

# Power Consumption Analysis of Life Fitness Elevation Series 95T Engage, Technogym Excite Run 900E, Star Trac P Series, Precor 932i Treadmills and Matrix T7xe

On December 16 and 17, 2009 Intertek conducted an Energy Consumption Analysis of treadmills at Life Fitness' facility in Franklin Park, Illinois.

## Treadmill Evaluation Process:

Each treadmill was operated for a 15 minute warm-up period at a 3.5 MPH speed before recording any values. The same user, weighing 220 lbs, operated the treadmills throughout the testing process.

The energy consumption of each of the treadmills was evaluated at four different speeds:

- 3.5 Miles per hour
- 5.0 Miles per hour
- 7.0 Miles per hour
- 9.0 Miles per hour

A tachometer was used to verify the displayed speed of each unit. The energy consumption was averaged for a period of 30 seconds at each speed before any measurement.

## Treadmill Evaluation Results

The average power consumption recorded in Watts during the tests for the Life Fitness Elevation Series 95T Engage Treadmill, Technogym Excite Run 900E, Star Trac P Series, Precor 932i and Matrix T7xe at each of the speeds is as follows:

Life Fitness Elevation Series 95T Engage Treadmill	
SPEED (MPH)	AVERAGE POWER CONSUMPTION (WATTS)
3.5	284.69
5.0	303.5
7.0	354.49
9.0	572.36

Technogym Excite Run 900E	
SPEED (MPH)	AVERAGE POWER CONSUMPTION (WATTS)
3.5	508.4
5.0	673.8
7.0	883.3
9.0	1082.5

Precor 932i	
SPEED (MPH)	AVERAGE POWER CONSUMPTION (WATTS)
3.5	383.61
5.0	505.8
7.0	710.1
9.0	927.8

Star Trac P Series	
SPEED (MPH)	AVERAGE POWER CONSUMPTION (WATTS)
3.5	343.4
5.0	550.2
7.0	645.97
9.0	872.4

Matrix T7xe	
SPEED (MPH)	AVERAGE POWER CONSUMPTION (WATTS)
3.5	319.95
5.0	360.6
7.0	455.38
9.0	612.09

### Comparison of Average Power Consumption

The tests on the previous page show that the average power consumption of the Life Fitness Elevation Series 95T Engage Treadmill is less than the Technogym Excite Run 900E, Star Trac P Series, Precor 932i and Matrix T7xe:

Average Power Consumption (Watts)					
SPEED (MPH)	LIFE FITNESS 95T ENGAGE	TECHNOGYM 900E	PRECOR 932i	STAR TRAC P SERIES	MATRIX T7XE
3.5	284.69	508.40	383.61	343.40	319.95
5.0	303.50	673.80	505.80	505.80	360.60
7.0	354.49	883.30	710.10	645.97	455.38
9.0	572.36	1082.50	927.80	872.40	612.09
<b>AVERAGE</b>	<b>378.76</b>	<b>787.00</b>	<b>631.83</b>	<b>602.99</b>	<b>437.01</b>

The Average power savings of the Life Fitness 95T Engage compared to the Technogym Excite Run 900E, Star Trac P Series, Precor 932i and Matrix T7xe is 38% as follows:

Average Power Savings					
	TECHNOGYM 900E	PRECOR 932i	STAR TRAC P SERIES	MATRIX T7XE	AVERAGE
AVERAGE TREADMILL POWER CONSUMPTION AT 3.5, 5.0, 7.0 AND 9.0MPH	787.00	631.83	602.99	437.01	614.71
AVERAGE LIFE FITNESS 95TE TREADMILL POWER CONSUMPTION AT 3.5, 5.0, 7.0, AND 9.0MPH	378.76	378.76	378.76	378.76	378.76
DIFFERENCE	408.24	253.07	224.23	58.25	235.95
PERCENTAGE SAVINGS	<b>52%</b>	<b>40%</b>	<b>37%</b>	<b>13%</b>	<b>38%</b>

### Estimated Yearly Operating Cost Savings by State

If a Technogym Excite Run 900E, Star Trac P Series, Precor 932i Treadmill, or Matrix T7xe is replaced by a Life Fitness Elevation Series 95T Engage Treadmill

Electricity costs savings by state assuming treadmill use for 8 hours, 365 days per year (2920 hours) at each of the four tested speeds equally (i.e., 730 hours per year at each of 3.5, 5, 7 & 9 MPH)

Estimated cost is based upon Average Electricity Costs for commercial users by state through February 2010.

