

INTELLIGENT EFFICIENCY

INTERACTIVE
CATALOGUE



SUSTAINABLE SOLUTIONS & INNOVATION IN LAUNDRY SERVICES

WELCOME TO DANUBE ECO WORLD

Laundry efficiency is crucial to optimising resources (water, energy, detergents) while guaranteeing impeccable results. It reduces operational costs, improves environmental sustainability and increases productivity.

At DANUBE, we have a strong commitment to the environment, which is why we have developed a range of high-performance, low-consumption products that deliver significant savings over their lifetime.



Water

Our machines incorporate water recovery technology and management to guarantee low consumption and optimum use of water in each wash cycle.



Chemicals

Adapting the quantity of detergents to suit the load and the laundry means extra savings, better care for your clothes and greater respect for the environment.



Energy

Optimizing energy is a key point in the management of a laundry to ensure greater savings and greater efficiency.



Time

By adjusting process times appropriately, the efficiency and profitability of the laundry is increased.

**TECHNOLOGY &
INNOVATION**

EFFICIENCY

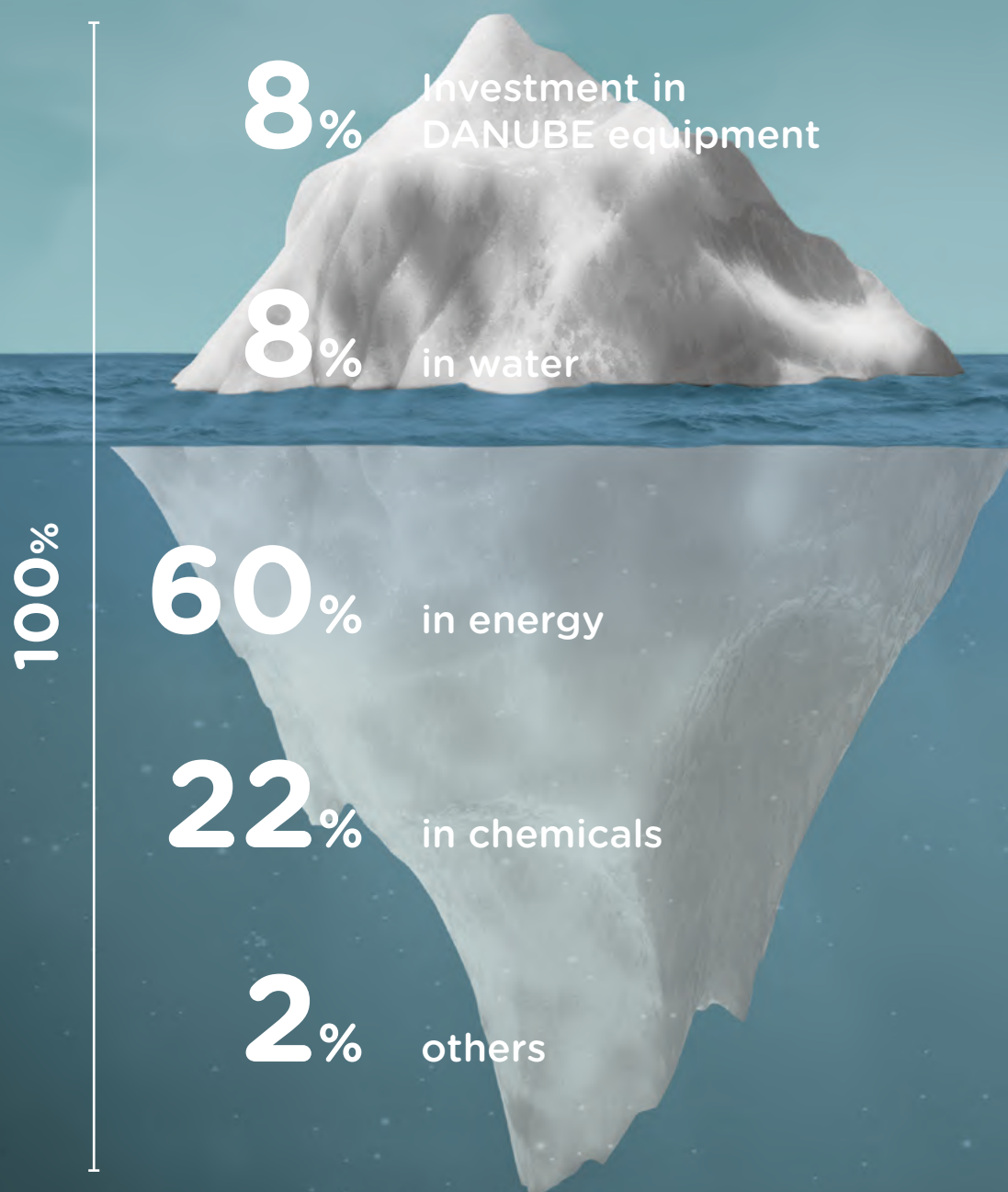
**END-TO-END
SOLUTIONS**



**In a laundry,
the price of the
machine is the
visible part of an
iceberg.**

At DANUBE we pay attention to the iceberg part that cannot be seen, to optimize the expenses during the whole Life Cycle Cost. What matters is not the purchase price of a machine but the total cost of ownership that it will have during its life cycle. (Total Cost of Ownership).

Next, you'll discover the main features of our different product ranges, designed specifically to ensure maximum efficiency.



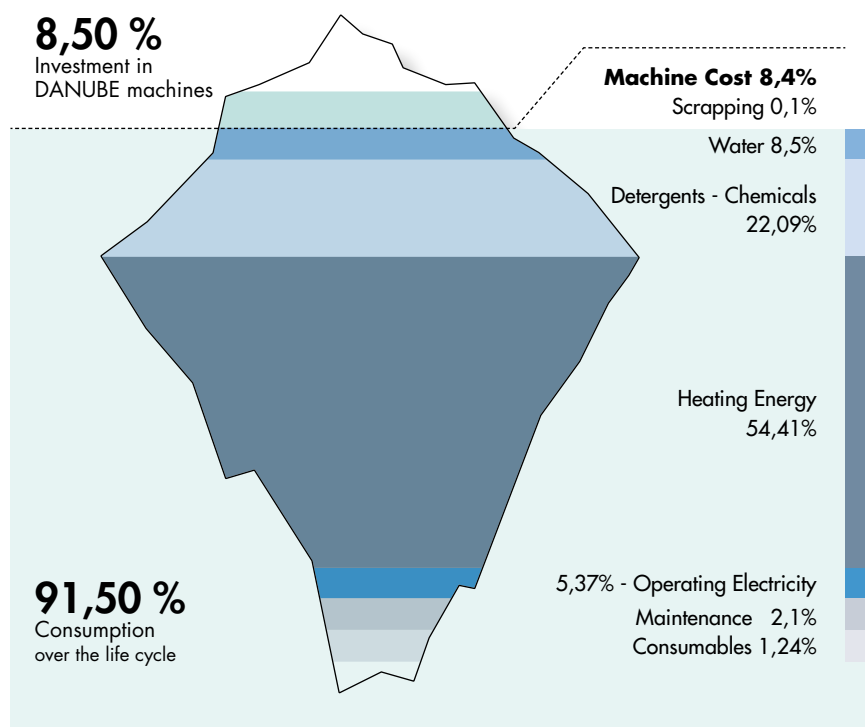
*See details and breakdowns on pages 4 & 5.

LAUNDRY ICEBERG

Here's an example of an "Iceberg" calculation of a laundry's consumption throughout the operating cycle of the machines, considering the level of efficiency and technology of the DANUBE machines.

