ISO 18397:2025-07 (E)

Dentistry - Powered scalers

Contents

Page

Foreword ..... **v**

Introduction ..... **vi**

1 Scope **1**

2 Normative references **1**

3 Terms and definitions **2**

4 Classification of scaler handpieces **3**

5 Requirements and performance **3**

5.1 General 3
5.2 Materials 3
5.3 Drop test 4
5.4 Noise level 4
5.5 Surfaces 4
5.6 Electrical power supply 4
5.7 Energy for light source 4
5.8 Air supply 4
5.9 Supply of cooling liquid 4
5.10 Air and water pressure 4
5.11 Temperature 5
5.11.1 Temperature rise of housing 5
5.11.2 Temperature, excessive 5
5.12 Vibrations 5
5.13 Resistance to reprocessing 5
5.14 Leakage and/or ingress of water 5
5.15 Electromagnetic compatibility 5
5.16 Operating controls 5
5.17 Usability 6
5.18 Connection 6
5.18.1 General 6
5.18.2 Connections for air-powered scaler handpieces 6
5.18.3 Connector for electrical-powered scaler handpieces 6
5.19 Scaler tip performance 6
5.19.1 Scaler tip connection 6
5.19.2 Extraction force 6
5.19.3 Holding torque 6
5.19.4 Insertion force 7
5.19.5 Tightening torque 7
5.19.6 Stall effort 7
5.19.7 Output power of powered scaler 7
5.19.8 Breakage resistance 7
5.20 Frequency 7
5.21 Amplitude 7

6 Sampling **7**

7 Measurement and test method **8**

7.1 General test conditions 8
7.2 Visual inspection 8
7.3 Electrical power supply 8
7.4 Air supply 8
7.4.1 Apparatus 8

7.4.2 Procedure ... 8
7.5 Supply of cooling liquid ... 8
7.5.1 Apparatus ... 8
7.5.2 Procedure ... 8
7.6 Air and water pressure ... 8
7.6.1 Apparatus ... 8
7.6.2 Procedure ... 8
7.7 Measuring device for dimensions ... 9
7.8 Scaler tips ... 9
7.8.1 Extraction force ... 9
7.8.2 Holding torque ... 9
7.8.3 Insertion force ... 9
7.8.4 Tightening torque ... 9
7.8.5 Stall effort ... 10
7.8.6 Output power of powered scaler ... 10
7.8.7 Breakage resistance ... 12
7.9 Frequency ... 12
7.9.1 Apparatus ... 12
7.9.2 Procedure ... 12
7.10 Amplitude ... 13
7.10.1 Apparatus ... 13
7.10.2 Procedure ... 13
7.11 Noise level ... 14
7.11.1 Apparatus ... 14
7.11.2 Test conditions ... 14
7.11.3 Procedure ... 14
7.12 Rise of housing temperature ... 14
7.13 Excessive temperature ... 14
7.14 Resistance to reprocessing ... 14
8 Instructions for use, maintenance and service ... 14
9 Technical description ... 15
10 Marking ... 16
10.1 General ... 16
10.2 Scaler handpieces ... 16
10.3 Scaler tips ... 16
11 Labelling ... 17
12 Packaging ... 17
Annex A (informative) **Calculation example for output power ... 18**