

EU-Type Examination Certificate

(2) Equipment or Protective Systems Intended for use in Potentially Explosive Atmospheres

Directive 2014/34/EU

(3) EU – Type Examination Certificate Number: **IEP 17 ATEX 0523X**

(4) Equipment: **NME series, End Suction Centrifugal Process Pumps**

(5) Firm Name: **MAS-DAF Makina Sanayi A.Ş.**

(6) Firm Address: **Aydınlı Mah. Birlik O.S.B. 1 Nolu Cad. No: 17 Tuzla / İstanbul – TURKEY**

(7) This product any of acceptable variation thereto is specified in the schedule to this certificate and the documents therein referred to.

(8) The IEP Uluslararası Enerji Petrol Gözetim , Sertifikasyon ve Teknik Hizmetler Organizasyonu Tic. Ltd. Sti., notified body number 2284 in accordance with Article 17 of the Directive 2014/34/EU of European Parliament and of the Council, dated 26 February 2014, certifies that this product has been found to comply with the Essential Health and Safety Requirements relating to the design and construction of products intended for use in potentially explosive atmospheres, given in Annex II to the Directive. The examination and test results are recorded in confidential Report Nr : IEP.Rp.Ex.10-1136 date 20.07.2017.


(9) Compliance with Essential Health and safety requirements has been assured by compliance with ;

EN 13463-1 : 2009 , EN 13463-5 : 2011 , EN 60079-0 : 2013

(10) If the sign “ X “ is placed after the certificate number, it indicates that the product is subject to Specified Conditions of Safe Use specified in the schedule to this certificate.

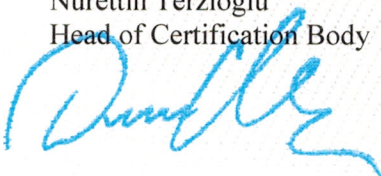
(11) This EU-Type Examination Certificate relates only to the design and construction of the specified product in accordance to the directive 2014/34/EU. Further requirements of the directive apply to the manufacturing process and supply of this product. These are not covered by this certificate.

(12) The marking of the equipment or protective system shall include the following:

 II 2G c IIB T3-T4

Responsible Person :

Nurettin Terzioğlu
Head of Certification Body



Date of Issue : 25.07.2017





IEP ENERGY PETROLEUM INSTITUTE

(13) Schedule

(14) Certificate Nr : IEP 17 ATEX 0523X

(15) Description of Equipment and Protective System:

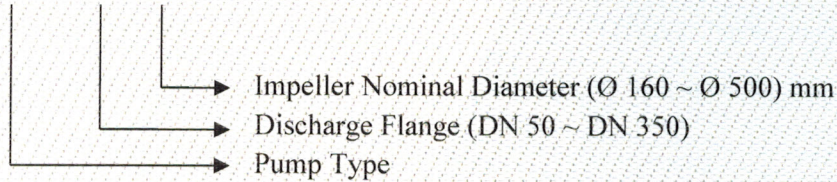
NME series pumps are single stage, end suction volute casing type pumps. These equipments consist of motor, coupling and pump.

It is designed according to max 16 bar. The temperature of the liquid should be below the temperature class. Insulation gasket materials must be selected according to the chemical substance being transferred. The motor protection rating is set to be min. IP 54. The couplings and motors used in the pump system are certified as ATEX. Mechanical pump parts are suitable for EN 13463-1. Material properties are given in chapter 6. The pumps consists of hydraulic casing part (gg 25 and steel).

If the heat or pressure sensor is used to, must be in the appropriate type of Ex-protected according to EN 60079-0. The parts and materials that are used in NME series end suction pumps have been determined in the list of electrical (chapter 2) and non-electrical (chapter 6) parts dated 08.06.2017.

