



## A.C. Machine Engineering Division Bhopal

Rev. 00

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### Induction Machine Technical Data

**Enq. Ref: AME/O2014-1786MM**

**Customer: M/s TSGENCO th PSCM**

*Note: Data furnished below is subject to IS:325 / IS/IEC:60034-1 tolerances unless stated otherwise.*

| No. | Description                                                                                | Data                                       |
|-----|--------------------------------------------------------------------------------------------|--------------------------------------------|
| 1   | Application                                                                                | COMPRESSOR                                 |
| 2   | Machine Description                                                                        | SCIM                                       |
| 3   | Rating (KW) / F.L. RPM                                                                     | 300 / 2979                                 |
| 4   | (a) Rated Voltage & Variation<br>(b) Rated Frequency & Variation<br>(c) Combined Variation | 6600 / $\pm 10\%$<br>50 / $\pm 5\%$<br>10% |
| 5   | Frame Type / DOR (uni./bi.)                                                                | 1LA4350-2 / Uni-directional                |
| 6   | Enclosure / Method of cooling / Protection Class                                           | TEFC / IC411 / IP55                        |
| 7   | Insultaion Class / Type                                                                    | F / Resin Poor VPI                         |
| 8   | Ambient / Temp. Rise (DEG.C) (By Res.)                                                     | 50/70                                      |
| 9   | Full Load Current (Amps.)                                                                  | 31.0                                       |
| 10  | Efficiency (%) At 100% / 75% / 50% FL                                                      | 94.8 / 94.0 / 93.0                         |
| 11  | Power Factor (%) At 100% / 75% / 50% FL                                                    | 0.88 / 0.87 / 0.82                         |
| 12  | Locked Rotor Current (%FLC)                                                                | 600 (inclusive of tolerance)               |
| 13  | Full Load Torque (kg-m)                                                                    | 98                                         |
| 14  | Locked Rotor Torque (% FLT)                                                                | 60                                         |
| 15  | Pull Out Torque (% FLT)                                                                    | 215                                        |
| 16  | Stator Connection / Rotor Type                                                             | Star / CAGE                                |
| 17  | Starting Time (Sec.) At 100% RV / 80% RV                                                   | Load T/S Curve required                    |
| 18  | LRW Time at 100% V(sec.) Hot/Cold                                                          | 20 / 26                                    |
| 19  | Motor GD Sq.(KG-M Sq.) / Weight (kg) (Approx.)                                             | At Order Stage                             |
| 20  | Bearing Type / No.                                                                         | Antifriction / 2                           |
| 21  | Lubrication type                                                                           | Grease                                     |
| 22  | Mounting / External Thrust                                                                 | Horizontal / NA                            |
| 23  | Method of Starting                                                                         | DOL                                        |

| Name        | Sign | Date        |
|-------------|------|-------------|
| M.K. MISHRA |      | 21-May-2015 |
| B.ARORA     |      | 21-May-2015 |



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**List of Accessories/ Instrument****Enq. Ref: AME/O2014-1786MM****Customer: M/s TSGENCO th PSCM**

| No. | Description                                                                     | Qty.    |
|-----|---------------------------------------------------------------------------------|---------|
| 1   | Winding RTDs - PT100, Simplex, 3 Wire                                           | 12 Nos. |
| 2   | Bearing RTDs - PT100, Duplex, 3 Wire                                            | 2 Nos.  |
| 3   | Air Circuit RTDs - PT100, Duplex, 3 Wire For <b>hot / cold</b> air              | NA      |
| 4   | DTTs for bearings- Mercury in Steel with Contacts (5AAT 240V AC/0.5AAT 220V DC) | 2 Nos.  |
| 5   | Space heater (240 V AC, 1Ph)                                                    | 1 Set   |
| 6   | Current transformer: (As per customer specification)                            | NA      |
| 7   | Stator Terminal Box: PSTB (Fault withstand capacity: 500 MVA for 0.25s)         | 1 No    |
| 8   | Neutral Terminal Box (Non PSTB) - Not Suitable for mounting CTs                 | 1       |
| 9   | Rotor Terminal Box                                                              | NA      |
| 10  | Speed Switch (240V, 1ph AC)                                                     | NA      |
| 11  | Auxiliary Terminal Box for RTDs & BTDs                                          | 1 No    |
| 12  | Terminal Box for Space Heaters                                                  | YES     |
| 13  | Grounding pad with 2 tapped holes for earthing conductor                        |         |
|     | (a) On M/C frame                                                                | 2 Nos.  |
|     | (b) In Main Terminal Box                                                        | 1 No    |
| 14  | Vibration Pads on End shield                                                    | -       |
| 15  | Insulation of Bearing                                                           | NA      |
| 16  | Force oil lubrication system (Not in BHEL scope of supply)                      | NA      |
| 17  | Oil level indicators (For oil lubrication bearings)                             | NA      |
| 18  | Water leakage detector (For water cooled machines)                              | NA      |
| 19  | Water Flow Indicators (For water cooled machines)                               | NA      |
| 20  | Foundation bolts                                                                | YES     |

