

SHAHEEN ENTERPRISE

A SOLAR SERVICES COMPANY



ENERGY SAVING SOLUTION

LVD | TECHNICAL DETAILS & SPECIFICATIONS & COST ANALYSIS

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SHAHEEN ENTERPRISE

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Introduction

Who and What we are?

M/s Shaheen Enterprise, a registered firm, deals in Energy Conservation (High-Tech Power Saving Solutions for Lights & Industrial Motors), Energy Assessment/Energy Audit in Pakistan. We offer solar and wind turbine system like small business and home solar system and centralized solar and wind turbine system. As you already aware energy crises in Pakistan, an energy crisis is any great shortfall (or price rise) in the supply of energy resources to an economy. It usually refers to the shortage of oil and additionally to electricity or other natural resources. The crisis often has effects on the rest of the economy, with many recessions being caused by an energy crisis in some form. In particular, the production costs of electricity rise, which raises manufacturing costs.

Shaheen Enterprise, most rapidly growing business company in Pakistan covering alternate energy solutions for business and home. We are not only providing solar and wind energy solution as well as we are providing state-of-the-art LVD Lights products, LVD are the latest energy efficient and maintenance free lights as compared to the other lamps (HSP Lights) Mattel Halide, MCL Lamps and mostly common use Energy Savers. You may visit at <http://shaheenenterprise.com/lvd-induction-lights.html> for details information of LVD Lights.

Also most common lighting system in industrial area and offices are Tube Lights, we deals in a new FESL Compact tub light no starter no ballast 50 % electric saving, with 01 year warranty 20,000.HR life Pf. 0.95, which is very high quality other than old Tube Lights Technology.

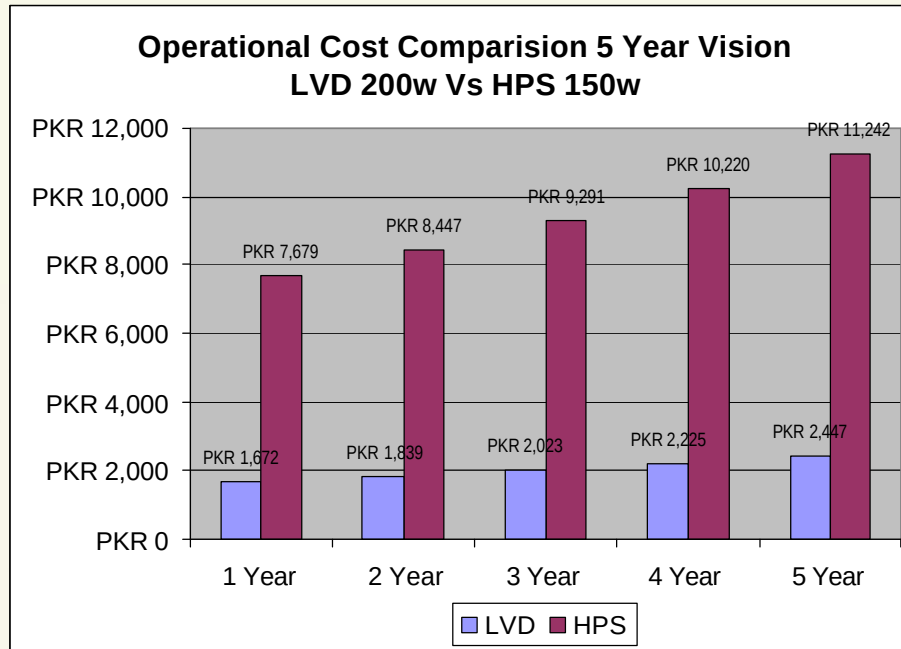
You may visit our website www.shaheenenterprise.com for complete energy solutions check lists, and as well as products and projects details of ours how we deals and work with our clients.



Brighter Than Brightest... LVD is best..

- Operating voltage – LVD induction lamp will not drop out the way that a normal discharge lamp will, even at 100 volts or as high as 280 volts. If it does drop out it will immediately re-strike upon restoration of its operating voltage range.
- Flexibility – The LVD induction lamps is available in several configurations and wattages, ranging from 15w, 23w, 40w, 80w, 120w, 200 watt versions.
- Color shift – There is none
- Stroboscopic – There is none
- Flicker – there is none
- Power factor correction – 9.98
- High Quality Efficiency and life spun other than Normal (HPS) Bulb.

