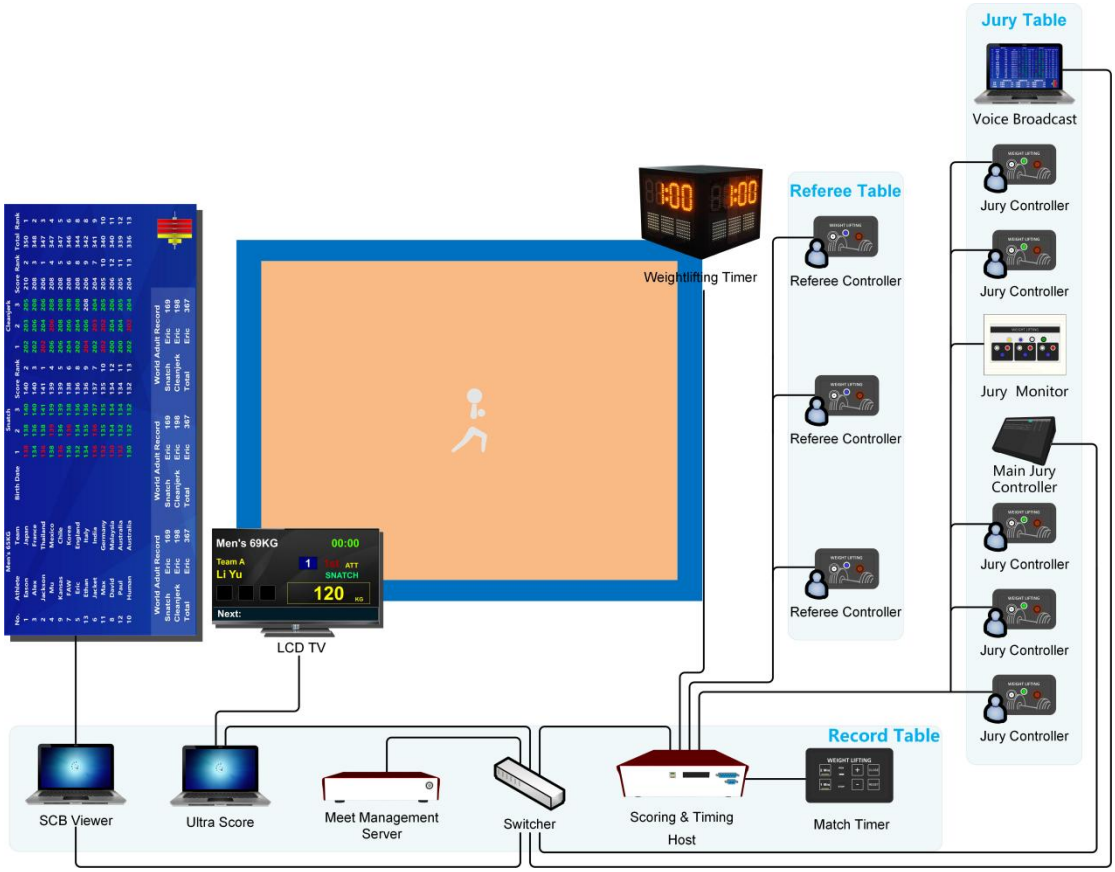
Scoring & Timing Solution for Weightlifting

