



PERRY JOHNSON LABORATORY ACCREDITATION, INC.

Certificate of Accreditation

Perry Johnson Laboratory Accreditation, Inc. has assessed the Laboratory of:

Mantec S.r.l.

Via Goito, 22 - 15011 Acqui Terme (AL), Italy

(Hereinafter called the Organization) and hereby declares that Organization is accredited in accordance with the recognized International Standard:

ISO/IEC 17025:2017

This accreditation demonstrates technical competence for a defined scope and the operation of a laboratory quality management system (as outlined by the joint ISO-ILAC-IAF Communiqué dated April 2017):

Electrical Testing
(As detailed in the supplement)

Accreditation claims for such testing and/or calibration services shall only be made from addresses referenced within this certificate. This Accreditation is granted subject to the system rules governing the Accreditation referred to above, and the Organization hereby covenants with the Accreditation body's duty to observe and comply with the said rules.

For PJLA:

Tracy Szerszen
President

Perry Johnson Laboratory
Accreditation, Inc. (PJLA)
755 W. Big Beaver, Suite 1325
Troy, Michigan 48084

Initial Accreditation Date:

April 20, 2020

Issue Date:

April 23, 2022

Expiration Date:

August 31, 2024

Accreditation No.:

107874

Certificate No.:

L22-314

The validity of this certificate is maintained through ongoing assessments based on a continuous accreditation cycle. The validity of this certificate should be confirmed through the PJLA website: www.pjilabs.com



Certificate of Accreditation: Supplement

Mantec S.r.l.

Via Goito, 22 Acqui Terme (AL), Italy
 Contact Name: Ing. Fabrizio Rossi, Phone: 328-917-6821

Accreditation is granted to the facility to perform the following testing:

FIELD OF TEST	ITEMS, MATERIALS OR PRODUCTS TESTED	SPECIFIC TESTS OR PROPERTIES MEASURED	SPECIFICATION, STANDARD METHOD OR TECHNIQUE USED	RANGE (WHERE APPROPRIATE) AND DETECTION LIMIT		
Electrical ^{F0}	Electrical and electronic equipment	Radiofrequency emitted level, electromagnetic compatibility test	EN55011 (2018) +A1(2019) +A11(2020) +A11(2021)	Measure range 9 kHz to 30 MHz (conducted emissions) Applied tolerance 7.15% 30 MHz to 1GHz (irradiated emissions) <i>Limits complying with method used</i>		
			EN55015 (2015) +A11(2020)			
			EN55014-1 (2019) +A11(2020) +A11(2021)			
			CEI EN 55014-2 (2021)			
			EN55032 (2015) +EC(2018) +A11(2020)			
			EN 61326-1 (2021)			
			EN 61439-1 (2012) +EC(2015) +EC(2019)			
			EN 60730-1 (2011) +A1(2020)			
			EN 60601-1-2 (2018)			
			IEC EN 61000-6-3(2007) +A1(2012) +A1(2013)			
			IEC EN 61000-6-4 (2020)			
			Immunity test (summary standard)		EN55014-2 (2021)	N/A
					EN61547 (2009)	
					EN55035 (2021)	
					IEC EN 61000-6-1 (2019)	
	IEC EN 61000-6-2 (2019)					