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



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

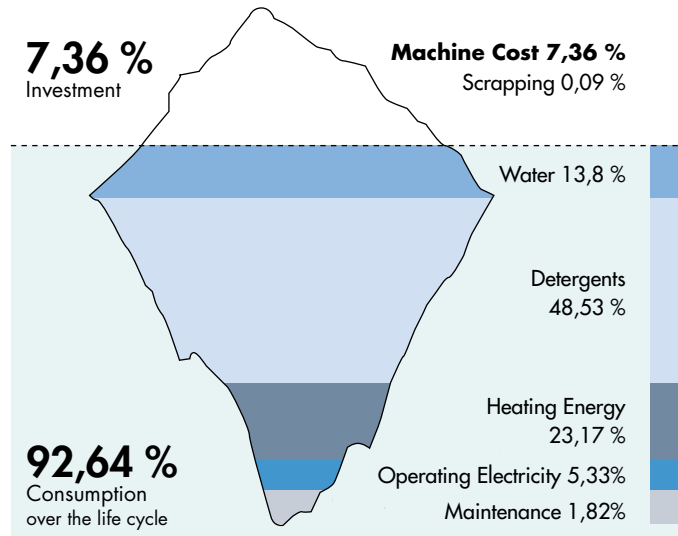


LIFE CYCLE COST: 10 YEARS

WASHING

With only 7% investment in DANUBE washers, we achieve high efficiency thanks to:

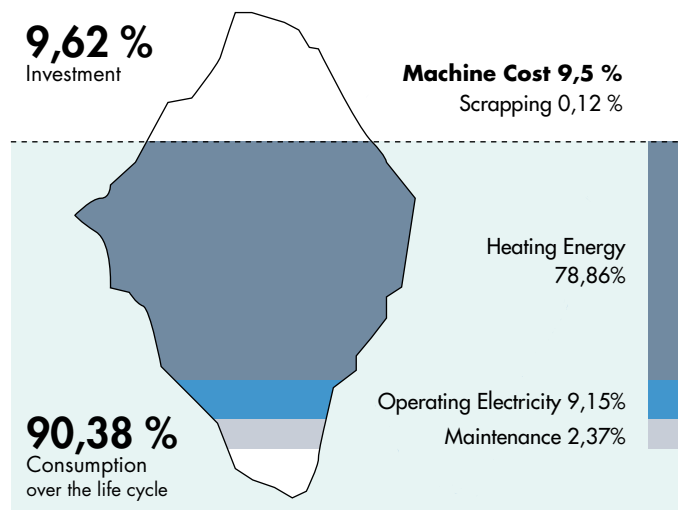
- ✓ A high G factor.
- ✓ Water and chemical saving programmes and functions.
- ✓ Installing AQUABAC XL or AQUABAC water recovery tank.
- ✓ By purchasing the weighing kit option.



DRYING

With less than 10% investment in DANUBE dryers, we achieve high efficiency thanks to:

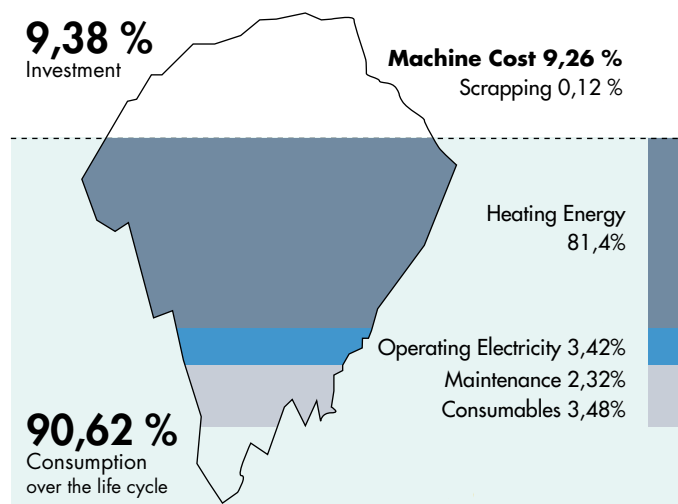
- ✓ AIR RE-CYCLE air recovery system.
- ✓ CARE DRY Intelligent humidity sensor.
- ✓ Optimised design of the filter, turbine and panels.



