

Change Note		CN-071
Change to: Tests 1b & 1e		
Description: Increasing primary differential pressure from 50 kPa to 200 kPa on tests 1b & 1e		
References: Test regime paragraph 2.21, heating tests		
Change originator: TN		Date of request: 13/12/21
Rev: 01	Date authored: 15/12/21	Proposed change to assumption: Y

1. Change proposal

All six space heating tests (1a – 1f) have been carried out at a primary differential pressure (Δp_1) of 50 kPa. It is proposed to increase the primary differential pressure of two of the space heating tests which are carried out at 1 kW, tests 1b and 1e, to 200 kPa. The primary differential pressure of the remaining four space heating tests (1a, 1c, 1d, and 1f) are to remain at 50 kPa.

2. Rationale (underlying basis for the change)

The current space heating tests are all undertaken with a primary differential pressure of 50 kPa. This was selected as it was considered representative of the lowest differential pressure that an HIU would be expected to commonly operate (index run). The lowest differential pressure was chosen as it would typically be the most difficult condition for a control valve to operate in.

However, it has been agreed that consideration should be given to the HIU space heating performance at a higher primary differential pressure to provide information to specifiers and installers that the HIU can operate under different network conditions.

Based on the Reference Building (TN-010), it is considered that it would be reasonable to expect HIUs to be exposed to a primary differential pressure of 200 kPa on a standard heat network when located near to the primary pumps.

In order to reduce the time and cost of testing, it is not considered necessary to carry out all six space heating tests with primary differential pressure at both 50 and 200 kPa. Therefore, it is recommended that two tests, 1b and 1e, that are 1 kW tests in the low and high temperature scenarios are changed to 200 kPa.

Test number	Primary Differential Pressure (Δp_1)
1a	50
1b	200
1c	50
1d	50
1e	200
1f	50

Table 1 Proposed primary differential pressure conditions for space heating tests

3. Impact of change (e.g. implications for test rig)

N/A

Evaluation of change			
Date evaluated: 18/01/22	Those present: BESA HIU Technical Committee	Additional info required?: No	Modification to proposed approach?: No
Details: Increasing primary differential pressure from 50 kPa to 200 kPa on tests 1b & 1e			
Signed off: Yes			