# Minimum System Requirements

The following components are the minimum configuration needed to build the **Pipe Bending Machine V1.0.**

**Hardware: Components** such as drives, motors, S7-1200 G2 model or HMI model **can be changed** according to requirements.

**Software: License** types **can be tailored** to your specific needs, **ensuring good operation** of the machine.

# BOM – Pipe Bending Machine V1.0 (1/2)

## Hardware requirements

| Units | Component | Short designation | Article Number | Firmware version |
|---|---|---|---|---|
| 1 | SIMATIC S7-1200 G2 | S7-1214C DC/DC/ DC | 6ES7 214-1AH50-0XB0 | V1.0 |
| 1 | DI8 signal board | SB 1221 8 DI 100 kHz 24 VDC | 6ES7 221-3BF50-0XB0 | V1.0 |
| 1 | DQ8 signal board | SB 1222 8 DQ 100 kHz 24 VDC | 6ES7 222-5BF50-0XB0 | V1.0 |
| 1 | Signal Module DI8/DQ8 | SM 1223 DI8/DQ8 x 24VDC | 6ES7 223-5BH50-0XB0 | V1.0 |
| 1 | Unified Basic Panel | MTP1200 Unified Basic | 6VA2 123-3MB32-0AW0 | V20.0.0.0 |
| 1 | Servo Drive Pipe Feeding | SINAMICS S200 PN | 6SL5 510-1BE15-0AFx | V6.4 |
| 1 | Servo Drive Pipe Rotating | SINAMICS S200 PN | 6SL5 510-1BE10-4AFx | V6.4 |
| 1 | Servo Drive Pipe Bending | SINAMICS S200 PN | 6SL5 510-1BE12-5AFx | V6.4 |
| 1 | Servo Drive Pipe Booster | SINAMICS S200 PN | 6SL5 510-1BE12-5AFx | V6.4 |



SIEMENS

# BOM – Pipe Bending Machine V1.0 (1/2)

## Hardware requirements

| Units | Component | Short designation | Article Number | Firmware version |
|---|---|---|---|---|
| 1 | Synchronous motor<br>Pipe Feeding | SIMOTICS S - 1FL2 - Motor power 0.400 kW, | 1FL2304-2AF01-0MB0 | Not Applicable |
| 1 | Synchronous motor<br>Pipe Rotating | SIMOTICS S - 1FL2 - Motor power 2.50 kW | 1FL2310-0AC01-0MB0 | Not Applicable |
| 1 | Synchronous motor<br>Pipe Bending | SIMOTICS S - 1FL2 - Motor power 2.50 kW | 1FL2310-0AC01-0MB0 | Not Applicable |
| 1 | Synchronous motor<br>Pipe Booster | SIMOTICS S - 1FL2 - Motor power 5.00 kW | 1FL2310-4AC01-0MB0 | Not Applicable |
| 4 | Signal cable for absolute encoder, pre-assembled 5.00 m | MOTION CONNECT 350 | 6FX3502-2XB12-1AF0 | Not Applicable |
| 3 | Power cable, partially pre-assembled 5.00 m | MOTION CONNECT 350 | 6FX3502-5CL01-1AF0 | Not Applicable |
| 1 | Power cable, partially pre-assembled 5.00 m | MOTION CONNECT 350 | 6FX3502-5CL12-1AF0 | Not Applicable |



SIEMENS

# BOM - Pipe Bending Machine V1.0

## Software requirements

| Component | License | Article Number Download | Article Number Package |
|---|---|---|---|
| SIMATIC STEP 7 V20 Engineering Software | SIMATIC STEP 7 Basic V20 Floating License | 6ES7822-0AE24-0YA5 | 6ES7822-0AA24-0YA5 |
| SIMATIC WinCC Unified Engineering V20 | WinCC Unified Basic ES V20 | 6AV2151-0XA02-4LA5 | 6AV2151-0XA02-4AA5 |
| SINAMICS Startdrive V20 Engineering Software | Startdrive Basic V20 | 6SL3072-4LA02-0XG0 | Not Applicable |



SIEMENS

# BOM - Pipe Bending Machine V1.0

## Libraries

The libraries listed below are already contained in the Global Library **Automation Framework V2.2**
https://support.industry.siemens.com/cs/document/109817223

| Component | Version | SIOS Link |
|---|---|---|
| Axis Control (LAxisCtrl) | V1.4 | https://support.industry.siemens.com/cs/document/109925893 |
| Library of Basic Controls (LBC) | V3.1 | https://support.industry.siemens.com/cs/document/109792175 |
| Libraries of PLC data types (LPD) | V1.0 | https://support.industry.siemens.com/cs/document/109482396 |
| SIMATIC OMAC PackML V2022 Mode&State Management and Machine Data Interface (LPMLV2022) | V1.0 | https://support.industry.siemens.com/cs/document/109821198 |
| LSicar | V5.1 | https://support.industry.siemens.com/cs/document/109804254 |
| Library for SNTP Server Functionality (LSNTP) | V4.0 | https://support.industry.siemens.com/cs/document/82203451 |
| Library of Unit Control (LUC) | V2.2 | https://support.industry.siemens.com/cs/document/109974940 |

The following libraries are included by default. You can customize the selection, adding or removing libraries as needed.



SIEMENS

# Disclaimer

© Siemens 2025

Subject to changes and errors. The information given in this document only contains general descriptions and/or performance features which may not always specifically reflect those described, or which may undergo modification in the course of further development of the products. The requested performance features are binding only when they are expressly agreed upon in the concluded contract.

All product designations may be trademarks or other rights of Siemens AG, its affiliated companies or other companies whose use by third parties for their own purposes could violate the rights of the respective owner.