEEDBACK		
Electrical Stroke Length			
Mechanical Stroke Length			
Power Consumption			
Weight & Packing Dimension			
Protection			
Input			
Output			
Resolution			
Sensitivity			
Temperature Range Operational			
Temperature Coefficient			
Insulation Resistance			
Linearity			
Mounting Dimension			
Over all Dimension			
Deviation if any			