**Name****Sign****Date**

M.K. MISHRA

21-May-2015

B.ARORA

21-May-2015



## A.C. Machine Engineering Division Bhopal

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### Induction Machine Technical Data

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Customer: M/s TSGENCO th PSCM

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| No. | Description                                                                                | Data                                       |
|-----|--------------------------------------------------------------------------------------------|--------------------------------------------|
| 1   | Application                                                                                | COMPRESSOR                                 |
| 2   | Machine Description                                                                        | SCIM                                       |
| 3   | Rating (KW) / F.L. RPM                                                                     | 300 / 1486                                 |
| 4   | (a) Rated Voltage & Variation<br>(b) Rated Frequency & Variation<br>(c) Combined Variation | 6600 / $\pm 10\%$<br>50 / $\pm 5\%$<br>10% |
| 5   | Frame Type / DOR (uni./bi.)                                                                | 1LA4350-4 / Bi-Directional                 |
| 6   | Enclosure / Method of cooling / Protection Class                                           | TEFC / IC411 / IP55                        |
| 7   | Insulation Class / Type                                                                    | F / Resin Poor VPI                         |
| 8   | Ambient / Temp. Rise (DEG.C) (By Res.)                                                     | 50/70                                      |
| 9   | Full Load Current (Amps.)                                                                  | 33.0                                       |
| 10  | Efficiency (%) At 100% / 75% / 50% FL                                                      | 94.8 / 94.0 / 93.0                         |
| 11  | Power Factor (%) At 100% / 75% / 50% FL                                                    | 0.83 / 0.80 / 0.70                         |
| 12  | Locked Rotor Current (%FLC)                                                                | 600 (inclusive of tolerance)               |
| 13  | Full Load Torque (kg-m)                                                                    | 197                                        |
| 14  | Locked Rotor Torque (% FLT)                                                                | 80                                         |
| 15  | Pull Out Torque (% FLT)                                                                    | 230                                        |
| 16  | Stator Connection / Rotor Type                                                             | Star / CAGE                                |
| 17  | Starting Time (Sec.) At 100% RV / 80% RV                                                   | Load T/S Curve required                    |
| 18  | LRW Time at 100% V(sec.) Hot/Cold                                                          | 20 / 26                                    |
| 19  | Motor GD Sq.(KG-M Sq.) / Weight (kg) (Approx.)                                             | At Order Stage                             |
| 20  | Bearing Type / No.                                                                         | Antifriction / 2                           |
| 21  | Lubrication type                                                                           | Grease                                     |
| 22  | Mounting / External Thrust                                                                 | Horizontal / NA                            |
| 23  | Method of Starting                                                                         | DOL                                        |

|  |  |  |             |             |             |
|--|--|--|-------------|-------------|-------------|
|  |  |  | <b>Name</b> | <b>Sign</b> | <b>Date</b> |
|  |  |  | M.K. MISHRA |             | 21-May-2015 |
|  |  |  | B.ARORA     |             | 21-May-2015 |



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**List of Accessories/ Instrument****Enq. Ref: AME/O2014-1786LM****Customer: M/s TSGENCO th PSCM**

