

# ISO 6855-1:2012-09 (E)

## Mopeds - Measurement method for gaseous exhaust emissions and fuel consumption - Part 1: General test requirements

---

Contents	Page
Foreword .....	v
Introduction .....	vi
1 Scope .....	1
2 Normative references .....	1
3 Terms and definitions .....	1
4 Symbols .....	2
5 Standard reference conditions .....	4
6 Tests .....	4
6.1 Measurement of gaseous exhaust emissions .....	4
6.2 Measurement of fuel consumption .....	5
7 Measurement equipment .....	5
7.1 Chassis dynamometer .....	5
7.2 Gas-collection equipment .....	5
7.3 Analytical equipment .....	6
7.4 Cooling equipment .....	6
7.5 Fuel consumption measurement .....	7
7.6 Accuracy of instruments and measurements .....	7
8 Preparing the test .....	8
8.1 Engine fuel and lubricants .....	8
8.2 Description of the test moped .....	8
8.3 Conditioning/preparation of the test moped .....	8
8.4 Adjustment of the analytical apparatus .....	8
9 System check procedure .....	9
9.1 Accuracy of the CVS system .....	9
9.2 Metering a constant flow of pure gas (CO or C <sub>3</sub> H <sub>8</sub> ) using a critical flow orifice .....	9
9.3 Metering a limited quantity of pure gas (CO or C <sub>3</sub> H <sub>8</sub> ) by means of a gravimetric technique .....	9
10 Procedure for sampling, analysing and measuring the volume of gaseous exhaust emissions .....	9
10.1 Operations to be carried out before the moped start up .....	9
10.2 Beginning of sampling and volume measurement .....	12
10.3 End of sampling and volume measurement .....	12
10.4 Analysis .....	12
10.5 Measuring the driving distance .....	13
10.6 Open type CVS system .....	13
11 Determination of the quantity of gaseous exhaust emissions .....	13
11.1 Total diluted exhaust mixture volume corrected to the standard reference conditions .....	13
11.2 Exhaust gas sampling and the dilution factor .....	14
11.3 Mass of the gaseous exhaust emissions .....	14

<b>12</b>	<b>Determination of the fuel consumption .....</b>	<b>16</b>
12.1	Carbon balance method .....	16
12.2	Fuel flow measurement method .....	17
12.3	Calculation of results in litres per 100 km .....	18
12.4	Criteria of the statistical accuracy for the fuel consumption measurements .....	18
<b>Annex A (normative) Method and equipment for measuring fuel consumption by the fuel flow measurement method .....</b>		<b>19</b>
<b>Annex B (informative) Example for record form of test fuel specifications .....</b>		<b>30</b>
<b>Annex C (informative) Exhaust gas leakage check procedure for the open type CVS system .....</b>		<b>31</b>
<b>Annex D (informative) Determination of the dilution factor .....</b>		<b>36</b>
<b>Annex E (informative) Principle of the carbon balance method .....</b>		<b>44</b>
<b>Annex F (informative) Simplified determination method of the atom number ratio of hydrogen and carbon, and that of oxygen and carbon in gasoline .....</b>		<b>47</b>
<b>Annex G (normative) Fuel consumption for two-stroke engines .....</b>		<b>49</b>
<b>Annex H (informative) Criteria of the statistical accuracy for the fuel consumption measurements .....</b>		<b>50</b>
<b>Bibliography .....</b>		<b>52</b>