Operational Cost



LVD LAMP FEATURES, SPECIFICATIONS AND COST ANALYSIS

Color Temperature	15watts to 300 watts
Replacements	40w: LVD replaced by 150 w Metal Halide or Sodium Lamp, LVD 80w: Replaced by 250w, LVD150w, 200w, Replaced by 400w
Pay Back	Light Pays back for itself By Reducing Electricity bill(s) 40~60 %
Lamp Life	100,000 hrs OR 10 Years
Warranty	Lamp and Ballast 5 Year Free Replacement (Maintenance free)
Application of LVD	Light Suitable for High ways Offices, Stadium. Hospitals, Industry, Remote Areas, CNG Stations & Street Lights, Projection Light, Security Light
Power Source Compatibility	Solar, Wind Mill, Generators, UPS and Standard Power
Lumens	Lumens per Watt >82 lm
Color rendering index CRI	>80 (ra) No Stroboscopic Effect No Glare Thresh Hold index 82.1 E (lm per watt)
Working Frequency	210 kHz
Power Factor	0.98
Operational Voltage	Wide operational Voltage Range from 12/24Vdc 120/220Vac
Time for lamp energizing	Lamp needs no time to cool down or heat up to energize again.
Certifications	Listed and certified by CE, FCC, CCC, ISO IEC 60598 EN and other international standards
Lamp Design	LVD has different designs as to meet your fixture, premises & LUX level requirements

Energy Consumption Comparison of 200W LVD LAMP with 400W Normal Lamp Based on Average 10 Hour Daily Usage

Scheme Type	LVD 200 W	Normal 400 W Bulb
Daily Usage (Hours)	10	10
Daily Consumption (Watts)	2000	4000
Power Factor	0.98	0.80
Running Volts	230	230
Circuit Watts per Lamp	240W	500W
Warranty	Lamp and Ballast 5 Year Free Replacement (Maintenance free)	1 Year Limited Warranty
Energy Cost /KWH	Rs. 9.00	Rs.9.00
Daily Energy Consumption (KWH)	2.04 Units	5 Units
Daily Energy Cost (Rs)	$2.04 \times 9 = 18.36$	$5 \times 9 = 45.00$
Monthly Energy Cost (Rs)	$18.36 \times 30 = 550.8$	$45 \times 30 = 1350.00$
Yearly Energy cost (Rs)	$550.8 \times 12 = 6609.6$	$1350 \times 12 = 16,200.00$
Difference (Rs)	$16,200 - 6609.6 = 9590.4$	

Lux Efficiency 99%

Return on Investment :

Price of 200W LVD Lamp (Saturn): 15,300.00

Payback time: Approximately 19 Months

Energy Consumption Comparison of 150W LVD LAMP with 400W Normal Lamp Based on Average 10 Hour Daily Usage

Scheme Type	LVD 150 W	Normal 400 W Bulb
Daily Usage (Hours)	10	10
Running Daily 10(Hours)	1500	4000
Energy Cost /Kwh Unit: Commercial unit rates	12.00	12.00
Total number of luminaries (Light)	1	1
Power Factor	0.98	0.80
Running Volts	230	230
Circuit Watts per Lamp	163 W	500 W
Daily Energy Consumption (KWhr)	1.63 Units	5 units

Operational Cost Per Month & Yearly

1 Month	Rs. 586.80	Rs. 1800.00
3 Months	Rs. 1,760.40	Rs. 5,400.00
6 Months	Rs. 3,520.80	Rs. 10,800.00
9 Months	Rs. 5,281.20	Rs. 16,200.00
12 Months	Rs. 7,041.60	Rs. 21,600.00
Difference (Per Lamp Saving Cost 1 Year)	Rs. 14,559.00	

Lux Efficiency 95%

Return on Investment :

Price of 150W LVD Lamp (Saturn) Tx, LL: 13,600.00

Payback time: Approximately 12 Months

Energy Consumption Comparison of 80W LVD LAMP with 400W Normal Lamp

Based on Average 10 Hour Daily Usage

Scheme Type	LVD 80 W	Normal 400 W Bulb
Daily Usage (Hours)	10	10
Running Daily 10(Hours)	800W	4000
Energy Cost /Kwh Unit : Commercial unit Rates	12.00	12.00
Total number of luminaries (Light)	1	1
Power Factor	0.98	0.80
Warranty	Lamp and Ballast 5 Year Free Replacement (Maintenance free)	1 Year Limited Warranty
Running Volts	230	230
Circuit Watts per Lamp	83W	500W
Daily Energy Consumption (KWhr) /10 hour daily	0.83 Units	5 Units

Operational Cost Per Month & Yearly

1 Month	Rs. 298.80	Rs. 1800.00
3 Months	Rs. 896.40	Rs. 5,400.00
6 Months	Rs. 1,792.80	Rs. 10,800.00
9 Months	Rs. 2,689.20	Rs. 16,200.00
12 Months	Rs. 3,585.60	Rs. 21,600.00
Difference (Per Lamp Saving Cost 1 Year)	Rs. 14,559.00	

Lux Efficiency 85%

Return on Investment :

Price of 150W LVD Lamp (Saturn) Tx, LL: 8,487.00

Payback time: Approximately 6 Months

Energy Consumption Comparison of 80W LVD LAMP with 250W Normal Lamp Based on Average 10 Hour Daily Usage