1. Introduction

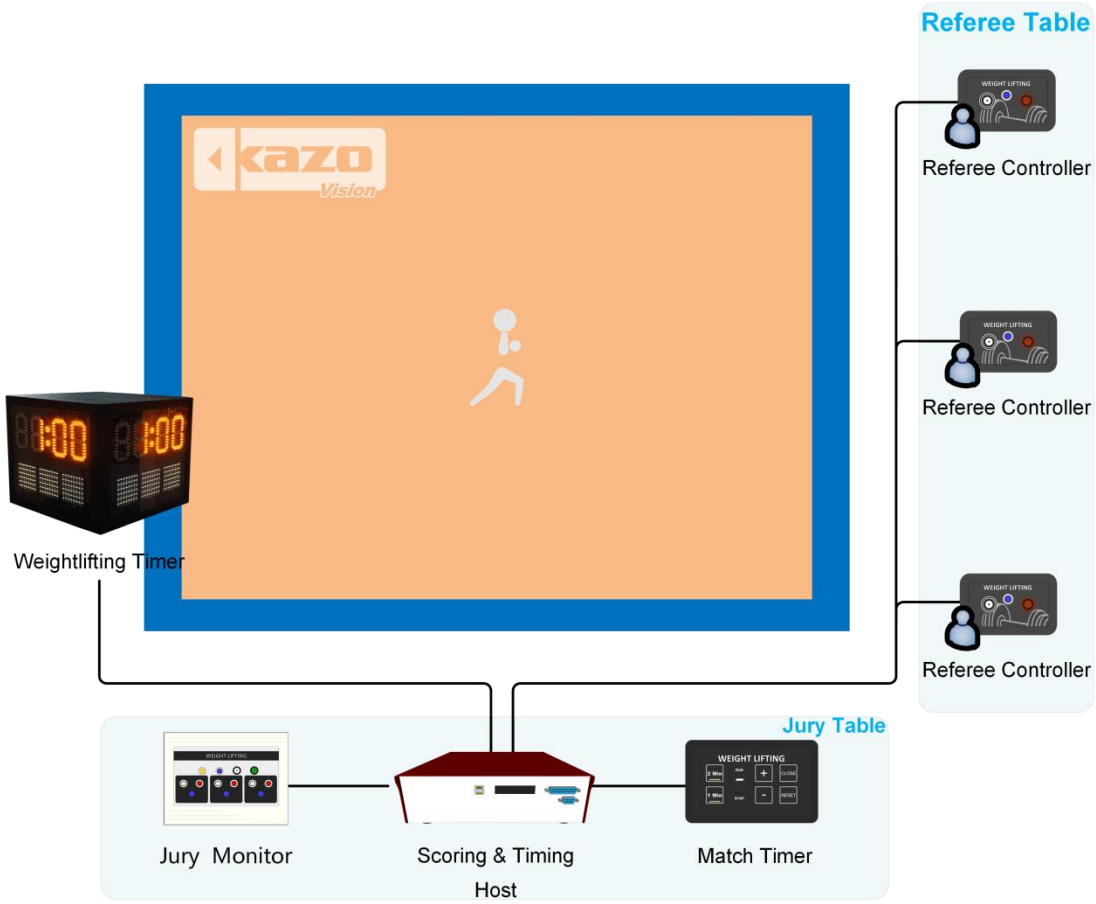
This is a professional solution for LED scoreboard display in weightlifting competition.
The system functions conform to IWF rules.
Match arrangement, real-time scoring & timing display, players' & referees' info display, rank statistics export & print, slow motion video record & playback, and advertising display can be realized through the coordination of Match Scoring System, Meet Management System, Video Arbitration System, etc.

2023 September, Ganzhou City Zhongying Cup The 6th Games (Youth Division)

1.1 System Chart



Training:



System Description

1) One or two LED displays are installed on both sides of the gymnasium to display the score, team and player information.

2) Ultra score Software of weightlifting is installed on the control computer.

3) The Scoring & Timing Host (KS-MONSTER) is connected to PC running Ultra score software by network cable.

4) The Referee Controller (KS-WL-RC10) and the Jury Controller (KS-WL- RC10) are connected to the Scoring & Timing Host (KS-MONSTER) through a special cable.

5) The Weightlifting Timer (KS-WL-CD10) is connected to the Scoring & Timing Host (KS-MONSTER) through four core cable.

1.2 Product Configuration (for one court)

Product	Type	Number
Match Scoring System		
Ultra Score Software	Standalone Edition	1
Scoring & Timing Host	KS-MONSTER	1
Referee Controller	KS-WL-RC10	3
Jury Controller	KS-WL-RC10	5
Jury Monitor	KS-WL-MC10	1
Weightlifting Timer	KS-WL-CD10	1
Meet Management Server	KS-MMS-MINI	1
Score Display Software	ULTRASCORE VIEWER	1
PC	/	2
LCD Display	/	1
Printer	/	1
Video Arbitration System		
Video Arbitration Server	KS-PARROT-2C	1
Control Panel	KS-PARROT-CP	1
HD Camera	KS-PARROT-CAMERA	2
Tripod for HD Camera	TRIPOD STANDARD	2
SDI Cable	15m	2
LCD Monitor	21.5 inch	1

2. Specification for products

2.1 Ultra Score Software

Products	Details
Standalone edition	◆ Installed on one PC. ◆ Supports: Weightlifting ◆ English version ◆ Including 1 dongle
Network standard edition	◆ Terminal + 1 Display ◆ Supports: Weightlifting ◆ English version ◆ Including 1 dongle
Network professional edition	◆ Terminal + Referee + 2 Display ◆ Supports: Weightlifting ◆ English version ◆ Including 1 dongle

Difference:

Standalone Edition:

Match management, Scoring, and Media display functions, all in one installed on a PC. Referee must do operation on the PC for display directly.

