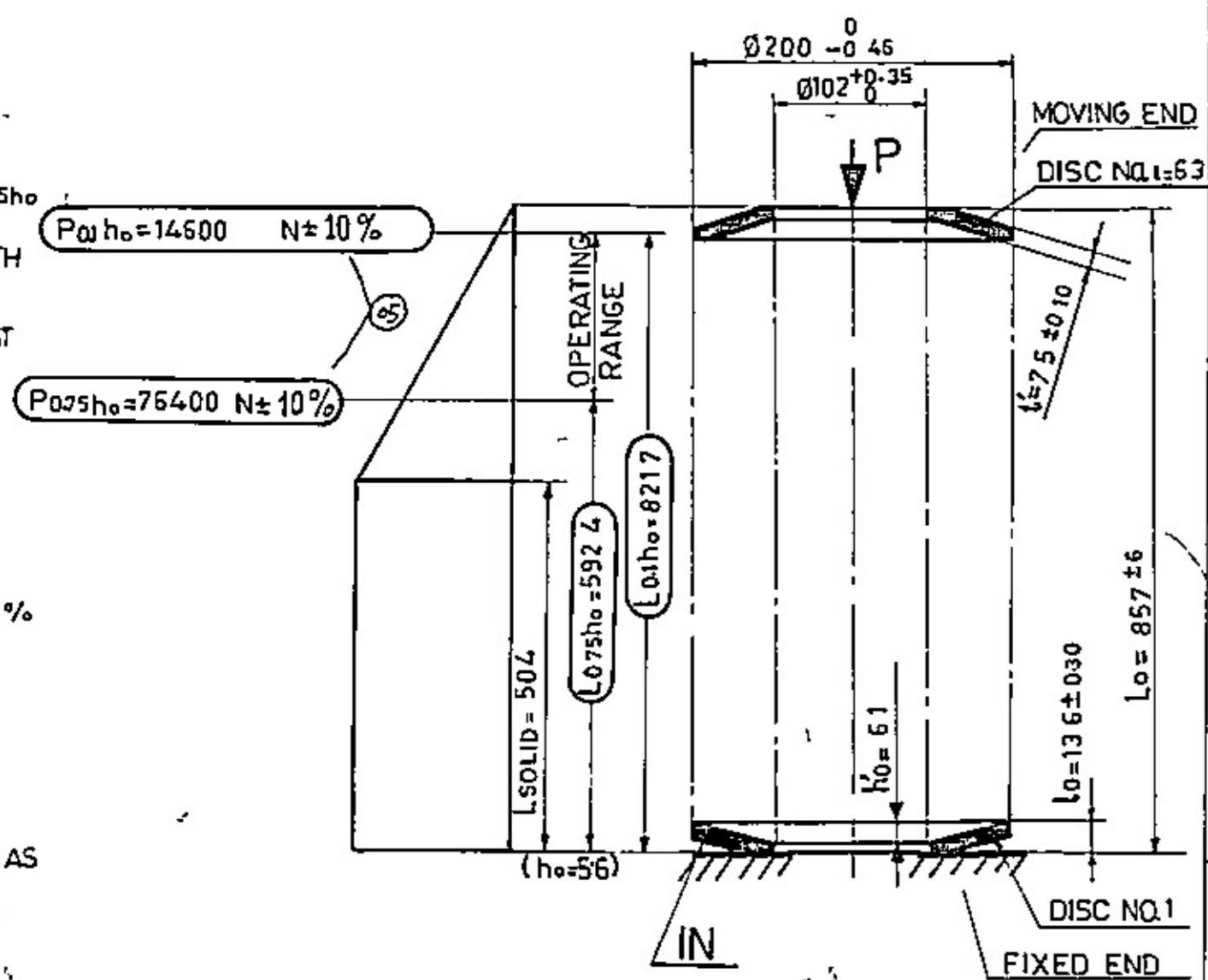


90010-32311-E  
ON 9N1MARD  
DRAWING NO

**TECHNICAL REQUIREMENTS:-**

- 1 DISC SPRING WITH BEARING SURFACE SHALL CONFORM TO GROUP 3, DIN 2093.
- 2 DISC SPRING STACK CONSISTS OF 1 NO OF DISC SPRINGS ASSEMBLED IN SINGLE SERIES.
- 3 INDIVIDUAL DISC SPRING IS TO BE TESTED WITH SPRING FORCE  $P_{0.75h_0}$  AT DISC HEIGHT  $L_{0.75h_0}$  AND COMBINED TESTING OF THE SPRING STACK IS TO BE DONE AS PER SPRING DIAGRAM
- 4 THE TEST SHALL BE DONE WITH THE HELP OF TWO PRESSURE PLATES PROVIDED ON BOTH SIDES, WHICH SHALL BE HARDENED, GROUND AND POLISHED, USING SUITABLE LUBRICANT.
- 5 VALUES ENCLOSED AS  $\square$  SHALL BE MEASURED AND RECORDED BY SUPPLIER ON TEST CERTIFICATE. VALUES OF  $L_{0.1h_0}$ ,  $L_{0.75h_0}$ ,  $L_{SOLID}$  ARE FOR REFERENCE ONLY.
- 6 **MANUFACTURING METHODS :-**
  - 6.1 DISCS ARE TO BE MANUFACTURED BY HOT FORMING
  - 6.2 DISCS ARE TO BE MACHINED ALL OVER AND SHARP EDGES TO BE ROUNDED OFF.
  - 6.3 CONCENTRICITY OF DIAMETERS SHOULD BE WITHIN 0.5mm
- 7 **HARDNESS, SURFACE AND SCRAGGING**
  - 7.1 THE DECARBURIZATION OF DISC SPRINGS AFTER HEAT TREATMENT SHOULD NOT EXCEED 3% OF DISC THICKNESS
  - 7.2 HARDNESS OF EACH DISC SHOULD BE WITHIN 42 TO 52 HRC
  - 7.3 AFTER HEAT TREATMENT DISC SPRINGS MUST BE SUBJECTED TO SCRAGGING, TO ENSURE THAT AFTER BEING LOADED AT TWICE THE FORCE  $P_{0.75 h_0}$  THE FREE HEIGHT  $L_0$  OF DISC DOES NOT VARY
  - 7.4 THE SURFACE MUST BE FREE FROM DEFECTS VIZ. CRACKS, PITS, RUST-SPOTS ETC.
- 8 ANTI-CORROSIVE COATING ON DISC SPRINGS CAN BE PHOSPHATISING, Zn-, OR CD-PLATING AS PER SUPPLIER'S CHOICE, WITH PRIOR APPROVAL OF BHEL.
- 9 MATERIAL TEST CERTIFICATE SHOULD INCLUDE CHEMICAL PROPERTIES AND HARDNESS OF DISC SPRINGS.
- 10 IDENTIFICATION OF SPRINGS AS PER HW0400397 AT A PLACE MARKED WITH IN. IDENTIFICATION MARKING SHOULD NOT DISSOLVE IN TURBINE OIL AND FIRE-RESISTANT-FLUID (PHOSPHATE ESTERS)
- 11 IN ADDITION EACH DISC SPRING SHALL BE MARKED WITH STACK No & DISC No, e.g DISC No. 2 OF STACK No. I SHALL BE MARKED AS I/2.
- 12 DISC SPRINGS SHALL BE PROPERLY TIED TOGETHER AND PACKED TO AVOID INTERMIXING AND DAMAGE DURING TRANSIT AND STORAGE.



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8200220 a REF DRG NO  
9-11-93 SIGN & DATE  
51-14369 INVENTORY NO

|             |                                 |               |                  |             |
|-------------|---------------------------------|---------------|------------------|-------------|