Actual cost for a user will depend on applicable utility rates and actual use.

TREADMILL REPLACED	TECHNOGYM EXCITE RUN 900E	PRECOR 932I	STAR TRAC P SERIES	MATRIX T7XE	TREADMILL REPLACED	TECHNOGYM EXCITE RUN 900E	PRECOR 932I	STAR TRAC P SERIES	MATRIX T7XE		
ANNUAL ENERGY SAVINGS (KWH) <sup>1</sup>	1192.0608	738.9571	654.7589	170.08	ANNUAL ENERGY SAVINGS (KWH) <sup>1</sup>	1192.0608	738.9571	654.7589	170.08		
STATE	RATE				STATE	RATE					
Alabama	9.92	\$118.25	\$73.30	\$64.95	\$16.87	New Hampshire	13.95	\$166.29	\$103.08	\$91.34	\$23.73
Alaska	13.69	\$163.19	\$101.16	\$89.64	\$23.28	New Jersey	13.63	\$162.48	\$100.72	\$89.24	\$23.18
Arizona	8.55	\$101.92	\$63.18	\$55.98	\$14.54	New Mexico	8.36	\$99.66	\$61.78	\$54.74	\$14.22
Arkansas	7.66	\$91.31	\$56.60	\$50.15	\$13.03	New York	15.24	\$181.67	\$112.62	\$99.79	\$25.92
California	12.13	\$144.60	\$89.64	\$79.42	\$20.63	North Carolina	7.94	\$94.65	\$58.67	\$51.99	\$13.50
Colorado	8.41	\$100.25	\$62.15	\$55.07	\$14.30	North Dakota	6.47	\$77.13	\$47.81	\$42.36	\$11.00
Connecticut	16.58	\$197.64	\$122.52	\$108.56	\$28.20	Ohio	9.54	\$113.72	\$70.50	\$62.46	\$16.23
Delaware	11.46	\$136.61	\$84.68	\$75.04	\$19.49	Oklahoma	6.94	\$82.73	\$51.28	\$45.44	\$11.80
District of Columbia	13.46	\$160.45	\$99.46	\$88.13	\$22.89	Oregon	7.54	\$89.88	\$55.72	\$49.37	\$12.82
Florida	8.79	\$104.78	\$64.95	\$57.55	\$14.95	Pennsylvania	9.99	\$119.09	\$73.82	\$65.41	\$16.99
Georgia	9.01	\$107.40	\$66.58	\$58.99	\$15.32	Rhode Island	13.51	\$161.05	\$99.83	\$88.46	\$22.98
Hawaii	25.02	\$298.25	\$184.89	\$163.82	\$42.55	South Carolina	8.81	\$105.02	\$65.10	\$57.68	\$14.98
Idaho	6.65	\$79.27	\$49.14	\$43.54	\$11.31	South Dakota	6.9	\$82.25	\$50.99	\$45.18	\$11.74
Illinois	7.91	\$94.29	\$58.45	\$51.79	\$13.45	Tennessee	8.67	\$103.35	\$64.07	\$56.77	\$14.75
Indiana	7.93	\$94.53	\$58.60	\$51.92	\$13.49	Texas	9.57	\$114.08	\$70.72	\$62.66	\$16.28
Iowa	7.14	\$85.11	\$52.76	\$46.75	\$12.14	Utah	6.57	\$78.32	\$48.55	\$43.02	\$11.17
Kansas	7.69	\$91.67	\$56.83	\$50.35	\$13.08	Vermont	13.1	\$156.16	\$96.80	\$85.77	\$22.28
Kentucky	7.45	\$88.81	\$55.05	\$48.78	\$12.67	Virginia	7.83	\$93.34	\$57.86	\$51.27	\$13.32
Louisiana	8.55	\$101.92	\$63.18	\$55.98	\$14.54	Washington	7.27	\$86.66	\$53.72	\$47.60	\$12.36
Maine	12.93	\$154.13	\$95.55	\$84.66	\$21.99	West Virginia	7.36	\$87.74	\$54.39	\$48.19	\$12.52
Maryland	11.76	\$140.19	\$86.90	\$77.00	\$20.00	Wisconsin	9.55	\$113.84	\$70.57	\$62.53	\$16.24
Massachusetts	14.41	\$171.78	\$106.48	\$94.35	\$24.51	Wyoming	7.24	\$86.31	\$53.50	\$47.40	\$12.31
Michigan	9.49	\$113.13	\$70.13	\$62.14	\$16.14						
Minnesota	7.7	\$91.79	\$56.90	\$50.42	\$13.10						
Mississippi	9.18	\$109.43	\$67.84	\$60.11	\$15.61	<b>AVERAGE</b>	<b>\$117.05</b>	<b>\$72.56</b>	<b>\$64.29</b>	<b>\$16.70</b>	
Missouri	6.13	\$73.07	\$45.30	\$40.14	\$10.43	Average Retail Price of Electricity to Ultimate Customers by End-Use Sector, by State, Year-to-Date through February 2010. <a href="http://www.eia.doe.gov/electricity/epm/table5_6_b.html">http://www.eia.doe.gov/electricity/epm/table5_6_b.html</a>					
Montana	8.04	\$95.84	\$59.41	\$52.64	\$13.67	<sup>1</sup> Annual Energy Savings - In kilowatt-hours (kWh) assuming treadmill use for 8 hours, 365 days per year (2920 hours) at each of the four tested speeds equally (i.e., 730 hours per year at each of 3.5, 5, 7 & 9 MPH)					
Nebraska	7.04	\$83.92	\$52.02	\$46.10	\$11.97						
Nevada	10.13	\$120.76	\$74.86	\$66.33	\$17.23						

