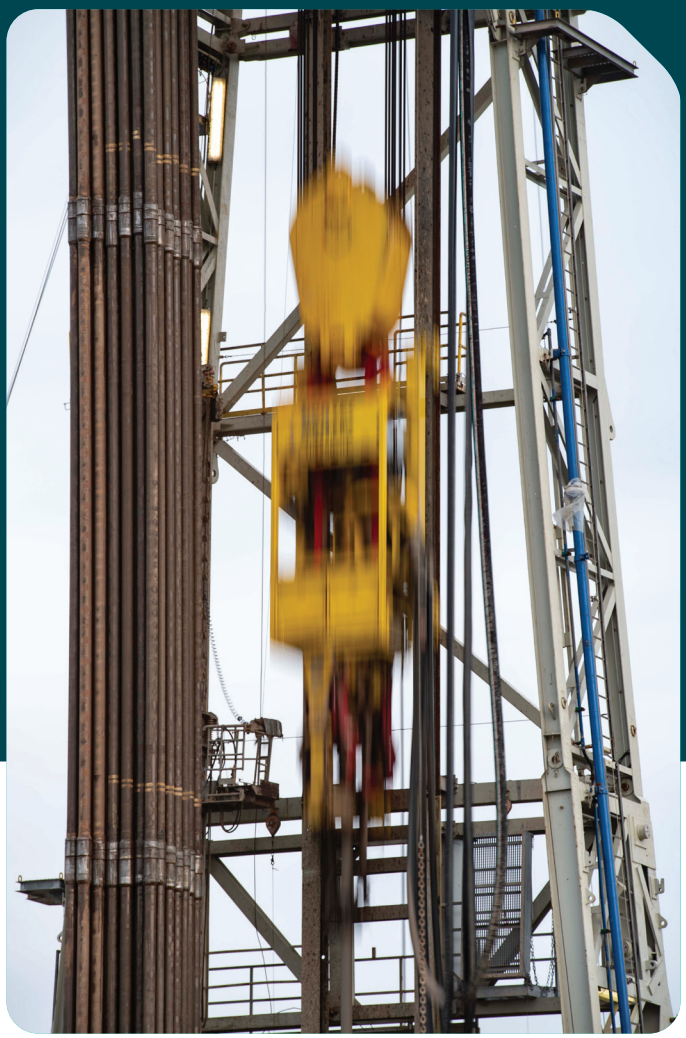
Digital Solutions

# Anti-Collision System

## Safer Operations. Certified Collision Prevention. Smarter Control.



### Product range

ACS

### Prevent Collisions. Reduce Risk. Protect Operations.

The BENTEC Anti-Collision System is a safety-certified control system designed to prevent dangerous collisions during rig hoisting and lowering operations.

By continuously monitoring traveling block position, speed, hook load and braking capability, ACS automatically intervenes with controlled braking or emergency stops before safety limits are exceeded, improving operational safety, reducing downtime and protecting critical rig assets.

### Applications

- Oil & gas
- Global onshore & offshore drilling operations
- Rig newbuilds & retrofits

ACS MK VII Certified functional safety to EN ISO 13849-1 Performance Level PL d

- Dynamic real-time braking calculations
- Redundant safety architecture
- Retrofit-ready for BENTEC and non-BENTEC rigs

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Bold Engineering+Technology

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## Hoisting and lowering operations remain one of the highest-risk activities on a drilling rig

Modern drilling operations demand:
- Safer and more predictable hoisting operations
- Reduced risk of human error
- Improved operational uptime and equipment protection
- Compliance with increasingly stringent safety requirements

Without advanced anti-collision protection:
- Critical collisions can damage high-value equipment
- Personnel exposure and safety risks increase
- Unplanned downtime and repair costs escalate
- Manual intervention limits operational efficiency and consistency

## Why BENTEC?

**More safety. More control. More confidence.**
The BENTEC Anti-Collision System (ACS MK VII) is a fully safety-certified system engineered to automatically monitor and control traveling block movement during drilling operations.

