

SOFTWARE DESIGN SPECIFICATIONS (SDS)

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**AUTOMATIC VOLUMETRIC 8
NOZZLES FILLING MACHINE**

M-ODM-A05-CF

YOUR INNOVATIVE SOLUTION PARTNER



Document Approved

Prepared by

Name	Department/Function	Date	Sign

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Name	Department/Function	Date	Sign

Revised Date

Rev.No.	Date	Prepared by	Description Changement
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1. Purpose

The purpose of this software design specification document is to define the design and function of the Volumetric 8 Nozzles Filling Machine and its components project by the system designer.

2. Scope

This software design specification document is prepared for the Volumetric 8 Nozzle Filling Machine automation system and the automation system and its related components.

3. System / Equipment Description

3.1 Equipment / Description of System

The Volumetric 8 Nozzles Filling Machine which is EMG-20-036 order code, consist of following equipment and components.

Equipment Name	Equipment Code	Equipment / Serial No
Volumetric 8 Nozzles Filling Machine	M-ODM-A05-CF	3842

3.2 Machine Technical Data

Machine	Volumetric 8 Nozzles Filling Machine
Type	M-ODM-A05-CF
Machine-No	3842
Weight	1000 kg
Supply Voltage	380V
Power Consumption	5.5 kW
Air Sply	4-6 bar

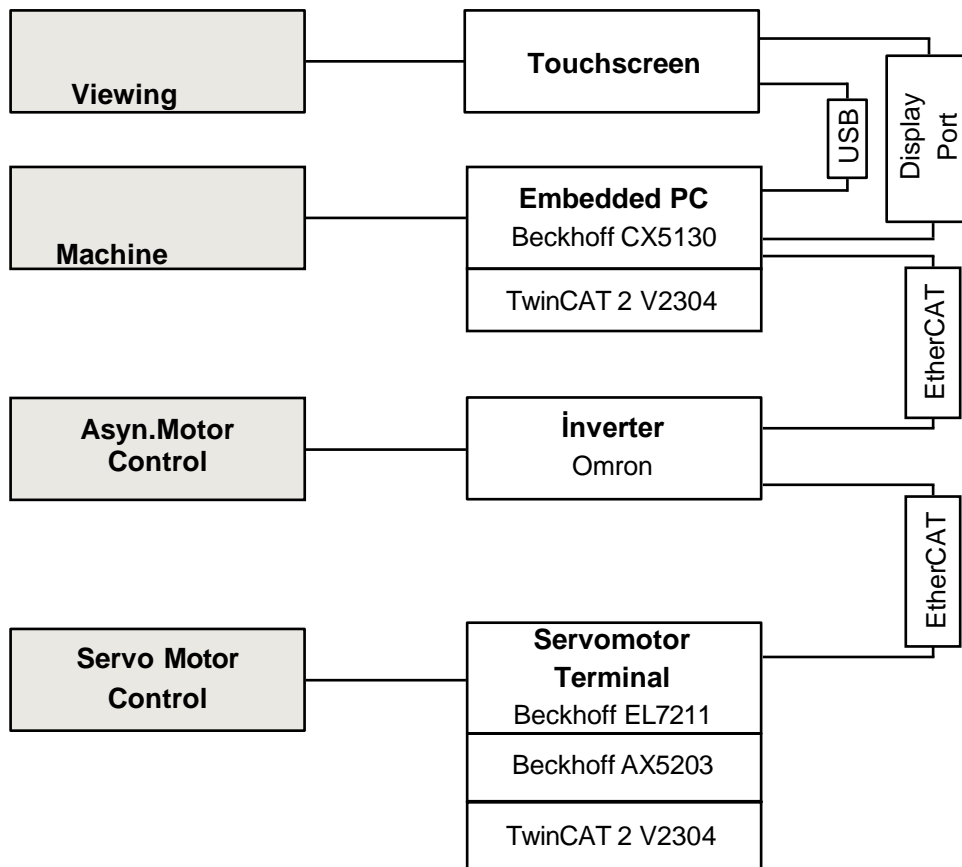




4. Description Of Used System

4.1 System Architecture



Volumetric 8 Nozzles Filling Machine



4.2 Software General View

VOLUMETRIC 8 NOZZLES FILLING MACHINE	
Device	Embedded PC
Manufacturer / Type	CX5130-0122
Hardware Version	V3.8 2019-04-05
Operating System	Windows Embedded Standart 32-Bit
Operating System Version	6.1, Build 7601



