

# YOUNGWON INDUSTRY CO. LTD.

## TEST REPORT

### SCOPE OF WORK

ANSI/ISEA Z358.1-2014 *American National Standard for Emergency Eyewash  
and Shower Equipment*

### REPORT NUMBER

103891263CRT-001

### ISSUE DATE

April 11, 2019

### PAGES

7

### DOCUMENT CONTROL NUMBER

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## TEST REPORT FOR YOUNGWON INDUSTRY CO. LTD.

Report No.: 103891263CRT-001

Date Issued: April 11, 2019

### MANUFACTURER

Youngwon Industry Co. LTD.  
Sorak-ro, Sangdong-myeon  
Gimhae, Gyeongnam, 50805 Republic Of Korea

### TEST STANDARD

ANSI/ISEA Z358.1-2014 *American National Standard for Emergency Eyewash and Shower Equipment*

### AUTHORIZATION

**Intertek Job Number:** 103891263CRT-001

**Quote Number:** NA

### PRODUCT DESCRIPTION

**Product type:** Emergency Shower Eyewash Combination Unit

**Brand Name:** Youngwon Industry co ltd

**Model Numbers:** YW101A

### SAMPLE INFORMATION

**Dates Samples Received:** 4/3/19

**Condition of Samples:** Pristine

**Dates of Testing:** 4/4/19

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### SECTION 1

#### TEST PLAN SUMMARY

The following tests were identified below as applicable under the scope of this report. These tests were conducted to determine compliance with the minimum test requirements of ANSI/ISEA Z358.1-2014 *American National Standard for Emergency Eyewash and Shower Equipment*. Details of instrument calibration are maintained in laboratory records.

SECTION	TEST	PRODUCT DESCRIPTION	COMPLIANCE
6.1	Plumbed Eyewashes	See Above	Compliant
6.2	Performance of Control Valve	See Above	Compliant
6.3	Testing Procedures for Certification	See Above	Compliant
4	Plumbed Showers	See Above	Compliant
7	Combination Units	See Above	Compliant

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### SECTION 2 CONCLUSION

The Emergency Combination Unit identified as YW101A Products **has met** the above testing requirements as applicable for minimum performance requirements defined in ANSI/ISEA Z358.1-2014 American National Standard for Emergency Eyewash and Shower Equipment.

<b>Project Owner:</b>	Matthew Stevens
<b>Title:</b>	Technician
<b>Signature:</b>	
<b>Date</b>	4/10/19

<b>Project Reviewer:</b>	Andrew Rulison
<b>Title:</b>	Engineering Supervisor
<b>Signature</b>	
<b>Date:</b>	4/11/19

Date: April 11, 2019

**SECTION 3****ANSI/ISEA Z358.1-2014 TEST DATA SHEETS****TEST SECTION 4,6 & 7****EYEWASH EQUIPMENT**

SECTION	REQUIREMENT	RESULTS	COMPLIANCE
4.1	Performance of Emergency Showers		
4.1.1	Controlled flow of flushing fluid to be provided at a low velocity.	Flow controlled : YES	PASS
		Low Velocity: YES	
4.1.2	Shall be capable of delivery flushing fluid at a minimum of 75.7 liters per minute (20 GPM) for a minimum of 15 minutes.	LPM at 5 minutes: 216.81	PASS
		LPM at 10 minutes: 216.81	
		LPM at 15 minutes: 216.81	
4.1.3	Provide a flushing column that is at least 208.3 cm (82 in.) and not more than 243.8 cm (96 in.) in height from the surface on which the user stands. (1 inch = 2.54 cm)	Column height (inches): 88"	PASS
		Column height (cm): 223.52	
4.1.4	The spray pattern shall have a minimum diameter of 50.8 cm (20 inches) at 152.4 cm (60 inches) and be located at least 40.6 cm (16 in.) from any obstruction. Flushing fluid shall substantially dispersed throughout the pattern.	Spray pattern cm (inches): >20"	PASS
		Distance from obstruction: cm (inches) >16"	PASS
		Fluid dispersed throughout: YES	PASS
4.1.5	Shall be constructed of materials that will not corrode in the presence of the flushing fluid. Stored fluid shall be protected against airborne contaminants.	Materials: plastic, galvanized, stainless steel, plated steel/brass, other	PASS
4.2	Performance of Control Valve:		
	valve shall remain open without the use of the operators hands	Remain open: YES	PASS
	valve shall be simple to operate	Simple to operate: YES	PASS
	Go from "off" to "on" in 1-second or less	Open in < 1-second: YES	PASS
	Valve to be resistance to corrosion	Valve material (corrosion resistant): plastic, galvanized, stainless steel, plated steel/brass, other	PASS
	Actuators shall be easy to locate and accessible	Accessible : YES	PASS
	Actuators shall be located not more than 175.3 cm (69-inches) above the level on which the user stands	Actuator height (inches): 66.5"	PASS
		Actuator height (cm): 168.91	
4.3	Emergency Shower Enclosures		
	Enclosures shall provide for a minimum area of 86.4 cm (34 inches)	Area measured: NTT	NA
4.4	Testing Procedures for Certification		
4.4.1	Plumbed Emergency Showers	Certification test procedure	Info only
4.4.2	Self-contained Emergency Showers	Certification test procedure	Info only
4.5	Installation	Installers responsibility	Info only
4.6	Maintenance and Training		
4.6.1	Shall provide operation, inspection, and maintenance instructions with equipment	Manual provided: YES	PASS