It is suitable for the stadium where has just one screen, which doesn't have strict needs of the scoring and timing accuracy.

Network Standard Edition:

Score terminal and media player functions can be installed on 2 PCs respectively. So that one independent PC can be setup on the courtside special for referee's operation, the other PC running as media player to manage the LED display.

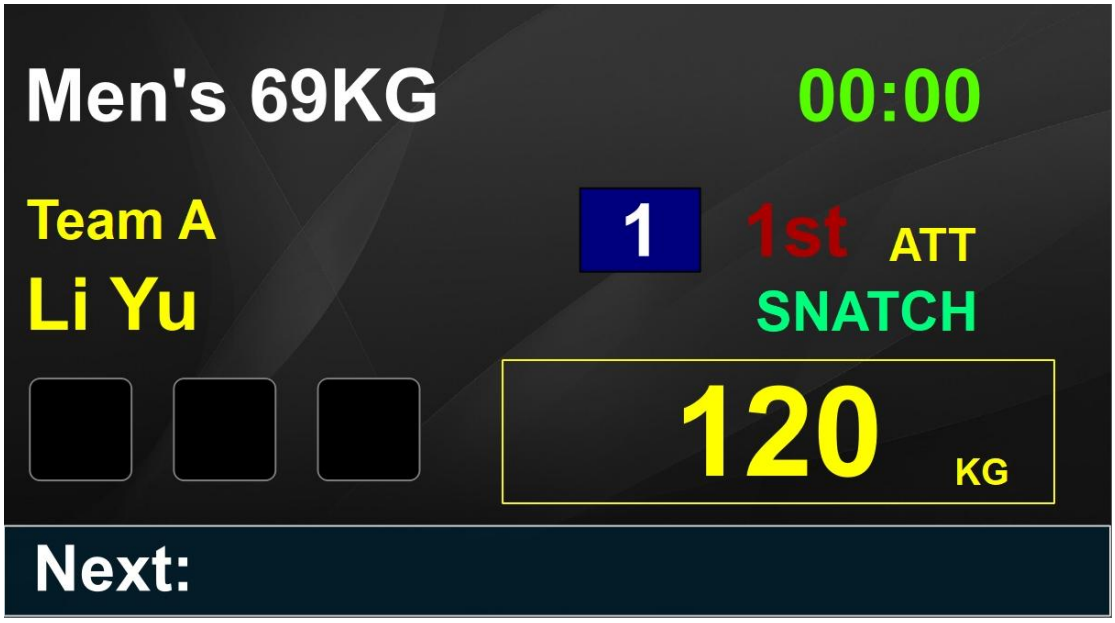
It is suitable for the stadium where has one screen, needs to do the scoring and timing on the courtside.

Network Professional Edition:

Except the function of score terminal, 1-3 media players can be equipped on PCs separately, in order to display different contents on several LED screens.

It is suitable for the stadium where has more than 2 screens where referee need to do scoring on the courtside and LED screens need to display different contents separately. (For example, one LED screen is for scoreboard and another is for advertising or player info).

Scoring interface for weightlifting:



