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Date: **13th December 2016**

Ingress Protection test on a Pressure vent on behalf of AFP Air Tech

Report No: N70090752A
Commercially in Confidence

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TEST REPORT

ISSUED BY CSA GROUP TESTING UK LIMITED

Carried out by CSA Group Testing UK Ltd on behalf of:

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Project No: 70090752

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1 INTRODUCTION

This report refers to the performance of the test sample when tested against the agreed programme. It does not imply that any other samples or products necessarily comply with the requirements of the test programme. In addition, whilst this report maybe freely reproduced as a complete document it may not be abstracted.

Manufacturer:	AFP Air Tech
Type Identification:	Pressure vent (IBP 300)
Serial numbers	Pressure vent unit given identifier 70090752 #1 Multipurpose grease tube given identifier 70090752 #2
Standard:	IEC 60529:2013
Deviations from Standard:	None
Aim:	IP63
CSA Test Procedure:	LOP 220
CSA Internal Test Reports:	16/0344 (IP X3) and 16/0441 (IP 6X)
Sample Delivery Date:	30th August 2016 (#1), 26th October 2016 (#2)
Tests Conducted Between:	12th September & 4th November 2016

2 DESCRIPTION OF TEST SAMPLES

Figure 1 – Typical views of pressure vent fitted to customer supplied test enclosure

For the purposes of test, the customer supplied the pressure vent fitted to a bespoke wooden enclosure allowing inspection for water ingress via the rear panel and to provide an enclosure suitable to allow a 20 mbar vacuum point required for the IP6X test

Figure 2 – Customer provided 'multi purpose' grease for the IP6X test only

2.1 Materials of construction

The primary materials of construction in both units were metals.

2.2 Dimensions

The approximate dimensions of the pressure vent sample were 480 x 500 x 75 mm

(L x W x H)

The above dimensions are for the pressure vent sample only and did not include the wooden enclosure

2.3 Seals

A gasket was provided between the pressure vent door and main body. Additional sealing, in the form of silicone grease, was used in connection with testing to IP6X, see section 3.2.

2.4 Fasteners

The pressure vent door was secured in place with the use of a magnet.

3 TESTS FOR FIRST CHARACTERISTIC NUMERAL: 6

3.1 Test for protection against access to hazardous parts

Reference IEC 60529:2013 clause 12.

A rigid test wire Ø 1 mm and length to a stop face of 100 mm was pushed against all openings of the test sample with a force of 1 N ± 10%.

3.1.1 Result

The test wire did not come into contact with any hazardous parts.

3.2 Test for protection against solid foreign objects

Reference IEC 60529:2013 clause 13.

The test sample supported in a normal orientation inside a chamber containing approximately 2 kg of test dust per m^3, with maximum particle size 75 µm maintained in suspension. As required by the standard a connection was made to a vacuum pump to maintain an under-pressure inside the test sample which did not exceed 20 mbar. The under-pressure was applied via a 6 mm tube which was sealed into a hole drilled through the wall of the wooden enclosure.

The customer supplied a tube of multi purpose grease for the purpose of this test (see figure 2). At the request of the customer, a thin layer of grease was applied around the gasket between the pressure vent and main body, see Figure 3.

As the size of the enclosure (room) into which the pressure vent may be fitted in service could not be confirmed the test duration was 8 hours, the maximum required by the standard.

3.2.1 Result

On internal inspection of the test sample no dust was found.

Figure 3 – Multi purpose grease provided for the IP6X test *(NOTE: Image only shows part of the gasket, the full gasket was lubricated prior to testing).*

4 TEST FOR SECOND CHARACTERISTIC NUMERAL: 3

Reference IEC 60529:2013 clause 14.

No grease was applied for this test, the sample was tested ‘as supplied’. The test sample was supported in a wall mounted orientation within 300 to 500 mm of a spray nozzle of Ø 102 mm with a hemispherical arc of 78°. A counterbalanced shield was positioned so as to cover an area of the spray nozzle over an arc of 30°. Water was directed from all practicable directions at the test sample at a rate of 10 L/min whilst the spray nozzle was moved over an arc of 60º either side of vertical. The test duration was 5 minutes.

4.1.1 Result

On internal inspection of the enclosure no water was found.

5 CONCLUSION

The test sample described in sections 1 and 2, was tested in the manner described in sections 3 and 4. The results of the tests demonstrate that the IBP 300 pressure vent met the requirements of IP63.