

SUSTAINABLE **EFFICIENCY**

INTERACTIVE
CATALOGUE



SUSTAINABLE SOLUTIONS & INNOVATION IN LAUNDRY SERVICES



Welcome to Danube Eco World

Danube knows how important efficiency is, which is why we make our commitment to the environment a key point. We have developed a new range of state-of-the-art products offering low consumption and high energy savings throughout their lifetime.



Water

The saving and good use of water is one of our main objectives so as not to waste it. Our washing machines offer an optimized design and programming as well as a unique accessory, the AQUABAC water recovery tanks to meet this goal.



Energy

Optimizing energy is an essential point in managing a laundry. Our machines have been designed with the objective to achieve greater energy savings.



Chemicals

Our washing machines have been designed with features that facilitate and ensure the most appropriate use of chemicals, providing greater savings and better care of garments.

BECAUSE
YOUR WELLNESS
IS ALSO
OUR CONCERN

In a laundry, machinery is the tip of an iceberg.
Danube pays attention to the invisible part, to optimize resources throughout the life cycle of machines (**life cycle cost**). What is important is not the purchase price of a machine but the total cost that the machine will have during its useful life (**Total Cost of Ownership**).

Washing

Investment

8%

Water

13%

Energy

32%

Detergent

47%

100 %
of resources

WATCH
VIDEO

Drying

Investment

7%

Energy

93%

Ironing

Investment

19%

Energy

81%

*Example of a standard laundry with 50% flat linen and 50% towelling,
during the first 10 years of life.



WASHERS

- 1 High G force: the most efficient spinning
- 2 Low water consumption with ET2
- 3 Water savings
- 4 Chemicals savings
- 5 Water recovery
 - ✓ AQUABAC
 - ✓ AQUABAC XL
- 6 Weighing system



1 HIGH G FACTOR THE MOST EFFICIENT SPINNING.

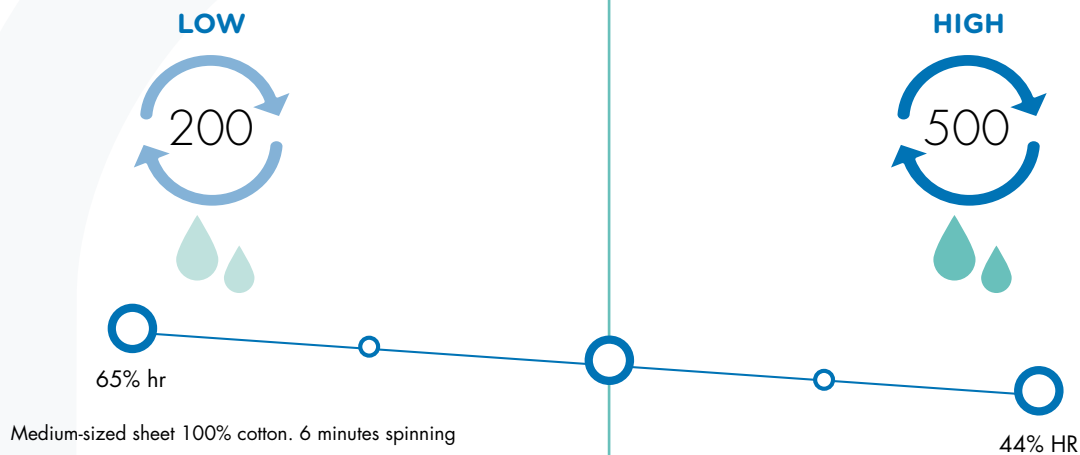
WATCH
VIDEO

- ⊕ Precision
- ⊖ Consumption

The average low speed washing of the competition has a Factor G of 100.

WEN Washing machine
G Factor **200**

WED Washing machine
G Factor **500**



LOW RESIDUAL MOISTURE RESULTS IN MORE EFFICIENT DRYING.

Drying time



45 min. +20 min.

**50 % reduction
in drying time**



25 min.

