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Guide

Machinery Directive (2006/42/EC)

Significance for Valves

May 2018

Note: A complementing supplementary document with notes for practical implementation is available for this basic guide.

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I. Preface

Since the “New Machinery Directive 2006/42/EC” has become effective on 29/12/2009 the users and manufacturers of valves are constantly confronted with the question whether and to which extent their products are governed by this Directive. This guideline was created for clarification. The paper solely focuses on the text of the Machinery Directive and the guide of the European Commission for the application of the Machinery Directive (version of June 2010).

Incidentally, the assessments formulated below are shared by experts who have actively accompanied the legislative procedure and preparation of the guide of the European Commission.

Note on the term machinery: The Machinery Directive principally distinguishes between “machinery” and “partly completed machinery”. Since the term “completed machinery” is widely accepted in practice referring to “machinery” it is also used in this guide.

II. Machinery according to the Directive

According to Article 2 a) first indent of the Machinery Directive the term “machinery”

designates an assembly, fitted with or intended to be fitted with an actuating system other than directly applied by human or animal effort, consisting of linked parts or components, at least one of which is moveable, and which are joined together for a specific application.

The required matter of fact is therefore explicitly not the use of a valve in a specific facility.

III. Application of the Machinery Directive to valves

Valves are components in plant engineering and piping technology used there to shut off, control and secure material flows. Due to their function they therefore principally consist of several components of which at least one is moveable.

1. Hand-operated valves

A manually operated valve does not have the required actuating system according to Article 2 a). Accordingly, it is not subject to the Machinery Directive.

2. Valves with actuators

A valve with an actuator is a machine according to the Directive if it has been assembled for a specific application.

Valves are used in nearly all branches of industry and supply systems, e.g. water supply and treatment, chemical and petrochemicals, oil and gas supply, pharmaceutical, energy management, biotechnology and in environmental protection. Within the respective areas of application the desired process determines the requirements to be placed on a valve in its function of shut-off, control or securing of material flows. The requirements determine design type and material as well as performance parameters such as housing strength and temperature resistance. The configuration

of a valve – also as marketable good – therefore normally allows recognising the concrete application intended.

Valves with actuators, accordingly, principally meet the prerequisite of Article 2 a) first dash and are consequently complete machinery according to the Machinery Directive.

3. Valves without actuators/but intended to be equipped with actuating systems

A valve without an actuating unit according to the Directive is a machine if it has been assembled for a specific application and is intended to be equipped with an actuating unit (see EC guide on the application of the Machinery Directive, Paragraph 35, Page 31, 2nd Edition, June 2010).

The guide of the European Commission explains this determination with the note that, e.g. this allows for the fact that some machinery users prefer having the machinery delivered without an actuating system to facilitate maintenance by using a uniform actuating inventory.

If the below conditions are not met machinery where their actuating unit was not completely specified are to be considered partly completed machinery. In this case, only the combination consisting of such partly completed machinery and an actuating system are to be considered a complete machinery and to be subjected to a conformity assessment procedure with the result of CE marking of the complete machine.

To be considered a complete machinery the following conditions must be met:

- The risk assessment of the manufacturer must include all risks emanating from the machinery, including the risks in relationship to the concrete actuating system to be fitted to the machine (if applicable, several concrete actuating systems can also be assessed if this is agreed on between customer and manufacturer).
- The machinery manufacturer must thereby define in his operating instructions all required specifications for the chosen actuating unit, amongst others, interfaces (forces, torque, etc.), output and means of connection and supply exact installation instructions for the actuating system.
- The conformity assessment of the machinery must include the technical details of the actuating system to be installed, as well as the installation instructions.

- The CE marking on the machinery and the EC Declaration of Conformity supplied must cover the technical details and the operating instructions of the actuating system to be installed.

4. Valves in special application areas

Due to the application areas which are exempt according to Article 1 (2) of the Machinery Directive, valves used in the respective application areas are not subject to the Machinery Directive (exemplary):

- Machinery specially designed or put into service for nuclear purposes which, in the event of failure, may result in an emission of radioactivity
- Seagoing vessels and mobile offshore units and machinery installed on board such vessels and/or units
- Machinery specially designed and constructed for military or police purposes

IV. Subsidiarity against other directives

Where, for machinery, the hazards referred to in Annex I are wholly or partly covered more specifically by other Community Directives, this Directive shall not apply, or shall cease to apply, to that machinery in respect of such hazards from the date of implementation of those other Directives (Article 3).

Accordingly, the Pressure Equipment Directive and ATEX Directive, e.g. shall be applied for the corresponding hazards preferentially over the Machinery Directive if the product is also governed by the application area of these Directives. Beyond this, the duty of observing the Machinery Directive remains.

V. Supplementary notes

This present paper is to be considered a reference point. It does not claim completeness nor final interpretation of existing legal provisions. Especially, it shall and must not replace the study of the relevant legislation (directives, laws, ordinances, etc).