Medical Connector Test Equipment

35 N / 50 N

ISO 5356-1:2015

AXIAL + ROTATION

ISO 5356-1 Conical Connector Engagement Tester

KP-5361 Product Catalogue

Bench-top apparatus for controlled axial loading and limited rotation during engagement verification of cones and sockets used in anaesthetic and respiratory equipment.

Standard
ISO 5356-1:2015

Test Object
Cones and sockets for anaesthetic and respiratory equipment

Test Method
Controlled axial force with limited rotation

Applications
R&D, quality control and compliance laboratories

Catalogue-level information. Final configuration subject to technical confirmation.

Product Overview and Test Architecture

The KP-5361 is a dedicated vertical bench-top apparatus for ISO 5356-1 related conical connector engagement verification. It applies a controlled axial load while permitting limited rotation, helping laboratories check secure, repeatable mating of cones and sockets without

Standard-oriented test scope

Developed for ISO 5356-1:2015 engagement and dimensional verification workflows for anaesthetic and respiratory conical connectors.

Controlled axial load

Supports the typical 35 N and 50 N load conditions identified for different connector sizes and test procedures.

Limited rotation during mating

The connector can be rotated during engagement to reproduce the standard-oriented joining procedure and identify binding or poor fit.

Interchangeable test fixtures

The open fixture area supports suitable reference connectors, plug/ring gauges and specimen-specific adapters according to the required test item.

KP-5361

Conical Connector Engagement Tester

AXIAL LOAD

LIMITED ROTATION

Functional Test Flow

1 Prepare Specimen

Confirm connector size, material and applicable clause.

2 Install Fixture

Fit the correct reference connector or specimen adapter.

3 Apply Load

Set the required axial load for the selected connector size.

4 Rotate and Engage

Perform the controlled mating movement without side loading.

5 Verify Result

Inspect engagement, fit, position and test records.

Detailed Technical Specifications

The parameters below summarize the catalogue-level KP-5361 configuration. Final fixture selection, force verification and documentation should be confirmed according to the applicable standard clause, connector size, material and laboratory procedure.

Standard and Test Scope

Parameter	Specification
Product model	KP-5361
Applicable standard	ISO 5356-1:2015
Product type	Conical connector engagement tester
Test object	Cones and sockets for anaesthetic and respiratory equipment
Test purpose	Engagement, fit and repeatability verification
Operation	Manual specimen positioning with controlled load and rotation

Mechanical Configuration

Parameter	Specification
Structure	Vertical bench-top frame
Load method	Controlled axial load assembly
Rotation	Limited rotation during connector engagement
Fixture area	Open central stainless-steel test station
Adapters	Selected according to connector/gauge configuration
Construction	Painted metal frame with stainless-steel contact components

Connector Sizes and Typical Applications

Size	Typical application
8.5 mm	Paediatric breathing system connections
15 mm	General breathing system connections
22 mm	Adult/general breathing system connections

Catalogue-Level Test Conditions

Axial force
Typical values: 35 N or 50 N, selected according to connector size and procedure.

Mating movement
Axial engagement with limited controlled rotation; avoid lateral side loading.

Acceptance review
Confirm engagement position, secure mating, free movement and absence of binding.

Traceability
Record selected fixture, applied load, sample ID, operator and result.

Technical Note

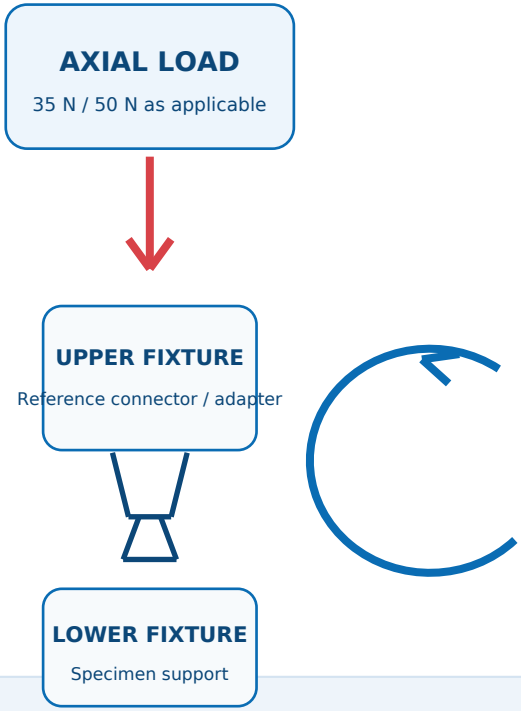
The tester is part of a complete ISO 5356-1 verification setup. Plug and ring gauges remain necessary for dimensional go/no-go checks, while separate reliability equipment may be required for 22 mm latching socket tests.

Engagement Principle and Test Method

The KP-5361 reproduces the core joining action used in conical connector verification: axial force is applied through the test axis while the specimen is allowed a controlled, limited rotation. The arrangement is intended to minimize unintended side force and improve repeatability.

Controlled Axial Engagement Concept

Representative functional diagram for ISO 5356-1 conical connector engagement testing



1. Alignment

Connector and fixture share the same test axis.