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SECTION	REQUIREMENT	RESULTS	COMPLIANCE
6.1	Performance of Eye/Face Washes		
6.1.1	Controlled flow to both eyes and face simultaneously at a low velocity.	Flow controlled: YES	PASS
		Both Eyes: YES	
		Low Velocity: YES	
6.1.2	Designed to pose no hazard to the user.	Hazards found:	PASS
6.1.3	Nozzles shall be protected from airborne containments. Nozzle cover removal shall not require a separate motion by the operator.	Nozzles protected: covers, packaging, other means YES	PASS
		Covers removed w/o assistance: YES	
6.1.4	Shall be designed to be used without requiring the use of the operator's hands.	Hands required for operation: YES	PASS
6.1.5	Shall be constructed of materials that will not corrode.	Materials: plastic, galvanized, stainless steel, plated steel/brass, other	PASS
6.1.6	Shall be capable of not less than 11.4 LPM (3.0 GPM) for 15 minutes.	LPM at 5 minutes: 12.94	PASS
		LPM at 10 minutes: 12.94	
		LPM at 15 minutes: 12.94	
6.1.7	Shall be designed with enough room to allow the eyelids to be held open with hands while the eyes are in the flushing stream.	Adequate room: YES	PASS
6.1.8	Verify flushing fluid contacts both eyes simultaneously by using test gauge. Place gauge in the stream and fluid shall cover the lines of the gauge at some point less than 20.3 cm (8-inches) above the nozzles.	1 min: YES	PASS
		4 min: YES	
		9 min: YES	
		14 min: YES	
6.2	Performance of Control Valve		
	6.2: The valve shall remain open without the use of the operator's hands. Valve is to be simple to operate and shall go from "off" to "on" in 1 second or less. The valve shall be resistant to corrosion.	Opens with 1 second or less YES	PASS
		Tray or Door activated: YES	
		Valve material (corrosion resistant): plastic, galvanized, stainless steel, plated steel/brass, other	
6.3	Testing Procedures for Certification		
6.3.1	Plumbed Eye/Face Washes	Certification test procedure	Info only
6.3.2	Self-Contained Eye/Face Washes	Certification test procedure	Info only
6.4	Installation	Installers responsibility	Info only
6.5	Maintenance and Training		
6.5.1	Shall provide operation, inspection, and maintenance instructions with equipment	Manual provided: YES	PASS

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SECTION	REQUIREMENT	RESULTS	COMPLIANCE
7.1	Performance of Combination Units <b>(shall operate individually and simultaneously)</b>	<b>Individually</b>	<b>Simultaneously</b>
7.1.1	Emergency showers shall meet the performance requirements of Section 4. Min = 75.7 LPM (20 GPM)	See Section 4 for results	See below
		Ref: 4.1.1, Flow controlled : YES	PASS
		Ref: 4.1.1, Low Velocity: YES	
		Ref: 4.1.2: LPM at 5 minutes: 208.62	
		LPM at 10 minutes: 208.62	
		LPM at 15 Minutes 208.62	
7.1.3	Eye/face washes shall meet the performance requirements of Section 6.  Min = 11.4 LPM (3.0 GPM)	See Section 6 for results	PASS
		Ref: 4.1.4, Spray pattern cm (inch)	
		Ref: 6.1.1,Flow controlled: YES	
		Ref: 6.1.1, Both Eyes: YES	
		Ref: 6.1.1, Low Velocity: YES	
		Ref: 6.1.3:Nozzles protected: YES	
		Removed w/o assistance:	
		Ref: 6.1.6: LPM at 5 minutes: 12.87	
		LPM at 10 minutes: 12.87	
		LPM at 15 Minutes 12.87	
		Ref: 6.1.8, 1 min: YES	
		Ref: 6.1.8, 4 min: YES	
		Ref: 6.1.8, 9 min: YES	
		Ref: 6.1.8, 14 min: YES	
7.1.4	Drench hoses shall meet the Performance requirements of Section 8.2	See Section 8.2 for results	NA
		Ref: 8.2.1, Flow controlled: NA	
		Ref: 8.2.1,Low Velocity: NA	
7.2	Performance of Control Valve	See sections 4,5,6,or 8.2.2 for results	PASS
7.3	Performance Testing Procedures	See sections 4,5,6,or 8.2.2	PASS
7.4	Installation	Installers responsibility	Info only
7.5	Maintenance and Training		
7.5.1	Shall provide operation, inspection, and maintenance instructions with equipment	Manual provided: YES	PASS

**SECTION 4**  
**REVISION HISTORY**

REPORT NUMBER	DATE OF REVISION	DESCRIPTION OF CHANGE:	PROJECT OWNER	REVIEWED BY
103891263CRT-001	4/10/19	Original	Matthew Stevens	Andrew Rulison