

COSBER



PLANNING FOLDER

CAR Suspension tester

COSBER C-ESC Series

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1 General

1.1 Important notes

The following requirements must be met to ensure the correct installation of test benches. This document lists the minimum basic requirements.

- All designs must comply with local and national standards, guidelines, and regulations.
- The company is not liable for any defects or quality problems resulting from the violation of national or regional regulations.
- It is forbidden to distribute the design folder, foundation drawings, construction drawings, circuit diagrams, and other documents to third parties without the permission of COSBER.

1.2 Delivery

- For unloading and moving, lifting tools (such as forklifts or cranes) required by the customer must be provided.

1.2.1 Scope of delivery

The following products are NOT included in the standard scope of delivery:

- Foundation frame or edge protection
- Empty conduit connection

The products listed above can be purchased from COSBER.

1.3 Tool

To facilitate the installation, please prepare the following tool:

- Lifting tool for installation of the test bench.
- Electric conductor threading tool.
- Standard tool for control cabinet and test bench work.

1.4 Units

Unit Conversion Table:

Unit	Conversion unit
1 ft	0.305 m
1 m	3,281 ft
1 Inch	0.0254 m
1 m	39.37 Inch

10 N

1 kgf

2 Location

- The system and its components should be assembled in the workshop at the most suitable location.
- Always consider the needs of your customers, local or national regulations, safety requirements, operational or technical specifications, and take all requirements into account when deciding on a location and planning it.



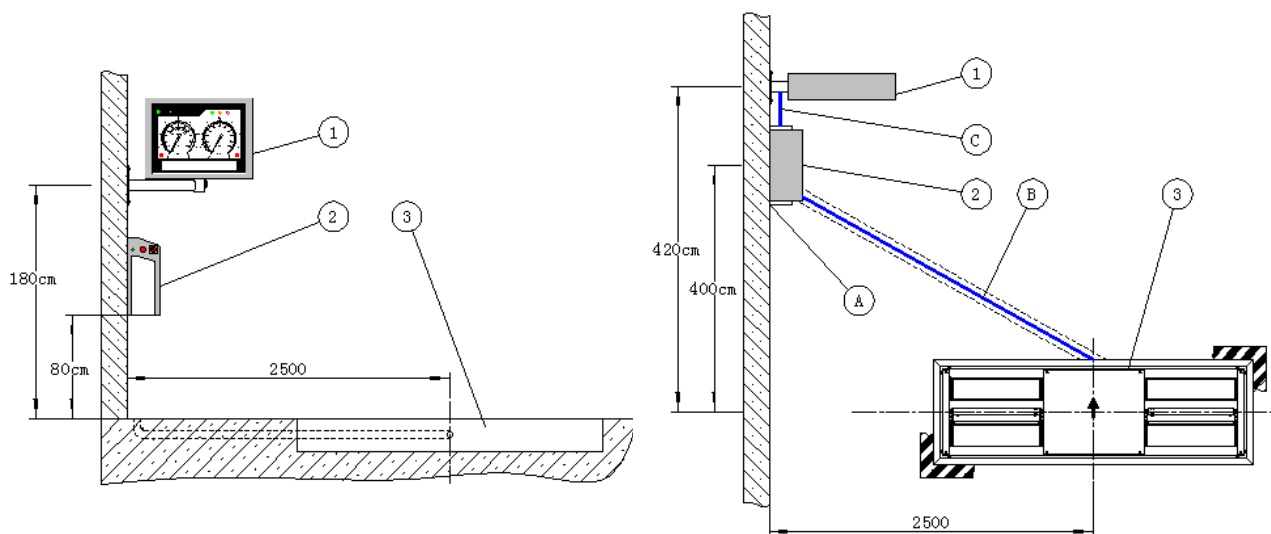
HINT!

**WHEN CHOOSING LOCATION, MAKE SURE THAT THERE IS A POSSIBILITY TO ATTACH THE CONTROL CABINET AND, IF NECESSARY, ANALOGUE DISPLAY OR SCREEN.
(MOUNTING MATERIAL NOT INCLUDED)**

2.1 Outdoor installation

- In an outdoor installation, the power switch, monitor, printer, PC, and other electrical components/products should not be exposed to direct rain or snow.
- The test bench should be installed in suitable environments that meet the requirements for ambient temperature and humidity.

