



**MANDERS
AUTOMATION**

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NOTICE: OUR BANK NUMBER HAS BEEN CHANGED!

General conditions

The general conditions apply, unless otherwise specifically stated in our quotation your text or customer specifications.

1 Commercial conditions

1.1 Sample hard tool parts from the customer

Parts will be send by the customer to Manders Automation free of charge.

Sample parts are considered to be representative of those to be run in actual production and that they are in accordance with the stated drawing tolerances. The parts must be from a general population of production and not sorted.

1.2 Factory Acceptance Test at Manders Automation

The installation will be assembled and tested at Manders Automation.
The pre-acceptance (FAT) test takes place at Manders Automation according to an acceptance test, in which all machine and software functions, as described in the scope of delivery, are included.

After successful completion of the acceptance test an acceptance protocol will be signed by each party.

1.3 Site Acceptance Test at the customers site

After installation of the machine at the customer a final acceptance test takes place with the presence of one or more persons representing the customer. The agreed performance from the machine as stated in the contract is shown to the customer.

After a successful test the same person as the one that signed the FAT protocol signs an acceptance protocol. For small deviations a list will be made with a planned date for solving the problem. After acceptance of the machine by the customer the machine will be released for production.

1.4 Installation/ start-up

The installation will be placed on the location indicated by the customer. Before starting the assembling activities, the customer will be informed about the installation supplies.

To perform the work at the customer we apply the normal working hours as applicable at Manders Automation. Waiting periods and overtime during installation are not the responsibility of Manders Automation, and will be charged at the applicable hourly rates of Manders Automation (see next section).

The customer will see to it that the preparations required for carrying out the assembling work are fulfilled correctly and on time. On request of the mechanic on the spot, assistance as well as manlifts, cranes or transport will be placed at his/ her disposal.

The customer is responsible for the risks of the internal transport and storage of the delivered goods of the installation.

Floor conditions:

Flatness class 1 up to inclusive 4 according to the NEN 2741 from 2001.



Connections to be provided by the customer:

Electric: Power to be provided by the customer 3x400 V/50 Hz + N + PE
Air: Dry; cleaned 6 bar according to ISO 8573-1:2010 Class 7.4.4.
Air exhaust from valves-islands: free in the room, unless mentioned otherwise in the offer
Extraction of process dust/ gasses: to be provided by the customer, unless mentioned otherwise in the offer

Electric and air are connected by the customer to the points indicated by Manders Automation. Cable trays or ladders to the connection-points are not provided by Manders Automation.

1.5 Additional assistance and field service rates

On request of the customer extra work can be carried out according to the rates mentioned below based on a 8-hours working-day from 8.00 to 17.00 hours.

<i>Working-hours and traveling hours Monday to Friday</i>	<i>8-hours between 8.00 and 17.00 hours</i>	<i>2-hours extra + 30%</i>	<i>> than 2 hours extra + 50 %</i>
Engineering:	€ 70,00 per hour	€ 91,00 per hour	€ 105,00 per hour
Software PLC/ robot:	€ 82,50 per hour	€ 107,25 per hour	€ 123,75 per hour
Software PC/ Labview/ Vision:	€ 97,50 per hour	€ 126,75 per hour	€ 146,25 per hour
Project management:	€ 82,50 per hour	€ 107,25 per hour	€ 123,75 per hour
Work preparation:	€ 70,00 per hour	€ 91,00 per hour	€ 105,00 per hour
Manufacturing:	€ 70,00 per hour	€ 91,00 per hour	€ 105,00 per hour
Assembly:	€ 60,00 per hour	€ 78,00 per hour	€ 90,00 per hour
Measuring:	€ 95,00 per hour	€ 123,50 per hour	€ 142,50 per hour
Maintenance:	€ 85,00 per hour	€ 110,50 per hour	€ 127,50 per hour
<i>Working-hours and traveling hours</i>	<i>Saturday + 50%</i>	<i>Sunday and holidays +100 %</i>	
Engineering:	€ 105,00 per hour	€ 140,00 per hour	
Software PLC/ robot:	€ 123,75 per hour	€ 165,00 per hour	
Software PC/ Labview/ Vision:	€ 146,25 per hour	€ 190,00 per hour	
Project management:	€ 123,75 per hour	€ 165,00 per hour	
Work preparation:	€ 105,00 per hour	€ 140,00 per hour	
Manufacturing:	€ 105,00 per hour	€ 140,00 per hour	
Assembly:	€ 90,00 per hour	€ 120,00 per hour	
Measuring:	€ 142,50 per hour	€ 190,00 per hour	
Maintenance:	€ 127,50 per hour	€ 170,00 per hour	

Starting-rate teleservice: € 150,00 per request (including 1 teleservice hour)
Other teleservice hours according to service rates as mentioned above.

