

## Recommendation

# Identifying SENS waste electrical and electronic equipment (SENS-WEEE) with heat pumps

### Correct identification

- **SENS-WEEE with heat pumps may contain fluorinated refrigerants.** SENS-WEEE appliances that generate heat or cold operate with a heat pump. According to current technology, heat pumps may contain gases from hydro-fluorocarbons (HFCs – often R134a) that have significant global warming potential. These appliances must be recycled separately.

### SENS-WEEE appliances with heat pumps

- This is most often the case with **refrigerators, freezers and air conditioners**. The appliances listed below are affected and must always be examined carefully and recycled separately (note: this list is not exhaustive).

|                         |                                                                                                                                                                                                                                                                                                                         |
|-------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Always have a heat pump | <b>Refrigerators, freezers, air conditioners</b><br>Dehumidifiers, ice cream makers, air dryers, ice flake and ice cube machines, wine coolers, refrigerated beverage dispensers                                                                                                                                        |
| Often have a heat pump  | <b>Tumble dryers, washer/dryer combos</b><br>Tumble dryers with heat pumps have been on the market for around 20 years. Since 2012, only tumble dryers with heat pumps may be sold in Switzerland. Tumble dryers achieve efficiency class A (A required by law since 2012, A+ since 2015) only if they have heat pumps. |
| Rarely have heat pumps  | <b>Washing machines, dishwashers</b><br>Some energy-efficient washing machines and dishwashers have been manufactured with heat pumps since around 2013 (still rarely sold – high prices and not legally required).                                                                                                     |

### Collect and store separately

- SENS-WEEE appliances with heat pumps must be separated from other SENS-WEEE during collection. They must be collected and stored together with the other cooling/air conditioning appliances (appliance code 100300) and recycled in disposal facilities designed for this purpose (appliance code 100350).



**Please note:** To prevent gas from escaping, all SENS-WEEE appliances with heat pumps must be handled with care and should not be thrown or handled with a gripper.

## Primary characteristics for identifying SENS-WEEE appliances with heat pumps in practice

**Stickers/labels: “F-gas”, “R134a”, “Kyoto Protocol”**



## Contact

If you have any questions, please contact SENS eRecycling.

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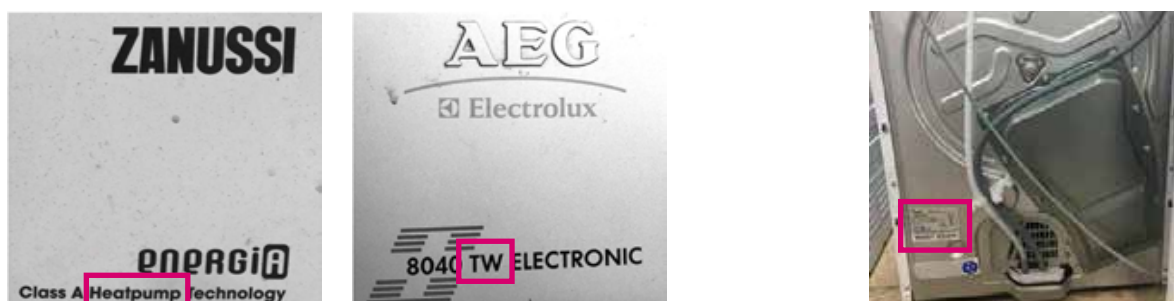
**Description WP or TW in the product designation on the front**



**Difference in weight between the same appliance types**

Example: Tumble dryers with heat pumps are heavier than normal tumble dryers

## Other characteristics

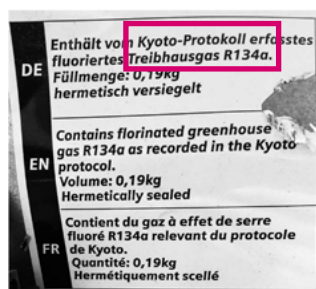


Front, description WP, TW or heat pump technology

Rear: F Gas label visible



Energy label A, A+, A++:  
this is probably a heat-pump  
tumble dryer



Rear, sticker  
with “gas R134 a” and  
“Kyoto Protocol”



Bottom, attachment  
of the compressor visible



Rear, compressor visible