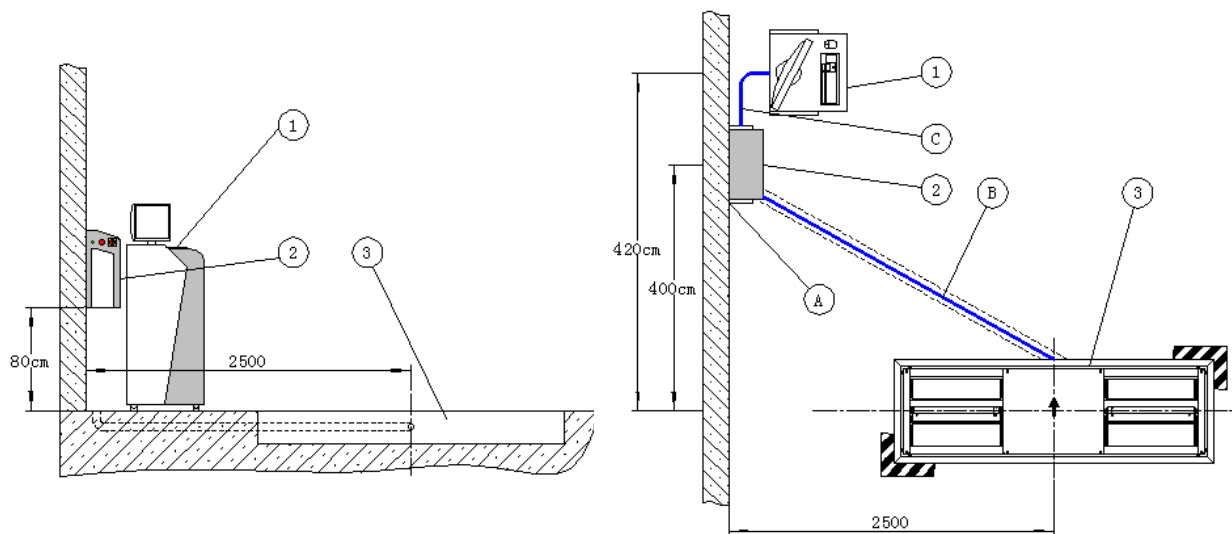
2.1.1 Installation sketch of the brake test bench with analogue display



Pos.	Description	Connection
A	Power cord	Control cabinet - main switch (to be provided by the customer)

B	Power Cable, Signal Cable	Control cabinet - Roller set. Cable length 15m (standard)
C	Communication cable	Control cabinet - analogue display. Cable length 15m (standard)
Pos.	Description	Connection
1	Analog Display	
2	Switchboard	
3	Roller set	

2.1.2 Installation sketch of the brake test bench with PC connection



Pos.	Description	Connection
A	Power cord	Control cabinet - main switch (to be provided by the customer)
B	Power cables, signal cables	Control cabinet - roller set. Cable length 15m (standard)
C	Signal	Control cabinet - PC system. Cable length 15m (standard)
Pos.	Description	Connection
1	PC system	
2	Switchboard	
3	Roller set	

