

Technical Delivery Specification

S02 – Safety, Environment, Fire Protection





This document describes the requirements for the delivery and documentation of systems.

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This delivery regulation S02 replaces all previous regulations.

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1 Purpose

The Technical Delivery Specification contain general safety, environmental and fire protection requirements for machines, systems, and production equipment (hereinafter referred to as "Machines") and form the basis for each project.

In the interest of Hirschmann Automotive GmbH (*synonym for "Customer"*) and the Contractor (*synonym for "manufacturer" or "distributor"*), clarity is to be created about the technical design of machines so that all necessary protective precautions for people, the site and the environment are taken.

The delivery instructions do not contain all the details but specify what is particularly important from experience. Deviations that appear necessary or expedient to the Contractor require the prior written consent of the Customer.

Improvements that contribute to increasing the level of protection and energy efficiency shall be identified by the contractor and agreed with the client.

2 Regulations and Standards

2.1 General Requirements

Even if this Technical Delivery Specification does not refer to it in detail, the Contractor is fully responsible for ensuring that, in addition to the requirements specified in these Technical Specifications, all requirements applicable to its performance resulting from the country-specific regulations of the installation site (e.g. EC directives, ordinances and other applicable legal requirements) as well as from standards and generally accepted rules of technology, be complied with.

Insofar as reference is made to regulations, standards, and rules of technology in these technical delivery instructions, the Contractor must independently check whether these can be applied to his performance and whether further regulations, standards and rules must be complied with.

In case of doubt, the Contractor shall contact the Customer immediately. In addition, the Contractor shall immediately inform the Customer if the Contractor recognizes or is able to recognize based on his expertise that the service to be provided by the Contractor is not suitable for the intended purpose or is only suitable to a limited extent.

2.2 CE-Marking, Declaration of Conformity and Risk Assessment

The Contractor is obliged to attach the CE mark to each machine and to issue and deliver an EC declaration of conformity signed by the company in the national language in accordance with the current directives. For unfinished machines, a declaration of installation signed by the company must be issued and delivered in the local language.

The EC conformity assessment must be carried out in accordance with all applicable directives, in particular the Machinery Ordinance, the Machinery Directive, the Low Voltage Directive, and the Electromagnetic Compatibility Directive, in each case as amended. In the course of the EC conformity assessment procedure, the Contractor shall determine which standards and regulations have been considered in the design and manufacture of the machinery.

In addition to the EC declaration of conformity, the documents listed in Technical Delivery Specification General and Documentation must be supplied with the machine.

The Contractor confirms that the Machine complies with the state of the art or the relevant requirements for the quality of work equipment in accordance with the applicable legislations, regulations and guidelines of the authorities and trade associations.

Risk minimization must first be achieved through an inherently safe design. Thereafter, technical, and supplementary protective measures may be applied. If there are unavoidable residual risks on the machine, these shall be clearly indicated with appropriate graphic symbols (in accordance with EN ISO 7010 as amended).

Upon request, the Contractor must provide the risk assessment. At the very least, however, the Customer must be granted access.

3 Safety, Environment and Fire Protection

3.1 General Requirements

Machines shall comply with the requirements and safety, environmental and fire protection regulations (laws, ordinances, standards, etc.) of the installation site as amended. This includes checking for existing requirements with regard to:

- Worker safety protection
- Work equipment and machine safety
- Protections against noise, vibration, and oscillation
- Electromagnetic fields
- Electrical protection
- Low Voltage
- Laser and radiation protection
- RoHS, REACH, Conflict Minerals regulations
- etc.

Effective protective measures against the risk of injury to the operating and maintenance personnel shall be taken by means of suitable construction and, if necessary, appropriate protective devices (e.g. enclosure, light curtains, safety pressure bars, 2-hand control, etc.), so that no danger in the sense of accident prevention arises for the persons concerned when used as intended.