2.2 Score Display Software

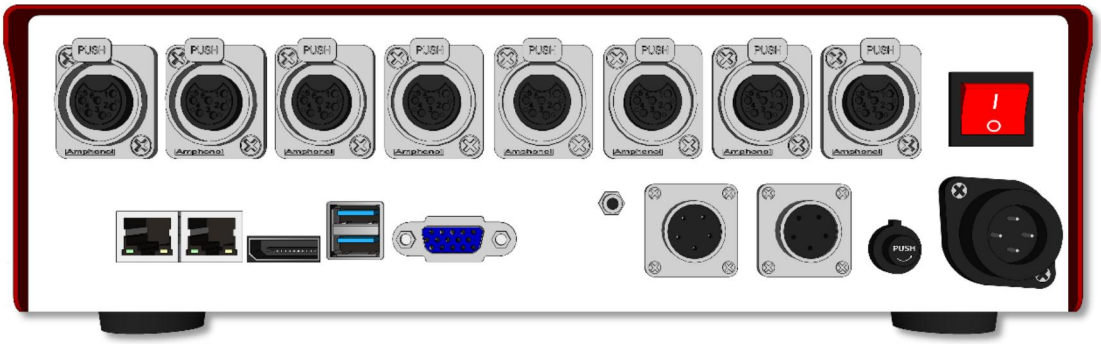
Products	Details
Score Display Software	Type: SCB VIEWER ◆ In multi-court mode, used to display the information of the score, players and set for each court. ◆ Output：Adjustable ◆ Output score display to one LCD monitor. ◆ Screen will be updated in real time based on the referee's operation.

Men's 65KG				Snatch					Cleanjerk						
No.	Athlete	Team	Birth Date	1	2	3	Score	Rank	1	2	3	Score	Rank	Total	Rank
1	Eason	Japan		138	138	140	140	2	202	203	205	210	2	350	1
3	Alex	France		134	136	140	140	3	202	206	208	208	3	348	2
2	Jackson	Thailand		136	138	141	141	1	202	204	206	206	1	347	3
4	Mu	Mexico		138	139	139	139	4	206	206	208	208	4	347	4
9	Kansas	Chile		136	136	139	139	5	206	208	208	208	5	347	5
7	FAW	Korea		136	136	138	138	6	204	206	208	208	6	346	6
5	Eric	England		132	134	136	136	8	202	204	208	208	8	344	8
13	Ethan	Italy		134	135	136	136	9	204	206	208	206	9	342	8
6	Jacket	India		136	136	137	137	7	202	203	204	204	7	341	9
11	Max	Germany		132	135	135	135	10	202	202	205	205	10	340	10
8	David	Malaysia		130	134	134	134	12	200	204	206	206	12	340	11
12	Paul	Australia		132	132	134	134	11	200	204	205	205	11	339	12
10	Human	Australia		130	132	132	132	13	202	202	204	204	13	336	13

World Adult Record			World Adult Record			World Adult Record		
Snatch	Eric	169	Snatch	Eric	169	Snatch	Eric	169
Cleanjerk	Eric	198	Cleanjerk	Eric	198	Cleanjerk	Eric	198
Total	Eric	367	Total	Eric	367	Total	Eric	367

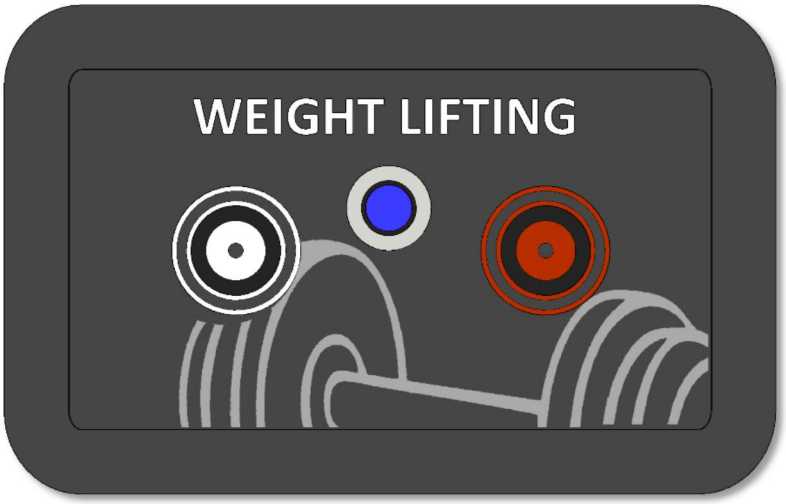
2.3 Scoring & Timing Host

Product	Detail
Scoring & Timing Host	Type: KS-MONSTER Size: 260x280x80(mm) ◆ Support: Weightlifting ◆ Support connecting with Weightlifting equipment. ◆ The handle can adjust the time.



