

Energy Resources Regulations (Testing Energy Efficiency of Pumping Installations)
5764 - 2004

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By virtue of my authority pursuant to section 3 of the Energy Resources Law, 5740 - 1989¹ and with the approval of the Knesset Finance Committee, I hereby enact the following regulations:

Definitions	1.	In these regulations -	
		"Examiner" -	A person who conducts an efficiency test on a pumping installation, as set forth in Regulation 6;
		"Booster" -	A device that increases water pressure;
		"The Standards" -	Israeli Standards Israeli Standard 30 Part 2 ² - "Centrifugal Pumps: vertical turbine pumps - axial flow pumps and immersion pumps - inspections on site", deposited for public viewing at the Israeli Standards Institute;
		"Engineer"	An engineer registered with the Registry of Engineers and Architects maintained pursuant to the Engineers and Architects Law 5718 - 1958 ³
		"Pumping Installation" -	An installation composed of an electrical motor and water pump with an electrical consumption of 150,000 KWH per year or more;
		"Above ground pumping station" -	A pumping installation that is above ground.
		"Efficiency" -	The energy efficiency of a pumping installation (overall efficiency) as defined in the Standards.
Minimal efficiency of pumping installations	2.	The minimal efficiency of a pumping installation is -	
		(1)	In an above ground and booster pumping installation - 65 percent or more.
		(2)	In a well pump installation - 55 percent or

¹ Book of Laws 5740 page 28

² Official Announcements Gazette 5759 page 1535

³ Book of Laws page 108

			more.
Efficiency test	3.	(A)	An owner of a pumping installation shall conduct an efficiency test on a pumping installation (hereinafter - the Test), once every 30 months or after 7,500 hours of operation, the later of the two;
		(B)	The test and calculation of the efficiency of the pumping installation will be conducted by an examiner according to the Standards;
		(C)	The findings of the test and the recommendations to improve pumping efficiency of the pumping installations, as stated in regulation 6(b), shall be recorded on the form provided in the Schedule, which will be signed by the engineer as provided in regulation 6(b) and a copy shall be sent to the commissioner under the engineer's responsibility.
Repeat efficiency test	4.	(A)	If the findings of the test indicate that the efficiency of the pumping installation is lower than provided for in regulation 2, the owner of the installation will take measures to improve the efficiency of this installation and will report these measures to the commissioner. The commissioner is entitled to demand, no later than 6 months from the date of the last test, that a repeat test be performed on the installation.
		(B)	A person shall not operate a pumping installation after a repeat test has been conducted unless its efficiency meets the requirements of regulation 2.
Numbering pumping installations	5.	(A)	An owner of a pumping installation shall mark each pumping installation that he owns with a serial number and shall report the numbers to the commissioner;
		(B)	If a new pumping installation with an output of 50 kilowatts or more is installed, the owner of the pumping installation shall inform the commissioner of such within three months of the date of its installation.
Conducting efficiency tests	6.	(A)	The test will be conducted by a person who is authorized by statute to conduct such test, with at least three years proven experience in conducting such tests or operating or maintaining pumping installations with an output of at least 50 kilowatts and who has proved to the administrator the following:
		(1)	He possesses the means to conduct the test;
		(2)	He is familiar with the test processes or the

			operation and maintenance of a pumping installation;
		(B)	The results of the test will be approved by the engineer, who will also give recommendations, if needed, for the improvement of the efficiency of the pumping installation.
Effectiveness	7.		These regulations shall enter into effect six months from the date of their publication.
Transitional Provisions	8.		Pumping installations which, on the date these regulations enter into effect, were to be tested shall be tested within 90 days from the date these regulations enter into effect. Notwithstanding the above, if more than 5 pumping installations belonging to one owner require such testing, he shall be entitled to submit a plan for conducting the tests to the commissioner and will conduct them as the commissioner so approves.

**Schedule
(Regulation 3(C))**

**Serial Number
of the report**

Report of an energy efficiency test of a pumping installation

Part 1 - Descriptions

1. Particulars of an energy consumer who possesses a pumping installation

- (A) Full name of the energy consumer _____
(B) Address where the installation is installed _____
(C) Address of the office _____
(D) Telephone _____ Fax _____ Email _____

2. Description of pumping installation (manufacturer details)

(A) <u>Pump</u>	(B) <u>Motor</u>
(1) Number of the pump _____	(1) Number of the motor _____
(2) The manufacturer _____	(2) The manufacturer _____
(3) The model _____	(3) The model _____
(4) Date of manufacture _____	(4) Date of manufacture _____
(5) Suction width (mm) _____	(5) Nominal output (kilowatt) _____
(6) Delivery width (mm) _____	(6) Current, voltage _____
(7) Supply (cubic meters/hour) _____	(7) Speed (rpm) _____
(8) Pump total head (m) _____	(8) Efficiency (in percentages) _____

3. Particulars of the previous test*

- (A) Name of inspector _____ (B) Date of test _____
(C) Supply (cubic meters/hour) _____
(D) Pump total head (meter) _____
(E) The supplier (Kilowatt) _____
(F) Speed (rpm) _____
Pump efficiency (Percentages) _____

**Has the motor or pump been replaced since the last test: yes/no*

Part 2 - The test and results

- (A) Date of the test _____
- (B) Supply (cubic meters/hour) _____
- (C) Pump total head (meter) _____
- (D) The supplier (Kilowatt) _____
- (E) Speed (rpm) _____
- (F) Pump efficiency (in percentages) _____

Part 3 - Findings and recommendations to improve the efficiency

5. Findings

- (A) Specific electrical consumption (kwh/cubic meters) _____
- (B) The desired efficiency (in percentages) _____

(The desired efficiency is the maximal efficiency according to the data provided by the manufacturer of the pump).

- (C) Energy loss (in percentages) _____

(Energy loss is the difference between the desired efficiency and the actual efficiency).

- (D) Energy loss (kwh per year) _____

6. Recommendations to improve pumping efficiency

Part 4 - Particulars of the test inspector

7. Name of inspector _____ **Address** _____

Tel: _____ **Fax:** _____

Date the report is issued _____ **Name of inspector** _____