

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 |