

# 技术协议 Technical Agreement

协议编号: ZS-20251024

Agreement No.: ZS-20251024

协议名称: 水带收卷系统技术协议

Agreement Title: Hose Retrieval System Technical Agreement

甲方(买方): Party A (Buyer):
联系地址: Address: 邮政编码: Post Code: 联系电话: Tel: 传 真: Fax: 电子信箱: Email:
乙方(卖方): Party B(Seller):
联系地址: Address: 邮政编码: Post Code: 联系电话: Tel: 传 真: Fax:

经双方友好协商, 甲方向乙方采购 ZS-LD300-L9500-0 型水带收卷系统 达成如下技术协议。

Following amicable negotiations between the two parties, Party A and Party B have reached the following technical agreement regarding the purchase by Party A of the ZS-LD300-L9500-0 fire hose rewind system from Party B.

## 一、技术规格及参数

### I. Technical Specifications and Parameters

#### 1. 规格、型号

#### 1. Specifications and models

名称 Item	型号 Model	备注 Remark
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水带收卷系统 Hose Retrieval System	ZS-LD300-L9500-0	
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## 2. 主要构成

水带收卷系统包括系统机架、左右移动轨道、自动收带/导带机构、自动理带机构、水带清洗装置、液压模块、液压油泵及传动、电控系统、水带厢隔断等。

## 2. Main Components

The Fire Hose Retrieval System comprises the system frame, left and right travel rails, automatic hose rewind/guide mechanism, automatic hose straightening mechanism, hose cleaning device, hydraulic module, hydraulic oil pump and drive system, electrical control system, and hose compartment partitions

序号 No.	名称 Item	规格型号、主要功能、主要构成品 Specifications and model numbers, main functions, main components	备注 Remark
1	系统机架 System rack	主体为钢结构电泳处理并表面粉末喷涂，轨道采用不锈钢材质制作，整车安装于车厢顶部。 The main structure is made of steel, which has undergone electrophoretic coating and powder coating; the rails are made of stainless steel, and the entire unit is mounted on the roof of the carriage.	
2	左右移动轨道 Move the track left and right	包括轨道和动力装置 Including the track and power unit	
3	自动收带/导带机构 Automatic tape rewind/feed mechanism	具备收带、导带功能，收带/导带平顺；可在具备自动收带、和压紧功能。 工作时从系统机架向前伸出，行车时缩回机架。 Equipped with belt retraction and guidance functions, ensuring smooth retraction and guidance; capable of automatic belt retraction and clamping. Extends forwards from the system frame during operation and retracts into the frame when the vehicle is in motion.	
4	自动理带机构 Automatic belt sorting	位于系统机架内，依靠机械手自动抓取水带前并前后移动，将水带自动摆放到水带厢内。	

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	mechanism	Located within the system rack, it uses a robotic arm to automatically grasp the fire hose and move it back and forth, thereby automatically placing the hose into the hose compartment.	
5	水带清洗装置 Fire hose cleaning device	4 个清洗喷头及其连接管路安装在收带机上；液压驱动的高压清洗泵集成在液压模块中，500L 一次成型水箱。 Four cleaning nozzles and their connecting pipework are fitted to the tape winder; the hydraulically driven high-pressure cleaning pump is integrated into the hydraulic module, along with a 500-litre one-piece water tank.	
6	液压模块 Hydraulic module	液压油箱、收理带机控制阀、清洗用高压清洗泵。 Hydraulic oil tank, control valve for the strapping machine, high-pressure cleaning pump	
7	液压油泵及传动 Hydraulic Oil Pumps and Transmission	液压油泵为电液比例控制（无离合器），配备传动轴，行车时自动低排量空载运行，工作时自动切换到全流量运行。 The hydraulic oil pump features electro-hydraulic proportional control (clutchless) and is fitted with a drive shaft; it automatically operates at low displacement in no-load mode whilst the vehicle is in motion, and automatically switches to full-flow operation during work.	
8	电控系统 Electronic Control System	系统电压 24V；电控箱、有线遥控器、水带接口检测探头等。 System voltage: 24V; control box, wired remote control, hose connection detection probe, etc.	
9	水箱厢内隔断 Partition within the water tank compartment	配有钢管弯制后可安装在水带箱内的隔断，可将水带箱内从左到右分为 4 个区域，每个隔断分为三个弯管；其中最后一个弯管内嵌 PP 板，可使水带接头平顺敷设。 Fitted with partitions made from bent steel	

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		tubing, which can be installed inside the hose cabinet to divide the interior from left to right into four sections, each partition comprising three bent tubes; the final bent tube is fitted with an embedded PP panel, allowing the hose couplings to be laid smoothly.	
10	两侧顶盖 (不在供货范围内) End caps on both sides (not included in the scope of supply)	甲方自配, 乙方提供三维数据及相关配套资源。 Party A shall provide its own equipment, whilst Party B shall supply 3D data and related supporting resources.	

