

Top Hex Cathodic Disbondment Testers

Can be used in accordance with:

AMPP/NACE TM0115, ASTM G8, ASTM G42, AS 4352, BS 3900-F11, CSA Z245.20, CSA Z245.21, CSA Z245.22, DIN 30670, DIN 30678, ISO 15711, ISO 21809-1, ISO 21809-2, ISO 21809-3



Cathodic disbondment testing is a critical accelerated lifespan test used to evaluate coatings on underground metal pipelines. The Top Hex Cathodic Disbondment Tester allows these tests to be carried out in the laboratory to evaluate the performance of barrier coatings on pipeline samples, and supports a wide range of international test standards.

The tester is available in 4 channel and 16 channel versions. Each channel runs an independent test, all simultaneously, with data logged to non-volatile flash memory within the unit. Tests can be configured via the built-in graphical touchscreen or through the CDT PC software, which is also used to extract the data.

Every Top Hex tester is manufactured in-house in the UK. All Top Hex products are provided with a one year warranty, and Top Hex offers a lifetime repair guarantee on equipment that is out of warranty.

Features

- Constant voltage testing: the applied voltage is adjusted automatically to maintain a constant reference voltage (e.g. 1.5V) within a defined tolerance (commonly $\pm 5\text{mV}$)
- Constant current testing: the applied voltage is adjusted automatically to maintain the required constant current
- Manual test mode, constant voltage or constant current
- Test duration up to 999 days, or continuous
- Date and time, reference voltage and current logged to non-volatile memory for every test
- Tests resume automatically after a power interruption, with the event recorded in the log
- Protected against over-voltage, over-current and short circuit, with tests paused automatically on a fault
- 4.2" graphic display with touchscreen
- CDT PC software over Ethernet, connects to an unlimited number of testers and exports data as CSV
- Optional 32-TC temperature logging module for the 16 channel model: two thermocouple inputs per test channel, time-stamped alongside the test data
- Calibration kit and calibration box available for in-house calibration

Model Comparison

Features	4 Channel CDT	16 Channel CDT
Part Number	4-CDT-230 (230V AC version)	16-CDT-230 (230V AC version)
Measured current	0-1000mA (resolution 0.03mA)	0-250mA (resolution 0.01mA)
32-TC temperature logging module	-	Compatible
Case size	10.5" x 3U	19" x 4U
Dimensions (W x H x D)	314 x 162 x 322mm	530 x 207 x 322mm
Weight	12kg	17kg
External fusing, 230V AC version	5A	3A
Part number, 230V AC version	4-CDT-230	16-CDT-230

Technical Specifications

Parameter	Specification
Channels	Independent channels (common cathode)
Constant voltage	Automatic test: applied voltage modulated to maintain constant reference voltage
Constant current	Automatic test: applied voltage modulated to maintain constant measured current
Manual test mode	Constant voltage, constant current
Calibration mode	Using CDT PC software
Measured cell voltage	0-5V DC (resolution 0.2mV)
Applied voltage	0-20V DC (resolution 0.6mV)
Protection	1A self-resetting fuse (per channel)
Accuracy	1 resolution point
Calibration	2 point linear
Fault protection	Over-voltage, over-current, short-circuit. Test pauses automatically with entry in event log
Test duration	Days / hours / minutes (maximum 999 days) or continuous
Test configuration	Via in-built touchscreen or CDT PC software
Power fail	Auto-resume with entry in event log
Sample profile	At frequency F1 for interval T1, then at frequency F2 for interval T2, then at frequency F3 until end of test (F: hours / minutes, T: days / hours / minutes)
Sample data	Date / time, measured reference voltage, measured current
Storage	Non-volatile Flash RAM, over 2,700 date / time stamped results per test
Data export	CSV file via CDT PC software
PC connection	Ethernet. Software allows connection to an unlimited number of controllers
PC software	Start / stop / resume tests, view data / alarm log (tabular / graphical), export data (CSV), manual test mode, calibration of measured cell voltage and current
Display	4.2" graphic display with touchscreen
Display controls	Start / stop / resume tests, view data / alarm log, manual test mode
Power supply	Nominal 230Vac @ 50Hz (230Vac version), nominal 120Vac @ 60Hz (115Vac version)

Accessories

Part number	Accessory
32-TC-230	32-TC temperature logging module (16 channel model), K type thermocouple, 0-250°C (resolution 0.2°C), 230V AC
CALIB-KIT-UKAS	Calibration kit: calibration box, test leads and two meters supplied with UKAS certificates
CALIB-BOX	Calibration box: power resistor array for validating the tester without a chemical cell, with test leads
CA_PLATINUM_0.5mm	Platinum anode wire, 500mm x 0.5mm diameter, 99.997% (metals basis)
CD_ELCTRD_AG_AGCL	Ag/AgCl reference electrode, glass bodied, re-fillable, 12mm body
CD_ELCTRD_CU_CUSO4	Cu/CuSO4 reference electrode, glass bodied, re-fillable, 12mm body
CD_ELCTRD_CALOMEL	Calomel reference electrode, glass bodied
934063701	Red test lead (anode), gold-plated contacts, 32A, 1m
934066701	Red test lead (anode), gold-plated contacts, 32A, 2m
934063700	Black stackable test lead (common cathode), gold-plated contacts, 32A, 1m
934066700	Black stackable test lead (common cathode), gold-plated contacts, 32A, 2m
930122000	Crocodile clip, 4mm connection, stainless steel contact (rated 4A)