Energy
consumption



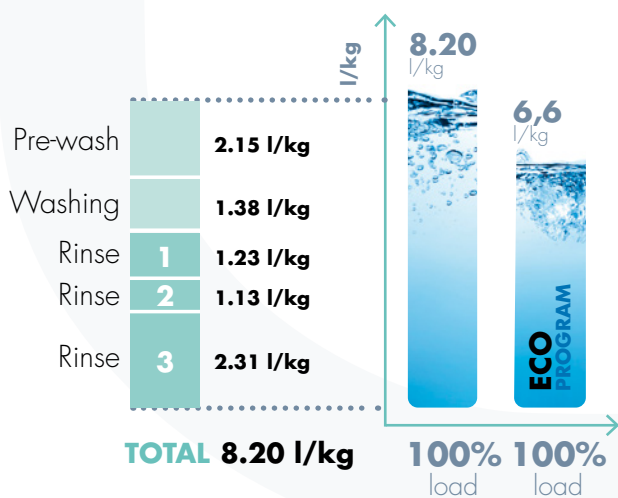
**50 % reduction
in energy cost**



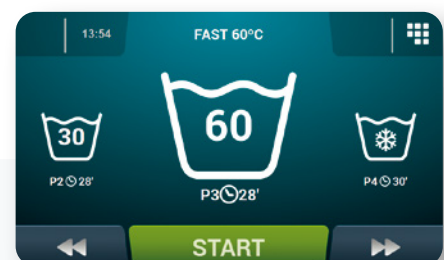
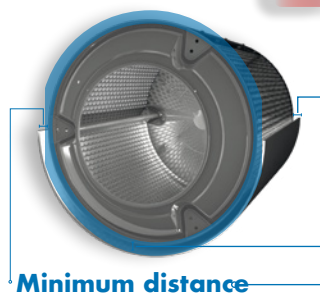
2 LOW WATER CONSUMPTION

WATCH
VIDEO

- ⊕ Precision
- ⊖ Consumption
of water
of energy

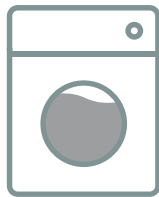


Data with a 28 kg washer, 100% cotton towels full load

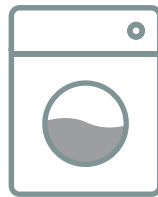


3 WATER SAVINGS

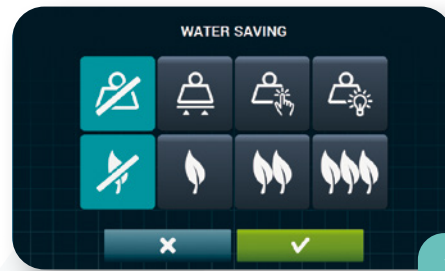
Significant water savings are achieved thanks to the weighing system and the Eco program.



Full load



50% load



- + Precision
- Consumption of water or energy

YOU CHOOSE THE SAVINGS LEVEL

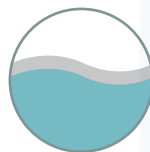
Examples with partial loads: increased savings



The program runs as registered without any type of saving.



25% REDUCTION



With a 50 % load, we save **18,75 %** of water



50% REDUCTION



With a 50 % load, we save **25 %** of water



PROPORTIONAL LOAD REDUCTION



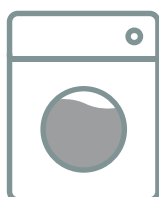
With a 50 % load, we save **50 %** of water

4 CHEMICALS SAVINGS

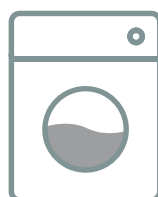
The ET2 allows you to configure the machine with different levels of chemical savings in addition to water and energy, regardless of the load. Less load, more savings.

WATCH VIDEO

- + Precision
- Consumption



Full load



50% load

Examples with partial loads: increased savings



The program runs as registered without specific adjustments



25% REDUCTION



With a 50 % load, we save **18,75 %** of detergents



50% REDUCTION



With a 50 % load, we save **25 %** of detergents



LOAD PROPORTIONAL REDUCTION



With a 50 % load, we save **50 %** of detergents

5 WATER RECOVERY TANKS

1 AQUABAC

To save up to 70% of water.

Standard program example	l/kg	Washing machine 28 kg High speed
Pre-wash	2.15 l/kg	60,20 l
Washing	1.38 l/kg	38,64 l
Rinse 1	1.23 l/kg	34,44 l
Rinse 2	1.13 l/kg	31,64 l
Rinse 3	2.31 l/kg	64,38 l
TOTAL 8.20 l/kg		TOTAL 229,60 l

WATCH
VIDEO



Example

The rinse water 3 passes to the rinse 1 and 2

The rinse water 1 and 2 passes to the prewash

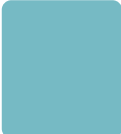

The rinse water 1 passes to the wash

2 AQUABAC XL

New centralized tank for one or more machines, from 1 to 3 tanks of 1.000 liters. Suitable for machines from 45 to 120 kg.


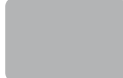
A WED-80C ET2 washer can achieve up to **56% water savings** using the AQUABAC XL with 60% of the load capacity filled with towels.

Water savings

	-56% value
Washing machine 656 litres	Washing machine + AQUABAC XL
	
	288 litres

Energy savings

-12% value

Washing machine 21,37 kW/h	Washing machine + AQUABAC XL
	
	18,80 kW/h

Test data with an 80 kg washer and a 60% towels load.



UP TO
-70%



Water consumption in case of 3 rinses

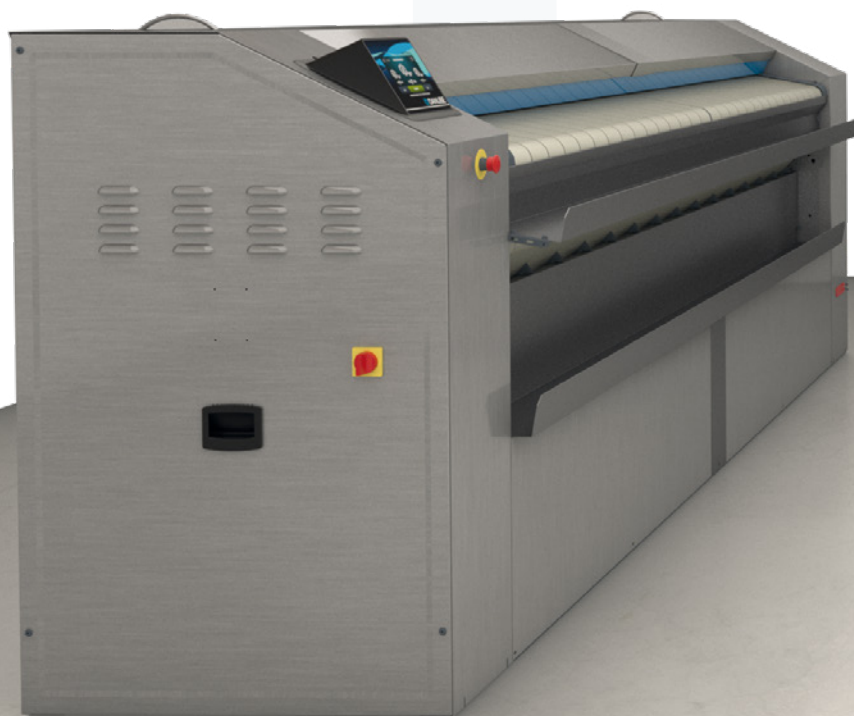


6 WEIGHING SYSTEM

Optional on WED-11 to WED-120C models.
This system provides great water, chemicals and energy savings, especially with partial loads, since the water and detergents are adjusted to the actual load.

ADVANTAGES

- ✓ An 80 kg WED-80C ET2 washer, with a 50% load, can achieve up to 70% water savings and 45% energy savings.