### 3. 主要性能指标及技术参数

- 1) 回收水带速度 0~3km/h, 施放水带速度 0~15km/h。收卷水带时, 具有接口自动感应功能, 连接的接口可自动通过, 不需人工辅助操控。
- 2) 可自动回收水带, 并可根据需要实时对水带进行局部清洗。
- 3) 工作温度: -10 °C~45 °C (注: 清洗系统需要零度以上使用)。

### 3. Key Performance Indicators and Technical Specifications

- 1) Hose retraction speed: 0–3 km/h; hose deployment speed: 0–15 km/h. When reeling in the hose, the system features an automatic coupling detection function, allowing connected couplings to pass through automatically without the need for manual intervention.
- 2) The hose can be automatically retrieved, and localised cleaning of the hose can be carried out in real time as required.
- 3) Operating temperature: –10 °C to 45 °C (Note: The cleaning system must be operated at temperatures above zero).

### 4. 产品特点:

- 1) 自动导带机构从驾驶室前方收卷水带, 保证水带回收时不卷曲、不扭转, 实现平顺回收。
- 2) 水带收卷系统具有压紧机构, 保证持续具有足够收卷力, 具有接口自动感应功能。(注: 本系统具备倒带功能)
- 3) 由液压动力单元、高压清洗系统、水箱、高压喷头等组成的水带清洗装置可在需要时对水带上下表面进行清洗, 保证水带干净存放。
- 4) 水带收卷系统由液压系统提供动力, 操作轻便快捷。
- 5) 水带收卷系统可将水带整齐的自动摆放在水带厢内 (收带过程中水带折叠不顺畅需要人员辅助)。

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6) 水带收卷系统可以有线遥控操作，系统可自动左右移动。

8) 水带厢隔断，采用钢管弯制，并在靠车尾的隔断弯管中嵌装入 PP 板，可使水带接口平顺敷设。

## 4. Product Features:

1) The automatic hose-guiding mechanism reels in the hose from the front of the cab, ensuring that the hose does not kink or twist during retraction and enabling smooth retraction.

2) The hose rewind system is equipped with a tensioning mechanism to ensure a consistent and sufficient rewind force at all times, and features an automatic coupling detection function. (Note: This system is equipped with a reverse rewind function.)

3) The hose cleaning unit, comprising a hydraulic power unit, a high-pressure washing system, a water tank and high-pressure nozzles, can clean both the upper and lower surfaces of the hose as required, ensuring it is stored in a clean condition.

4) The hose rewind system is powered by a hydraulic system, making it easy and quick to operate.

5) The hose rewind system automatically arranges the hoses neatly inside the hose compartment (however, manual assistance is required if the hoses do not fold smoothly during the rewind process).

6) The hose rewind system can be operated via a wired remote control, and the system can move automatically from side to side.

8) The hose compartment partitions are made from bent steel tubes, with PP panels embedded into the bent tubes at the rear of the compartment, enabling the hose couplings to be laid smoothly.

5. 产品的外形及主要尺寸，详情见附件 1。

**5. The product's appearance and main dimensions; please refer to Appendix 1 for details.**

## 6. 设计规范及标准

本协议所述产品应至少但不限于符合以下规范及标准。

1) 所有操作开关、仪表均有符合规范的中文防水标识标注，系统中涉及到的压力等仪器仪表的单位，需符合中华人民共和国法定计量单位。

2) 系统性能符合 GB7956《消防车性能要求及试验方法》的规定。

3) 所有焊接牢固、光洁、平整、无锈迹，符合国家相关标准。

## 6. Design Specifications and Standards

The products referred to in this Agreement shall comply with, at a minimum but not limited to, the following specifications and standards.

1) All operating switches and instruments shall bear waterproof Chinese labelling in accordance with the

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relevant specifications; the units used for instruments and gauges measuring pressure and other parameters within the system shall comply with the statutory units of measurement of the People's Republic of China.

2) The system's performance shall comply with the provisions of GB 7956, 'Performance Requirements and Test Methods for Fire-Fighting Vehicles'.

3) All welds shall be secure, smooth, even and free from rust, and shall comply with the relevant national standards.

## 7. 安装、调试

1) 整个系统部附件发送至甲方工厂，首套由乙方指派技术人员指导和培训甲方完成设备的安装调试(远程指导)；安装完成后甲方技术人员和检验人员进行验收确认；第二套以后由甲方安装，乙方提供技术支持。

2) 在合同签订后，乙方提供箱体骨架焊接结构图，甲乙双方对箱体骨架及安装结构进行相互确认，确认可行后方可集成并进行安装。

3) 甲方水带敷设消防车在工厂测试、型式检验、交付终端客户时乙方技术人员提供技术支持和配合。

## 7. Installation and Commissioning

1) All system components and accessories shall be dispatched to Party A's factory. For the first set, Party B shall assign technical personnel to guide and train Party A in completing the installation and commissioning of the equipment; upon completion of installation, Party A's technical and inspection personnel shall carry out acceptance checks and confirmation. From the second set onwards, installation shall be carried out by Party A, with Party B providing technical support.

