

TASKI[®]

The **ULTIMATE**
Cleaning Machines[™]



TASKI AERO

Energy Efficiency and the New Balance of Power

How Diversey's leading vacuum technology is underlining a key commitment to sustainability and lower emissions, while future-proofing cleaning operations...

Unsustainable resource consumption

There is a growing awareness of the impact of our consumer lifestyles on the Earth's resources. Consumption levels are perceived as increasingly unsustainable. The Global Footprint Network contends that human activity typically uses about 40% more resources in one year than nature can regenerate. They have focussed attention on this deficit by establishing the concept of Earth Overshoot Day – a representative date when the ecological budget for the year is symbolically exhausted.¹

Highlighting the deficit of individual nations provides different dates when overshoot is achieved if humanity consumed like the population in that specific country. This is particularly effective in recognising the contrast between rates of consumption in the developed and developing world. Collectively, the date for 2018 - when the world used more from nature than could be renewed annually by the planet - was August 1.²

At the core of sustainability is the need to redress this deficit. There is a fine line identified between the need for resources, technological advancement and ensuring that a legacy remains for future generations. Although there are many interpretations around achieving such a complex balance, the World Commission on Environment and Development summarises it as: "A process of change in which the exploitation of resources, the direction of investments, the orientation of technological development and institutional change are all in harmony and enhance both current and future potential to meet human needs and aspirations."³

A customer-led revolution

There is a groundswell of opinion surrounding sustainability - incorporating defining threads of ecology, renewable energy and the environment - that is influencing customer opinion of products and actively leading their purchasing behaviour. As well as the consequences of their own choices and lifestyle, consumers are increasingly concerned about brands and the impact of their products.

Customers want to purchase products from progressive brands that match or exceed their green expectations: products which minimise impact on the environment but - just as importantly - products that are not in any way inferior, or simply deemed

'worthy' as a result. Customers want changes but also to retain the same levels of design quality, efficiency and cost-effectiveness that were the reasons behind their initial purchases. Consequently, this raised environmental consciousness is driving brands to prioritise the manufacture of eco-friendly, energy efficient products. However, if consumers are to ultimately have faith that these new purchases deliver the anticipated green advantages there is a requirement for a trustworthy system of certification that endorses any environmental claims that a manufacturer may make.



The beginning of energy efficiency

The use of energy efficiency as a term to define a measurable standard has a relatively short history. The Global Energy efficiency Network (GEN) evolved in 1994 as a - "non-profit association of third-party, environmental performance recognition, certification and labelling organisations founded to improve, promote, and develop the eco-labelling of products and services."⁴ Generalised terms such as 'green' and 'environmental' that are descriptive or employed as vague marketing tools have no clear foundation in research or a product's technical achievement. As a result, there was a need to define an effective benchmark of standards to be realised for the benefit of manufacturers.

GEN has grown, in two decades, to include more than 33 organisations around the world, all actively helping to define product choices to satisfy the environmentally discerning consumer. Energy efficiency also fits under the strongest Type 1 designation for the three broad categories of voluntary labels that the International Organization for Standardisation (ISO) has identified in operation.⁵

Realigning the Professional vacuum cleaner market

Electronic equipment is recognised as having a very high environmental impact when in use. As a result the primary focus of energy efficiency in this sector has been on the efficiency of a product's energy consumption. Until recently, vacuum cleaners have been on a steady upward curve of development that has seen them become more and more powerful, to the point that the average machine typically uses 1,800 watts of power. Customers have historically embraced this concept, equating the optimum quality and efficiency of cleaning to be achieved with the purchase of the most powerful vacuum machines. There has also been inference that some manufacturers increased the amount of electricity their appliances use precisely because of the connection that consumers make between high-wattage and high performance.

The drive for superior energy efficiency

The European Commission has been insistent in their drive to educate manufacturers to the cause of better energy efficiency for vacuum cleaners, that the process of education should also provide clarity for consumers typically impressed by power statistics, stating: "The amount of Watt does not automatically indicate how well a vacuum cleaner will clean. The amount of Watt indicates how much electrical power is used by the engine. Wattage has become a marketing tool, steering the market towards more power-hungry appliances. The side-effect is that a lot of electrical power is wasted and not turned into suction power, whereas the customer is still paying for that wasted electricity."⁶

In some cases the initial response to this legislation was confusion and controversy, with some disputing if proper cleaning could be achieved when purchasing lower wattage machines. While others endorsed the capabilities of the very best low-power appliances to clean to the same standard as high-wattage vacuums.