IRONING

By investing only 9.38% in DANUBE flatwork ironers, we achieve a high efficiency thanks to:

- ✓ CARE IRON intelligent humidity sensor
- ✓ Radiant gas heating option.
- ✓ HPS feature.
- ✓ Length folder.



INTELLIGENT LAUNDRY

by Danube

With DANUBE, the laundry of the future is already a reality.

We offer a complete solution for controlling all aspects of your industrial laundry. Our machines, equipped with the latest technology and IoT connectivity as standard, fit perfectly into this cutting-edge solution.

With an INTELLIGENT LAUNDRY you can manage your operations proactively and efficiently, optimizing resources and reducing operating costs, all from anywhere thanks to the DANUBE Online platform.

Accurate management

By monitoring consumption by laundry, by machine or by period to manage resources efficiently.

Guaranteed hygiene

By controlling appropriate levels of detergent in each cycle for a hygienic and efficient wash.

Efficiency

Reducing operating costs by optimising water and energy resources.



KEY FACTORS

DANUBE machines

DANUBE machines equipped with EASY TOUCH 2 control are perfectly suited to the INTELLIGENT LAUNDRY concept, offering total control and increased efficiency.

- ✓ Highly efficient, robust and versatile.
- ✓ Equipped with IoT connectivity.
- ✓ Intelligent weighing system.
- ✓ Water recovery with AQUABAC XL.

INTELLIGENT LAUNDRY

by Danube

1



LEMS by Onnera Pulse concentrator

The LEMS pulse concentrator **collects accurate data** from the counters installed on each machine to provide a complete overview of your laundry.*

- ✓ It measures water, gas and electricity consumption in real time.
- ✓ It transmits the data automatically and securely to the IoT DANUBE Online platform.



DANUBE Online platform

This is DANUBE's free, standard IoT platform, which **integrates and analyses all the data collected by LEMS**, as well as other metrics collected by the IoT. It is essential for improving the efficiency and management of your connected laundry.

- ✓ Receive accurate consumption data through management, efficiency and hygiene reports wherever you are.
- ✓ Configure and control your laundry remotely. Programs, access management telemetry visualization and consumption control, among other possibilities.



3

*The data recovered by LEMS are provided for information only and may differ in certain cases due to technical factors beyond ONNERA's control. Consequently, ONNERA Group cannot be held responsible for any claims or economic losses resulting from their use. These data are provided for informational and management purposes only, not for legal purposes.

WASHERS



- 1 HIGH G FACTOR:**
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**

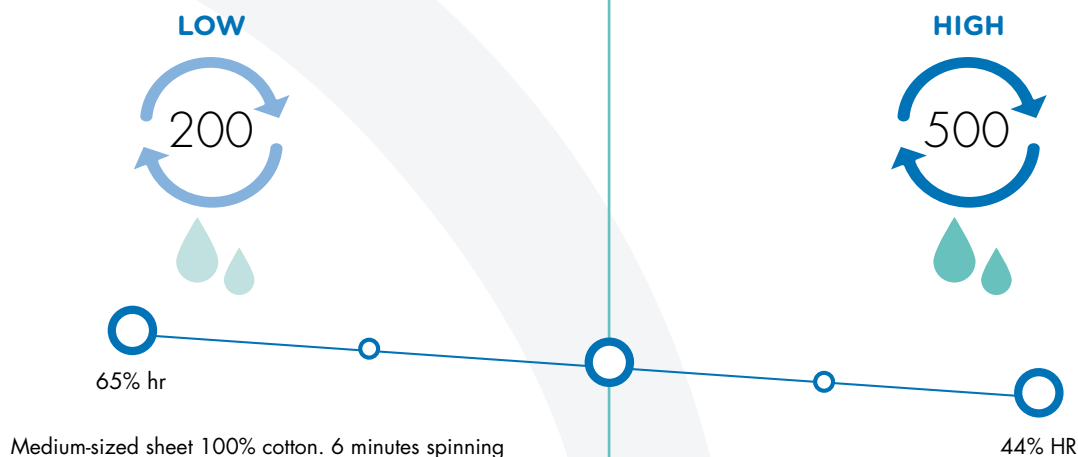
1 HIGH G FACTOR THE MOST EFFICIENT SPINNING.

WATCH
VIDEO

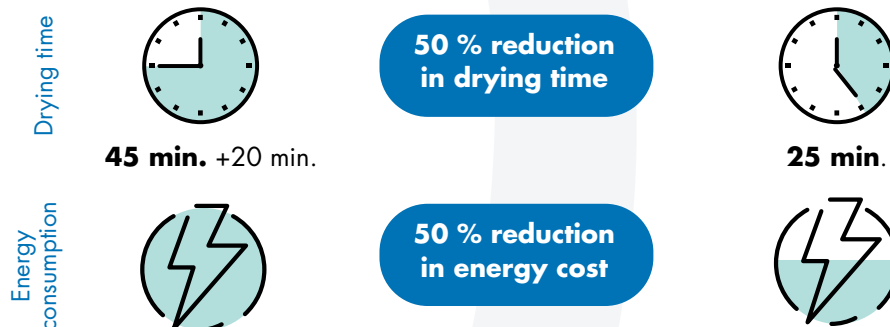
- + Precision
- Consumption

WEN Washing machine
G Factor **200**

WED Washing machine
G Factor **500**



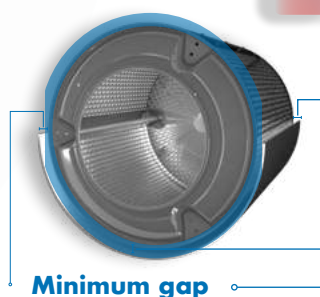
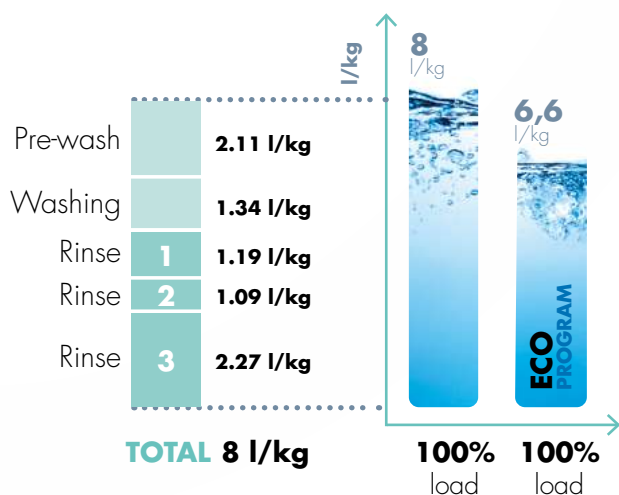
LOW RESIDUAL MOISTURE RESULTS IN MORE EFFICIENT DRYING.



2 LOW WATER CONSUMPTION

WATCH
VIDEO

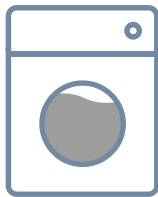
- + Precision
- Consumption of water of energy



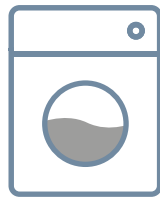
Data with a 28 kg washer, 100% cotton towels full load

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 of energy

YOU CHOOSE THE SAVINGS LEVEL

Examples with partial loads: increased savings



NO SAVINGS



The program runs as registered without any type of saving.



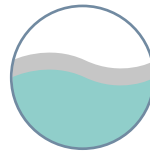
25% REDUCTION



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



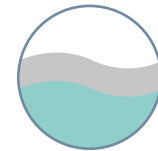
50% REDUCTION



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



PROPORTIONAL LOAD REDUCTION



If we load 50 %, we get **50 %** of water savings.