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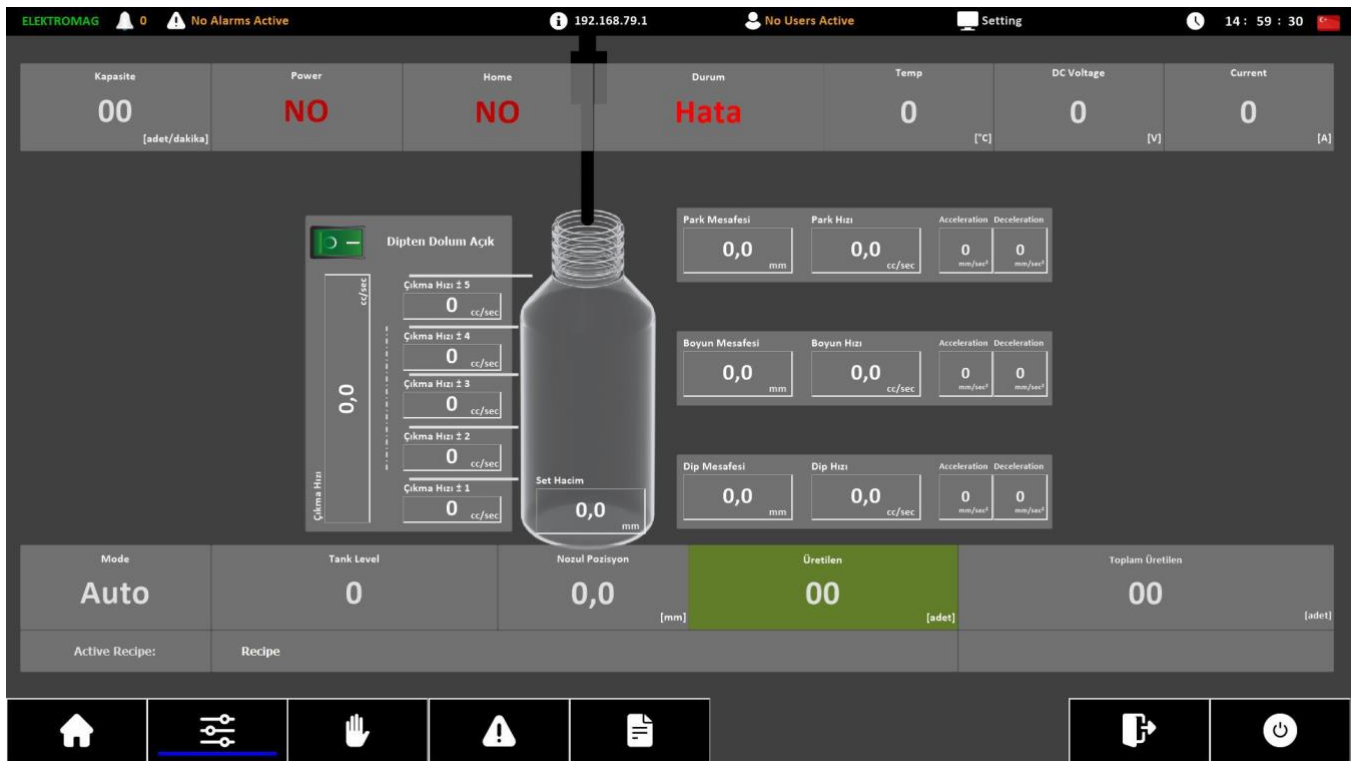
4.3 Programming Standard

The programming standard is based on the guidelines of GAMP 5 / ISO 9001.

4.4 Software Informing

All control logic in the software is contained in the Beckhoff CX5130. Operator interface terminals read Embedded PC memory locations to monitor facility status and alarms. In addition, the operator terminal keeps all machine recipes / configuration parameters and saves them to the Embedded PC USB path or server path when necessary. All software modules and software sub-modules are called from the Embedded PC loop. The software modules used are a combination of program blocks and program function blocks.

