

# ISO 5151:2010-06 (E)

## Non-ducted air conditioners and heat pumps - Testing and rating for performance

---

<b>Contents</b>		<b>Page</b>
Foreword .....		v
<b>1</b>	<b>Scope .....</b>	<b>1</b>
<b>2</b>	<b>Normative references .....</b>	<b>1</b>
<b>3</b>	<b>Terms and definitions .....</b>	<b>2</b>
<b>4</b>	<b>Symbols .....</b>	<b>5</b>
<b>5</b>	<b>Cooling tests .....</b>	<b>8</b>
5.1	Cooling capacity test .....	8
5.2	Maximum cooling performance test .....	11
5.3	Minimum cooling, freeze-up air blockage and freeze-up drip performance tests .....	12
5.4	Freeze-up drip performance test .....	14
5.5	Condensate control and enclosure sweat performance test .....	14
<b>6</b>	<b>Heating tests .....</b>	<b>15</b>
6.1	Heating capacity tests .....	15
6.2	Maximum heating performance test .....	20
6.3	Minimum heating performance test .....	21
6.4	Automatic defrost performance test .....	22
<b>7</b>	<b>Test methods and uncertainties of measurements .....</b>	<b>23</b>
7.1	Test methods .....	23
7.2	Uncertainties of measurement .....	24
7.3	Test tolerances for steady-state cooling and heating tests .....	24
7.4	Test tolerances for performance tests .....	25
<b>8</b>	<b>Test results .....</b>	<b>26</b>
8.1	Capacity results .....	26
8.2	Data to be recorded .....	27
8.3	Test report .....	27
<b>9</b>	<b>Marking provisions .....</b>	<b>30</b>
9.1	Nameplate requirements .....	30
9.2	Nameplate information .....	30
9.3	Split systems .....	31
<b>10</b>	<b>Publication of ratings .....</b>	<b>31</b>
10.1	Standard ratings .....	31
10.2	Other ratings .....	31
<b>Annex A (normative) Test requirements .....</b>		<b>32</b>
<b>Annex B (informative) Airflow measurement .....</b>		<b>33</b>
<b>Annex C (normative) Calorimeter test method .....</b>		<b>39</b>
<b>Annex D (normative) Indoor air enthalpy test method .....</b>		<b>48</b>
<b>Annex E (informative) Compressor calibration test method .....</b>		<b>54</b>

<b>Annex F (informative) Refrigerant enthalpy test method .....</b>	<b>57</b>
<b>Annex G (informative) Outdoor air enthalpy test method .....</b>	<b>59</b>
<b>Annex H (informative) Indoor calorimeter confirmative test method .....</b>	<b>62</b>
<b>Annex I (informative) Outdoor calorimeter confirmative test method .....</b>	<b>64</b>
<b>Annex J (informative) Balanced-type calorimeter confirmative test method .....</b>	<b>66</b>
<b>Annex K (informative) Cooling condensate measurements .....</b>	<b>67</b>
<b>Annex L (informative) Pictorial examples of the heating capacity test procedures given in 6.1 .....</b>	<b>68</b>
<b>Bibliography .....</b>	<b>73</b>