4 CHEMICALS SAVINGS

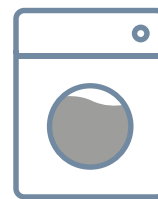
The ET2 allows you to configure the machine with different levels of chemical savings in addition to water and energy, regardless of the load. Less load, more savings.

Data can be transmitted to the chemical companies via pulses, **RS-485 protocol** or via the **IoT**.

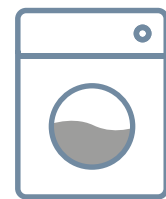


WATCH VIDEO

- + Precision
- Dosing time



Full load

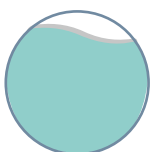


50% load

Examples with partial loads: increased savings



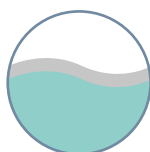
NO ADJUSTMENT



The program runs as registered without specific adjustments.



25% SAVINGS



With a 50 % load, we save **18,75 %** of chemicals savings.



50% SAVINGS



With a 50 % load, we save **25 %** of chemicals.



REDUCTION IN PROPORTION TO THE LOAD



With a 50 % load, we save **50 %** of chemicals.

5

WATER RECOVERY TANKS



Saving 40 to 70% * of water, chemicals and energy.

- ✓ **Save a significant amount of water, energy and chemicals** with the different models of tanks for DANUBE industrial and barrier washers with EASY TOUCH 2.

- ✓ **Monitor and manage remotely via IoT** industrial washer and barrier programmes with AQUABAC XL and AQUABAC.



* Percentages depending on the type of programs, garments and processes

AQUABAC XL

WATCH VIDEO

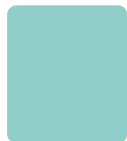
New centralised tank to be connected to one or more machines. Each tank is 1.000 litres, 1 to 3 tanks available.

On a WED-80C ET2 washing machine, the following savings are achieved with a 60% towel load. We compare the consumption of the washing machine alone with the integration of the **AQUABAC XL water recovery tank**, showing how you can reduce your water and energy consumption.



Water savings up to 56%

656 litres



Washing machine

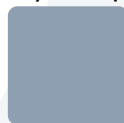
288 litres



Washing machine + AQUABAC XL

Energy savings up to 12%

21,37 kW/h



Washing machine

18,80 kW/h



Washing machine + AQUABAC XL

AQUABAC

80-150 litre tanks that can be arranged in columns of up to 3 tanks.

WATCH VIDEO



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 60% load, can achieve up to 70% water savings and 45% energy savings.





UP TO
-70%

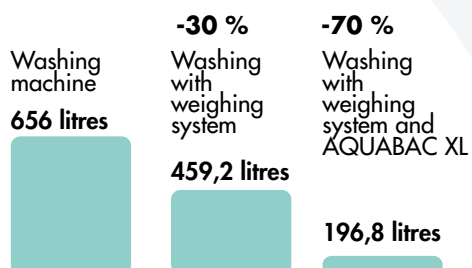
WATCH
VIDEO

Here are the possible savings that could be achieved with a washing machine model WED-80C ET2 and a 60% towel load. You'll find the consumption figures for the **washing machine alone**, then those with the addition of the **weighing kit**, and finally those with the **AQUABAC XL water recovery tank**.