2) Following the signing of the contract, Party B shall provide welding drawings for the cabinet frame. Both Parties shall mutually confirm the cabinet frame and installation structure; integration and installation may only proceed once feasibility has been confirmed.

3) Party B's technical personnel shall provide technical support and cooperation when Party A's fire hoses are laid out, and when the fire engine undergoes factory testing, type testing and delivery to the end customer.

## 二、资料提供

### II. Provision of Information

甲方提供下列资料：

1、底盘图纸，发动机飞轮取力器接口规格及位置

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- 2、车厢厢体骨架图；
- 3、液压模块、水箱、油泵等的安装位置。

## **Party A shall provide the following information:**

1. Chassis drawings, specifications and location of the engine flywheel power take-off (PTO) connection
2. Drawings of the body frame;
3. Installation locations for the hydraulic module, radiator, oil pump, etc.

## **乙方提供下列资料:**

- 1、底盘技术要求及配置要求。
- 2、水带收卷系统安装图（CAD版）及车厢顶部结构图。
- 3、水带收卷系统产品手册及使用维护保养说明书。
- 4、产品合格证明。

## **Party B shall provide the following documentation:**

1. Technical specifications and configuration requirements for the chassis.
2. Installation drawings (CAD format) for the hose rewind system and structural drawings of the vehicle roof.
3. Product manual and user and maintenance manual for the hose rewind system.

## **三、验收条款**

按本技术协议中的技术条款及乙方提供的有关资料进行检验验收。

## **III. Acceptance Provisions**

Inspection and acceptance shall be carried out in accordance with the technical provisions set out in this Technical Agreement and the relevant documentation provided by Party B.

## **四、质量担保条款及售后服务承诺**

- 1、乙方应在甲方进行系统设计、调试时对甲方进行技术配合，对甲方的需求及时响应。
- 2、配合甲方进行收带系统的安装调试、测试。
- 3、提供甲方整车交车远程技术支持。
- 4、乙方负责对甲方的技术人员、现场安装人员、检验人员、售后人员在调试过程中进行培训，使受训人员熟练掌握设备性能，系统运行、操作和维护。
- 5、其条款参照商务合同。

## **IV. Quality Guarantee Clauses and After-Sales Service Commitments**

1. Party B shall provide technical assistance to Party A whilst Party A is carrying out system design

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and commissioning, and shall respond promptly to Party A's requirements.

2. Party B shall cooperate with Party A in the installation, commissioning and testing of the tape-handling system.

3. Party B shall provide remote technical support to Party A upon delivery of the complete vehicle.

4. Party B shall be responsible for providing training to Party A's technical staff, on-site installation personnel, inspection staff and after-sales personnel during the commissioning process, so that the trainees become proficient in the equipment's performance, as well as the operation, handling and maintenance of the system.

5. The terms and conditions shall be as set out in the commercial contract.

五、本协议涵盖事项如需改动，须经双方同意后方可实施，其它未尽事宜双方协商解决。

**V. Any amendments to the matters covered by this Agreement shall be implemented only with the consent of both parties; any other matters not provided for herein shall be resolved through consultation between the parties.**

## 六、保密条款

1、未经披露方书面许可，接收方不得将本项目任何报告、方案、图纸、施工过程和单元图片、协议、会谈记录、往来函件、技术数据泄露给第三方使用或作其他用途。

2、接收方对披露方的商业秘密进行保密，未经披露方许可不得以任何形式外泄给第三方。

## VI. Confidentiality Clauses

1. Without the written consent of the Disclosing Party, the Receiving Party shall not disclose to any third party, or use for any other purpose, any reports, proposals, drawings, photographs of the construction process and individual units, agreements, minutes of meetings, correspondence or technical data relating to this project.

2. The Receiving Party shall keep the Disclosing Party's trade secrets confidential and shall not disclose them to any third party in any form without the Disclosing Party's consent.

七、本协议一式两份，甲方一份，乙方一份，签字后生效。

**VII. This Agreement is drawn up in duplicate, with Party A holding one copy and Party B the other; it shall come into effect upon signature.**

八、附件：安装图附后。

**VIII. Appendix: Installation diagrams are attached.**

# 技 术 协 议 Technical Agreement

甲方

乙方:

Party A:

Party B:

代表:

代表:

Agent:

Agent:

日期:

日期:

Date:

Date: