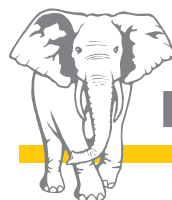


Innovation for safety

The response to the new EN 12001:2012 – ESC from Putzmeister



Putzmeister

Effective since February 28, 2013



DIN EN 12001:2012 became effective on **02-28-2013**. The new standard is a revised version of DIN EN 12001:2011 and describes the minimum requirements for safety of delivery, injection and placing machines for concrete and mortar. Representatives from manufacturers and users of concrete pumps, as well as the professional associations, worked together to provide this revision with more specific details on the European Machinery Directive 2006/42/EC, on which the standard is based. Presumption of conformity is implied with compliance to EN 12001:2012 and other corresponding standards. All machines which do not satisfy this standard and the requirements of the Machinery Directive **cannot be operated as of 02-28-2013** within the European Economic Area. This regulation does not concern machines already on the market. They are subject to the exemption clause – only if they have a CE mark.

Duties of the operator

Please note: The operator is not only responsible for choosing this route, **he is also obligated:**

Industrial Safety Act § 4 (1)

The employer must take necessary measures in accordance with the general principles of § 4 of the German Occupational Safety and Health Act to ensure only work equipment which is suitable for the conditions specified at the workplace is made available to employees and which guarantees health and safety when used properly.

The operator of the machine must ensure that the machines used (construction machines, concrete pumps) correspond to EU law.

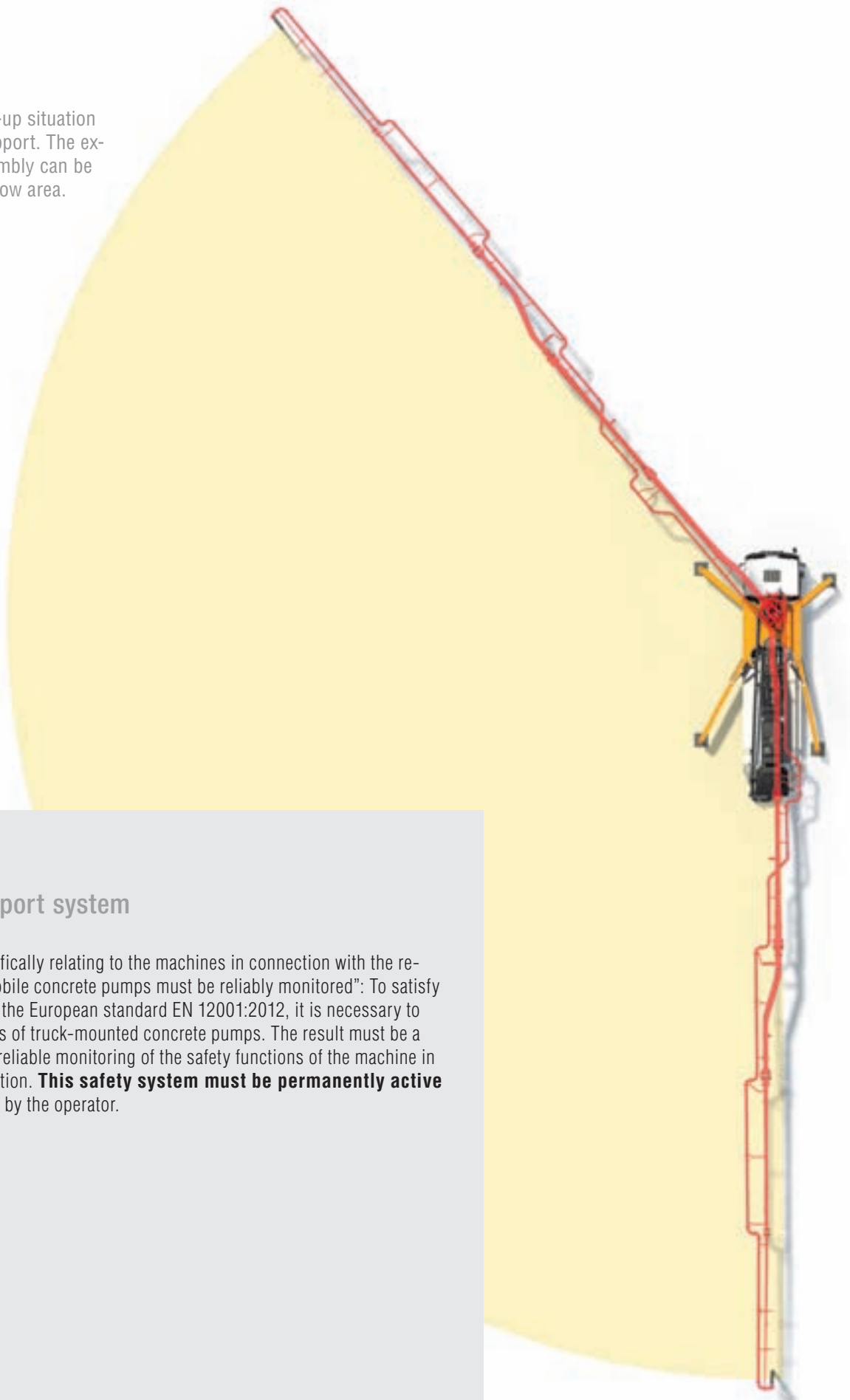
The current standard concerns the support