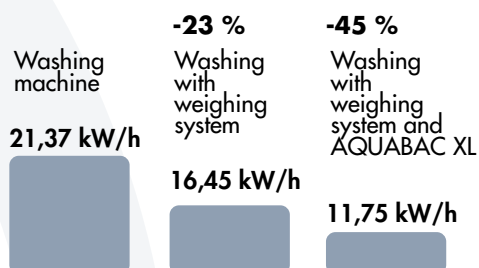


UP TO
-45%

Water savings



Energy savings

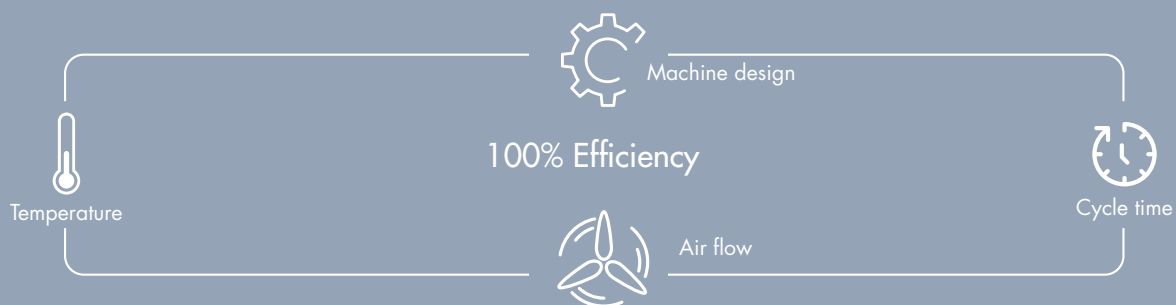


TUMBLE DRYERS



- 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



TIME SAVING

The GOLD range can achieve cycle times of just

25 min

2 GOLD RANGE

WATCH
VIDEO

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

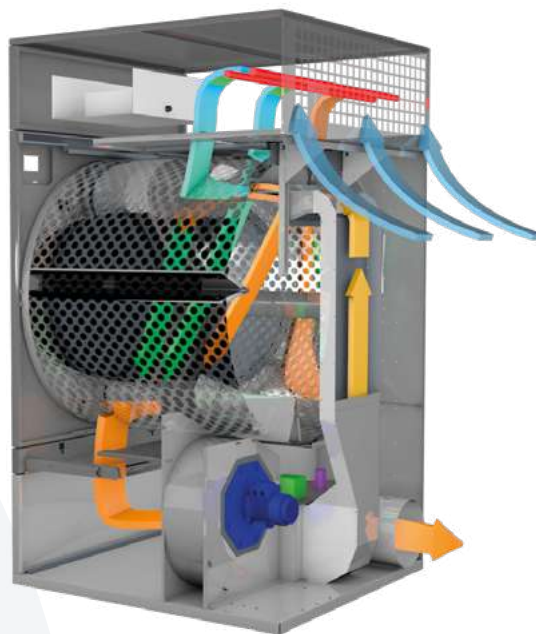
Model with sliding door available for GOLD, SILVER and BRONZE range from capacity 45 to 80 kg.



AIR RE-CYCLE

Air recovery system

Smart air recirculation system. Taking advantage of the hot, almost dry air, we shorten drying times and reduce energy consumption.



THERMAL INSULATION

Thermal insulation allows to keep warm air inside the dryer.



ALL AIR FLOW CIRCUIT
ISOLATED



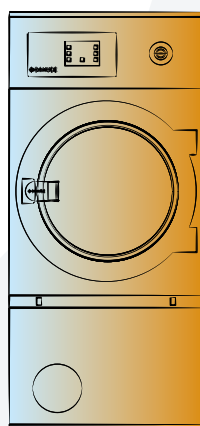
DOUBLE
GLAZED DOOR



AIR
CHANNELS



DOUBLE
PANEL



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

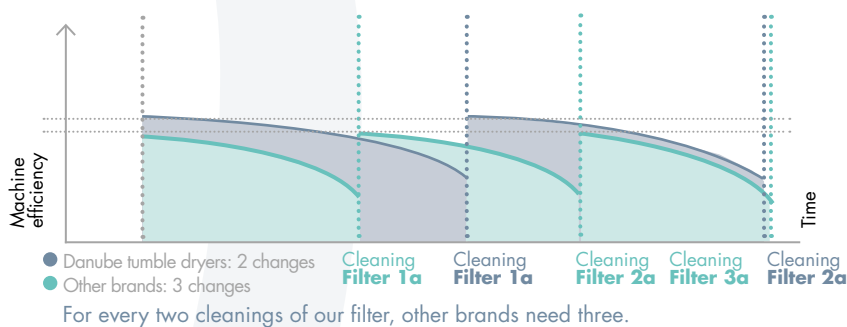
30%

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.



