



## Resalat Oil Field Development Project Phase 1 (EPC-EPD)



	Contract No.	Typical Data Sheet for MV & LV asynchronous Motor					Class	2
	5365	Pr. Code	Unit	Disc.	Doc.	Seq.	Rev.	Page 1 of 3
		LRSL	R1X	EL	DS	009	03	

### Typical Data Sheet for MV & LV Asynchronous Motor

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03	9-Nov-21	Approved for Construction	IOEC	-	H.Sabzi	A.Samadi	M.Aghaei	
02	27-Jul-21	Approved for Construction	IOEC	-	S.Saffari	A.Samadi	M.Aghaei	-
01	26-Jun-21	Issued for Approval	IOEC	-	S.Saffari	A.Samadi	M.Aghaei	-
00	5-May-21	Issued for Comment	IOEC	-	S.Saffari	A.Samadi	M.Aghaei	-
Rev.	Date	Purpose of Issue	ORIG.	BY	PREP'D	CHECK'D	APP'D	COMPANY APP'D





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## LV MOTOR

ITEM NO.: SERVICE :

NOS. REQ'D : WORKING : STAND BY : TOTAL :

### A. GENERAL

1. DRIVEN EQUIPMENT :

2. AMBIENT TEMP. : Min. 7°C - Max. 45°C - Exposed to sn light: 85°C

3. RELATIVE HUMIDITY : 100%

4. ALTITUDE (SEA LEVEL) : Less than 1000m

5. APPLICABLE STD. :  IPS  IEC  Other

6. PROJECT SPEC. : LRSL-000-EL-SP-614

7. AREA CLASSIFICATION :  HAZARDOUS  NON-HAZARDOUS  
Hazard Classification: Exd for Zone 1/Exe for Zone2 GAS GR.: IIB TEMP. CL.: T3

8. SYSTEM FAULT LEVEL : 50 kA 1 sec (See Note 9)

9. SYSTEM EARTHING : TN-S

10. DESIGN LIFE : MINIMUM 25 YEARS

### B. MOTOR DESIGN DATA (See Note 10)

1. MOTOR RATING (\*: See Note 1)

NAMEPLATE RATING : kW(\*) POLES (\*)

RATED VOLTAGE (See Note 2) : V

SERVICE FACTOR (See Note 11) : SYNCHRONOUS SPEED: RPM (\*)

SHAFT POWER : kW(\*)

2. MOTOR TYPE : SQUIRREL CAGE INDUCTION

3. OPERATION DUTY (IEC 60034-1) : S1 CONTINUOUS

4. FRAME : IP 56 (min)

TERMINAL BOX : IP 66 (min)

5. COOLING METHOD(IEC 60034-6) : (See Note 8)  
 IC 410  IC 411  
 IC 511  IC 611

6. TYPE OF PROTECTION REQ'D :  TYPE e (Exe)  TYPE d (Exd)  
(for Zone 2) (for Zone 1)

7. STARTING METHOD :  DOL  VFD  Soft Starter

8. PROTECTION DEVICES :  FUSE  C.B

9. MOUNTING :  HORIZONTAL  VERTICAL  
 FOOT

10. DRIVE SYSTEM :  DIRECT  GEAR UNIT  
 V - BELTS

11. INSULATION CLASS :  F

12. TEMP. RISE WITHIN CLASS :  E  B

13. MAIN TERMINAL BOX LOCATION (Viewed from Drive End) :  
 ON TOP  RIGHT  LEFT

14. ROTATION (Viewed from DE):  CCW  CW

15. ANTI-CONDENSATE HEATER SUPPLY: (See Note 4)

16. MAIN CABLE ENTRY :  SIDE  BOTTOM

17. CABLE CONNECTION : CABLE GLAND (ISO THREADED)

18. CABLE TYPE & SIZE(MOTOR) : SQmm

19. CABLE TYPE & SIZE(S.H) : SQmm

20. SOUND PRESSURE LEVEL : 77 dB MAX. (@ 1m) (Note 3)

21. FRAME EARTH BOSS : INTERNAL & EXTERNAL

22. COLOUR FINISHING : RAL 5012

23. TEMPERATURE DETECTION :

24. VIBRATION DETECTION : (\*)

25. SURGE WITHSTAND EQUIP.:  NO  YES

26. MAX. STARTING CURRENT : A

27. SPECIAL REQUIREMENTS

28. RATED CURRENT: A

### C. VENDOR'S DATA (TO BE COMPLETED BY VENDOR)

1. MANUFACTURER :

2. FRAME REFERENCE :

3. FRAME MATERIAL (Note 12) :

4. FULL LOAD SPEED : [RPM]

5. LOAD : 50% 75% 100% S.F

EFFICIENCY [%] [ ] [ ] [ ] [ ] [ ] [ ]

POWER FACTOR [%] [ ] [ ] [ ] [ ] [ ] [ ] [ ]

CURRENT [A] [ ] [ ] [ ] [ ] [ ] [ ] [ ]