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Electrical ^{FO}	Electrical and electronic equipment	Radiofrequency emitted level Electric safety test: Earth conductor Insulation Dielectric strength Leakage current	EN60204-1 (2018) +EC(2019)	Measure range 9 kHz to 30 MHz (conducted emissions) Applied tolerance 7.15% 30 MHz to 1GHz (irradiated emissions) Applied tolerance 7.60% Limits complying with method used Electrical safety Earth conductor applied 1& Insulation Tolerance applied 1& Dielectric strength Tolerance applied 3& Leakage current tolerance applied 1	
			EN60335-1 (2012) +EC (2014) +A/11 (2015) +A/13 (2018) +A/13 (2019) +A/1,A2,A14 (2019) +A/1,A2,A14 (2021) IEC EN62368-1 (2020)	Earth conductor Tolerance applied 1& Insulation Tolerance applied 1& Dielectric strength Tolerance applied 3& Leakage current tolerance applied 1	
			Radiofrequency emitted level	IEC EN 61000-3-2 (2019)	Measure range 50 Hz to 2 000 Hz
			Radiofrequency emitted level in time	EN 61000-3-3 (2014) +EC (2014) +EC (2016) +A1 (2020) +A1 (2021)	Tolerance within 2.5% Limit complying with Listed method
			Immunity to electrostatic discharge	EN 61000-4-2 (2011)	Discharge range 2 kV,4 kV,6 kV,8 kV,15 kV Tolerance within 2.5%
			Immunity to irradiated radiofrequency field	IEC EN 61000-4-3 (2013)	Emission range 80 MHz to 2 700 MHz Emission level 1,3,10,30 v7 m Tolerance within 5%
Immunity to burts (fast impulse)	EN 61000-4-4 (2013)	Discharge range 0.5 kV,1 kV,2 kV,4 kV Frequency 5khz Tolerance within 5%			



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Electrical ^{FO}	Electrical and electronic equipment	Immunity to surge (high power impulse)	EN 61000-4-5 (2014) +A/1 (2018) +A/1 (2020)	Discharge range 0.5 kV, 1 kV, 2 kV, 4 kV Tolerance within 5%
		Immunity to conducted radiofrequency	EN 61000-4-6 (2014)	Generation range 150 KHz to 80 MHz Emission level 1 Vrms, 3 v\VRms, 10 Vrms, 30 Vrms Tolerance within 5%
		Immunity to magnetic fields	EN 61000-4-8 (2013)	H field range (magnetic field) 1 A/m, 3 A/m, 10 A/m, 30 A/m Tolerance within 5%
		Immunity to tension interruptions and variations	IEC EN 61000-4-11 (2020)	Application range 230 VAC Application time 10 ms 50 ms 100 ms 500 ms 1 s 5 s Tolerance within 5%
		Equipment for general lighting purposes - EMC immunity requirements	EN 61547 (2020)	Discharge range 0.5 kV, 1 kV, 2 kV, 4 kV Tolerance within 5%
		Radio frequency level emitted	ETSI EN 301 489-1	Limits complying with method used
			ETSI EN 301 489-2	
			ETSI EN 301 489-3	
			ETSI EN 301 489-4	
			ETSI EN 300 220-2	
ETSI EN 300 440-2				



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Electrical ^{FO}	Electrical and electronic equipment	Lamp controlgear - Part 1: General and safety requirements	EN 61347-1 (2015)+A1(2021)	Measure range 9 kHz to 30 MHz (conducted emissions) 30 MHz to 1GHz (irradiated emissions) Limits complying with method used
		LED modules for general lighting. Safety specifications	EN IEC 62031 (2020)	
		Uninterruptible power systems (UPS) - Part 1: Safety requirements	EN IEC 62040-1 (2019)	
		Uninterruptible power systems (UPS) - Part 2: Electromagnetic compatibility (EMC) requirements	EN IEC 62040-2 (2018)	
		Uninterruptible power systems (UPS) - Part 3: Method of specifying the performance and test requirements	EN IEC 62040-3 (2021)	
		Safety requirements for electrical equipment for measurement, control, and laboratory use - Part 1: General requirements. Articles 4,5,6,7,8	CEI EN 61010-1 (2010)+A1(2019)	
		Safety of laser products - Part 1: Equipment classification and requirements	EN 60825-1 (2014)+EC(2017)+EC(2017)+Ab(2019)	
		Medical electrical equipment - Part 1: General requirements for basic safety and essential performance Articles: 1,2,3,4,5,6.2,6.3,6.6,7,8,9,11.1,11.2,11.3,11.6,11.8,12.1,12.2,12.3,12.4,13,14,15,16	EN 60601-1 (2006)+EC(201)+A11(2021)+EC(02/2014)+EC(07/2014)+A1(2014)	
		Medical electrical equipment - Part 2: Particular requirements for the safety of short-wave therapy equipment	EN 60601-2-3 (2015)+A1(02/2017)+A1(05/20217)	