With the enforcement of EN 12001:2012 some changes have been made which are relevant for the operator. Supports of mobile concrete pumps must be reliably monitored. **This brochure should help to distinguish between proper and improper concrete pumps.**

The important criteria are described, which can also be checked without sound knowledge and technical information. A conscious and objective decision can thus be made for a product.

Be flexible

Example of a set-up situation in One-Sided Support. The extended arm assembly can be moved in the yellow area.



Control of the support system

What does this mean specifically relating to the machines in connection with the requirement "Supports of mobile concrete pumps must be reliably monitored": To satisfy the Machinery Directive or the European standard EN 12001:2012, it is necessary to modify the support systems of truck-mounted concrete pumps. The result must be a system which leads to the reliable monitoring of the safety functions of the machine in connection with safe operation. **This safety system must be permanently active** and cannot be switched off by the operator.

Knowledge brings clarity

Watch out for indicators of non-compliance with the Machinery Directive or EN 12001:2012



Indicator

The operator must confirm an action with a safety function and thus becomes part of the safety function.

Requirement

Safety functions must be automatic. Example: The approved work area of a concrete pump is marked by positions of the support legs detected by sensors.

The stability according to operating limits is not guaranteed in all locations and all applications.

The stability must be guaranteed in all locations and applications within the operating limits. The manufacturer provides information on the conditions to be satisfied such as permissible incline, excavation of the machine, etc.



Single sensors are used to detect the position of the support legs.

According to EN 12001:2012 a system for a restricted work area 2-channel sensor system (Performance Level d) must be used. Please consult the manufacturer in the event of questions!

A simple control system is used for the safety functions.

2-channel safety controls are prescribed (Performance Level d). Please consult the manufacturer in the event of questions!



Individual safety functions are not monitored by sensors.

All safety functions must be monitored by reliable, secure sensors.

Indicator

The arm assembly can be extended and moved over the One-Sided Support area in the case of a restricted work area.

The support legs can be moved with the boom.

Although not all support legs are retracted or the boom is not in the boom rests on the pedestal, the truck can be moved without an acoustic signal sounding.

There is no cleaning function for the hopper.

The agitator starts up again after the hopper is closed.

Requirement

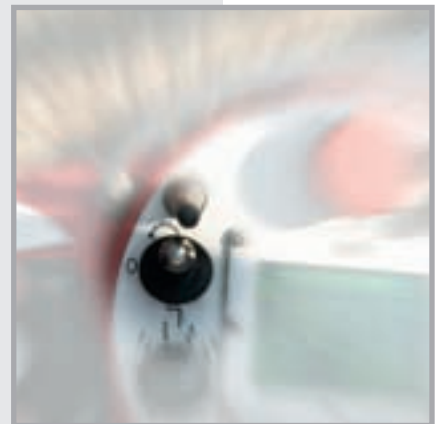
With One-Sided Support the control via 2-channel sensors (Performance Level d) must not allow the arm assembly to move into the blocked work area.

