

# 金屬工業研究發展中心區域研發服務處(中區)

METAL INDUSTRIES RESEARCH & DEVELOPMENT CENTRE

REGIONAL R&D SERVICE DEPARTMENT (TAICHUNG)

台中市西屯區 407 工業區 37 路 25 號

TEL : (04)23502169

NO. 25, 37TH ROAD, INDUSTRIAL PARK, TAICHUNG, TAIWAN, R.O.C.

## 防塵與防水試驗報告

## DUST & WATER PROTECTION TEST REPORT



Page 1 of 2

Application No : SC95030

Received date : Jul. 07, 2005

Applicant : GOLD APOLLO CO., LTD.

Sampler : GOLD APOLLO CO., LTD.

Job description : IP56 dust and water protected test.

Sample name : AL-A28

Test date : Dust : Jul. 18, 2005

Water : Jul. 19, 2005

Test place : Metal Industries Research & Development Center  
Regional R&D Service Department(Taichung)  
No. 25, 37th road, Industrial park, Taichung, R.O.C.

Date issued : Jan. 26, 2006

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報告簽署人：  
Report Authorized Person

檢驗員：  
Inspector

改訂版次：0  
Revision No.

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Page 2 of 2

## 1、Test according to :

IEC 60529:2001.

Degrees of protection provided by enclosures (IP Code).

## 2、Test equipment :

(1). Dust Protection Test Equipment.

(2). Water Protection Test Equipment.

## 3、Test items & contents :

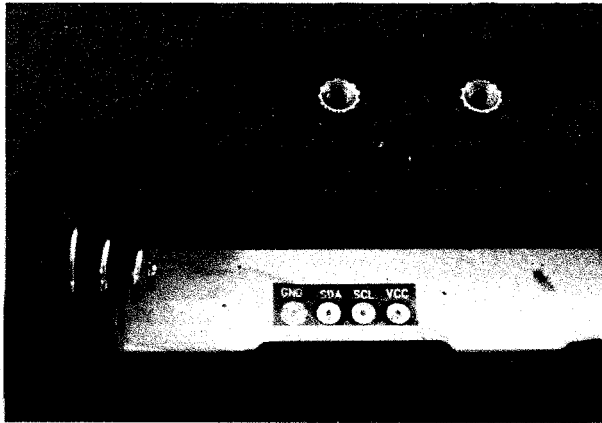
(1). IP5X Test: The enclosure was not connected to a vacuum pump. The test time was 8 hours.

(2). IPX6 Test: Water jet hose nozzle 12.5mm diameter.

## 4、Results :

(1). IP5X test: Pass

(2). IPX6 test: Fail



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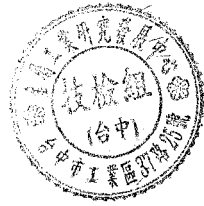
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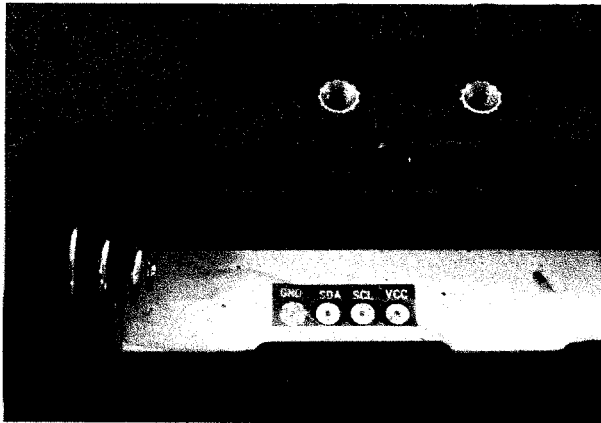
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## RAIN TEST REPORT

Company : Gold Apollo Co., Ltd  
Address : Rm 1, 3th F1., No. 77, Secretary, 1, Hsin Tai Wu Rd., Hsin-Chih, Taipei  
Hsien, Taiwan, R.O.C.  
Model Name : A28  
Date of Received : FEB. 14, 2006  
Date of Tested : FEB. 14, 2006

### TESTING LABORATORY IS ACCREDITED BY:

ISO/IEC/IECQ 17025 Certificate of Independent Test Laboratory Approval  
Certificate No. : T1091

### WE HEREBY CERTIFY THAT:

The test shown in the attachment was made in accordance with the procedures indicated. We assume full responsibility for the accuracy and completeness of these tests and vouch for the qualifications of all persons taking them.

	Name	Signature	Date
Testing Engineer	Richard Tsai		
Approving Manager	Kevin Tsui		

### **Notes :**

1. This report will be invalid if duplicated or photocopied in part.
2. This report refers only to the specimen(s) submitted to test, and is invalid as separately used.
3. This report is invalid without examination stamp and signature of this institute.
4. The tested specimen(s) will be preserved for thirty days from the date issued, if not taken back by the applicant



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## **1. GENERAL INFORMATION**

### **1.1 DESCRIPTION OF UNIT**

MANUFACTURER : Gold Apollo Co., Ltd

MODEL NAME : A28

SAMPLE QUANTITY : 1 unit

### **1.2 UNIT TESTING SETUP:**

See attachment

### **1.3 UNIT OPERATING CONDITION:**

None

## 2. RAIN TEST

### 2.1 DESCRIPTION OF TEST EQUIPMENT

Test Equipment	Serial Number	Calibration Date
Vötsch-Spray and Splash Water VSPT 400	59566059660010	NOV. 03, 2005

### 2.2 LABORATORY AMBIENCE CONDITION

Temperature :  $23\pm 3^{\circ}\text{C}$

Relative humidity :  $55\%\pm 3\%(\text{RH})$

### 2.3 REFERENCE DOCUMENT

This test refers to IEC/EN 60529 IPX4

### 2.4 TEST CONDITION

Unit is non-operating

Radius of oscillating tube : 400 mm

Spray angle :  $\pm 180^{\circ}\text{C}$  from vertical

Diameter of nozzle : 0.4 mm

Number of open holes : 25

Water flow rate : 0.07 l/minute per hole (Total : 1.8 l/minute)

Test duration : Totally test duration is 10 minutes. after 5 minutes spray test, the turned of the unit through a horizontal angle of  $90^{\circ}$  and test is continued for a further 5 minutes.

### 2.5 SUMMARY OF TEST

After test, there have some water permeate into the battery location by visible check (See attachment 2, page 5). The unit inner was dry (no water permeate) and function working was normal.



**Attachment 1 : Photo for rain test setup**



**Attachment 2 : Photo for unit after rain test**