VOLUMETRIC 8 NOZZLES FILLING MACHINE



Software type	TwinCAT / Movicon
Software name	M-ODM-A05-CF
Software version	01
System request	Win XP – Win 7 – Win 10
Data transfer	USB & Ethernet





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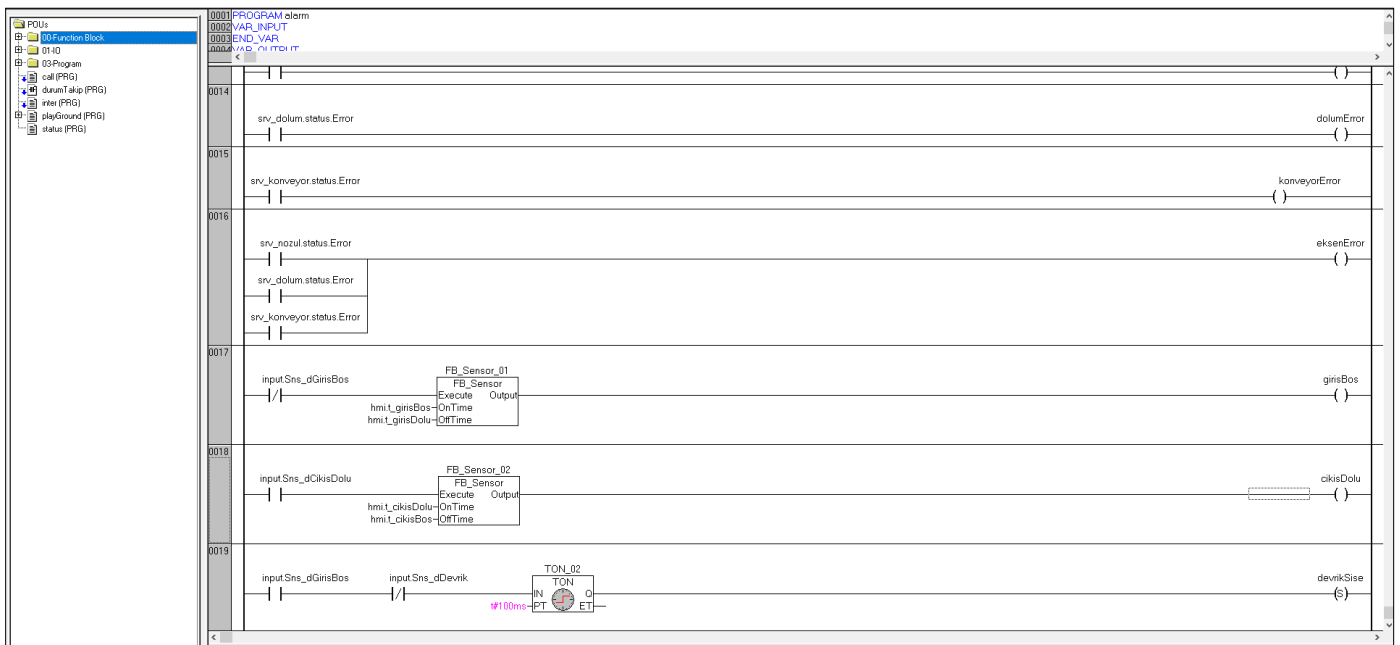
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4.5 Programme Structure

4.6 Programming & Configuration and Software

4.6.1 TwinCAT 2



Description	
Software type	Programming Software
Software name	TwinCAT 2
Software version	2304
Job	TwinCAT programming software, build Embedded PC program and configure hardware.
System request	TwinCAT programming software works on a standard computer with Win XP, Win 7, Win10
Data transfer	Application software data is transferred from the programming device to the Embedded PC via Ethercat.