Machines must be designed in such a way that all energy sources (e.g. pneumatic, hydraulic or electric) are marked and can be fitted with shut-off devices.

3.2 Ergonomics

In principle, machines shall be constructed and designed according to ergonomic aspects. To avoid muscle and bone diseases, the strain on the operator must be kept as low as possible.

Manual workstations for assembly and testing tasks are generally to be designed as sitting and standing workstations. A seated workstation shall be equipped with at least a height-adjustable footrest and a height-adjustable chair. Desks for standing workstations shall be adjustable in height and adaptable to the size of the operator.

The control panel of the machine shall be easily accessible by the operator without the need for awkward movements or postures.

3.3 Emissions

Liquids, gases, aerosols, fumes, dust, heat and cold shall be reduced to the limits prescribed by law or authorities as far as technically possible. If limit values cannot be complied with, the client shall be informed immediately so that additional suitable protective measures (filter and extraction systems, oil separators, etc.) can be defined and implemented.

Under normal operating conditions, the constant or cyclic noise level emitted by the machine shall be well below the LAeq sound level of 80 dB. If this value is exceeded, suitable noise protection measures (e.g. encapsulation) shall be taken. The noise measurement shall be carried out at the machine at a distance of 1m and also at the operators' locations. The measurement reports shall be presented to the client on request and handed over.

Machines shall be designed to be free of leaks so that no process fluids (e.g. oils, coolants, cooling lubricants, etc.) can escape and thus inadvertently enter the environment.

Machines using cooling lubricants shall not emit more than 1 mg/m³ of coolant mist (inhalable fraction). The manufacturer must determine whether extraction is required and, if necessary, provide it.

3.4 Laser Protection

Machines with laser equipment, the EU requirements of Directive 2006/25/EC as well as the national regulations in the applicable versions shall be complied with.

In addition, the laser safety requirements of the "Technical Delivery Regulations – Process Engineering" shall be fulfilled.

3.5 Used and Prohibited Substances

With the aim of limiting the variety of materials, the Contractor and the Customer clarify in advance to what extent substances already used by the Customer for the operation and maintenance of the Machine can be used.

As far as possible, substances hazardous to health shall be substituted by the Contractor with non-hazardous or less hazardous substances.

The Contractor is obliged to provide a safety data sheet in digital form for each substance required for the operation and maintenance of the Machine in accordance with the REACH Regulation and the GHS/CLP Regulation. The safety data sheet shall always be provided in the national language of the installation site.

The use of materials that do not comply with RoHS, REACH, Conflict Minerals regulations or contain asbestos-containing materials is strictly prohibited. Also not allowed are:

- Materials containing PCBs (polychlorinated biphenyls) (e.g. capacitors, hydraulic fluids, etc.)
- Switches and devices containing mercury
- Lead-based paints
- Substances or products containing chromium VI
- Asbestos-containing substances

3.6 Resource Consumption/Energy Efficiency

The Contractor undertakes to design the machine according to energy efficiency criteria. The machine's resource consumption should be reduced to a minimum.

3.7 Fire Protection

With regard to fire protection and the risk of explosion, electrical equipment on Machines shall comply with the applicable legal regulations at the installation site. The following standards are also mandatory:

- EN 13478 safety on machinery – fire prevention and protection
- EN 1127-1 explosive atmospheres

If there are fire and explosion hazards (e.g. during processes such as welding, soldering, etc.), the machines must be equipped with appropriate and suitable fire protection and extinguishing equipment (e.g. CO2 extinguishers). Halon extinguishing devices are prohibited.

If insulating materials are used, only non-combustible materials according to DIN EN 13501 Class A1 are allowed be used.

4 Final Provisions

If the European laws, regulations, directives, and standards mentioned in these Technical Delivery Specifications are not applicable, the Contractor shall design and build the machines in accordance with the international and national legal requirements applicable at the place of installation. Applicable laws, regulations, directives, and standards required for the design and construction shall be obtained or obtained by the contractor himself.