



Side Loaders Electric vs Diesel



Why Electric

1. LOWEST COST OF OWNERSHIP

Analysis of the operating and maintenance costs difference between a 5ton electric and 5ton diesel hydrostatic side loader shows that for 1500 working hrs the electric side loader operating cost is about Euro 10k less than the diesel equivalent.

2. RELIABILITY

The electric side loader is intrinsically more reliable than the diesel and it requires less and lower level maintenance.

3. EMISSIONS AND NOISE

The electric side loader has zero emissions and negligible noise levels. To reduce the emissions the diesel truck would require expensive filters and will never reach the same levels of cleanness. Moreover it will never reach the same low noise levels.

4. PERFORMANCES

The performances of the BP electric side loader are comparable to the diesel equivalent (refer to data sheets).



Lowest cost of ownership

CALCULATION OF OPERATING COST DIFFERENCE BETWEEN AN ELECTRIC SIDE LOADER MODEL HT5EL/1200 AND A DIESEL SIDE LOADER MODEL HT5KS/1200

HT5EL-1200/AC (Electric) Battery 920Am/h

To fully charge the battery the charger absorbs about 80KW from the power supply. The cost of 1xKW is Euro 0,10 (in Italy). With a fully charged battery the HT5EL/1200 can operate for about 10 hours without interruption. Therefore the operating cost per hour is $0,10 \times 80 / 10 = \text{Euro } 0,8$ which gives **Euro 1.200 ,00** for 1500 hours.

HT5KS-1200 (Diesel Hydrostatic) – Engine Perkins 85hp

The diesel consumption for 1 working hour is about 6 lt or 9000 lt for 1500 hours. The cost of 1 lt of diesel fuel (in Italy) is about Euro 1,15 therefore the total cost is $\text{Euro } 1,15 \times 9000 = \text{Euro } 10.350,00$. To operate for 1500 hours a diesel side loader requires *in addition to the electric* :

- About 60 lt of engine oil (4 replacements plus various refilling) equivalent to $\text{Euro } 6,00 \times 60 = \text{Euro } 360,00$
- 3 oil filters for the engine equivalent to $\text{Euro } 51,36 \times 3 = \text{Euro } 154,08$
- 4 diesel filters for the engine equivalent to $\text{Euro } 55,08 \times 4 = \text{Euro } 220,32$
- 4 air filter for the engine equivalent to $\text{Euro } 33,60 \times 4 = \text{Euro } 134,40$

The above gives a total maintenance cost of **Euro 11.218,80** for 1500 hours.

OPERATING A DIESEL SIDE LOADER FOR 1500 HOURS COSTS 10.018,80 EURO MORE THAN OPERATING AN ELECTRIC SIDE LOADER

| HOURS | DIESEL | ELECTRIC | DELTA |
|-------|-------------|------------|-------------|
| 500 | € 3.858,72 | € 400,00 | € 3.458,72 |
| 1000 | € 7.487,40 | € 800,00 | € 6.687,40 |
| 1500 | € 11.218,80 | € 1.200,00 | € 10.018,80 |
| 2000 | € 14.898,84 | € 1.600,00 | € 13.298,84 |