The European Environment Bureau (EEB) has stated: "Power doesn't always equal performance, though the misconception has become widespread. Some efficient models maintained high standards of dust pick-up while using significantly less energy - due to design innovation."⁷

The Committee on Climate Change agrees, pointing toward the same solution: "In reality, wattage does not automatically equate with performance – design is of key importance."⁸

Best vacuum cleaners in the Professional market

In Europe there has been a move from vacuums that use more than 900 watts, or that were louder than 80 decibels (dB). Manufacturers like Diversey – with the TASKI AERO range - are using state-of-the-art technologies to ensure that European customers have the most cost and energy efficient products available. The updated designs now lower an appliance's maximum power, annual energy consumption and volume.⁹

The benefits are explicit. A customer switching to one of the most energy efficient models can save €70 over the lifetime of the vacuum.¹⁰ The predicted impact on emissions in Europe - if the continent adopts energy efficient models - is highly significant: "Europe as a whole can save up to 20 TWh of electricity per year by 2020. This is equivalent to the annual household electricity consumption of Belgium. It also means over 6 million tonnes of CO2 will not be emitted – about the annual emissions of eight medium-sized power plants."¹¹

What do these changes and the focus on energy efficiency mean for facility managers, contractors and cleaning companies? Is there a potential pitfall to be avoided, that in looking for vacuum cleaners that meet the energy efficiency criteria, the contribution of other features is overlooked?

This is also not to ignore the necessity of a vacuum cleaner that is in good working order, with robust construction, accessories that can be changed quickly and that enable easy maintenance to be carried out. These features are essential for energy-efficient cleaning and will contribute to lowering total energy consumption while maintaining high cleaning performance.

Prioritising a vacuum cleaner that achieves a high energy efficiency rating is simply targeting a superfluous standard if the supporting features are not reliable enough to maintain this standard, and in delivering the subsequent resource and financial savings over the long-term. With this in mind, it is essential

to purchase vacuums from a trusted manufacturer that can demonstrate a long standing expertise and closeness to the day-to-day issues and needs of the cleaning industry.

Exceeding expectations

The new TASKI AERO range has been developed by Diversey to be the definitive solution. Diversey's expertise in research and development ensures that the TASKI AERO range meets all current EU requirements and satisfies the exacting cleaning expectations of business. It sets a new standard by providing one of the most efficient vacuum cleaners in the professional market while anticipating likely future constraints. This means that customers are effectively safeguarded from the risk of having to purchase machines frequently in order to keep up with market developments.

The TASKI AERO's state-of-the-art technology and a super-efficient motor delivers benefits that are clear evidence of Diversey's commitment to sustainability and lower emissions. This strategy is driving up the overall performance of the machine. The TASKI AERO has both the lowest wattage on the market - at just 585 watts, with the additional benefit that in using the patented TASKI whisper technology, the TASKI AERO makes less noise, with the lowest sound level available at just 50 dB - which is another gain to the overall efficiency that can be achieved.

There was a contention that vacuum cleaners were producing more noise and heat than suction under the existing rules. However, the features of the TASKI AERO not only mean its power usage is far below the market average, but it also retains a powerful suction capability. Diversey has developed the AERO's power to be superior to the existing TASKI VENTO model, which is already best in class for its suction abilities.

A commitment to sustainability and lower emissions

The key benefits of the TASKI AERO range:

Customers who purchase the new TASKI AERO can expect to comfortably exceed the minimum industry requirements.

- The maximum power consumption of the TASKI AERO is massively reduced to 585 watts, which is the lowest available on the market. That is a further 35% lower than the previous minimum demand and is achieved without any loss of performance. The TASKI AERO has been engineered with a level of future-proofing as Diversey expect further constraints on maximum power consumption from the evidence of past EU directives.
- The amount of noise a vacuum makes while operating is rated in decibels (dB). Past regulations set a limitation of 80 dB for the vacuum sound pressure. Through the application of an innovative and patented cushioning technology, the TASKI AERO is extremely quiet with a low 53dB sound level. In the machine's additional Eco mode, the sound level can be reduced yet further to an ultra-low 50dB. To place this in context, a normal conversation is rated at 50 dB while a motorcycle achieves 100 dB.
- Minimum durability requirements for both the motor and hose of a vacuum cleaner is an important consideration. The minimum lifetime expectation of a vacuum motor of 500 hours is vastly surpassed by the TASKI AERO which delivers more than double this requirement.



Sustainable and cost efficient

The new TASKI AERO tub vacuum cleaners are highly efficient through the application of an innovative airflow system concept, including the unique Whisper technology concept which has a TASKI patent.

TASKI AERO	OUTGOING TASKI VACUUM
Motor Power: 585W	Motor Power: 900 W
Cleaning per Day: 1 Hour	Cleaning per Day: 1 Hour
Cost per Year: 62.19 Euros	Cost per Year: 103.64 Euros
CO ₂ per Year: 140kg	CO ₂ per Year: 240kg

This enables an annual saving of 41.47 Euro in energy costs and a reduction of 100 kg of CO₂ emissions per year.

The key categories explained

What you need to know to inform your choice of a vacuum cleaner's energy efficiency and productiveness.

Energy efficiency

The key question for most purchasers is, how efficiently is electrical power translated into picking up dust? It is possible for a manufacturer to simply reduce the amount of power the vacuum uses. Consequently, one model might not clean as effectively as some others. This makes it very important that the airflow of the vacuum you choose is highly efficient without any false air.

Average annual energy consumption

A calculation of the TASKI AERO's energy consumption of 20.8 kWh per annum is based on an average household with 87 square metres of floor who vacuum about once a week. The real figure for your cleaning operation will depend upon its size and how often you use your TASKI AERO vacuum.