WATCH
VIDEO

Thanks to the AQUABAC XL and the incorporated weighing system, a WED-80C ET2 washer can save up to **68% of water** with a load at 60% of the capacity filled with towels.

Water savings

	-30 % value	-70 % value
Washing machine	Washing with weighing system	Washing with weighing system and AQUABAC XL
656 litres	459,2 litres	196,8 litres

Thanks to the AQUABAC XL and the incorporated weighing system, a WED-80C ET2 washer can save up to **45% of energy** with the same load.



Energy savings

	-23 % value	-45 % value
Washing machine	Washing with weighing system	Washing with weighing system and AQUABAC XL
21,37 kW/h	16,45 kW/h	11,75 kW/h

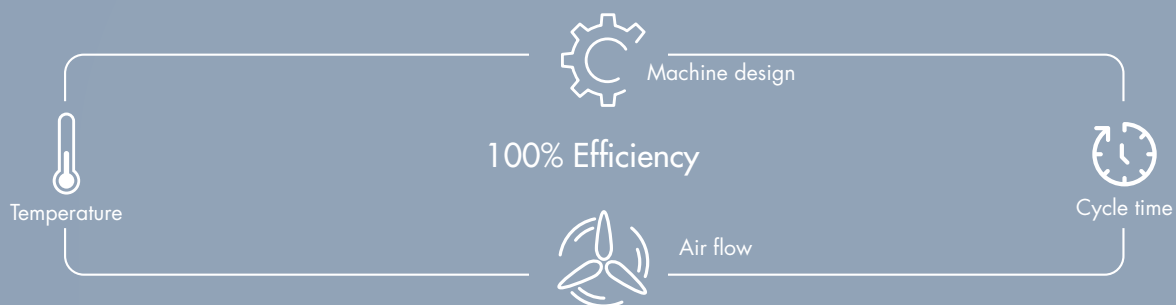


TUMBLE DRYERS

- 1** DANUBE RANGE: comparison according to efficiency
- 2** GOLD range
 - Air recovery system (AIR RE-CYCLE)
 - Panels insulation (THERMAL INSULATION)
- 3** CARE DRY: intelligent humidity control
- 4** FILTER AND TURBINE : optimized design
- 5** HEAT PUMP



1 DANUBE TUMBLE DRYER RANGE: COMPARISON ACCORDING TO EFFICIENCY.



RANGES FEATURES	SILVER	SILVER + CARE DRY	GOLD
CARE DRY Intelligent humidity control	No	Yes (option included)	Standard
AIR RE-CYCLE: Air recovery.	No	No	Standard
Double door glass	Option	Option	Standard
THERMAL INSULATION	No	No	Standard

	Cycle time	32 min	29 min	25 min
	Time reduction		- 3 min	- 7 min
	Energy (kWh) Savings	48 kWh/cycle	43,5 kWh/cycle	37,5 kWh/cycle

2 GOLD RANGE

The most efficient range, fitted as standard, with the most cost-saving features.

- ✓ **AIR RE-CYCLE**
Air recovery system for increased energy efficiency.
- ✓ **CARE DRY**
Intelligent humidity control
- ✓ **THERMAL INSULATION**
Full isolated air flow circuit.
- ✓ **OPTIMAL FLOW**
Optimized axial-radial full air flow.
- ✓ **REVERSING DRUM**
Standard in all models.
- ✓ **BIG FLUFF FILTER**
New filter with larger surface and improved air flow.
- ✓ **DOUBLE DOOR GLASS**
No heat loss

