

ENERGY SAVING



PM Synchronous
circulators

Extra-ordinary
energy efficiency

Super Compact
Easy to install
Compliant with EuP Regulation



SAVINGS
Up to 80% less than
traditional pumps



TECHNOLOGY
Best available
technology - PM Motor



ENVIRONMENT
protection



Askoll
Il futuro dell'innovazione

Askoll Energy Saving

Extra-ordinary energy efficiency

The **Askoll Energy Saving** pump is a wet rotor type, driven by a permanent magnets synchronous motor (PM motor) controlled by an on board inverter.

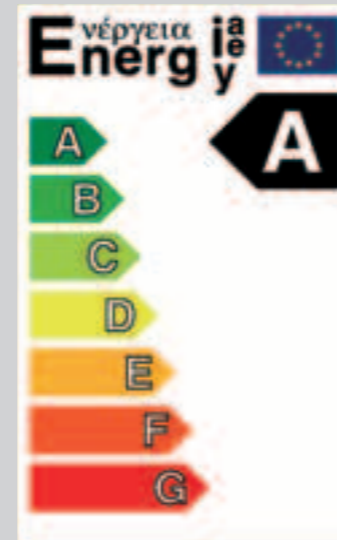
Askoll Energy Saving provides excellent benefits:

1. ENERGY SAVING
2. COMPACT DESIGN
3. IDEAL PERFORMANCE
4. EASY INSTALLATION AND ADJUSTMENT



INVERTER
technology

Compliant
with EuP
Regulation



1. ENERGY SAVING: extra-ordinary energy efficiency

Askoll Energy Saving is a variable speed pump characterized by a higher energy efficiency. Compared with traditional pumps currently on the market with equivalent performance, **it consumes up to 80% less electricity:** it ensures thus respect for the environment and more savings for families.

Askoll Energy Saving already meets the provisions of Regulation No 641/2009 of the European Commission (EuP Directive) requiring a drastic reduction of energy consumption of circulators from 1 January 2013.

Considering the current circulators of Class A, only the most efficient ones can be marketed (those with Energy Efficiency Index $EI \leq 0.27$): **Askoll Energy Saving** hits this target.

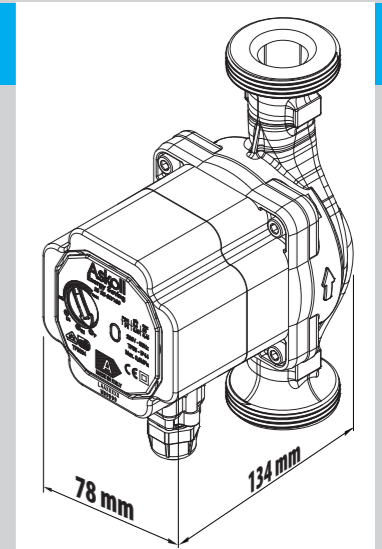
The economic benefits are clear: if **Askoll Energy Saving** becomes the standard for circulators installed (there are over 100 million in Europe), it would be possible to save more than 60% of the electricity being used. **This corresponds to more than 30TWh a year!** 30TWh is the energy required to illuminate some 6 million football matches at Stadio Olimpico in Rome.

2. COMPACT DESIGN: the smallest of its class

Compared to the models currently on the market with equivalent performances, **Askoll Energy Saving** is the most compact pump available on the market.

It ensures maximum power in a minimum size.

It can be installed in any heating system and is valuable when the available spaces are reduced.



Askoll

3. IDEAL PERFORMANCE

Askoll Energy Saving ideally meets the requirements of any heating system in any domestic and residential area. As a matter of fact, the pump is equipped with electronic controls allowing to set advanced features.

PROGRAM P ($\Delta P-V$) - PROPORTIONAL CURVE (luminous indication: green light)

The innovative electronics of the pump, developed in Askoll laboratories, proportionally reduces the pressure level (head) according to the reduction of the heat request by the system (reduced flow).

Thanks to this feature, the power consumption of **Askoll Energy Saving** is even smaller: the energy (power) used by the pump decreases according to the pressure and flow level. With this setting, **Askoll Energy Saving** ensures optimal performance in the majority of heating systems, making it particularly suitable in single pipe and two pipe installations.

Askoll Energy Saving works well and silently. With the reduction in the head, it eliminates the possibility of annoying noise due to water flow into the pipes, valves and radiators. **Optimal heat and noise conditions.**

PROGRAMS C3 AND C4 ($\Delta P-C$) - CONSTANT CURVE (luminous indication: white or orange light)

The pump maintains a constant pressure level (head) upon the decreasing demand for heat from the system (reduced flow rate).

