



CCC3: N 500 Date: 2023-05-10

CCC3-KEYMARK „Thermostatic Radiator Valves – TRV“

Requirements for Authorization and Monitoring of Testing Laboratories

1. General

The KEYMARK Scheme Group has overall responsibility for selection, recognition and monitoring of Testing Laboratories.

The Testing Laboratory shall be proposed by an empowered Certification Body.

The KEYMARK Scheme Group should take into account the need for authorized Testing Laboratories depending on the requirements of the member countries.

To receive and maintain authorization, the Testing Laboratory must

- be accredited according to EN ISO/IEC 17025 for thermostatic radiator valves according to EN 215
- comply with the requirements of the CEN/CENELEC Internal Regulations, Part 4 and the Specific KEYMARK Scheme for thermostatic radiator valves
- pass successfully a Round Robin Test according to these requirements and document SIET 02556 ST 15 “Instructions for conducting Round Robin Tests on Thermostatic Radiator Valves”

These referenced documents form the basis for recognition and monitoring of Testing Laboratories. For dated references, only the edition cited applies. For undated references, the latest edition of the referenced document (including any amendments) applies.

2. Procedure

The KEYMARK Scheme Group appoints the Monitoring Committee of 4 members to evaluate the competence of the Testing Laboratory and appoints one of them as its Chairman.

The KEYMARK Scheme Group approves the instructions to be used by the Monitoring Committee.

The Monitoring Committee shall visit the Testing Laboratory once. If necessary for the evaluation, further visits may be made.

The Monitoring Committee shall select a Testing Laboratory to manufacture and select the Round Robin Test samples and shall determine the sequence and timing of the Round Robin Test. It shall also monitor the whole procedure.

The Testing Laboratories shall forward their results (see also clause 4 of this document) to the chairman of the Monitoring Committee latest until the due date where they shall remain unopened. After the due date, they will be opened.

Any results not received by the due date will be considered to have failed the test unless extenuating circumstances can be proved.

The results shall not deviate from the average value of all measurements by more than indicated in clause 5.

If the value deviates, the chairman of the Monitoring Committee shall inform the Testing Laboratory immediately.

The Testing Laboratory shall not then carry out further EN 215 tests. It can apply to the Monitoring Committee for part or all of the Round Robin Test to be repeated. If the application is granted, the Monitoring Committee shall appoint another approved Testing Laboratory to take part in the test. The results must be completed in 3 months and evaluation shall be equivalent to the Round Robin Test.

Average shall be taken as the result of the authorized Testing Laboratory.

If the results deviate a second time, the Testing Laboratory must wait until the next complete Round Robin Test in which it may participate.

If the results deviate again, the Testing Laboratory concerned shall not be allowed to reapply for approval for 5 years.

After analyzing all results, the Monitoring Committee shall inform the KEYMARK Scheme Group which Testing Laboratory is competent to carry out the required tests.

3. Tests

As a general rule, the Round Robin Tests shall be carried out every second year and it consists of the following parts defined in SIET 02556 ST 15:

- Hydraulic test, see clause 3
- Temperature test, see clause 4
- Characteristic curves of TRVs, see clause 5
- Test in the air stream, see clause 6

4. Test results and test report

In case of Monitoring Round Robin Tests, each participant shall fill in the results on the form according to SIET 02556 ST 15 and send it together with the plotted graphs.

Testing Laboratories applying for recognition furthermore need to provide a complete test report according to EN 215 and in conformity with EN ISO/IEC 17025.

5. Admissible deviation of measuring value from average value

Test according to EN 215	Specification	Admissible deviation from average value
1. Hydraulic test	q_{m1} (0,1 bar)	1,5 %
	q_{m2} (0,3 bar)	1,5 %
	q_{m3} (0,6 bar)	1,5 %
2. Thermal test	t_1 30/20	0,020 mV
	t_2 30/37	0,020 mV
	t_3 25/36	0,020 mV
	t_4 25/17	0,020 mV
	t_5 20/29	0,020 mV
	t_6 20/8	0,020 mV
	t_7 20/20	0,020 mV
3. Characteristic curves	$q_{m\ s\ min}$	2 %
	$q_{m\ s\ max}$	2 %
	$t_{s\ min}$	0,20 K
	$t_{s\ max}$	0,20 K
	$F = t_{s\ max} - t_{s\ min}$	0,20 K
4. Characteristic curves	$q_{m\ N}$	2 %
	Hysteresis "C"	0,20 K
	Diff. 0,6 bar "D"	0,20 K
	Stat. 10 bar "E"	0,20 K
	Opening ability "f - S"	0,20 K
	Closing ability "e - S"	0,20 K
	t_{qmN}	0,20 K
5. Air Stream	Response time "Z"	2 min
	WTE "W"	0,15 K