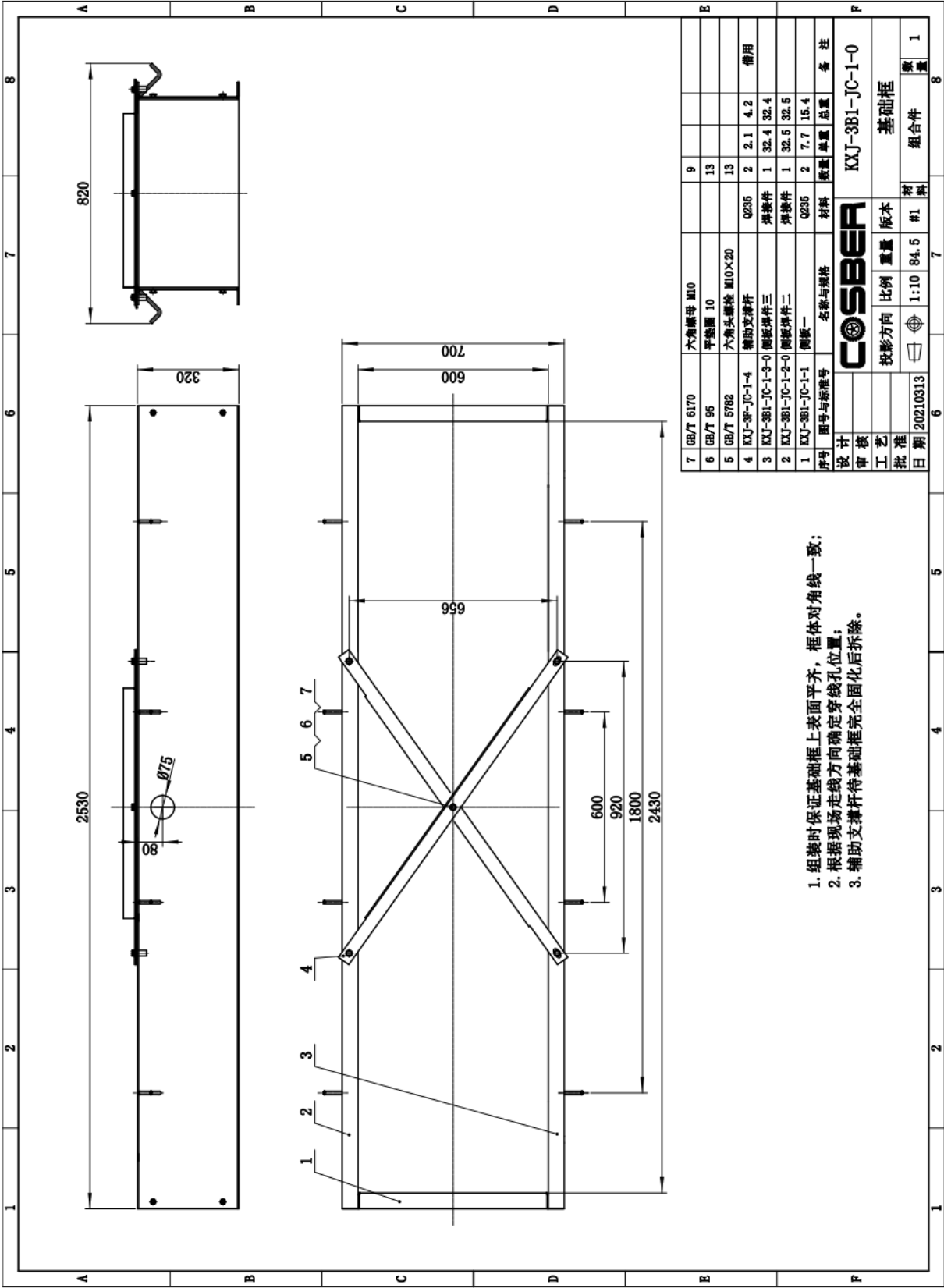
3 Foundation

3.1 General information

- The excavation pit as well as all connections and outlet openings must be created according to the foundation drawing.
- The excavation pit must stand on load-bearing soil.
- The size of the excavation pit must comply with the state conditions.
- The concrete quality meets at least the requirements of C20/25 DIN EN 19992-1-1 and includes a reinforced concrete network in the concrete that can withstand the maximum load on the test station.
- The floor level meets the requirements of DIN 18202.
- The bottom of the pit is flat on both sides, and the middle of the pit has a slope of 2% up to the water drainage.
- The maximum tolerance allowed for all sizes in the drawings is $\pm 1\text{cm}$.
- The cables (connections) run through the empty conduits provided for this purpose. These are to be equipped according to the drawing.
- Empty conduits must be laid underground.
- The cable duct must not be clogged under any circumstances.
- If you are using foundation frames, edge protectors or other accessories, fasten them in such a way that there are no floating movements or displacements during concrete.

