

Greetings all. Today's Bulletin is about the new anemometer rules for cranes outlined in the Queensland Code of Practice. These requirements are only for Queensland, but in Victoria and elsewhere the topic of calibration of wind speed sensors, or anemometers, often comes up.

Starting September 23, 2024, new safety regulations will take effect under the updated Qld [Mobile Crane Code of Practice 2024](#).

These rules introduce important changes regarding the use of anemometers (devices that measure wind speed) on cranes and the rollout over the next 12 months.

Here's what you need to know:

1. **New Requirements:** All **slewing cranes** with a maximum rated capacity of **45 tonnes or more** must now be equipped with an anemometer. Previously, under the 2006 code, only cranes with 100 tonnes or more capacity were recommended to have these devices.
2. **Why the Change?** Lowering the threshold from 100 to 45 tonnes means more cranes will be fitted with anemometers, increasing wind monitoring across worksites. As we addressed recently in Bulletin #343, wind is a major hazard for cranes; strong gusts can cause swinging loads, tipping, or even structural failure. Anemometers help operators monitor wind speeds in real time, making it easier to decide when it's unsafe to continue lifting operations.
3. **Existing Rules for Tower Cranes:** Tower cranes have long-standing requirements for anemometers. For instance, the [Tower Crane Code of Practice](#) suggests mounting anemometers on the top of the A-frame for luffing tower cranes or on the A-frame or machine deck handrail for non-luffing tower cranes. Tower cranes are particularly vulnerable to high winds due to their height and the way they are anchored, making accurate wind speed measurement critical.

### Types of Anemometers Available

Anemometers are essential for safe crane operations, particularly on large construction sites. There are several types of anemometers commonly used:

#### 1. [Cup Anemometers:](#)

- Consist of three or four cups attached to a vertical shaft.
- The cups rotate in response to wind speed, generating an electrical signal that can be read by the operator.
- **Common Use:** This is the most common Anemometer used on mobile and tower cranes, both OEM and aftermarket, with integration into the Rated Capacity Indicator Display.

Widely used for wind resource assessment due to their durability and ease of use.

#### 2. [Propeller Anemometers:](#)

- Feature a propeller mounted on a horizontal shaft, which is oriented into the wind using a tail vane.
- Like cup anemometers, they produce an electrical signal that correlates to wind speed.
- **Common Use:** Often used in situations where precise wind direction measurements are also necessary.

#### 3. [Ultrasonic Anemometers:](#)

- Use sound waves (ultrasound) to measure wind speed and direction, providing highly accurate and immediate data.
- Used for scientific and survey applications, **not common for cranes**.

#### 4. [Wireless Anemometers:](#)

- Ideal for hand held operations.
- **Features:** Include long battery life, automatic wind speed alerts.
- Wireless models can transmit data directly to remote monitoring systems.

### Calibration

This depends on the type of anemometer you are using. Check the manufacturer's guidelines to

determine whether calibration is required and if so, the frequency.

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Most crane anemometers **do not require calibration** and are not able to be tuned for calibration. The robust design allows the user to know if the anemometer is working if it produces a reading. If no reading is provided it should be replaced.

### **Choosing the Right Anemometer for Cranes**

When selecting an anemometer for crane use, several factors need to be considered:

- **Durability:** Must withstand harsh environmental conditions, including rain, dust, and extreme temperatures.
- **Wind Gust Handling:** Should survive high wind gusts, such as those [reaching 25 m/s or more](#).
- **Reliability:** Low maintenance and high reliability are crucial to avoid downtime.
- **Accuracy:** Accurate measurement of both wind speed and direction is necessary to ensure safe lifting operations.
- **Ease of Installation:** The anemometer should be easy to install on different parts of the crane, like the boom tip, without requiring extensive modifications.

### **Importance of Proper Placement on Cranes:**

Correct placement of the anemometer is key to getting accurate wind readings ([page 32 and 33](#)). It should be mounted at the highest possible point, typically on the boom tip of the crane, to avoid obstruction from other parts of the crane or nearby structures. This placement ensures that the anemometer gets the most accurate reading of the wind conditions that could affect crane stability and load control.

### **Please note:**

With the new regulations in Qld, crane operators and site managers need to ensure that all applicable cranes are fitted with the appropriate anemometers by **2 September 2025**.

See pages 32 and 33 of the [Mobile Crane Code of Practice 2024](#) for guidance on wind direction and calculating the maximum allowable wind speed.

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