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Container Spreader Hydraulic System Fault Diagnosis

Training Simulator

PN: 0401050090



Container Spreader Hydraulic System Fault Diagnosis Training Simulator

Features

The container spreader is a large dedicated container handling equipment. This Container Spreader Hydraulic System Fault Diagnosis Training Simulator is composed by the metal spreader, the hydraulic torque converter demo unit, the external hydraulic station and the main control cabinet.

The main beam of the metal spreader is retractable/flexible controlled by two telescopic cylinders in the main beam and it can lift two different sizes of container models. The lifting locking devices use fixed-shaft rotary locking devices controlled by four cylinders and it equip with position signal switch at unlocking, locking position to ensure that when lifting, the four locks are at the determined detection position at the same time, and while alarm, if not in the determined detection position. The four turnover guiding panels, for guiding in the lifting, are controlled by four cylinders and can rotate 180 degrees. The guide plates are mounted on the corners in order to ensure the four locking columns properly align to the keyhole of containers when hoisting container.

The power source of the container spreader is provided by an external hydraulic station. The hydraulic station concludes the main motor pump unit, auxiliary motor pump unit, integrated circuit block, the main control valve and other components. The main motor pump is mainly supply power source for container spreader and the hydraulic torque converter demo unit. The hydraulic torque converter is driven by a gear motor. The auxiliary motor pump unit provides cycle oil for inside of the hydraulic torque converter. The integrated hydraulic valve unit regulates the system pressure, spreader movement speed, hydraulic torque converter motor speed.

The container spreader's operation can be automatically controlled via PLC in the main control cabinet or single action control via manual. And it is able to detect the position of the lock-pin and alarm.

This container spreader trainer is designed of container spreader in colleges, vocational schools and technical schools for demonstrating and training:

1. The container spreader manual operation and automatic control demonstrating and training;
2. The structure and working principle of various parts of a container spreader observing, disassembly and assembly training;
3. The principle of hydraulic torque converter demonstrating and training;
4. Cognitive training of hydraulic components;

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Performance

1. An external tank provides hydraulic pressure source.
2. The bench is made by cold-rolled steel with after spray, anti-corrosion treatment.
3. This education unit is made in accordance with the physical structure of a physical container spreader to demonstrate the actual work conditions of a container spreader and to make students understand the container spreader system and training in practice.
4. This container spreader trainer can be used for repeatably disassembly and assembly training to make students understand in depth the structure and working principle of the various parts of container spreader.
5. Dual control modes: manual control and PLC.
6. This education unit is effective to educate the troubleshooting and inspection theory/training.
7. This container spreader trainer hydraulic torque converter demonstration experiment to make students understand in depth the working principle of the hydraulic torque converter.
5. With leakage protection, three-phase output voltage: 380V / 220V. When earth leakage current exceeds 30mA, the power supply will cut off; the electric control power is DC 24V with over-voltage protection to prevent damage under malfunction.

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Typical Training Contents

A. The container spreader manual operation and automatic control demonstrating and training.

1. The spreader stretching and retracting manual operation and program control

demonstrating and training;

2.The panel turnover guiding manual operation and program control demonstrating and training;

3.Latching manual operation and program control demonstrating and training;

B.The structure and working principle of various parts of a container spreader observing,disassembly and assembly training.

1.The structure and working principle of the main beam telescoping mechanism observing,disassembly and assembly training;

2.The structure and working principle of the latch mechanism observing,disassembly and assembly training;

3.The structure and working principle of the panel turnover guiding mechanism observing,disassembly and assembly training;

C. The principle of hydraulic torque converter demonstrating and training.

1.The drive of hydraulic torque converter demonstrating and training.

2.The principle of hydraulic torque converter cognitive training.

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The Main Technical Parameters

1.Spreader dimensions: 1220X500X260mm (extended length:1620mm)

2.Hydraulic station dimensions: 1000X600X700mm

3.Hydraulic torque converter demo bench dimensions: 800X600X900mm

4.Console dimensions: 500X500X800mm