3.2 COSBER Foundation Plans

3.2.3 Foundation plan COSBER test rig C-ESC70 (single; common pit)



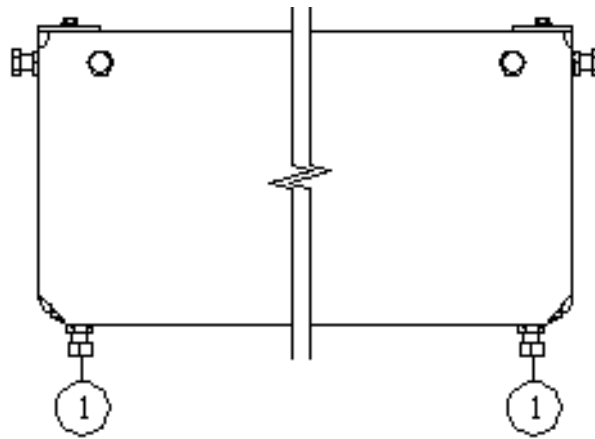
3.3 Installation in existing foundations

For installation in existing foundations, COSBER does not guarantee function.

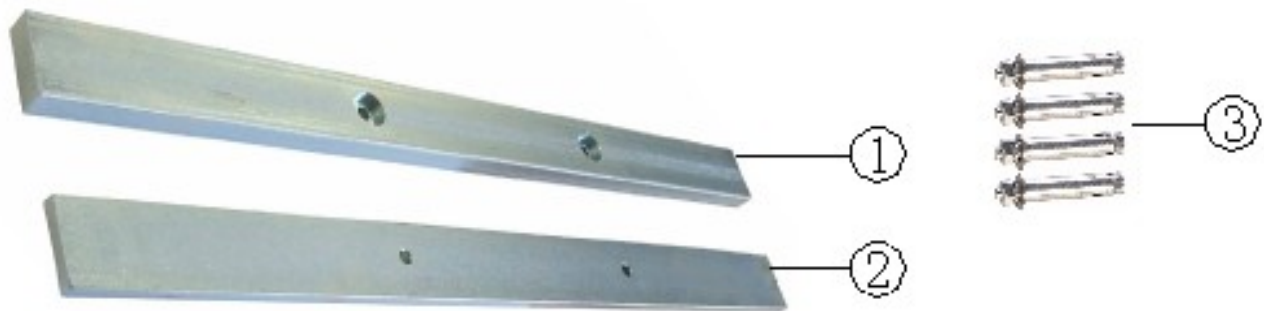
- Compare the existing foundation with the given external dimensions of the respective test bench:

Type	Length [mm]	Width [mm]	Height [mm]
C-BTC22	2.320	660	240
C-ESC20	2.320	420	275
C-ESC70	1.200	550	325

- If the depth of the pit is not correct, minor deviations in height can be compensated for with the screw (1) on the test bench. After adjusting the height, you need to tighten the lock nut on the adjusting screw.

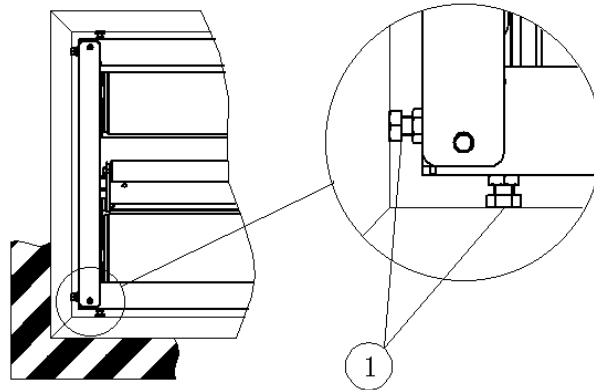


- Larger differences in height can be compensated for by installing adjustment plates. These are placed under the adjustment screw of the test bench and fixed in the concrete with suitable anchors.



