



**A COMMISSION UNDER THE FRAMEWORK AGREEMENT FOR
IMPLEMENTATION OF ASSEMBLING LINE FOR CKD EXPLOSION-PROOF
ELECTRIC MOTORS IN SEEZ MOTOR CO. Shiraz. Iran**

INTRODUCTION

SEEZ MOTOR and UMEB signed an Agreement for Distributing and Assembling explosion proof motors in September 2017. The scope of this Agreement is that SEEZ Motor to supply UMEB explosion proof motors in Iran. The final purpose of this relationship for the future will be localization and technology transfer from Romania (UMEB) to Iran (SEEZ MOTOR) for Ex motors manufacturing in Iran.

MAIN STEPS OF PROJECT

According to previous negotiation between UMEB and SEEZ Motor, it is mutually agreed a framework including different steps that SEEZ Motor to become a manufacturer of explosion proof motors in Iran under UMEB technology and procedures.

The First step, SEEZ Motor trained the assembling team (5 people) in Romania at UMEB premises and INSEMEX, International Notified body for ATEX Certification. As result of this training, this team was certified as ATEX handling equipment authorized. (Annex 1 - ATEX Certifications for assembling team)

The Second step, SEEZ Motor acquired the needed tools and press machine from UMEB. (Annex 2 - Packing list of Tools and horizontal press)

UMEB specialists come to Shiraz to supervise the installation of the horizontal press and assembling line process, train the SEEZ motor specialized team about the assembling line process.

The Third step was implementation of assembling line of CKD Ex electric motors in Shiraz. For this step, SEEZ Motor has ordered the 1st CKD motors & imported to Iran. (Annex 3 - Packing list of CKD motor parts).

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The separated CKD parts are:

- Rotor
- Stator with terminal box on top, without terminal box cover
- DE shield with bearing
- NDE shield with bearing
- Fan
- Fan cover
- Terminal box cover
- Bag with all screws, gaskets, sealing needed for assembling

ACTIVITIES MADE BY UMEB-SEEZ MOTOR TEAMS IN SHIRAZ

In period 10th of April to J7 ¹¹ of April, a team of 3 specialists comes from UMEB to work together with SEEZ MOTOR specialists to start assembling line.

For this the next activities were done:

- UMEB team visited and audit assembling line facility, painting facility and testing platform to confirm that system used by SEEZ Motor is compatible with system used by UMEB.
- All of pallets with CKD parts and tools were open, parts were identified and separated to be easy to use for assembling;
- The horizontal press was put in position, filled with hydraulic oil H46 and tested. The test was successfully;
- The teams assembled 3 small motors (< frame size 180) and 5 big motors (from frame size 180 and bigger);
- The motors were tested in SEEZ Motor testing platform and the results were compared with the test reports provided by UMEB. The tests made under this process were:
 - No load test
 - Locked rotor test
 - Full load test
 - Noise measurement
 - Vibration measurement

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Considering this, SEEZ Motor became authorized Explosion proof motors manufacturing in Iran passed the second step (40% - CKD) of the Exp!osion Proof Motor Manufacturer Process Plan.

To develop this Process Plan according with the steps proposed by SEEZ Motor and UMEB, there are some minimum requirements for tools and equipment (Annex 4 - Minimal requirements for achieving the above integration program of business development)

RECOMMENDED IMPROVMENTS IN COLLABOARTION

- UMEB will provide to SEEZ Motor complete technical parameters for all motors according with the technical proposal required in Oil & Gas Industry in Iran (Annex 5 - Parameters for technical proposals);
- Painting Procedure will be provided by UMEB to SEEZ Motor for: standard painting and epoxy painting;
- Packaging Procedure for International Goods Transportation provided by UMEB (Annex 6 - Packing Procedure) will be adapted for CKD parts according with understanding between UMEB and SEEZ Motor considering experience gained after first CKD parts shipment;
- Adaptation of the assembling line in the Horizontal Press location to handle all big frame size motors. For this, UMEB will provide the drawings and dimensions for the carriage used by UMEB in own assembling line;
- UMEB provided the final testing procedme used in the UMEB's Testing Platform to assure fully compatibility between UMEB tests and SEEZ Motor tests (Annex 7 - Final Testing Procedure)

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Signed today 15th of April, 2018 at Shiraz, Iran

UMEB	SEEZ MOTOR
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<p>Ilie Sarbu, Quality Specialist</p> 	<p>Karim Farajpour, Sales Engineer</p> 
<p>Bogdan Calin, Export Manager</p> 	<p>Mehdi Farmani Assembling line manager</p> 
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