

Guidance to the required reference connectors and equipment for testing small-bore connectors used in breathing systems and driving gases

ISO/FDIS 80369-2:2023 Reference Connectors and ISO 80369-20:2015 Test Equipment			
ISO 80369-2 Clause	ISO 80369-20 Annex	Enersol equipment required	Required Enersol reference connectors for testing ISO 80369-2 small bore connectors
Clause 7 - all sub-clauses	The test methods require the test sample is assembled with the appropriate reference connector, using a specified force and/or torque to assemble them.	S15B - Connector assembly device - for both R1 and R2 connectors	Any/all reference connectors listed below
Clause 7.1 - Leakage by pressure decay	Annex B - Leakage by Pressure Decay	S77A - Automated Pressure Decay Tester - For R1 connectors S77B - Automated Pressure Decay Tester - For R2 connectors	S80 - Fig. C.1 - (R1) - SC for testing CC S82 - Fig. C.3 - (R1) - CC for testing SC S84 - Fig. C.8 - (R2) - SC for testing CC S86 - Fig. C.10 - (R2) - CC for testing SC
Clause 7.2 - Subatmospheric pressure air leakage***	Annex D - Subatmospheric pressure air leakage***	S78A - Automated Subatmospheric Pressure Air Leakage Tester - For R1 connectors S78B - Automated Pressure Decay Tester - For R2 connectors *** (Or for locations 900m or more above sea level, the S78H is required when 80-88kPa subatmospheric pressure is required)	S80 - Fig. C.1 - (R1) - SC for testing CC S82 - Fig. C.3 - (R1) - CC for testing SC S84 - Fig. C.8 - (R2) - SC for testing CC S86 - Fig. C.10 - (R2) - CC for testing SC
Clause 7.3 - Stress cracking**	Annex E - Stress cracking	S15B along with S77A and S78A - For R1 connectors S15B along with S77B and S78B - For R2 connectors	S80 - Fig. C.1 - (R1) - SC for testing CC S82 - Fig. C.3 - (R1) - CC for testing SC S84 - Fig. C.8 - (R2) - SC for testing CC S86 - Fig. C.10 - (R2) - CC for testing SC
Clause 7.4 - Resistance to separation from axial load	Annex F - Resistance to separation from axial load	S18B - Separation force device - for both R1 and R2 connectors	S81 - Fig. C.2 - (R1) - SC for testing CC S83 - Fig. C.4 - (R1) - CC for testing SC S85 - Fig. C.9 - (R2) - SC for testing CC S87 - Fig. C.11 - (R2) - CC for testing SC
Clause 7.5 - Resistance to separation from unscrewing	Annex G - Resistance to separation from unscrewing	S19A - Unscrewing torque device - for both R1 and R2 connectors	S80 - Fig. C.1 - (R1) - SC for testing CC S82 - Fig. C.3 - (R1) - CC for testing SC S84 - Fig. C.8 - (R2) - SC for testing CC S86 - Fig. C.10 - (R2) - CC for testing SC
Clause 7.6 - Resistance to overriding	Annex H - Resistance to overriding	S15B - for both R1 and R2 connectors	S81 - Fig. C.2 - (R1) - SC for testing CC S83 - Fig. C.4 - (R1) - CC for testing SC S85 - Fig. C.9 - (R2) - SC for testing CC S87 - Fig. C.11 - (R2) - CC for testing SC
Clause 7.7 - Disconnection by unscrewing	Annex I - Disconnection by unscrewing	S79 - Disconnection by unscrewing tester - for both R1 and R2 connectors	S80 - Fig. C.1 - (R1) - SC for testing CC S82 - Fig. C.3 - (R1) - CC for testing SC S84 - Fig. C.8 - (R2) - SC for testing CC S86 - Fig. C.10 - (R2) - CC for testing SC

KEY: SC = Socket (Female) Connector CC = Cone (Male) Connector

** = Both the leakage by pressure decay and subatmospheric pressure air leakage tests are to be performed after stress cracking conditioning.

*** = NOTE: For laboratories located 600m-899m above sea level, please let Enersol know as this affects the S78B units where 80-88kPa subatmospheric pressure is required.