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| 4   | DTTs for bearings- Mercury in Steel with Contacts (5AAT 240V AC/0.5AAT 220V DC) | 2 Nos.  |
| 5   | Space heater (240 V AC, 1Ph)                                                    | 1 Set   |
| 6   | Current transformer: (As per customer specification)                            | NA      |
| 7   | Stator Terminal Box: PSTB (Fault withstand capacity: 500 MVA for 0.25s)         | 1 No    |
| 8   | Neutral Terminal Box (Non PSTB) - Not Suitable for mounting CTs                 | 1       |
| 9   | Rotor Terminal Box                                                              | NA      |
| 10  | Speed Switch (240V, 1ph AC)                                                     | NA      |
| 11  | Auxiliary Terminal Box for RTDs & BTDs                                          | 1 No    |
| 12  | Terminal Box for Space Heaters                                                  | YES     |
| 13  | Grounding pad with 2 tapped holes for earthing conductor                        |         |
|     | (a) On M/C frame                                                                | 2 Nos.  |
|     | (b) In Main Terminal Box                                                        | 1 No    |
| 14  | Vibration Pads on End shield                                                    | NO      |
| 15  | Insulation of Bearing                                                           | NA      |
| 16  | Force oil lubrication system (Not in BHEL scope of supply)                      | NA      |
| 17  | Oil level indicators (For oil lubrication bearings)                             | NA      |
| 18  | Water leakage detector (For water cooled machines)                              | NA      |
| 19  | Water Flow Indicators (For water cooled machines)                               | NA      |
| 20  | Foundation bolts                                                                | YES     |

**Name****Sign****Date**

M.K. MISHRA

21-May-2015

B.ARORA

21-May-2015

INVENTORY NO.

SIGN & DATE

TENDER/1LA4354-2  
FOOT\_CUM\_FLAMGE  
REF. DRG. NO.

THE INFORMATION ON THIS DOCUMENT IS THE PROPERTY OF BHARAT HEAVY ELECTRICALS LIMITED  
IT MUST NOT BE USED DIRECTLY OR INDIRECTLY IN ANY WAY DETRIMENTAL TO THE INTEREST OF THE COMPANY.

REV.

DATE

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DATE

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TITLE

OUTLINE GENERAL ARRGT.

1LA4354-2, TEFC, IP55, B35

CARD CODE

DRAWING NO.

1LA4354-2

SHEET NO. 01

NO. OF SHEETS 07

TECHNICAL DATA

RATING - kW

SPEED (SYN) - rpm

VOLTAGE 3 PHASE 50 Hz 3300 VOLTS

FULL LOAD AMP STATOR - AMP

APPROX. WEIGHT OF MOTOR 3200 kg

APPROX. WEIGHT OF ROTOR 750 kg

GD<sup>2</sup> OF ROTOR 19.2 kgm<sup>2</sup>

MAX. FOUNDATION LOADING (ALTERNATING) PER MOTOR 11.5 kN UPWARDS

LONGITUDINAL SIDE 19 kN DNWARDS

BEARINGS DE 6216C3 NDE 6216C3

LUBRICATION: GREASE SERVOGEM-3 OF IOC OR EQUIVALENT

DIRECTION OF ROTATION UNIDIRECTIONAL (CLOCKWISE)

VIEWED FROM DRIVE END

PAINT SHADE SPECIFICATION SHADE NO. 631 OF IS-5 EPOXY PAINT-LIGHT GREY.

TYPE OF ENCLOSURE TEFC

SECTION AT A-A

DETAIL OF EARTHING ARRGT.

VIEW-Z

FOR TENDER & DIMENSIONAL REFERENCE ONLY

VIEW-X

MOTOR FITMENTS

(I) TERMINAL BOXES FOR :  
1 - STATOR (PSTB TYPE)  
2 - ETD'S+BTD'S  
3 - SPACE HEATERS  
4 - NEUTRAL POINT

(II) TEMPERATURE SENSORS  
(A) WDG. ETD'S 12 Nos.  
3-WIRES PT.TYPE, 100 Ω AT 0°C (SIMPLEX)  
(B) BEARING RTD'S 2 Nos.  
3-WIRES PT.TYPE, 100 Ω AT 0°C (DUPELEX)  
(C) 2-NOS. DIAL TYPE BTD.  
(1 EACH AT DE & NDE BRGS)  
(III) OTHERS  
SPACE HEATERS 2 NOS.  
TOTAL POWER 315 WATTS  
( 630 WATTS EACH)  
240 VOLTS, 50 Hz  
(IV) FANS : UNIDIRECTIONAL  
(V) HOLDING DOWN BOLTS:-  
8xM24x100 LONG  
(VI) CABLE DETAILS:-  
STATOR--1Rx3Cx240 SQ.MM MAX., XLPE CABLE  
SPACE HEATER:-  
1Rx3Cx2.5 SQ.MM, AZXFY.

DRIVE : -

