

*GRUNDFOS SPECIFICATION: "CMBE & CMBE TWIN booster system"
Version 01.00 (02.2017)*

*DISCLAIMER: This specification text serves as inspiration only.
Always make sure that the text is adapted so it fits local needs and regulations.*

GENERAL SPECIFICATIONS

PART 1 GENERAL

1.01 DESCRIPTION

- A. Pumps shall be dry installed with electrical 1-phase motor prepared for operation at a supply voltage of 230 volts in 50/60 Hz complete with either cable and plug or connected to a fuse box.
- B. The cable shall be sized to match the electrical consumption of the motor running at full load and dimensioned according to the latest Machinery Directive standard.
- C. Pumps and drives shall be rated for continuous duty and shall be capable of pumping the flow range specified.
- D. The pumps shall not overload the motors at any point of the performance curves.

1.02 SCOPE

- A. The pump(s) shall be designed, manufactured, selected and equipped with accessories suitable for the purpose, the duty and the operation of the entire system.
- B. The pumps shall be tested and commissioned for the purpose of which the product is intended.

1.03 REFERENCE STANDARDS

The following standards are referred to in this Clause:

1. Machinery Directive (2006/42/EC). Standard used: EN 809: 1998 + A1: 2009.
2. Low Voltage Directive (2014/35/EU). Standard used: EN 60204-1: 2006 + A1: 2009.
3. EMC Directive (2014/30/EU)

PART 2 PRODUCT

2.01 DESIGN & PERFORMANCE CONDITION

- A. The pumps shall be designed and constructed to operate in a media temperature of maximum 60°C and in the operating conditions they are designed for.
- B. The pumps shall be designed for a life of 100,000 operating hours given the recommended service intervals stated by the pump manufacturer.

2.02 INTERFACE

- A. The pump controller shall communicate with SCADA / BMS system by using optional interfacing unit via following fieldbus communication protocols:
 - 1. Modbus RTU
 - 2. Modbus TCP/IP
 - 3. Profibus DP
 - 4. GSM / GPRS
- B. All the data including alarms, warnings and real time operational data shall be transferred to SCADA / BMS system as clear text messages via optional interfacing units.

2.03 DOCUMENTATION

- A. Submittals for approval:** The manufacturer shall also provide the following:
 - 1. Pump data sheets
 - 2. Performance curves
 - 3. Installation and operating instructions.

PART 3 EXECUTION

3.01 INSTALLATION

The equipment shall be installed in accordance with the manufacturer's installation and operating instructions.

3.02 WARRANTY

The equipment/system warranty, unless otherwise stated, shall be warranted free of defects in material and workmanship for a period of 24 months from the date of installation, but no more than 30 months from the date of manufacture.

3.03 SPARE PARTS & TOOLS

The manufacturer shall be able to provide:

- A list of recommended spare parts
- A service tools
- Instructions of how to service the pumps in question.