Traveling costs: € 0,50 per km

Extra charges in case of an overnight stay: € 50,00 per overnight (including meal) per person
Hotel costs: at the local rate
Transportation by train/ airplane: on request

Purchase: net price + 10% handling costs



2 General, technical construction

2.1 Engineering

2.1.1 Mechanical and Electric Engineering

Manders Automation BV uses Autodesk Inventor for the design of installations. Design principles and layout of drawings are according internal design standards of Manders Automation.

At the receipt of the purchase order Manders Automation will require 3D CAD files in STEP, SAT, Catia or Autodesk Inventor.

During the Engineering a concept layout will be presented to the customer for approval.

Electro technical design will be made with E-plan design software. Symbols are according to IEC60617. Safety according to NEN-EN 60204-1.

2.1.2 Software Engineering

Programming of PLC and HMI are done with Siemens STEP7 software. The standard Siemens software is not included in this offer.

Process visualization and machine control on PC bases are programmed in Labview.

As a minimal functionality all machines have a "automatic cycle", and a modus "step by step" to go through the program step by step. Furthermore the program has a standard function "go to start position".

All programs like: PLC, robot, PC, Vision and servo programs are drawn up in an uniform way according to the internal directives of Manders Automation.

2.2 Mechanical construction (general)

2.2.1 Pneumatic

Cylinders:	Festo
Valves:	Festo
Compressed air preparation:	Festo
Vacuum components:	Festo/ Schmalz/ Piab
Pneumatic clamps:	Festo/ De-Sta-Co

2.2.2 Mechanical

Aluminum frame profiles:	Bosch
Fencing:	Troax
Manual clamps:	De-Sta-Co
Linear guidance systems:	Hiwin
Fasteners	Galvanized

2.2.3 Installation colors

Purchase parts:	standard color supplier
Aluminum parts:	non-treated
Steel constructions:	in consultation with the customer
Steel parts:	galvanized
Moving parts (safety related):	in consultation with the customer
Control boxes:	standard color supplier



2.3 Electric construction (general)

2.3.1 Electro components

Switches/ buttons/ lights:	Schneider Electric
Main switches:	Moeller
Magnetic switches:	Moeller
Relays:	Moeller
Insert relays:	Phoenix/ Murr
Safety relays:	Siemens/ Pilz
Installation automaton:	ABB
Motor protection:	Moeller
Switch-box:	Rittal
Connectoren:	Harting
Photocells:	Datalogic/ Balluf
Initiators:	Balluf
Frequency regulators:	Lenze
Servo motors/ controllers:	Lenze
Connection terminals:	Phoenix
Power supply:	Murr/ Pilz
PLC/ HMI:	Siemens

2.3.2 Standard facilities

Control boxes are standard provided with a 230 V multiple sockets for connecting for example a laptop or lighting for services-uses.

Cables are provided with a number. Wire numbering is not standard applied. Switches and sensors are provided with a code referring to the electric diagram.

Exchange of I/O to other machines will be done by:

- Profinet
- Potential-free contacts

2.4 Software (general)

- PLC programs: Source code of the machine is delivered after SAT with the exception of the passwords that relate to security.
- PC applications/ Vision applications: Executable file will be delivered after SAT. Source code for PC applications will not be delivered.

For a PC application a reinstall manual will be written to be able to configure a new PC afterwards.



2.5 Project management

At order entry Manders Automation will assign a project manager for the project that will take care of all communication internally and externally around the project. The project manager will follow up questions from the customer and agreements made with the customer. He is responsible that the project is delivered according to the agreements made.

A kick-off meeting will be organized in Venray at the start of the project to clear all technical details.

The project manager makes a project planning and informs the customer on a regular basis regarding the progress of the project.

2.6 Documentation

The complete machine documentation will be delivered with the installation in singular. Documentation complies with the requirements laid down in annex 1 (section 1.7.4) of the machinery directive.

The documentation contains:

- user manual:
 - Digital (pdf)
 - content of the user manual:
 - see annex 1 (section 1.7.4) of the machinery directive
 - documentation of the supplier of used main purchase components (digitally pdf)
- electric drawings:
 - hardcopy + digital (pdf) of the main control cabinet
- compositional drawings
 - Digitally (pdf)
- pneumatic drawings
 - Digitally (pdf)
- hydraulic drawings
 - Digitally (pdf)
- flowchart of the Software
 - Digitally (pdf)
- spare and wear parts list with name of the supplier of the part
 - Digitally (xls)

2.7 Training

After installation at the customers' site Manders Automation will give an instruction for operators and/ or maintenance technicians. This "training on the job" will consist of the basic function of the system, including start-up, shutdown, emergency stop, machine operation, machine fault correction and solving small disturbances.

The training will be conducted on the day shift once for a group of operators and once for a group of maintenance technicians, using the installed equipment. Formal classroom training is not part of this proposal.