With these settings, **Askoll Energy Saving** is suitable for all floor systems, where all circuits must be balanced for the same drop in the head.

MIN-MAX PROGRAM (LUMINOUS INDICATION: BLUE LIGHT)

Askoll Energy Saving features adjustable operating curves by positioning the regulator at any point between the Min and Max positions; as a result it is possible to meet any installation requirements (from the single pipe, to the most modern and sophisticated systems) and ensure optimum performance.

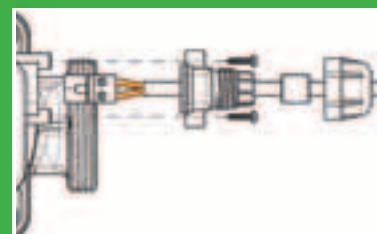
Installing a traditional three-speed circulator is not always possible to operate the pump at the optimum working point of the system. Being able to gradually adjust the speed, it is possible to select the exact working point across the range.

The **Askoll Energy Saving** circulator allows to cover the entire operating range from 1.5 m to 6 m of head.

Askoll Energy Saving replaces entire ranges of traditional circulators: the warehouse management becomes much easier.

4. EASY INSTALLATION AND ADJUSTMENT

- **Ready answer:** maximum ease in selecting the best suited circulator to the single installation.
- **Easy installation**
- **Fast intervention**



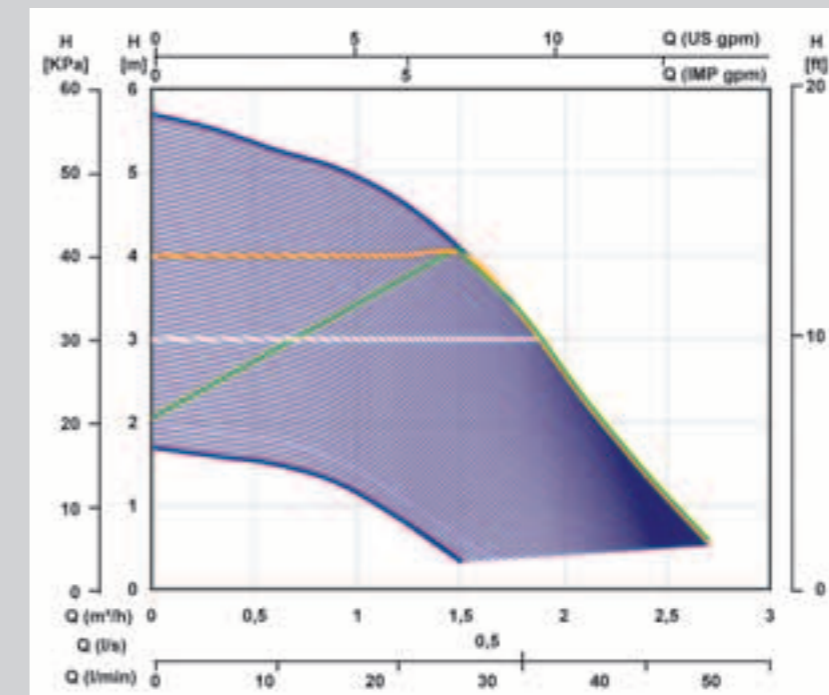
Askoll Energy Saving pumps are equipped with a special cable gland: just plug the two wires to the terminal board and connect the same with the suitable joint placed on the motor: very fast.

The adjustment of **Askoll Energy Saving** pumps is simple and intuitive: simply turn the regulator to select the desired operating curve.

REAL TIME DIAGNOSTICS: immediate check at all times.

Program	Light	Program	Light
 Program P ($\Delta p-v$)	 Green light	 Program C3 ($\Delta p-c$) - H=3m	 White light
 Program C4 ($\Delta p-c$) - H=4m	 Orange light	 Program Min-Max	 Blue light
Spia Rossa			
 WARNING! The pump is blocked, but is still power supplied.		 A warning light provides information about the operation status of the pump, with different colors.	

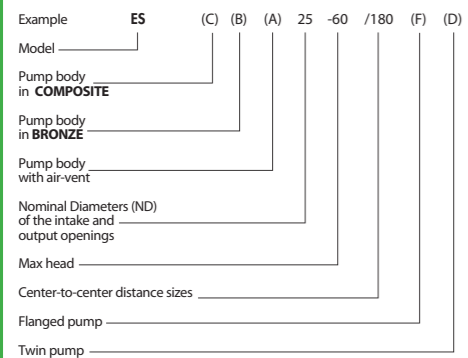
> Energy Saving Models ES 25-60 - ES 32-60



The curves refer to a temperature of 80 °C and a water density $\rho = 1.000 \text{ kg/m}^3$.

