



ISO/IEC 17025:2017

מעבדות כיוול

תעודת הסמכה מס' 0579 אלספק הנדסה בע"מ

כתובת אתר ייחוס: אזור תעשייה פארק צבאים, שדה נחום, 1171602

עד יום: 18.03.2028

בתוקף מיום: 01.03.2026

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תעודה זו אינה מהווה אישור לפי סעיף 12 לחוק התקנים.

אתי פלר
מנכ"ל
הרשות הלאומית להסמכת מעבדות

תאריך הסמכה ראשון: 19.03.2024



הרשות הלאומית להסמכת מעבדות
Israel Laboratory Accreditation Authority

Calibration Laboratories

ISO/IEC 17025:2017

Accreditation Certificate No.0579

Espec Engineering Ltd.

Main site address: Tzevaim industrial park, Sede Nachum, 1171602

Valid from:01.03.2026

Until:18.03.2028

The organization was assessed by the Israel Laboratory Accreditation Authority (ISRAC) and found to be worthy of accreditation to the detailed schedule attached.

The schedule is an integral part of this certificate and is numbered with the above certificate number.

Accreditation demonstrates technical competence and operation of an internationally recognized quality management system.

The organization accredited by ISRAC complies with the standards/requirements mentioned above, meets the technical competence requirements and management system requirements that are necessary for it to consistently deliver technically competent results. This accreditation is granted in accordance with the requirements of ISO/IEC 17011:2017, and entails periodic surveillance and reassessment by ISRAC to ensure that the organization continues to comply with the accreditation requirements.

The accreditation is valid provided that the organization continues to meet the criteria as laid down by ISRAC. ISRAC is an EA-MLA (European Accreditation Cooperation Multi-Lateral Agreement) signatory.

This certificate does not constitute an approval in accordance with article 12 of the standard law.

Etty Feller
General Manager
Israel Laboratory Accreditation Authority

Date of first accreditation:19.03.2024

Date of signature 01/03/2026

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Name and Address:

Organization name	<u>Elspec Engineering Ltd.</u>
Address	Tzevaim industrial park, Sede Nachum, 1171602
Phone	04-6061100
Fax	04-6061128
E-mail (contact person)	nissimd@elspec-ltd.com

Site: P or T or M , P-Permanent, T-Temporary, M-Mobile

A permanent (P) or temporary (T) place, or a stationary or mobile (M) facility, at or from which the organization performs activities forming part of its scope of accreditation, starting from sampling to final issuance of a report or certificate and / or quality system activities. A temporary (T) site is a site established under the responsibility of an accredited permanent site. All activities performed at a temporary site are the responsibility of the permanent site. An outdoors work is also considered to be a temporary site. Temporary site will be a site that involves work for special project and the activity will be defined in time (up to 2 years).

Type of Scopes: A- Fixed, C- Flexible scope in analytical tests : Type of matrix, analytes, experimental systems and/or analytical characteristics may be subject to changes, in accordance with the laboratory's approved and documented procedures. For details, please refer to the list of Accredited Tests, available from the laboratory upon request.



Item	Scope Type	Site	Measurand Instrument, Gauge	Range [Including margins] (Does not include margins)	Uncertainty of Measurement ¹	Reference Documents	Remarks
Calibration – Electrical Quantities DC and LF					כיוול - גדלים חשמליים - זרם ישר, תדר נמוך		
1	A	P	AC Low Voltage, PQ meters	מתח חילופין נמוך, מוני איכות חשמל	[0.2 V to 1.5 V]	1.7 mV	Automated Calibration Software Fluke 6100B PQ - Power Quality
2	A	P		[1.5 V to 8 V]	114.29 $\mu\text{V/V} + 1.53 \text{ mV}$		
3	A	P	AC Voltage PQ meters	מתח חילופין, מוני איכות חשמל	[16 V to 23 V]	142.86 $\mu\text{V/V} + 13.91 \text{ mV}$	Automated Calibration Software Fluke 6100B Manufacturer instructions Working Procedure
4	A	P		[23 V to 45 V]	45.45 $\mu\text{V/V} + 15.75 \text{ mV}$		
5	A	P		[45 V to 90 V]	55.56 $\mu\text{V/V} + 14.5 \text{ mV}$		
6	A	P		[90 V to 180 V]	111.11 $\mu\text{V/V} + 11 \text{ mV}$		
7	A	P		[180 V to 360 V]	133.33 $\mu\text{V/V} + 13.6 \text{ mV}$		
8	A	P		[360 V to 1000 V]	171.88 $\mu\text{V/V} + 34.12 \text{ mV}$		
9	A	P	AC Current, PQ meters	זרם חילופין, מוני איכות חשמל	[0.1 A to 0.25 A]	0.17 mA	Automated Calibration Software Fluke 6100B Manufacturer instructions Working Procedure
10	A	P		[0.25 A to 0.5 A]	60 $\mu\text{A/A} + 0.15 \text{ mA}$		
11	A	P		[0.5 A to 5 A]	1.7 mA		
12	A	P		[5 A to 10 A]	136.67 $\mu\text{A/A} + 1.17 \text{ mA}$		
13	A	P		[10 A to 20 A]	211.43 $\mu\text{A/A} + 1.09 \text{ mA}$		
14	A	P	DC Low Voltage PQ meters	מתח נמוך ישר, מוני איכות חשמל	0 V	1.7 mV	Automated Calibration Software Fluke 6100B Manufacturer instructions Working Procedure Remark1: The uncertainty value is for using calibrator range up to 0.25 V. For using other ranges, the uncertainty value will be grater.
15	A	P		[0.1 V to 0.75 V]	1.7 mV		
16	A	P		[0.75 V to 4 V]	96.7 $\mu\text{V/V} + 1.63 \text{ mV}$		