| 001         | DISC SPRING STACK (200X102 X 8) | 3-11323-01005 | W 97311.3.230.45 | 8.50        |
| VAR 00      | REMARKS                         | ITEM NO.      | DESCRIPTION      | STD         |
| 59          | 64 65                           | 75 25 27 29   | 58 59 60         | 77          |
| 29 31       | 29 31                           | 29 31         | 29 31            | 29 31       |
| 32 34 46    | 32 34 46                        | 32 34 46      | 32 34 46         | 32 34 46    |
| 55 56 57 66 | 55 56 57 66                     | 55 56 57 66   | 55 56 57 66      | 55 56 57 66 |
| 71 72       | 71 72                           | 71 72         | 71 72            | 71 72       |

|                                      |  |                             |  |  |  |                                      |  |           |  |                   |  |
|--------------------------------------|--|-----------------------------|--|--|--|--------------------------------------|--|-----------|--|-------------------|--|
| SUPERSEDES OLD TRACING UNDER SAME NO |  | GMS NO/GR-SP-NO-01132301000 |  | STATUS OF DRG  |  | TYPE OF PRODUCT <b>STEAM TURBINE</b> |  |           |  |                   |  |
| GRADE OF UNTOL DIM --                |  | AGREED DEPT                 |  | NAME   |  | SIGN                                 |  | DATE      |  | NO OF VAR         |  |
| M/CG-Z/M/F AA 0230208                |  | -                           |  | -  |  | -                                    |  | -         |  | -                 |  |
| WELDING A/B/C/DAA062110              |  | -                           |  | -  |  | -                                    |  | -         |  | -                 |  |
| GAS CUTTING T3 AA 062110             |  | -                           |  | -  |  | -                                    |  | -         |  | -                 |  |
| REV DATE 05/5/1995                   |  | ALTERED CHECKED             |  | REV DATE 04/30/10/93                                       |  | ALTERED CHECKED                      |  | DEPT STE  |  | SCALE WEIGHT (kg) |  |
| CHANGED AS PER CHANGE                |  | ADVISE NO STE 93-58601      |  | THIS DRG SUPERSEDES THE EARLIER DRG UNDER THE SAME DRG NO. |  | CHANGE ADVISE NO STE 93-659          |  | CODE 4011 |  | NTS 850           |  |
| DRAWING NO 3-11323-01005             |  | SHEET NO 01                 |  | NO OF SHEETS 01  |  | DRAWING NO 3-11323-01005             |  | CARD CODE |  | ITEM NO 010       |  |