No.	Description	Quantity	Kind. No.
1	Adjustment plate 20 mm	2	20.02.02.0013
2	Adjustment plate 10 mm	2	20.02.02.0014
3	Impact anchors	8	70.05.16.1209

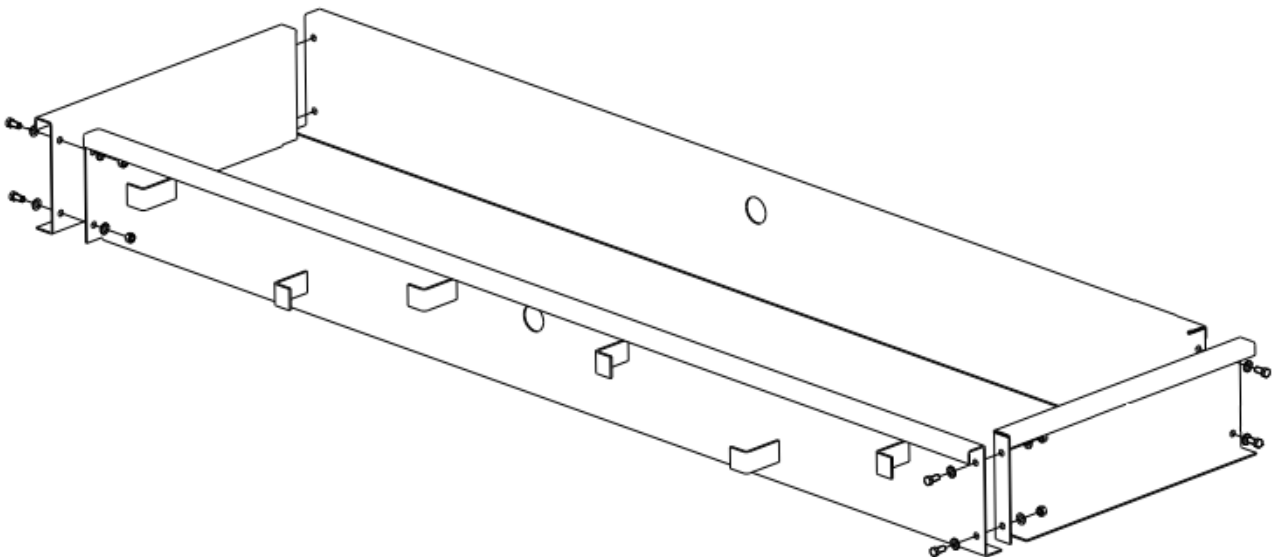
- If the length and width of the pit is not correct, minor deviations in length and width can be compensated for with the help of the lateral clamping screws (1) on the test bench. After adjustment, you need to tighten the lock nut on the adjusting screw.



- In the case of brake test benches with a weighing function, the screw heads on the upper edge should not touch the pit and the screws should not bear any load. Otherwise, the measurement accuracy may be impaired.

Customers can choose various foundation aids according to their actual needs.

3.3.1 Assembly drawing foundation frame



4 Power



WARNING!

**THE POWER SUPPLY OF DEVICE MUST COMPLY WITH LOCAL STANDARDS.
THE POWER SUPPLY AND THE ELECTRICITY CONNECTION MUST BE PROVIDED BY A LOCAL,
CERTIFIED ELECTRICIAN (QUALIFIED PERSONNEL).**