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 DRYER

✓ When the customer prioritizes
energy efficiency over drying time

✓ When a smoke vent
cannot be installed

-60%

of less consumption with
respect to the electric model

✓ When we have power
limitation installed

✓ Due to the difficulty of getting
gas installations or certifications

5 HEAT PUMP



EFFICIENCY

ELECTRIC
DRYER

18 kW

HEAT PUMP
DRYER

3,95 kW

**DIRECT
SAVING**



Less power installed

A heat pump dryer consumes 1/5 of the installed power compared to an electric model of the same capacity. Less installed power means lower fixed power costs.

Efficient

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

Optimized cycle time

Full load with 100% cotton towels

Industrial dryer —————> **63 minutes**

Professional dryer —————> **70 minutes**

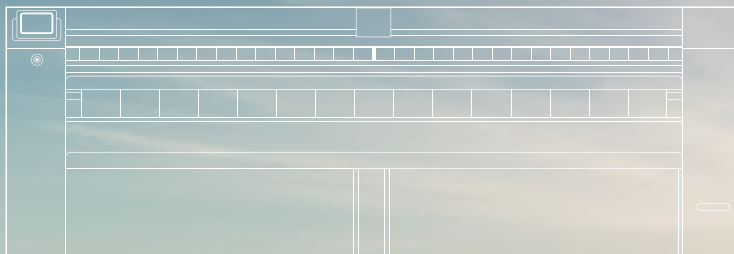
60% load, with 50% polyester / 50% cotton blended towels

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.

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



Available on ø 325,
500 and 650 mm models

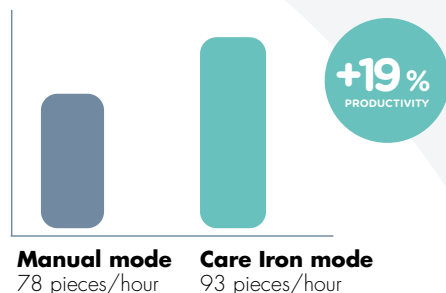


2 CARE IRON

- ⊕ Production
- ⊖ Energy

Automatic regulation of ironing speed according to residual moisture in garments. Standard on ø 650 mm and optional on ø 500 mm models.

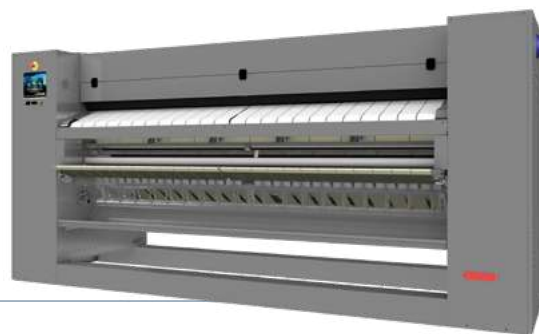
Example in
Flatwork ironer ø 650 mm



ADVANTAGES

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

OPTIMIZED IRONING TIME

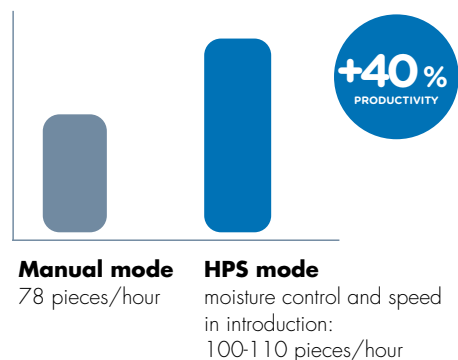


3 HPS

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

[WATCH VIDEO](#)

Example in
Flatwork ironer ø 650 mm



Manual mode
78 pieces/hour

HPS mode
moisture control and speed in introduction:
100-110 pieces/hour



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.



INTELLIGENT
EFFICIENCY

www.danube-international.com

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