## Estimated Four Year Operating Cost Savings by State

If 20 Technogym Excite Run 900E, Star Trac P Series, Precor 932i or Matrix T7xe Treadmill are replaced by Life Fitness Elevation Series 95T Engage Treadmill

Electricity costs savings by state assuming use of 20 treadmills for four years each treadmill used for 8 hours, 365 days per year (2920 hours) at each of the four tested speeds equally (i.e., 730 hours per year at each of 3.5, 5, 7 & 9 MPH)

Estimated cost is based upon Average Electricity Costs for commercial users by state through February 2010. Actual cost for a user will depend on applicable utility rates and actual use.

TREADMILL REPLACED	TECHNOGYM EXCITE RUN 900E	PRECOR 932I	STAR TRAC P SERIES	MATRIX T7XE	TREADMILL REPLACED	TECHNOGYM EXCITE RUN 900E	PRECOR 932I	STAR TRAC P SERIES	MATRIX T7XE		
ANNUAL ENERGY SAVINGS (KWH)	1192.0608	738.9571	654.7589	170.08	ANNUAL ENERGY SAVINGS (KWH)	1192.0608	738.9571	654.7589	170.08		
STATE	RATE				STATE	RATE					
Alabama	9.92	\$9,460.19	\$5,864.36	\$5,196.17	\$1,349.75	New Hampshire	13.95	\$13,303.40	\$8,246.76	\$7,307.11	\$1,898.09
Alaska	13.69	\$13,055.45	\$8,093.06	\$7,170.92	\$1,862.72	New Jersey	13.63	\$12,998.23	\$8,057.59	\$7,139.49	\$1,854.55
Arizona	8.55	\$8,153.70	\$5,054.47	\$4,478.55	\$1,163.35	New Mexico	8.36	\$7,972.50	\$4,942.15	\$4,379.03	\$1,137.50
Arkansas	7.66	\$7,304.95	\$4,528.33	\$4,012.36	\$1,042.25	New York	15.24	\$14,533.61	\$9,009.36	\$7,982.82	\$2,073.62
California	12.13	\$11,567.76	\$7,170.84	\$6,353.78	\$1,650.46	North Carolina	7.94	\$7,571.97	\$4,693.86	\$4,159.03	\$1,080.35
Colorado	8.41	\$8,020.19	\$4,971.70	\$4,405.22	\$1,144.30	North Dakota	6.47	\$6,170.11	\$3,824.84	\$3,389.03	\$880.33
Connecticut	16.58	\$15,811.49	\$9,801.53	\$8,684.72	\$2,255.94	Ohio	9.54	\$9,097.81	\$5,639.72	\$4,997.12	\$1,298.05
Delaware	11.46	\$10,928.81	\$6,774.76	\$6,002.83	\$1,559.29	Oklahoma	6.94	\$6,618.32	\$4,102.69	\$3,635.22	\$944.28
District of Columbia	13.46	\$12,836.11	\$7,957.09	\$7,050.44	\$1,831.42	Oregon	7.54	\$7,190.51	\$4,457.39	\$3,949.51	\$1,025.92
Florida	8.79	\$8,382.57	\$5,196.35	\$4,604.26	\$1,196.00	Pennsylvania	9.99	\$9,526.95	\$5,905.75	\$5,232.83	\$1,359.28