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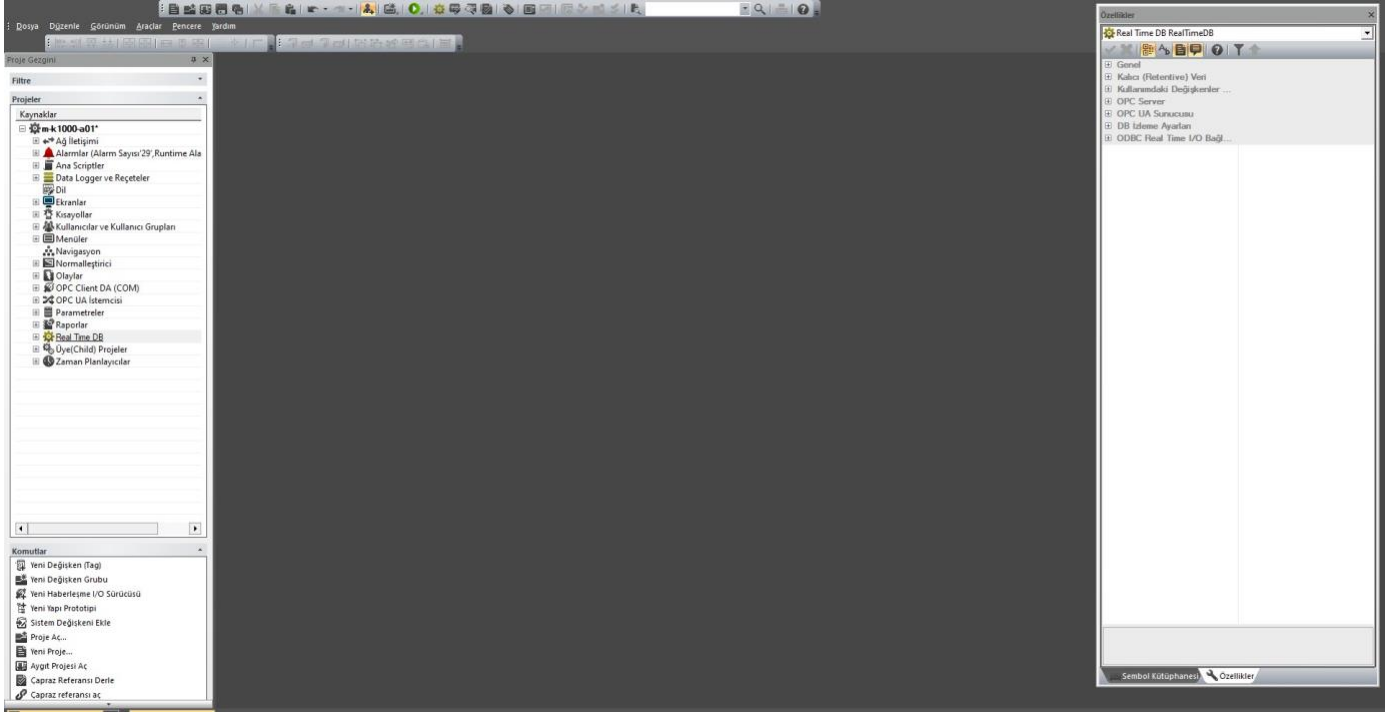
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4.6.2 Movicon



Description

Software type	Display Software
Software name	Movicon 11.05
Software version	11.5.1185
Job	Movicon display software is used to visually prepare machine controls.
System request	Movicon ekran yazılımı, Win XP, Win 7, Win10 ile standart bir bilgisayarda çalışır.
Data transfer	Application software data is transferred from the programming device to the Embedded PC via Ethercat.



5. Acces Authorization - User Management

Access authorization and user management are performed through groups and group Access Rights, which means that each user with their own password is assigned to a specific group and has access rights defined for that group. Some functions can be accessed without Group access rights, and the control system can be used unaffected. All other functions require logging in with a valid password. After logging in, all functions of the corresponding user group are available.

Automatic logoff occurs after 15 minutes.

User groups and passwords are managed through the SYSTEM /users menu. The following user groups with associated password are pre-set by ELEKTROMAG.

The following user groups and passwords are pre-set by ELEKTROMAG.

No	User group	Password
1	Keyless Input	NA
2	Operator	*****
3	Technician	*****
4	Administrator	*****

Passwords will be notified by email to the company official.

6. Changement Management

Change management will be handled in accordance with customer protocols and Quality Assurance System.

7. Documentation

Program files for the machine'S PLC, HMI and frequency inverters are stored in the documentation folder marked with the data carrier symbol.

After installation and validation of entire system, it is recommended to the user to perform the "image import" process by the company.

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8. Comments and Explanation