Scheme Type	LVD 80 W	Normal 250 W Bulb
Daily Usage (Hours)	10	10
Daily Consumption (Watts)	800	2500
Power Factor	0.98	0.80
Running Volts	230	230
Circuit Watts per Lamp	83 W	260W
Warranty	Lamp and Ballast 5 Year Free Replacement (Maintenance free)	1 Year Limited Warranty
Energy Cost /KWH	Rs. 9	Rs. 9
Daily Energy Consumption (KWH)	0.83 Units	2.6 Units
Daily Energy Cost (Rs)	$0.83 \times 9 = 7.47$	$2.6 \times 9 = 23.40$
Monthly Energy Cost (Rs)	$7.47 \times 30 = 224.10$	$23.40 \times 30 = 702.00$
Yearly Energy cost (Rs)	$224.10 \times 12 = 2,689.2$	$702.00 \times 12 = 8,424.00$
Difference (Rs)	8,424.00 – 2,689.20 = 5,734.80	

Lux Efficiency 85%

Return on Investment :

Price of 150W LVD Lamp (Saturn) Tx, LL: 8,487.00

Payback time: Approximately 6 Months

Energy Consumption Comparison of 80W LVD LAMP with 150W Normal Lamp Based on Average 10 Hour Daily Usage

Scheme Type	LVD 80 W	Normal 150 W Bulb
Daily Usage (Hours)	10	10
Daily Consumption (Watts)	400	1500
Power Factor	0.98	0.80
Running Volts	230	230
Circuit Watts per Lamp	40.82 W	187.5W
Warranty	Lamp and Ballast 5 Year Free Replacement (Maintenance free)	1 Year Limited Warranty
Energy Cost /KWH	Rs. 9	Rs. 9
Daily Energy Consumption (KWH)	0.408 Units	1.875 Units
Daily Energy Cost (Rs)	$0.408 \times 9 = 3.67$	$1.875 \times 9 = 16.87$
Monthly Energy Cost (Rs)	$3.67 \times 30 = 110.10$	$16.87 \times 30 = 506.10$
Yearly Energy cost (Rs)	$110.10 \times 12 = 1,320.0$	$506.10 \times 12 = 6,073.20$
Difference (Rs)	6,073.20 – 1,320.00 = 4,753.20	

Lux Efficiency 95%

Return on Investment :

Price of 150W LVD Lamp (Saturn) Tx, LL: 4,968.00

Payback time: Approximately 12 Months

Energy Consumption Comparison of 40W LVD LAMP with 250W Normal Lamp Based on Average 10 Hour Daily Usage

Scheme Type	LVD 40 W	Normal 250 W Bulb
Daily Usage (Hours)	10	10
Daily Consumption (Watts)	400	2500
Power Factor	0.98	0.80
Running Volts	230	230
Circuit Watts per Lamp	40.82 W	2530W
Warranty	Lamp and Ballast 5 Year Free Replacement (Maintenance free)	1 Year Limited Warranty
Energy Cost /KWH	Rs. 9	Rs. 9
Daily Energy Consumption (KWH)	0.408 Units	2.53 Units
Daily Energy Cost (Rs)	$0.409 \times 9 = 3.67$	$2.53 \times 9 = 16.87$
Monthly Energy Cost (Rs)	$3.67 \times 30 = 110.10$	$16.87 \times 30 = 683.10$
Yearly Energy cost (Rs)	$110.10 \times 12 = 1,320.00$	$683.10 \times 12 = 8,197.20$
Difference (Rs)	$8,197.20 - 1,320.00 = 6,877.20$	

Lux Efficiency 95%

Return on Investment :

Price of 150W LVD Lamp (Saturn) Tx, LL: 6,000.00

Payback time: Approximately 11 Months

Recurring Cost Comparison (LVD Lamp versus HPS Lamp)

Lamps	1 st Year	2 nd Year	3 rd Year	4 th Year	5 th Year
LVD Lamp & Ballast 15W-300W	Nil	Nil	Nil	Nil	Nil
Normal (HPS) Lamp & MCL, CCFL,MHL	Rs. 3,000.00	Rs. 6,000.00	Rs. 9,000.00	Rs. 12,000.00	Rs. 15,000.00

Long life-span:

The feature of no electrode makes the LVD has much longer life span than traditional lamp. Ballast decides the life time of the lamp. With the development of the electronics, the ballast can reach a much longer life span of 60000hrs.

Good light efficacy:

LVD induction lamp has high light efficacy, especially the lamp with higher power. For instance, the efficacy of 200W lamp can surpass 80lm/W.

Instant start-up and restart-up:

From E discharge to H discharge, only several microseconds are needed for start-up phase in the induction Lamp, this is why the time spent on lamp start-up and restart-up is rather very short.

No flicker:

Eyes won't get the feeling of flicker for the application of high frequency (230 KHz) electric ballast.

High power factor:

The application of PFC circuit chip makes the lamp power factor reach over 0.98



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