Dust re-emission class

The ability to retain dust that is picked up in use - in particular the fine particulates - is a key consideration of a vacuum's overall cleaning ability. Exhaust air comes out of the appliance and re-emission is measured by the number of the particles that remain. The type and quality of the filter, along with how well the vacuum is sealed, will determine how clean the exhaust air is. The better the class the less dust is re-emitted. Clean exhaust air is especially important for people with allergies, and a particular consideration for those with asthma.

Sound power level

Looking for the quietest option? The sound level is given in decibels. If the level is below 70dB, you'll still clearly hear music, a mobile, or a baby calling. The average vacuum cleaner sound level is circa 70-80dB. The TASKI AERO's Eco mode button reduces the motor consumption by 50% with significant cost savings and is also a more sustainable choice. The Eco mode also reduces noise levels to an ultra-low 50dB. This makes it the ideal solution

for noise sensitive environments, such as public areas or for employing as part of a day time cleaning regime. The Eco button allows vacuuming to take place in every environment - 24/7.

Carpet cleaning performance class

High dust pick-up reduces allergies and picks up dirt which is ingrained deep down in the carpet. For a clean and hygienic carpet, choose good airflow and floor tools designed for, or categorised as appropriate for the job.



Hard floor cleaning

The better the cleaning performance, the faster you can clean dirt out of crevices like tiles and wooden floors. For a clean and hygienic floor, choose the correct floor tool as these will produce a superior result.

It is essential to be aware of these categories as they can be met by the most environmentally-friendly 10-20% of vacuum cleaners currently available on the market.”¹²

Why the TASKI AERO is the Energy Efficient choice of the cleaning Industry

Some organisations are now embracing machines with reduced energy consumption and emissions through greater compliance. On May 2nd 2018, the European Commission adopted a new set of criteria for service groups concerning “Cleaning Services.” This introduced a new criteria, focussed on addressing present-day environmental hotspots for cleaning services and is valid for a period of five years.

Companies providing cleaning services are facing growing pressure to align their commercial, social and environmental practices. The advantage for cleaning service companies that hold true to reduced energy consumption is that they are able to prove the efficiency of their environmental practices during green public procurement tenders. With this established, they are more likely to demonstrate their commitment to the well-being and safety of their employees.

With the increasingly favourable green climate and consumers more mindful of purchasing products that are environmentally-friendly, energy efficient vacuum cleaners will only become more widely accepted and trusted across the EU region. This in turn this will highlight the market-leading benefits of the TASKI AERO. With public procurers facing increasing pressure to meet procurement requirements to work with manufacturers of products that can demonstrate their credentials, new business opportunities will begin to appear.¹³

The TASKI AERO range is the best available vacuum choice to satisfy green customer expectations. It has the capability to meet both current needs and those of the immediate future, while advancing business profitability in a cleaning industry now governed by increasingly different operational priorities.

The TASKI AERO is a revolutionary premium performer for professional work that offers a comprehensive solution with different options to satisfy all customer needs, based on Diversey's many decades of experience in superior vacuum

cleaner manufacturing. Its all-in-one feature combination has the highest energy efficiency and ultra-low noise. The whole design is based on daily best practice in cleaning and offers new possibilities for the sector due to the TASKI AERO's application of intelligent technologies. All of which provides clear evidence of Diversey's commitment to sustainability and lower emissions.

1. <https://www.footprintnetwork.org/our-work/earth-overshoot-day/>
2. <https://www.footprintnetwork.org/our-work/earth-overshoot-day/>
3. <http://www.un-documents.net/our-common-future.pdf>
4. <https://www.globalecolabelling.net/>
5. <https://www.globalecolabelling.net/>
6. <http://ec.europa.eu/archives/rebuttal/consumer-will-get-better-vacuum-cleaners-ever.html>
7. <https://www.bbc.co.uk/news/business-41119355>
8. <https://www.theccc.org.uk/2014/09/01/saving-carbon-with-efficient-vacuum-cleaners/>
9. <https://ec.europa.eu/energy/en/node?page=19>
10. <https://ec.europa.eu/energy/en/topics/energy-efficiency/energy-efficient-products/vacuum-cleaners>
11. <https://ec.europa.eu/energy/en/topics/energy-efficiency/energy-efficient-products/vacuum-cleaners>
12. <https://ec.europa.eu/energy/en/topics/energy-efficiency/energy-efficient-products/vacuum-cleaners>
13. <https://ec.europa.eu/energy/en/topics/energy-efficiency/energy-efficient-products/vacuum-cleanersc>



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About the TASKI AERO

For more information on all aspects of the TASKI AERO range please visit:

<https://taski-aero.com/>

TASKI is one of four core areas of the Diversey business.

Diversey has been, and always will be, a pioneer and facilitator for life. We constantly deliver revolutionary cleaning and hygiene technologies that provide total confidence to our customers across all of our global sectors. Headquartered in Fort Mill, South Carolina, USA, Diversey employs approximately 8,800 people globally, generating net sales of approximately \$2.7 billion in 2018.

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For more information, visit www.taski-aero.com or follow us on social media.