The operating modes "Move boom/ support leg" must be locked against each other.

If the support legs and the boom are not in the transport position, an acoustic warning must be given.

If the boom must be lifted without support for cleaning, it must be assured that the boom does not move in the direction of a non-supported side or the stability of the machine is in danger.

Separate safety equipment must be used against restart. The user must acknowledge the restart in the immediate vicinity.



A system rises and falls with the implementation

The Putzmeister solution



With ESC (Ergonic® Setup Control) Putzmeister implemented the specification to guarantee control of the interplay between support, boom movements and pump function. This integral safety system allows it to work as flexibly and easily as possible within the framework of the existing directives and standards.

It is a win-win situation in terms of safety for people who work at and with the machine and for operators because the investment is protected against possible damage. In addition to the possibility of full support, Putzmeister also offers a safe system for One-Sided Support*.

With One-Sided Support more flexible work can be guaranteed in restricted set-up situations than with the full support. Only certain arm positions and working areas are allowed in order to guarantee the stability of the concrete pumps in operation.



The key changes at a glance

- **The control checks the position of the support legs**
- **The arm assembly can only be moved after the support was fully extended and the machine was lifted**
- **The working area and the approved arm positions are automatically released by the control depending on the support status**
- **The operator can move the arm assembly freely within the restricted working area. An additional working area is released by placing arm 1 in a vertical position.**
- **When the arm assembly is extended, the machine supports can be adjusted**
- **For cleaning the concrete pump, in drive position without extension of the support system, it is possible to move the arm assembly up so that the hopper cover can be opened**
- **The operating modes “Move boom/support leg” are locked against each other and can be adjusted via the radio or cable remote control.**

* For selected machines

No “can” – a “must”

How can the plant operator check whether a vehicle conforms to the European Machinery Directive? Some basic requirements must be satisfied, which can then be used to check whether the product corresponds to the applicable standards:



Basic checklist for checking conformity

Is the machine labelled according to regulations?

A plate must be attached permanently to the machine, which is written in a language of the European Union. This information must contain the classification:

- **Name and address of the manufacturer**
- **Machine name**
- **Serial number of the machine**
- **Year of construction**
- **Series or type name**
- **CE symbol!**

Is there a Declaration of Conformity?

The Declaration of Conformity must also be composed in a language of the EU and contain the following details:

- **Declaration that the machine corresponds to the requirements of the EU Directives**
- **All Directives which the machine satisfies are listed here**
- **Name and address of the manufacturer**
- **Description of the machine (serial number, designation ...)**
- **Name and address of the person in the EU, who provides technical documentation on the safety of the machine**

Are there instructions for safe use and technical documentation in the national language?

These documents contain more precise information on whether the machine satisfies the applicable European standards. They refer to possible potential hazards and ensure correct use of the machine.

Explicit reference must be made to the dangers of the machine in the user documentation.

Be safe – with Putzmeister and EN 12001:2012

We strongly recommend: Check us out, and perform a thorough investigation! Because only then can you establish that your investment in products from Putzmeister are worthwhile, not just the superficial details, but down to the most minute detail. Because you can be sure that you are using premium products in terms of productivity and long life, as well as in all aspects of health and safety. Below please find another overview of the key points which should be observed as of February 28, 2013 when the standard took effect.

- **Concrete pumps which do not satisfy the requirements of EN 12001:2012 can no longer be placed on the market after February 28, 2013 in the European Economic Area.**
- **Used machines with a valid CE mark are excluded from this. They are allowed to operate in non-compliance under a variance or continuation permit.**
- **The new automatic safety system from Putzmeister satisfies the requirements of EN 12001:2012 and thus the European Machinery Directive 2006/42/EC.**
- **The correct horizontal position of the support legs is checked upon activation of the boom function.**
- **The control system guarantees that the arm assembly can only be moved in the permitted working area.**

Should you have any questions on the topic of safety and EN 12001:2012, please contact us. We are happy to help.

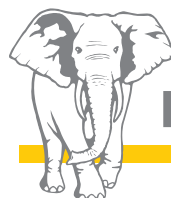
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