2. Load

Specified axial force is applied through the engagement direction.

3. Rotation

Controlled mating rotation helps reveal poor fit or binding.

Rotate only as required by the selected test procedure. Keep the connecto

4. Verification

Engagement position and connector condition are inspected and recorded.

Core Test Conditions

- Select the axial load according to connector size and the applicable clause.
- Use the correct reference connector, gauge or specimen-specific adapter.
- Keep contact surfaces clean and undamaged before each test.

Test Method Notes

- Confirm sample identification and material.
- Install the sample without preloading.
- Apply force gradually and perform the required mating movement.
- Inspect, photograph and record the final condition.

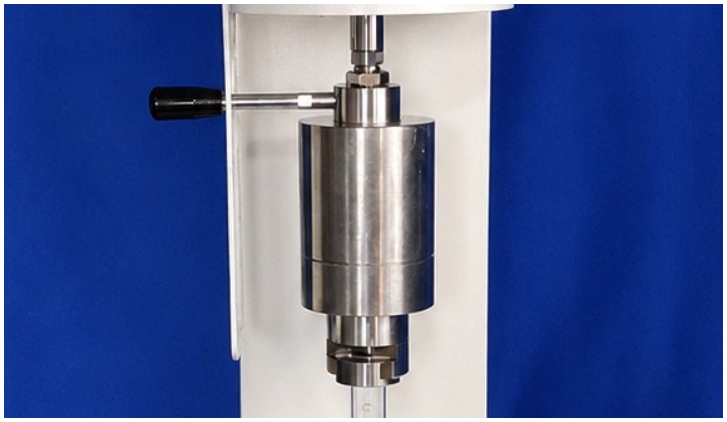
1 Prepare EUT — 2 Select Fixture — 3 Apply Axial Load — 4 Rotate / Engage — 5 Inspect Result

Connector Sizes, Fixtures and Verification

ISO 5356-1 uses defined connector sizes for different anaesthetic and respiratory applications. The selected fixture and test load must match the connector under evaluation. The visual guide below supports catalogue selection and laboratory setup planning.

8.5	**8.5 mm**	Paediatric breathing
15	**15 mm**	General breathing
22	**22 mm**	Adult / general breathing
23	**23 mm**	Vaporizer connection
30	**30 mm**	Gas scavenging system

Fixture and Test Station Detail



The central stainless-steel assembly provides a clear vertical test axis for specimen alignment, loading and observation.

Verification Checklist

- **Correct size and fixture**
  The reference connector or adapter corresponds to the specimen size and test purpose.
- **Clean engagement surfaces**
  No dust, oil, damage or burrs are present on the mating surfaces.
- **Axial alignment**
  Upper and lower fixtures are centered without lateral offset.
- **Controlled loading**
  The selected axial force is applied smoothly and maintained as required.
- **Mating behavior**
  The connector engages without abnormal looseness, binding or damage.
- **Traceable result**
  Sample ID, fixture, force, operator, date and observation are recorded.

Note: Connector size, fixture geometry and force condition should be confirmed against the applicable ISO 5356-1 procedure before formal testing.

Applications, Operation and Product Distinction

Typical Users

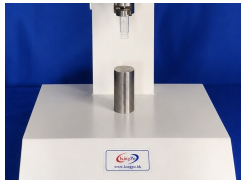
- Anaesthetic and respiratory equipment manufacturers
- Medical connector and accessory producers
- Third-party medical device testing laboratories
- R&D, quality control and regulatory teams

Operation Notes

- Confirm connector size, material and applicable procedure
- Use the correct fixture or reference connector
- Keep the specimen axis vertical and avoid lateral load
- Apply load and rotation in a controlled sequence

Inspection and Maintenance

- Keep stainless-steel contact surfaces clean and dry
- Inspect fixtures for wear, burrs or deformation
- Verify calibrated loads according to the laboratory system
- Store adapters and gauges in protective cases



Product Distinction

- KP-5361: controlled engagement and fit verification
- Plug/ring gauges: dimensional go/no-go verification
- KP-5362: reliability testing for 22 mm latching sockets
- Select equipment according to the exact clause and test object

Laboratory use only. This test apparatus is not intended for clinical use or direct connection to a patient.

Technical Inquiry and Expert Support

KingPo supplies the KP-5361 ISO 5356-1 Conical Connector Engagement Tester for controlled mating and fit verification of cones and sockets used in anaesthetic and respiratory equipment. Our engineering team can review the connector size, fixture requirement, test clause and laboratory documentation before final configuration.

Please Provide the Following Information

- **Applicable standard:** ISO 5356-1:2015 or your internal test procedure
- **Test object:** Connector type, male cone or female socket, material and nominal size
- **Related procedure:** Engagement, dimensional gauging or latching connector reliability test
- **Load requirement:** Required axial force, rotation condition and holding time
- **Fixture requirement:** Reference connector, plug/ring gauge or customized specimen adapter
- **Documentation:** Calibration record, inspection report, user manual or dimensional confirmation
- **Customization:** Logo position, labeling, packaging or fixture configuration

Product Page

Scan the QR code to open the corresponding online product page.

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