Item	Scope Type	Site	Measurand Instrument, Gauge	Range [Including margins] (Does not include margins)	Uncertainty of Measurement ¹	Reference Documents	Remarks	
Calibration – Electrical Quantities DC and LF					כיוול - גדלים חשמליים - זרם ישר, תדר נמוך			
17	A	P	DC Voltage	מתח ישר, מוני איכות חשמל	0 V	17 mV	Automated Calibration Software	Fluke 6100B
18	A	P	PQ meters		[9 V to 11.5 V]	17 mV	Manufacturer instruction	Remark2: The uncertainty value is for using calibrator range up to 23 V. For using other ranges, the uncertainty value will be grater.
19	A	P			[11.5 V to 22.5 V]	19 mV	Working Procedure	
20	A	P			[22.5 V to 45 V]	133.33 μ V/V + 30.2 mV		
21	A	P			[45 V to 90 V]	144.44 μ V/V + 57.9 mV		
22	A	P			[90 V to 180 V]	111.11 μ V/V + 122 mV		
23	A	P			[180 V to 400 V]	227.27 μ V/V + 329.09 mV		
24	A	P	DC Current,	זרם ישר, מוני איכות חשמל	0 A	0.18 mA	Automated Calibration Software	Fluke 6100B
25	A	P	PQ meters		[0.01 A to 0.125 A]	0.17 mA	Manufacturer instruction	Remark3: The uncertainty value is for using calibrator range up to 0.25 A. For using other ranges, the uncertainty value will be grater.
26	A	P			[0.125 A to 0.25 A]	120 μ A/A + 0.22 mA	Working Procedure	
27	A	P			[0.25 A to 0.5 A]	140 μ A/A + 0.37 mA		
28	A	P			[0.5 A to 1 A]	1.7 mA		
29	A	P			[1 A to 2.5 A]	100 μ A/A + 2.21 mA		
30	A	P			[2.5 A to 4 A]	209.52 μ A/A + 3.62 mA		
31	A	P	Active Power, PQ meters	הספק אקטיבי, מוני איכות חשמל	[14.375 W to 3450 W]	19.08 μ W/W + 0.18 W	Automated Calibration Software	Fluke 6100B
							Manufacturer instruction	
							Working Procedure	
32	A	P	Frequency, PQ meters	תדר, מוני איכות חשמל	[50 Hz to 60 Hz]	1.6 mHz	Automated Calibration Software	Fluke 6100B
							Manufacturer instruction	
							Working Procedure	



Item	Scope Type	Site	Measurand Instrument, Gauge	Range [Including margins] (Does not include margins)	Uncertainty of Measurement ¹	Reference Documents	Remarks
Calibration – Electrical Quantities DC and LF					כיוול - גדלים חשמליים - זרם ישר, תדר נמוך		
33	A	P	Phase shift - fundamental harmonic, PQ meters	הפרש מופע בהרמוניה ראשית מוני איכות חשמל	[0° to 60°]	0.02°	Automated Calibration Software Manufacturer instruction Working Procedure Fluke 6100B
34	A	P	Low Voltage harmonics – amplitude, PQ meters	הרמוניות מתח נמוך - אמפליטודה, מוני איכות חשמל	Harmonics 1-99	1120 μV/V + 0.02 mV 1133.33 μV/V + 0.03 mV 337.66 μV/V + 1.56 mV	Automated Calibration Software Manufacturer instruction Working Procedure Fluke 6100B
35	A	P			[0.025 V to 0.075 V]		
36	A	P			[0.075 V to 0.45 V]		
37	A	P	Voltage harmonics - amplitude, PQ meters	הרמוניות מתח - אמפליטודה, מוני איכות חשמל	Harmonics 1-99	416.67 μV/V + 14.92 mV 227.27 μV/V + 14.53 mV 395.06 μV/V + 12.67 mV 518.52 μV/V + 10.6 mV 555.56 μV/V + 17 mV 667.7 μV/V + 28.75 mV	Automated Calibration Software Manufacturer instruction Working Procedure Fluke 6100B
38	A	P			[4.5 V to 6.9 V]		
39	A	P			[6.9 V to 13.5 V]		
40	A	P			[13.5 V to 27 V]		
41	A	P			[27 V to 54 V]		
42	A	P			[54 V to 108 V]		
43	A	P	Current harmonics – amplitude, PQ meters	הרמוניות זרם - אמפליטודה, מוני איכות חשמל	Harmonics 1-99	430 μA/A + 0.02 mA 446.67 μA/A + 0.02 mA 233.33 μA/A + 0.14 mA 383.33 μA/A + 0.12 mA 455.56 μA/A + 0.16 mA 590.48 μA/A + 0.81 mA	Automated Calibration Software Manufacturer instruction Working Procedure Fluke 6100B
44	A	P			[0.025 A to 0.075 A]		
45	A	P			[0.075 A to 0.15 A]		
46	A	P			[0.15 A to 0.3 A]		
47	A	P			[0.3 A to 0.6 A]		
48	A	P			[0.6 A to 1.5 A]		

¹⁾ The uncertainty covered by the CMC expressed as the standard measurement uncertainty multiplied by the coverage factor *k* such that the coverage probability corresponds to approximately 95 %.