FEN 2 InEEd-DC Component Library

Description of components

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# Electrical components

## Electrical consumption

### Standard electrical consumption

***Photograph/ schematic:***

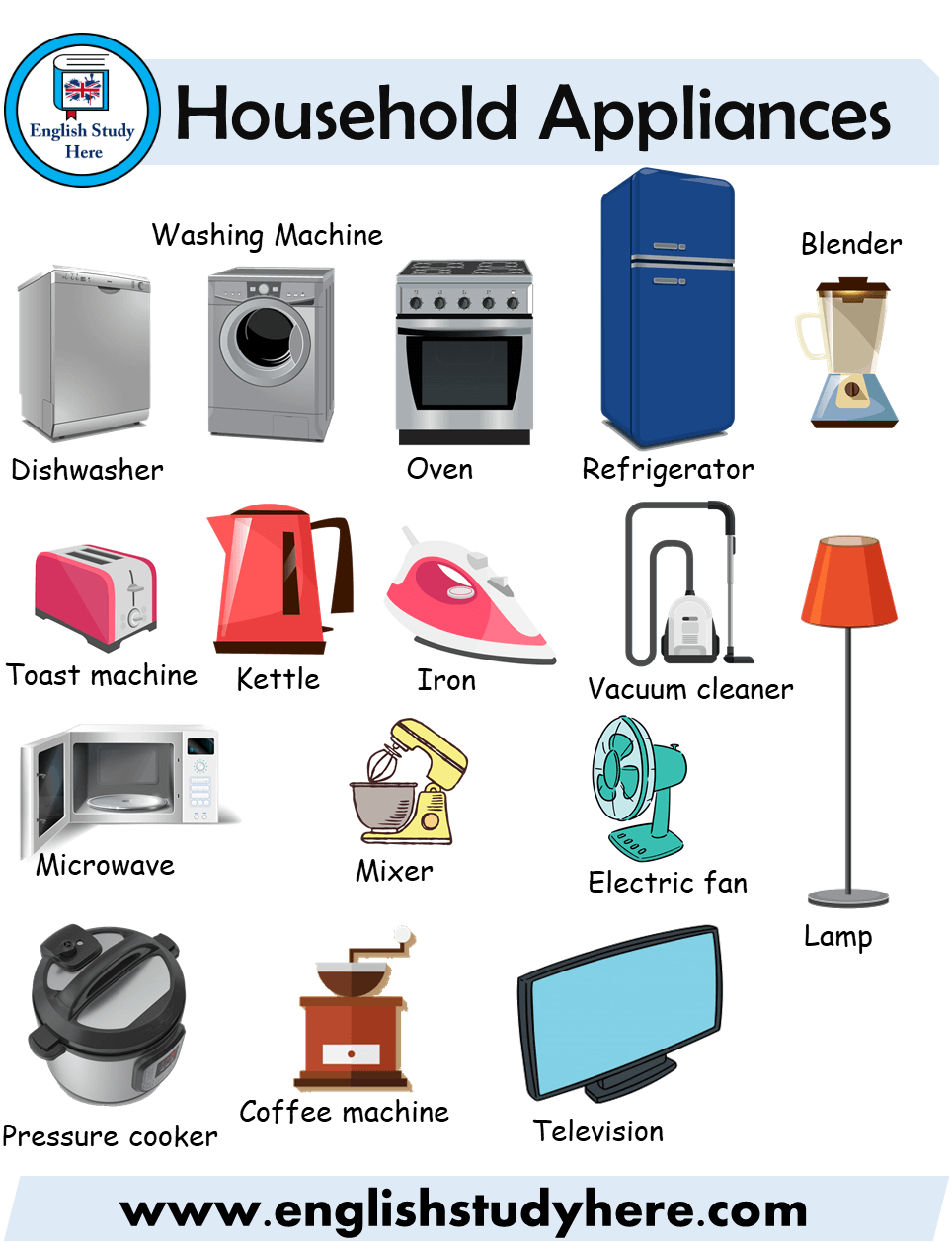


Abbildung 1‑1 - Household electrical appliances [1]

***Description of technology:***

This element represents the sum of electric consumption of all electrical appliances in a prosumer. Depending on different types of prosumers, this component indicates appliances flexibly. This element receives a load profile for electric demand and will be set to satisfy this demand with an efficiency of 100 % during the optimization. However, the imported demand should be either uncontrollable, such as the electricity demand of a toast machine and television, or modified controllable demand, such as a modified EV charging profile. The electrical consumption which should be optimized, such as the electrical consumption of the heat pump should not be included in this component.

***Technical constraints:***

* The electrical power, which flows into the component “StandardElectricalConsumption”, must equal the electrical consumption at every single time step. It has no storage capability or energy loss (efficiency equals 100 %).

***Control Strategy:***

* A max. power could be implemented to this component to limit the max. consumption power of this prosumer.

## External sources

### Standard AC Grid

## Inflexible generators

### PV generator

## Power electronics

### Grid inverter

## Storages

### Lithium-ion battery

# Thermal components

## Gas heaters

### Gas boiler

## Heat exchangers

### Air collector

## Heat pumps

### Standard electric heat pump

## Hot water consumption

### Standard hot water consumption

## Ohmic converters

### Electric boiler

### Electric radiator

## Solar generators

### Solar thermal generator

## Thermal Consumption

### Standard thermal consumption

## Thermal energy storages

### Hot water storage

# Gas components

## External Sources

### Standard gas grid

# Energy management (EMS) components

## EMS components

### Energy management system

References

[1] *https://englishstudyhere.com/vocabulary/household-appliances-names/* (accessed: Dec. 9 2020).