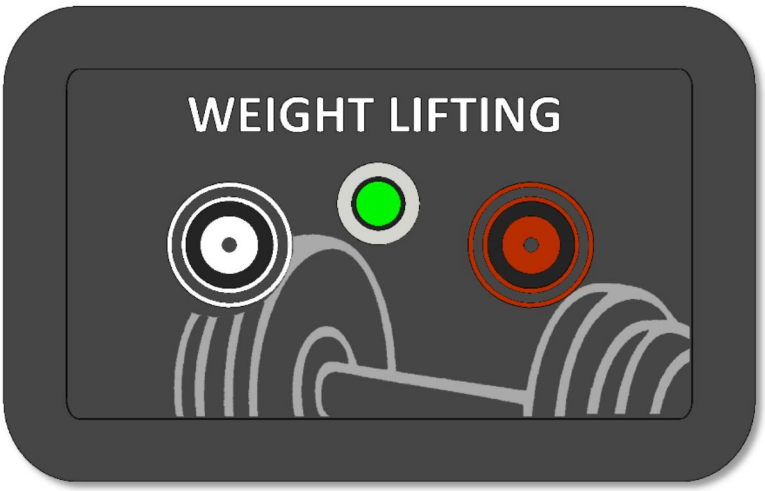
2.4 Referee Controller

Product	Detail
Referee Controller	Type: KS-WL-RC10 Size: 140x120x30(mm) ◆ Support: Weightlifting ◆ Cabinet: Plastic. ◆ Should be used with Scoring & Timing Host. ◆ The referee ruled. ◆ The judgment can be changed within 2 seconds after the judgment.



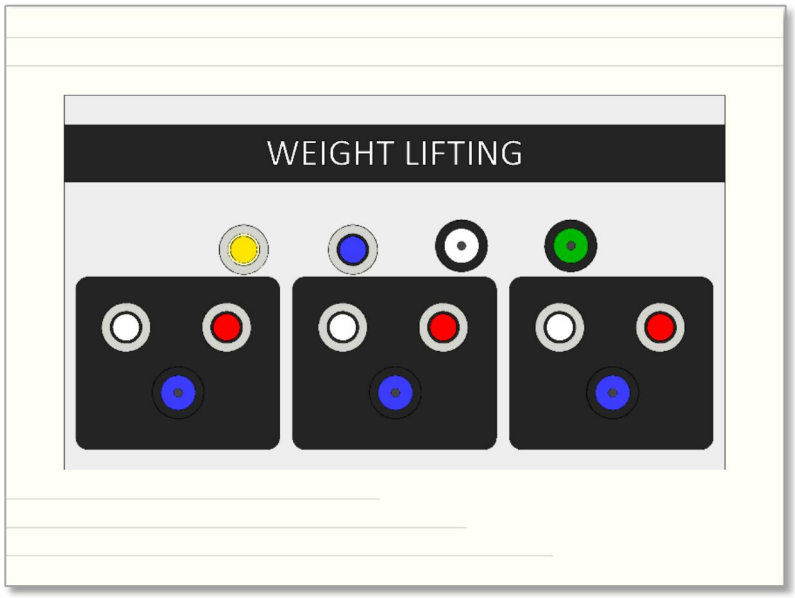
2.5 Jury Controller

Product	Detail
Jury Controller	Type: KS-WL-RC10 Size: 140x120x30(mm) ◆ Support: Weightlifting ◆ Cabinet: Plastic. ◆ Should be used with Scoring & Timing Host. ◆ The referee ruled. ◆ The judgment can be changed within 2 seconds after the judgment.



2.6 Jury Monitor

Product	Detail
Jury Monitor	Type: KS-WL-MC10 Size: 275x210x65(mm) ◆ Support: Weightlifting ◆ Support 3 referee controllers. ◆ Support connecting with Timing & Scoring Host. ◆ To remind the referee of scoring errors.