6. ACCELERATION TIME (MOTOR/LOAD) : [sec]

7. FULL-LOAD TORQUE : [kg m]

8. LOCKED ROTOR TORQUE : [%]

9. RATED TORQUE : [%]

10. PULL-UP TORQUE : [%]

11. BREAK DOWN TORQUE : [%]

12. LOCKED ROTOR CURRENT (LRC) : [A]

13. LOCKED ROTOR TIME : [sec]

14. LOCKED ROTOR POWER FACTOR : [%]

15. STALL TIME (HOT/COLD) : / [sec]

16. TRANSIENT REACTANCE (X'd) : [%]

17. SUB - TRANSIENT REACTANCE (X''d) : [%]

18. SPACE HEATER RATING : [V] [W]

19. INSULATION CLASS & TEMP.RISE : [ ]

20. FAN ROTATION :

21. STATOR CONNECTION :

22. TEMP. DETECTOR (WINDING/BEARING) : /

23. VIBRATION DETECTOR :

24. MOTOR WEIGHT (NET/SHIPPED) : / [kg]

25. ROTOR MOMENT OF INERTIA : [kg. m<sup>2</sup>]

26. BEARING REFERENCE (DE/NDE) : /

27. BEARING TYPE (DE/NDE) : /

28. BEARING LUBRICATION :

29. BEARING LUBRICATION INTERVAL : HOURS

30. NUMBER OF CONSECUTIVE START : HOT COLD

31. MAX. SOUND PRESSURE LEVEL : dB (@ 1m)

32. PURGE AIR REQUIREMENT (TYPE p) :

33. MOTOR AUX. EQUIPMENTS :

### D. ADDITIONAL INFORMATION FURNISHED BY VENDOR

[ V ] TORQUE/SLIP, CURRENT/SLIP CURVES

[ V ] TIME - CURRENT HEATING (THERMAL LIMIT) CURVE

[ V ] MOTOR THERMAL CAPACITY DATA

[ V ] INSTALLATION, OPERATION & MAINTENANCE INSTRUCTION

[ V ] RECOMMENDED SPARE PARTS LIST

[ V ] DIMENSIONAL OUTLINE DRAWING

[ V ] CERTIFIED TEST REPORT & WRITTEN STATEMENT

[ V ] COMPLETE NAMEPLATE DATA

[ V ] DETAIL SEE INDUCTION MOTORS SPECIFICATION

### E. OTHERS (BY VENDOR)

1. ACOUSTIC HOOD FITTED :  NO  YES

2. CERTIFICATION AUTHORITY :

3. CERTI. STANDARD & NUMBER :

### F. REMARKS

- (\*) : VENDOR TO CONFIRM
- THE VOLTAGE OF MOTORS SHALL BE APPLIED AS : P<0.4kW : 1PHASE, 0.23kV, 50Hz , 0.4kW=<P<150kW : 3PHASE, 0.4kV, 50Hz  
ALLOWABLE VOLTAGE AND FREQUENCY VARIATION SHALL BE : VOLTAGE ±10% , FREQUENCY ±5%
- NOISE LEVEL IS FOR THE COMPLETE ASSEMBLY OF DRIVER AND DRIVEN EQUIPMENT.
- ANTI-CONDENSATION HEATER IS REQUIRED FOR ALL LV MOTORS. THE VOLTAGE SHALL BE 230 VOLT SINGLE PHASE, 50HZ FOR HEATERS OF UP TO 3 KW. FOR HEATERS ABOVE 3 KW, 400 VOLT THREE PHASE AND NEUTRAL,50 HZ SHALL BE USED.
- THIS DATA SHEET IS GUIDELINE FOR PROCUREMENT. VENDOR SHALL PROVIDE DETAIL DATA ACCORDING TO THIS DOCUMENT.
- MOTORS DESIGN SHALL ALLOW WITHOUT INJURIOUS HEATING OF INSULATED WINDINGS, AT LEAST THREE SUCCESSIVE STARTS FROM COLD AGAINST FULL LOAD TORQUE AND TWO SUCCESSIVE STARTS WITH THE MOTOR 'INITIALLY AT FULL LOAD OPERATING TEMPERATURE.
- MOTORS SHALL HAVE SUFFICIENT STARTING TORQUE AND THERMAL CAPABILITIES TO OVERCOME THE LOAD INERTIA FOR STARTING AND ACCELERATING THE CONNECTED LOAD TO THE RATED SPEED AT 80% OF THE NOMINAL VOLTAGE, WITHOUT INJURIOUS HEATING.
- THE MOTOR SHALL BE TOTALLY ENCLOSED AIR COOLED. THE SELECTED COOLING METHOD, EITHER IC-4A1A1, IC-5A1A1 OR IC-6A1A1 IN ACCORDANCE WITH IEC 60034-6, WILL BE INDICATED IN THE REQUISITIONING DOCUMENTS. PREFERENCE SHALL BE GIVEN TO AIR-TO-AIR COOLING BY A SHAFT DRIVEN FAN. IN CASE OF USING VFD FOR SPEED CONTROL PURPOSE, COOLING METHOD SHALL BE CHOSEN PROPERLY AS PER MOTOR SUPPLIER RECOMMENDATION.
- IT WILL BE SPECIFIED AFTER FIRST REVISION OF VENDOR DATA BASED ON LATEST NETWORK STUDY REPORT.
- SUNSHADE SHALL BE ADDED FOR ELECTRO MOTOR THAT HAVE BEEN INSTALLED DIRECTLY IN OUTDOOR AREA.
- SERVICE FACTOR IN TABLE 12 API 610 SHALL BE CONSIDERED FOR MOTOR DRIVEN PUMP SIZING AS MINIMUM.
- FRAME MATERIAL SHOULD BE FERRUS MATERIAL AND ALUMINUM IS NOT ACCEPTABLE.