Unlike conventional limit-based systems, Anti-Collision System dynamically calculates braking distances in real time based on actual operating conditions including speed, hook load and braking capability.

Designed with a robust safety architecture and integrated rig interlocks, Anti-Collision System prevents unsafe movements before they become critical while supporting smoother, more efficient rig operations.
- Certified functional safety to EN ISO 13849-1 PL d
- Dynamic braking logic based on real-time operating conditions
- Integrated interlocks with rig and pipe handling equipment
- Retrofit-ready for both BENTEC and non-BENTEC rigs

## Designed to deliver

- ✓ **Certified operational safety**
  Certified functional safety architecture helps protect personnel and high-value assets and releases stress from the driller during hoisting and lowering operations
- ✓ **Reduced NPT**
  Prevents collisions and equipment damage that lead to costly downtime and operational disruption
- ✓ **Smarter motion control**
  Dynamic braking calculations provide smoother, safer and more predictable hoisting performance
- ✓ **Extended asset life**
  Controlled braking and collision prevention reduce shock loads and structural stress on critical equipment
- ✓ **Flexible integration**
  Designed for integration on newbuild rigs and retrofit applications across a wide range of rig configurations
- ✓ **Future-ready safety architecture**
  Supports modern rig automation environments with integrated safety logic and system-wide interlocks



- ✓ **Safer and more predictable hoisting operations**
- ✓ **Reduced collision-related downtime**
- ✓ **Improved operational confidence and control**
- ✓ **Extended equipment life and lower lifecycle cost**
- ✓ **Certified compliance with functional safety requirements**

## Proven performance

- ✓ **More than 250 systems deployed globally across drilling operations**
- ✓ **Certified functional safety architecture validated to EN ISO 13849-1 PL d**
- ✓ **Field-proven across newbuild and retrofit rig environments**
- ✓ **Designed for integration with modern rig control and automation systems**
- ✓ **Trusted across demanding operational drilling environments worldwide**

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**Ready to improve your rig safety and operational control?**
**Speak to a BENTEC expert**

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Digital Solutions

# Anti-Collision System

**ACS**



## Specifications

| | | |
|---|---|---|
| **Connection values** | **Voltage** | 230/110 V |
| | **Frequency** | 50/60 Hz |
| **Central unit** | **Height** | 78-3/4 in \| 2000 mm |
| | **Width** | 19-11/16 in \| 500 mm |
| | **Depth** | 31-1/2 in \| 800 mm |
| **HMI driller's place** | **Height** | 5-3/4 in \| 146 mm |
| | **Width** | 11-7/16 in \| 290 mm |
| | **Depth** | 3-5/32 in \| 80 mm |
| **HMI central unit** | **Height** | 13-1/16 in \| 332 mm |
| | **Width** | 11-21/32 in \| 296 mm |
| | **Depth** | 2-27/32 in \| 72.2 mm |
| **Total weight approx.** | | 350 kg |

## Key features

The Anti-Collision System is designed to improve safety and efficiency of movements of the traveling block assembly during hoisting and lowering on a drilling rig.

- The system is based on a mathematical control algorithm and provides redundancy functions of all safety relevant equipment
- The design warrants optimum control of movements of the traveling block assembly, bringing it to an accurate and safe stop at the end of movements
- The system allows analysis of the kinetic energy of the hoisting system taking into account load, speed and position of the traveling block assembly and the capacity
- The Anti-Collision System avoids collision with the crown block and the rig floor and increases the tripping speed due to optimized breaking point within programmable working points
- Due to the continuously monitored hook load, Anti Collision System is able to react with braking in case of pipe sticking

The Anti-Collision System works in conjunction with the drawworks auxiliary braking system and emergency braking system and allows direct access via the operator panel.

PLC microprocessor calculate hook position, speed, hook load, and braking distance. Any differences in calculations of both microprocessors will cause an emergency brake.