2.7 Weightlifting Timer

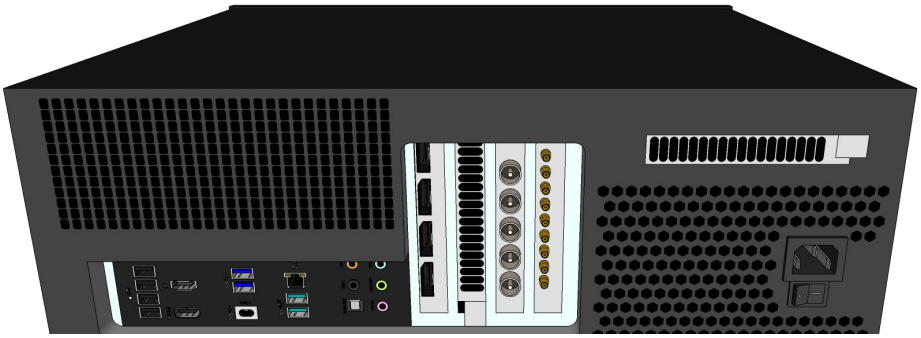
Product	Detail
Weightlifting Timer	Type: KS-WL-CD10 Size: 650x650x510(mm) ◆ Support: Weightlifting ◆ Cabinet: Iron ◆ Display the match timer. ◆ Display white or red light according to the operation of judges. ◆ The lamp is magnetically attached to the top of the timer. It rings once every minute and 30 seconds, once at 30 seconds, and once when the time returns to zero.

2.8 Meet Management Server

Products	Details
Meet Management Server	Type：KS-MMS-MINI Size: 260x135x35 (mm) Weight: 1.0 KG Input Voltage: 12V DC RAM: 4GB CPU: Intel J3160 Hard Disk: 64G Communication: LAN*1 Port: VGA*1, DP*1， USB*2 Features: ◆ Multi-court arrangement, auto generate the order form. ◆ Multi-project arrangement, make the schedule more smoothly. ◆ Monitor the status of each court in real time, including the current field, rotation and player info. ◆ Court adjustment, can manually modify the match court and session info. ◆ Summary and print integrated report.

2.9 Video Arbitration Server

Products	Details
Video Arbitration Server	Type: KS-PARROT-2C/4C/6C/8C Video Input: 2/4/6/8 channels input synchronously; Input port: SDI; Output port: DP*2; Video Format: 1080P; Recording capacity: ≥ 10 hours; Multi-screen monitoring: supported; Weight: 8kg.



Software interface

Device Specification

Type	KS-PARROT-2C/4C/6C/8C
Size	485x480×90(mm)
Net Weight	8 KG
Color	Black
Cabinet	Iron
Interface	
Input	SDI*2/4/6/8
Output	DP*2
Environmental	
Operating Temp	-5℃～45℃
Storage Temp	-40℃～80℃
Relative Humidity	5%～95%, non-condensing
Input Voltage	AC 100V~240V
Functions	

- **Nonstop video recording in the background:** 2/4/6/8 channels of HD video are recorded simultaneously in the background, nonstop for 10 hours. Video retrieval and playback is unaffected.
- **Synch-playback of multi-channel video:** Supports playback mode of single channel video in full screen and multi-angle video in 2/4/6/8 windows.
- **Speed change in slow motion:** support 50 frame/s video playback and capture motion in a grid of 0.02s.
- **Video event query:** video stream can be divided into several video events, storing in the event list, which can be renamed for retrieve easily.
- **Video segment marker:** Important or controversial moments can be marked in video stream which will be replayed quickly when clicking the marked records.
- **Video signal output:** provides 2 video output signals, one of which is for preview, the other of which can be connected to LED/LCD display for live slow motion replay.

2.6 Control Panel

Products	Details
Control Panel	Type: KS-PARROT-CP Function: ◆ Support one touch replay, deferred replay, in/out replay. ◆ Preset speed button. ◆ T-Bar for dynamic slow motion. ◆ Professional dynamic jog wheel. ◆ Key to mark the last 10s/20s of the video content. ◆ Flexible select the marked video and playback.

Device Specification

Type	**KS-PARROT-CP**
Size	365 x 200 x 98 (mm)
Net Weight	1 KG
Cabinet	Iron
Display	Color LCD(4.3Inch)
Sound	None
Communication	
USB	≤5m
RS232	≤10m
Environmental	
Operating Temp	-5~45℃
Relative Humidity	5~95 %, non-condensing
Storage Temp	-40~80°C
Input Voltage	AC 100V-240V
Total Power	15W

2.7 HD Camera

Products	Details
HD Camera	Type: KS-PARROT-CAMERA

Device Specification

Product Type	KS-PARROT-CAMERA
Video output	3G-SDI
Effective pixels	3.0 million
Max Resolution	1920*1080
Max Frame rate	60FPS
Sensor	CMOS
Focal length	4.2MM
Size	62.5*50*50MM