> Askoll Energy Saving Models

Model description



Progr:	T Y P E		230 V A	P abs W	Q	m³/h							
						0,0	0,5	1,0	1,5	2,0	2,5	2,7	
Max	ES 25-60	ES 32-60	0,40	53	H	m	5,70	5,40	4,90	4,10	2,70	1,30	0,60
Min	ES 25-60	ES 32-60	0,08	8,4			1,70	1,50	1,20	0,30	-	-	-
P (Δp-v)	ES 25-60	ES 32-60	0,40	53			2,10	2,80	3,40	4,10	2,70	1,30	0,60
C3 (Δp-c) - H = 3m	ES 25-60	ES 32-60	0,40	53			3,00	3,00	3,00	3,00	2,70	1,30	0,60
C4 (Δp-c) - H = 4m	ES 25-60	ES 32-60	0,40	53			4,00	4,00	4,00	4,00	2,70	1,30	0,60

APPLICATIONS

Askoll Energy Saving circulation pumps are innovative pumps with synchronous technology, designed and manufactured especially for their application in **heating and circulation plants, in domestic and commercial buildings.**

FEATURES

Askoll Energy Saving pumps are of a **wet rotor** type, driven by a synchronous motor controlled by an on board inverter.

MOTOR TECHNICAL DATA

Permanent Magnet synchronous motor controlled by INVERTER

Power supply	1 x 230 V (-10% + 6%) - 50 Hz
Insulation class	H
Protection class	IP 44
Appliance class	II
Overload protection	Automatic, with electronic release function of the rotor; Protection with thermal protection
External motor protection	Not required

PUMP TECHNICAL DATA

Allowed temperature field	from +2° C to +95° C
Ambient temperature	from +2° C to +40° C
Maximum operating pressure	0.6 MPa - 6 bar
Storage conditions	-20° C to +70° C with RH 95% at 40° C
Sound pressure level	<43 dB (A)
Minimum suction pressure	0.5 bar at +95° C
Maximum percentage of glycol	40%
The construction complies with ECM regulations	EN 61000 - 3 -2 EN 61000 - 3 -3 EN 55014 - 1 EN 55014 - 2

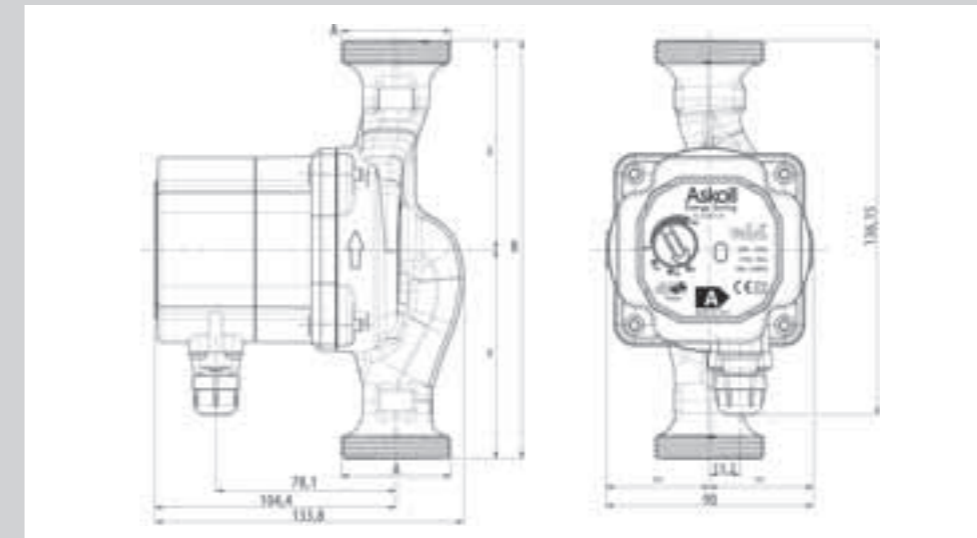
PUMPED LIQUIDS

Askoll Energy Saving circulation pumps are designed for pumping clean liquids, non-aggressive for the constituent materials and free of solid particles that might damage the constituent bodies.



They should not be used for pumping flammable liquids and/or explosives.