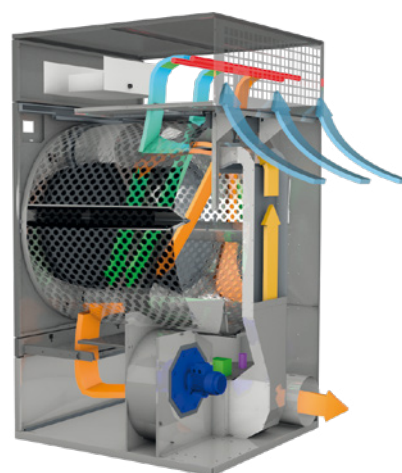
WATCH VIDEO



AIR RE-CYCLE

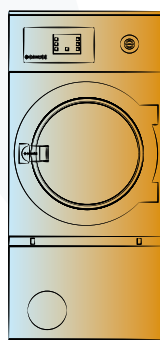
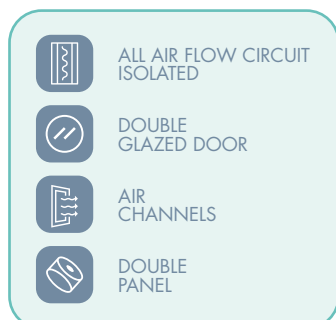
Air recovery system

Drying times are shortened thanks to the recovery of hot, almost dry air and energy consumption is therefore reduced.



THERMAL INSULATION

Thermal insulation allows to keep warm air inside the dryer.



THERMAL INSULATION

NO THERMAL INSULATION

3 CARE DRY INTELLIGENT HUMIDITY CONTROL

WATCH VIDEO

- + Precision
- Time

Optimized rotation speed

The intelligent humidity control system adapts the rotation speed of the drum to the level of humidity detected during each drying phase.

Rotation speed "RPM"

% RM moisture sensor



Time cycle (min.)

CARE DRY OFF



32 min

CARE DRY ON



29 min



Reduction time

-3 min

Cycle time is shortened to save energy (especially with partial loads) but clothes are treated with care as they are not too dry. The cycle stops when the set humidity level is reached.



The moisture sensor automatically adjusts the cycle time to the set point moisture of the clothes.

4 FILTER AND TURBINE OPTIMIZED DESIGNS

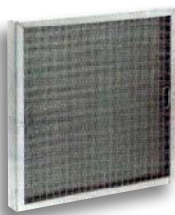
30%

MORE EFFECTIVE SURFACE



Filter in drawer format

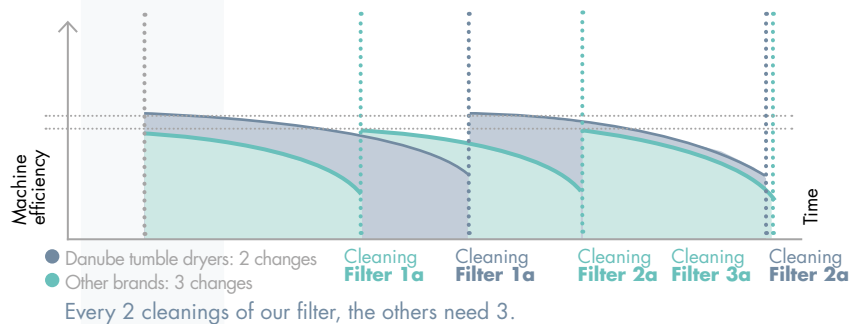
- ✓ Easy to open
- ✓ Easy to clean
- ✓ More ergonomic
- ✓ More surface (+30%)



Stainless steel filter mesh

As an option

Choose the size of the stainless-steel mesh you want between standard 0.3 mm, 0.6 and 1.2 mm.



- ⊕ Efficiency
- ⊖ Dedication

Improves the time for more machine efficiency

- 1 Reduced frequency of filter cleaning with the dedication time for it
- 2 More efficient cycle time between each filter cleaning, improving the overall machine performance.
- 3 More machine available time



+20%

OF INCREASED PERFORMANCE
THANKS
TO THE DESIGN.



Turbine: air flow, with models of different sizes.

Turbine and box assembly optimized outlet

The design, curves, elbows, and diameter have been optimized to get the most out of the airbox assembly with the turbine.

5 HEAT PUMP

WATCH
VIDEO

New range of heat pump dryers.
The most efficient range with industrial models
from 11 to 22 kg and professional 8 and 10
kg models.