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Electrical ^{FO}	Electrical and electronic equipment	Medical electrical equipment - Part 2-5: Particular requirements for the safety of ultrasonic physiotherapy equipment	EN 60601-2-5 (2015)	Measure range 9 kHz to 30 MHz (conducted emissions) 30 MHz to 1GHz (irradiated emissions) Limits complying with method used
		Medical electrical equipment - Part 2-10: Particular requirements for the basic safety and essential performance of nerve and muscle stimulators	EN 60601-2-10 (2015)+A1(09/2017)+A1(10/2021)	
		Medical electrical equipment - Part 2-22: Particular requirements for basic safety and essential performance of surgical, cosmetic, therapeutic and diagnostic laser equipment	EN IEC 60601-2-22 (2020)	
		Medical electrical equipment - Part 2-66: Particular requirements for the basic safety and essential performance of hearing aids and hearing aid systems	EN IEC 60601-2-66 (2020)	
		Household and similar electrical appliances - Safety - Part 2-69: Particular requirements for wet and dry vacuum cleaners, including power brush, for commercial use	EN 60335-2-69 (2012)	
		Excluded articles: 11,15,17,20,21,28,30,31,32		
	Household and similar electrical appliances - Safety - Part 2-72: Particular requirements for floor treatment machines with or without traction drive for commercial use	EN 60335-2-72 (2012)		
	Excluded articles: 11,15,17,20,21,28,30,31,32			



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Electrical ^{FO}	Electrical and electronic equipment	Household and similar electrical appliances - Safety - Part 2-67: Particular requirements for floor treatment machines for commercial use Excluded articles: 11,15,17,20,21,28,30,31,32	EN 60335-2-67 (2012)	Measure range 9 kHz to 30 MHz (conducted emissions) 30 MHz to 1GHz (irradiated emissions) Limits complying with method used
		Household and similar electrical appliances - Safety - Part 2-68: Particular requirements for spray extraction machines for commercial use Excluded articles: 11,15,17,20,21,28,30,31,32	EN 60335-2-68 (2012)	
		Household and similar electrical appliances - Safety - Part 2-15: Particular requirements for appliances for heating liquids Excluded articles: 11,15,18,20,28,30,31,32	EN 60335-2-15 (2016)	
		Household and similar electrical appliances - Safety - Part 2-43: Particular clothes dryers and towel rails Excluded articles: 11,15,18,28,30,31,32	EN IEC 60335-2-43 (2020)	
		Household and similar electrical appliances - Safety -- Part 2-3: Particular requirements for electric irons Excluded articles: 11,15,18,28,30,31,32	EN 60335-2-3 (2016)+A1(2021)	



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Electrical ^{FO}	Electrical and electronic equipment	Household and similar electrical appliances - Safety - Part 2-32: Particular requirements for massage appliances Excluded articles: 11,15,18,28,30,31,32	EN 60335-2-32 (2021)	Measure range 9 kHz to 30 MHz (conducted emissions) 30 MHz to 1GHz (irradiated emissions) Limits complying with method used
		Household and similar electrical appliances - Safety - Part 2-65: Particular requirements for air-cleaning appliances Excluded articles: 11,15,18,28,30,31,32	EN 60335-2-65 (2003)+A1(2020)+A1(2021)	
		Household and similar electrical appliances - Safety - Part 2-85: Particular requirements for fabric steamers Excluded articles: 11,15,18,28,30,31,32	EN 60335-2-85 (2003)+A1(2009)+A1(2019)+A2(2020)	
		Household and similar electrical appliances - Safety -- Part 2-10: Particular requirements for floor treatment machines and wet scrubbing machines Excluded articles: 11,15,17,20,21,28,30,31,32	EN 60335-2-10 (2003)+A1(2009)	
		Household and similar electrical appliances - Safety -- Part 2-29: Particular requirements for battery chargers Excluded articles: 11,15,18,28,30,31,32	EN 60335-2-29 (2004)+A2(2019)+A1(2019)	