Georgia	9.01	\$8,592.37	\$5,326.40	\$4,719.50	\$1,225.94	Rhode Island	13.51	\$12,883.79	\$7,986.65	\$7,076.63	\$1,838.22
Hawaii	25.02	\$23,860.29	\$14,790.9	\$13,105.65	\$3,404.32	South Carolina	8.81	\$8,401.64	\$5,208.17	\$4,614.74	\$1,198.72
Idaho	6.65	\$6,341.76	\$3,931.25	\$3,483.32	\$904.83	South Dakota	6.9	\$6,580.18	\$4,079.04	\$3,614.27	\$938.84
Illinois	7.91	\$7,543.36	\$4,676.12	\$4,143.31	\$1,076.27	Tennessee	8.67	\$8,268.13	\$5,125.41	\$4,541.41	\$1,179.67
Indiana	7.93	\$7,562.43	\$4,687.94	\$4,153.79	\$1,078.99	Texas	9.57	\$9,126.42	\$5,657.46	\$5,012.83	\$1,302.13
Iowa	7.14	\$6,809.05	\$4,220.92	\$3,739.98	\$971.50	Utah	6.57	\$6,265.47	\$3,883.96	\$3,441.41	\$893.94
Kansas	7.69	\$7,333.56	\$4,546.06	\$4,028.08	\$1,046.33	Vermont	13.1	\$12,492.80	\$7,744.27	\$6,861.87	\$1,782.44
Kentucky	7.45	\$7,104.68	\$4,404.18	\$3,902.36	\$1,013.68	Virginia	7.83	\$7,467.07	\$4,628.83	\$4,101.41	\$1,065.38
Louisiana	8.55	\$8,153.70	\$5,054.47	\$4,478.55	\$1,163.35	Washington	7.27	\$6,933.03	\$4,297.77	\$3,808.08	\$989.19
Maine	12.93	\$12,330.68	\$7,643.77	\$6,772.83	\$1,759.31	West Virginia	7.36	\$7,018.85	\$4,350.98	\$3,855.22	\$1,001.43
Maryland	11.76	\$11,214.91	\$6,952.11	\$6,159.97	\$1,600.11	Wisconsin	9.55	\$9,107.34	\$5,645.63	\$5,002.36	\$1,299.41
Massachusetts	14.41	\$13,742.08	\$8,518.70	\$7,548.06	\$1,960.68	Wyoming	7.24	\$6,904.42	\$4,280.04	\$3,792.36	\$985.10
Michigan	9.49	\$9,050.13	\$5,610.16	\$4,970.93	\$1,291.25						
Minnesota	7.7	\$7,343.09	\$4,551.98	\$4,033.31	\$1,047.69						
Mississippi	9.18	\$8,754.49	\$5,426.90	\$4,808.55	\$1,249.07						
Missouri	6.13	\$5,845.87	\$3,623.85	\$3,210.94	\$834.07						
Montana	8.04	\$7,667.34	\$4,752.97	\$4,211.41	\$1,093.95						
Nebraska	7.04	\$6,713.69	\$4,161.81	\$3,687.60	\$957.89						
Nevada	10.13	\$9,660.46	\$5,988.51	\$5,306.17	\$1,378.33						

Average Retail Price of Electricity to Ultimate Customers by End-Use Sector, by State, Year-to-Date through February 2010. [http://www.eia.doe.gov/electricity/epm/table5\\_6\\_b.html](http://www.eia.doe.gov/electricity/epm/table5_6_b.html)