Product Code System and Technical Specifications:

NME XX XXX

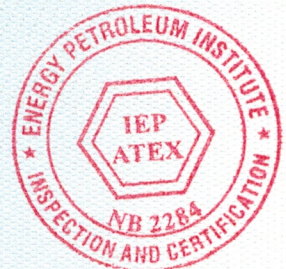


Technical Data Sheet of NME Series End Suction Transfer Pumps;

Product Type	: NME
Flow Rate	: (5 ~ 3500) m ³ / h
Max Pump Speed	: 3600 rpm
Operating Pressure	: 16 Bar
Max Pressure Head (m)	: 210 m
Ambient Temperature (°C)	: -20 °C ; 50 °C
Working Temperature of Fluid	: -10 ≤ T _s ≤ 350 °C
Electrical Parameters	: 230/400 V AC , Max 185 kw

Responsible Person :

Nurettin Terzioğlu
Head of Certification Body





IEP ENERGY PETROLEUM INSTITUTE

(16) Schedule;

(17) Certificate Nr: **IEP 17 ATEX 0523X**

(18) Essential Health and Safety Requirements :

18 .1 Are included in standards , which are mentioned in clause (9) of this certificate. The products were approved in accordance with above mentioned standards and manufacturer's instruction.

18 .2 At the installation and the operation of the NME series, end suction pumps have to be observed manufacturer's manual dated July 2016 and 26 pages.

(19) Special Conditions for Safe Use:

19.1 X Means : The motor temperature class is T3 or T4. Ambient temperature is $-20\text{ }^{\circ}\text{C} \leq T_a \leq 50\text{ }^{\circ}\text{C}$. Liquid temperature is $-10\text{ }^{\circ}\text{C} \leq T_L \leq 350\text{ }^{\circ}\text{C}$. The temperature class depends on the temperature of the motor and the liquid. The elastomeric parts mentioned in table 1 user manual dated July 2016 must be compatible with the temperature class and the chemical liquid.

19.2 The accessories of pumps consist the Ex- protected liquid sensor, protected against dry running and the by-pass valve protected the facilities and piping against over pressure.

(20) List of Documentation :

- ♦ NME Series, End Suction Pumps user manual [26 pages, dated July 2016]
- ♦ Part 6 ; Component Lists [1 pages, dated 08.06.2017]
- ♦ Part 5, 10 ; Mounting Pictures and Technical Drawings [8 pages]
- ♦ Part 11, 12 ; Certificates and Test Reports [12 pages]
- ♦ Label data : 4 page and dated 08.06.2017
- ♦ Ground connection diagram, dated 08.06.2017
- ♦ Pressure diagrams, dated 08.06.2017
- ♦ Floor connection detail, dated 08.06.2017
- ♦ Insulation gasket details, 6 pages, dated 08.06.2017
- ♦ Drawings ;

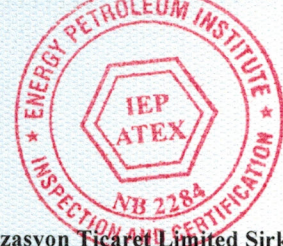
Drawing Nr	Drawing Name	Date
01	Exploded Drawing	08.06.2017
02	Bearings	23.11.2016
03	Helix Body	16.01.2017
04	Stuffing Box	23.11.2016
05	Wheel	23.11.2016
06	Shaft	23.11.2016
07	Rear Bearing Cover	17.11.2016
08	Front Bearing Cover	17.11.2016

For the validity of analysis type certificate, the parts that are used in NME series, end suction pumps are confirmed in the list of equipment part 6 dated 08.06.2017.

Responsible Person :

Nurettin Terzioğlu
Head of Certification Body

Date of Issue : 25.07.2017



IEP Uluslararası Enerji Petrol Gözetim, Sertifikasyon ve Teknik Hizmetler Organizasyon Ticaret Limited Sirketi

5746/1 Sk. No:9 K:2 Bornova - İZMİR / TURKEY Tel: +90 232 431 1745 – 46 Fax: +90 232 431 1730 E-mail: iep@iep.com.tr Fr:45

This certificate is granted subject to the general conditions of the IEP Energy Petroleum Institute. This certificate may only be reproduced in its entirety and without any change, schedule included. You can check accuracy of this document by www.iep.com.tr.