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Electrical ^{FO}	Electrical and electronic equipment	Household and similar electrical appliances - Safety - Part 2-54: Particular requirements for surface-cleaning appliances for household use employing liquids or steam Excluded articles: 11,15,18,20,21,27,28,30,31,32	EN 60335-2-54 (2008)+A11(05/2013)+A11(06/2013)+A1(2016)+A11/EC(2016)+A1(2017)	Measure range 9 kHz to 30 MHz (conducted emissions) 30 MHz to 1GHz (irradiated emissions) Limits complying with method used
		Household and similar electrical appliances - Safety -- Part 2-2: Particular requirements for vacuum cleaners and water-suction cleaning appliances Excluded articles: 11,15,18,20,21,28,30,31,32	EN 60335-2-2 (2010)+A11(2013)+A11/EC(2014)+A1(2014)	
		Household and similar electrical appliances - Safety - Part 2-17: Particular requirements for blankets, pads, clothing and similar flexible heating appliances Excluded articles: 11,15,17,18,20,21,28,30,31,32	EN 60335-2-17 (2013)+A11(2020)+A1(2020)+A11(2021)	
		Household and similar electrical appliances - Safety - Part 2-79: Particular requirements for high pressure cleaners and steam cleaners Excluded articles: 11,15,17,18,20,21,28,30,31,32	EN 60335-2-79 (2012)	
		Household and similar electrical appliances - Safety -- Part 2-44: Particular requirements for ironers Excluded articles: 11,15,18,20,21,27,28,30,31,32	EN 60335-2-44 (2003)+A1(2009)+A2(2012)	



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Electrical ^{FO}	Electrical and electronic equipment	Household and similar electrical appliances - Safety -- Part 2-23: Particular requirements for appliances for skin or hair care Excluded articles: 11,15,18,20,21,28,30,31,32	EN 60335-2-23 (2003)+A1(2009)+A11(2011)+A11/EC(2012)+A2(2016)	Measure range 9 kHz to 30 MHz (conducted emissions) 30 MHz to 1GHz (irradiated emissions) Limits complying with method used
		Household and similar electrical appliances - Safety -- Part 2-75: Particular requirements for commercial dispensing appliances and vending machines Excluded articles: 11,15,18,20,21,28,30,31,32	EN 60335-2-75 (2004)+A11(2007)+A2(2009)+A12(2010)	
		Household and similar electrical appliances - Safety - Part 2-41: Particular requirements for pumps Excluded articles: 11,15,18,20,21,28,30,31,32	EN 60335-2-41 (2003)	
		Household and similar electrical appliances - Safety - Part 2-105: Particular requirements for multifunctional shower cabinets Excluded articles: 11,15,18,20,21,28,30,31,32	EN 60335-2-105 (2005)+A1(2009)+A11(2010)+A2(2020)	



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Electrical ^{FO}	Electrical and electronic equipment	Household and similar electrical appliances - Safety - Part 2-27: Particular requirements for appliances for skin exposure to ultraviolet and infrared radiation Excluded articles: 11,15,18,20,21,28,30,31,32	<u>EN 60335-2-27</u> (2013)+A1/A2(2020)	Measure range 9 kHz to 30 MHz (conducted emissions) 30 MHz to 1GHz (irradiated emissions) Limits complying with method used
		Household and similar electrical appliances - Safety - Part 2-60: Particular requirements for whirlpool baths and whirlpool spas Excluded articles: 11,15,18,20,21,28,30,31,32	<u>EN 60335-2-60</u> (2003)+A2(2009)+A1 1/A12(2010)	

1. The presence of a superscript FO means that the laboratory performs testing of the indicated parameter both at its fixed location and onsite at customer locations. Example: Outside Micrometer^{FO} would mean that the laboratory performs this testing at its fixed location and onsite at customer locations.