REASONS FOR AND ADVANTAGES OF INSTALLING A HEAT PUMP

✓ When the customer prioritizes
energy efficiency over drying time

✓ When a smoke vent
cannot be installed

60%

Of consumption with respect
to the electric model

✓ When we have power
limitation installed

✓ Due to the difficulty of getting
gas installations or certifications



EFFICIENCY

ELECTRIC DRYER

18 kW

HEAT PUMP DRYER

3,95 kW

DIRECT SAVING



Less power installed

A heat pump dryer uses 1/5 of the power in kW consumed by an electric model of the same capacity.

Efficient

A heat pump dryer uses 0,5 kW/liters of evaporated water.

Optimized cycle time

Full load of 100% cotton towels

Industrial dryer —————→ 63 minutes

Professional dryer —————→ 70 minutes

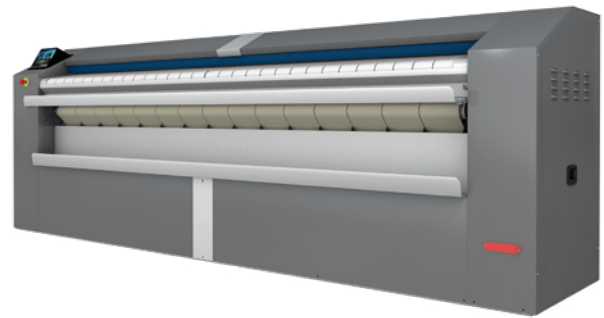
60% load, 50% polyester 50% cotton towels

Industrial dryer —————→ 32 minutes

Professional dryer —————→ 35 minutes

FLATWORK IRONERS

- 1 RADIANT BURNERS: the most efficient
- 2 CARE IRON
- 3 HPS: High Production System
- 4 LENGTHWISE FOLDER



1 RADIANT BURNER: THE MOST EFFICIENT.

WATCH
VIDEO

ADVANTAGES

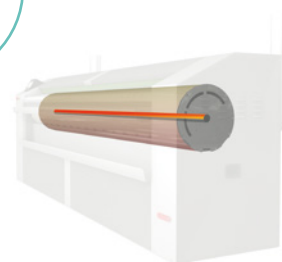


- ✓ With a similar gas consumption, the hourly **productivity** of the flatwork ironer **increases by 25 %** compared to the same machine with atmospheric gas burners.
- ✓ They can be used in places at high altitudes and without the oxygen level problem affecting combustion.

Atmospheric
burner



Radiant
burner

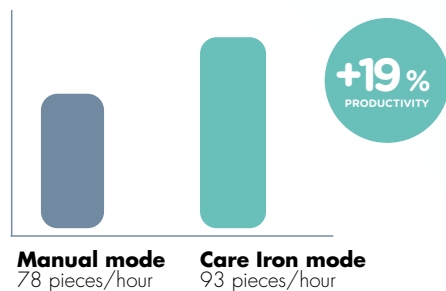


2 CARE IRON

- ⊕ Production
- ⊖ Energy

Automatic regulation of ironing speed according to residual moisture in the linen. Standard in 650 mm, optional in 500 mm

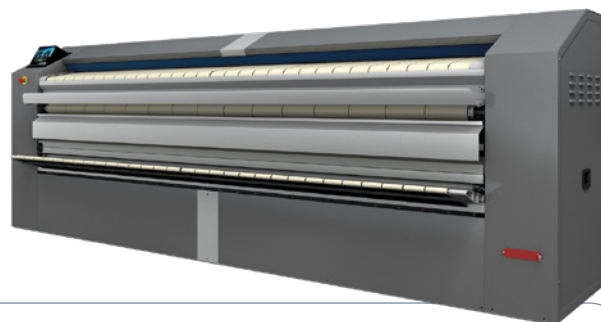
Example in
Flatwork ironer ø 650



ADVANTAGES

- ✓ Energy savings
- ✓ Increased production
- ✓ Delicate treatment of garments

OPTIMIZED IRONING TIME

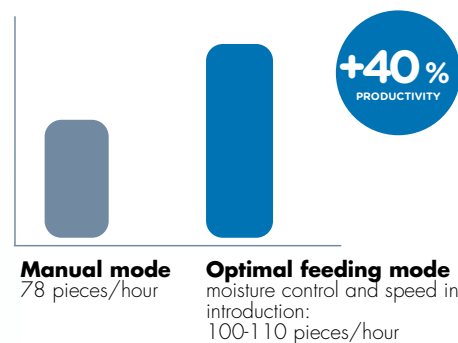


3 HPS

The linen introduction sensor and LED lights help to adapt feeding speed to optimize productivity.