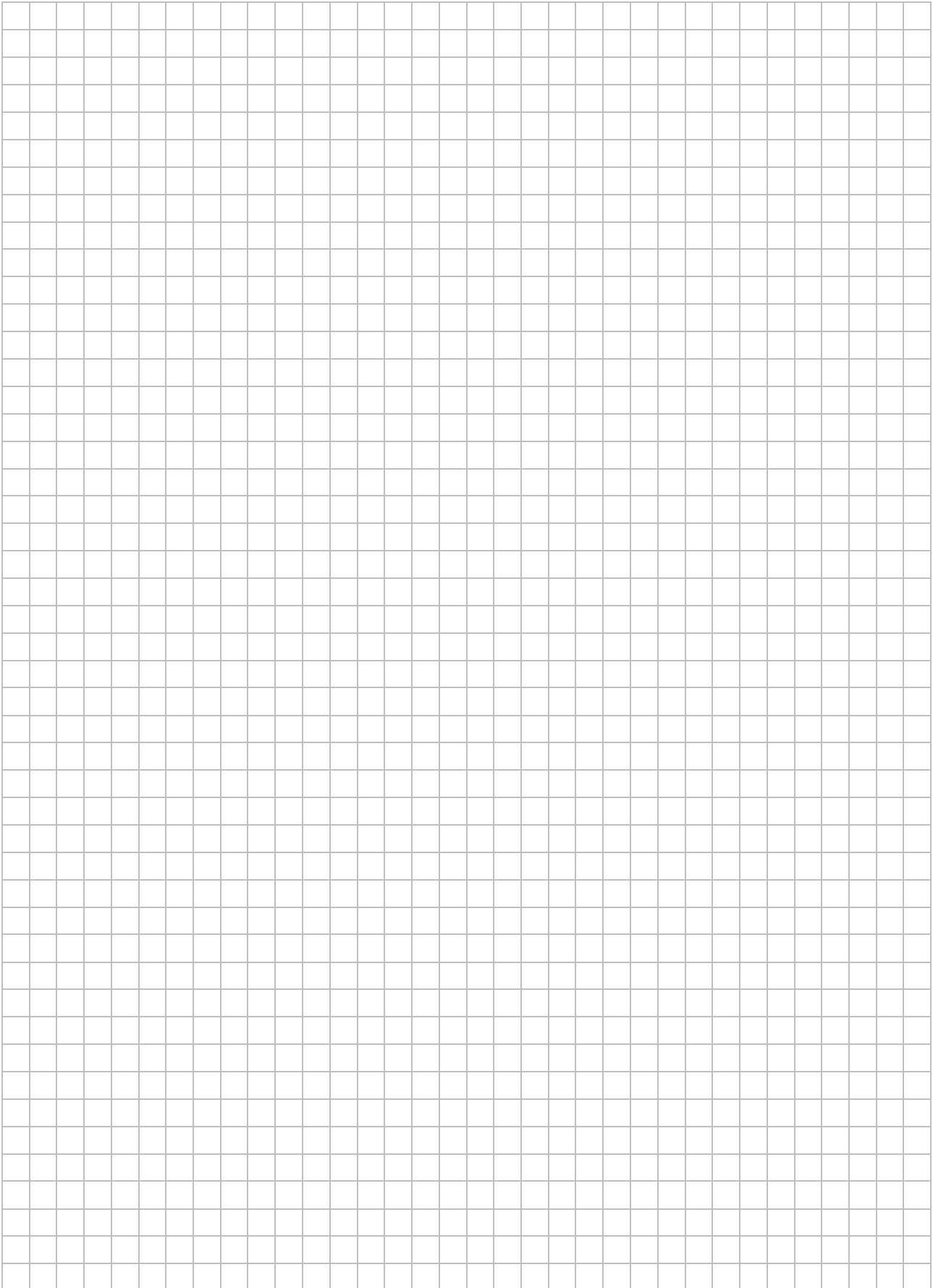
- Power supply of 400V
- Structure of the 3Ph + N + PE cables
- The power source must not be more than 3m away from the control cabinet.
- To ensure trouble-free operation of the device, the power supply must be equipped with a three-phase circuit breaker. In addition, appropriate grounding that meets local standards is required.
- Cable entry to the control box is made from below. The car control cabinet is designed (as standard) for wall mounting.
Insertion of the power cable is done through a plate at the bottom.
- Additional sockets:
 - For ASA livestream, a free 230V socket must be available within a radius of no more than approx. 2m around the control cabinet, which a test engineer can use as part of the main inspection.
 - Depending on the equipment and customer requirements (PC, monitor, printer, etc.), additional 230V sockets must be available.

Type	Power	Hedge	Cable cross-section*
C-BTC2x	3.0 kW	25 A	5x 4.0 mm ²
C-BTC2x	4.0 kW	32 A	5x 6.0 mm ²

*According to the current carrying capacity table (Germany)

5 Installation requirements

- The infrastructure should meet all requirements.
- The concrete/foundation must meet all requirements and be fully cured.
- When assembling test benches, the lifting equipment required by the customer (such as a forklift truck or crane) must be made wide.
 - If it is not possible to provide an appropriate hoist, this must be clarified in advance with our employees.
- Scope of assembly:
 - Commissioning (electrical connection must be made by a locally certified electrician)
 - Instruction of the operating personnel
 - Calibration (includes former piece testing)
- NOT in the scope of assembly:
 - Necessary additional services for adaptations
 - Other material or ancillary costs
 - Concrete and foundation work.
 - Removal of the old test bench.



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