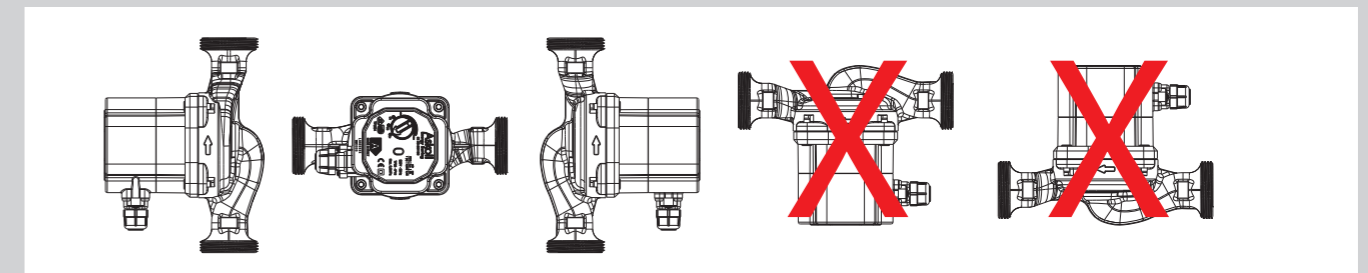
> Dimensions



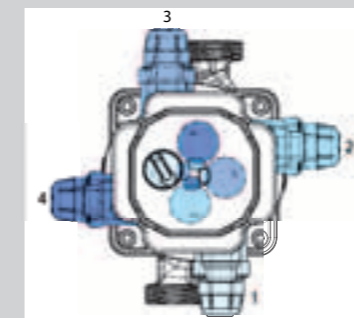
TYPE	A [DN]	B	Net Weight
ES 25 - 60 / 130	G 1 1/2	130 mm	1,81 Kg
ES 25 - 60 / 180	G 1 1/2	180 mm	1,96 Kg
ES 32 - 60 / 180	G 2	180 mm	2,10 Kg

> Installation

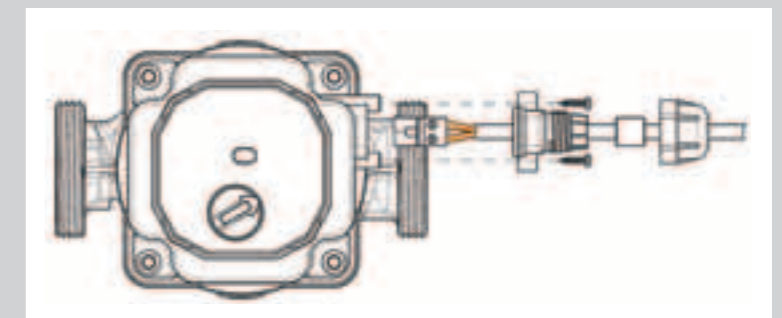
Askoll Energy Saving pumps have to be installed always **with the motor shaft horizontal.**



Ensure that the pressure at the inlet of the pump is at least equal to the minimum value required. You should not start the pump before you fill and bleed the hydraulic system.



Possible positions of the connection box.



The **special cable gland** enables rapid electrical connection: Connect the two wires (orange color) to the terminal board and connect the same in the compartment on the motor.

Askoll

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Askoll, founded in 1978 with its headquarters in Dueville (Vicenza), is a leading manufacturer of pumps and synchronous electric motors. Synchronous technology is the common thread that unites the three core businesses of Askoll: it was initially applied in the field of aquariology in the production of pumps; this business has gradually expanded and now includes the design and development of aquariums, filters and accessories for aquariums and ponds.

The applications of the technology were then transferred to the field of household appliances, mainly washing machines and dishwashers, and to that of heating. This technology allows the industry to ensure a significant reduction in costs, simplifying installation and maintenance activities and provides significant energy savings, which can exceed 50% compared to conventional electric motors. For the same power of the motor it also allows to produce smaller engines and thus save on raw materials such as iron and copper.

Nowadays in the world, 98% of washing machines and dishwashers use synchronous technology pumps.

A winning intuition was then transformed into the key to the success of this Veneto Region company that has experience on the synchronous pumps, its technologies, a know-how unique in the world, and an annual production of 50 million pumps and motors sold throughout the world.

Today Askoll is an international group of 11 business units with facilities in Italy, Brazil, Mexico, Slovakia, Romania and China, with trade representatives in the United States and South Korea. Its Center for Research & Development, within the company, boasts a portfolio of over 500 patents and collaborates with leading European universities.

Askoll develops a turnover of over 400 million Euro to which contribute more than 2,800 employees and delivers its products in over 20 countries.

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