Example in
Flatwork ironer ø 650

[WATCH VIDEO](#)



4 BUILT-IN LENGTHWISE FOLDER

- ✓ Efficiency in the process, which goes from manual to automatic.
- ✓ High speed folding for greater productivity.
- ✓ LED indication of availability to save time.
- ✓ Automatic mode to detect sheet dimensions: efficiency and time saving.

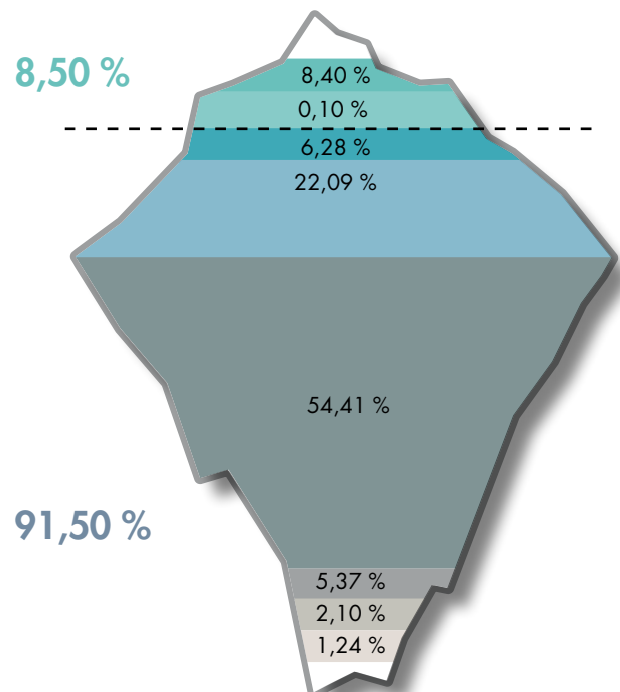


LAUNDRY ICEBERG

Here is an example of the Iceberg study of a laundry with calculations and consumption throughout the life cycle of the machinery thanks to the efficiency and technology of Danube machines.

- 1 washing machine WED-18 HW ET2
- 1 washing machine WED-45C HW ET2
- 1 tank AQUABAC XL
- 1 dryer DD-18 G ET2 GOLD
- 1 dryer DD-45 G ET2 GOLD
- 1 flatwork ironer M-33 GR ET2

Description	%	
Machine purchase cost	8,40 %	8,50%
Scrapping	0,10 %	
Water	6,28 %	91,50 %
Detergents Chemicals	22,09 %	
Heating Energy	54,41 %	
Operating Electricity	5,37 %	
Maintenance	2,10 %	
Consumables	1,24 %	



LAUNDRY WORK SUMMARY in 10-years

Cycles/Hours Work day	10	Machine cycles
Working days per year	320	Days
Cycles work year	3.200	Cycles
Kg. processed in washers	2.016	Tons
Kg. processed in dryers	2.016	Tons
Kg. processed in ironers	3.840	Tons

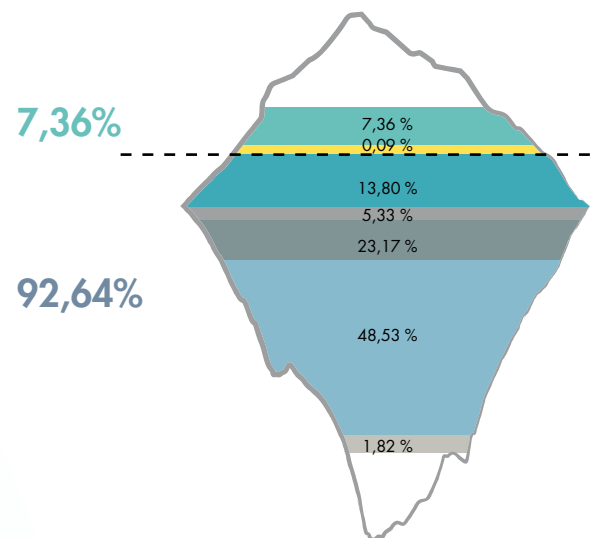


LIFE CYCLE COST: 10 YEARS

WASHING

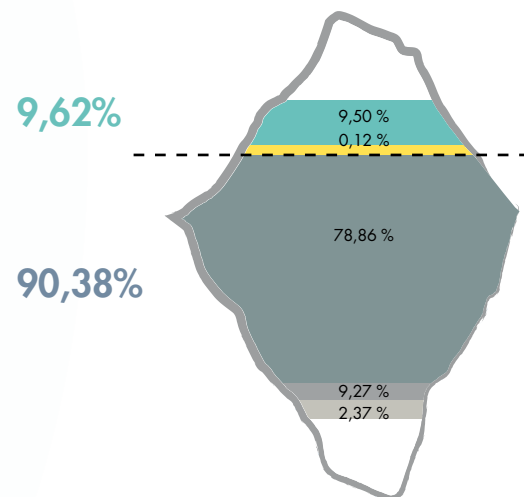
Description	%	
Machine purchase cost	7,27 %	7,36%
Scrapping	0,09 %	
Water	13,80 %	92,64 %
Operating electricity	5,33 %	
Heating energy	23,17 %	
Detergents	48,53 %	
Maintenance	1,82 %	

A water saving of up to 70% can be achieved with the AQUABAC XL, which is not counted in the iceberg.



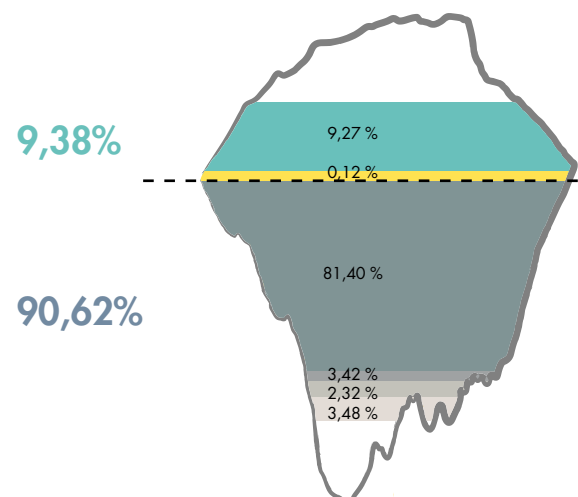
DRYING

Description	%	
Machine purchase cost	9,50 %	9,62%
Scrapping	0,12 %	
Heating energy	78,86 %	90,38 %
Operating electricity	9,15 %	
Maintenance	2,37 %	



IRONING

Description	%	
Machine purchase cost	9,27 %	9,38%
Scrapping	0,12 %	
Heating energy	81,40 %	90,62 %
Operating electricity	3,42 %	
Maintenance	2,32 %	
Consumables	3,48 %	



SUSTAINABLE **EFFICIENCY**

www.danube-international.com

SUSTAINABLE SOLUTIONS & INNOVATION IN LAUNDRY SERVICES



DANUBE International
Parc d'Activités de Sologne - CS 10026
41600 Lamotte-Beuvron - FRANCE
Tél.: +33 (0)2 54 88 05 76
Fax: +33 (0)2 54 96 89 04
Hotline: +33 (0)2 54 88 83 22
support@danube.fr
SAV: +33 (0)2 54 88 83 65
Logistique commandes:
+33 (0)2 54 88 05 76
info@danube-international.com



ONNERAGROUP