

EUROPUMP and Ecodesign Visions and Outlook

Challenges for standardization

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- Multiple influences in standardization of a system efficiency in Europe
- Definition of “a system”
- Clarify and share system responsibilities
- Use appropriate models (Semi Analytical Model= SAM) to exchange on standardized links
- Confusion with new, extended IE-classification
- Find consensus in IEC

- EuP & ErP Directives and implementation measures in Europe
- M/476 : Mandate for Variable Speed Drives (& PDS) and M/470 for Motors (and VSD)
- CLC-TC22X additional Liaisons
- Lot 30: Products in motor systems outside the scope of the Regulation 640/2009
- Lot 31: Products in motor systems outside the scope of the Lot 30
- **EUROPUMP**

Target of this complex item

To describe the energy efficiency of “a motor driven system”



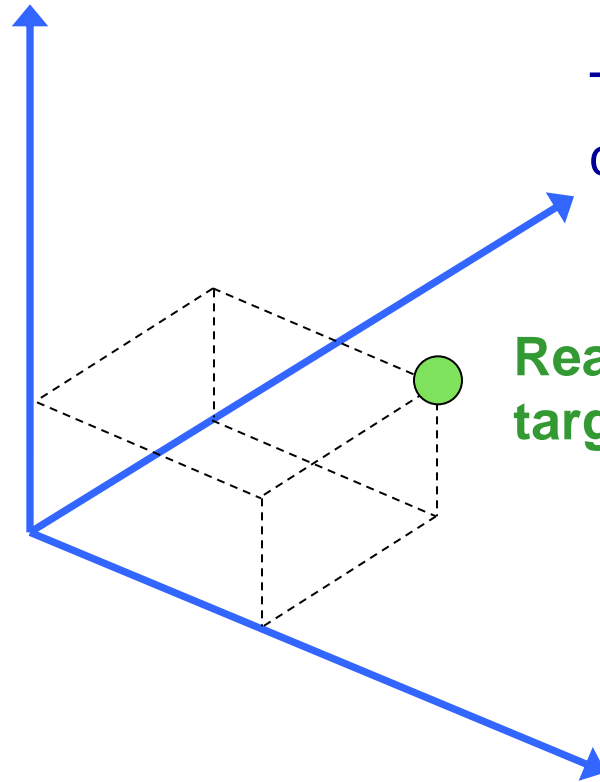
Different influences just on one item

Market
surveillable,
independend
certifyable

Technically
comprehensive

**Reasonable
target**

Manufacturer neutral no
discrimination of
technologies



What is “a motor driven system”?

Pump with motor and pipes?

Pump with motor?

Pump with motor and converter?

Motor and converter (= Power Drive System PDS)

Motor with a brake?

Switchgear with a motor?

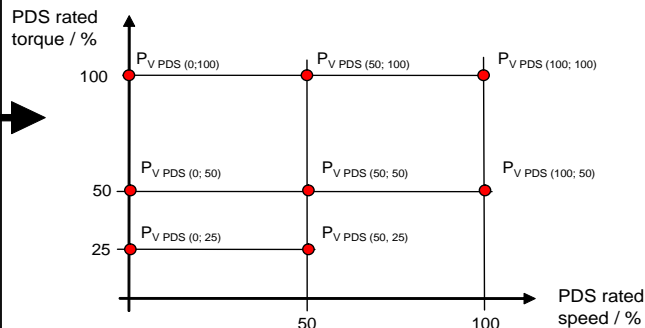
Converter with control unit and motor?

...any other combination?

Responsibility of PDS-Efficiency Productstandard

Responsibility of Driven Application-Efficiency Productstandard

Related PDS-losses as link



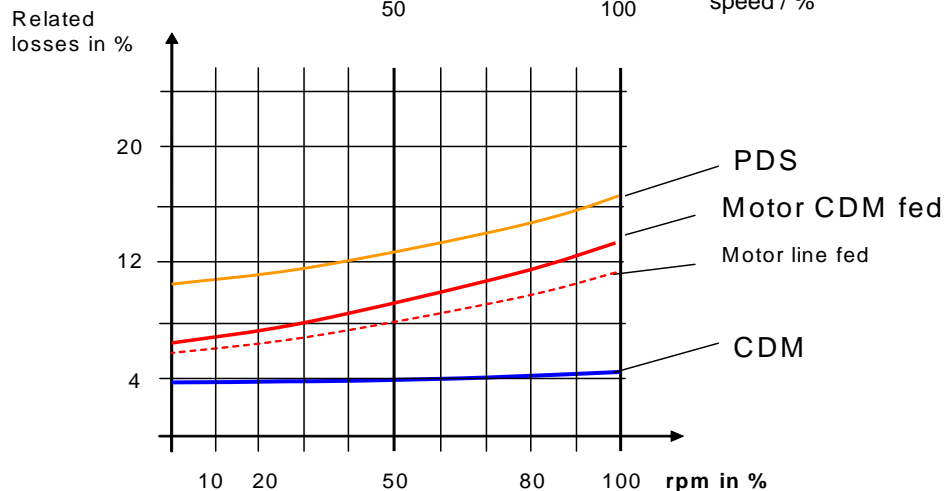
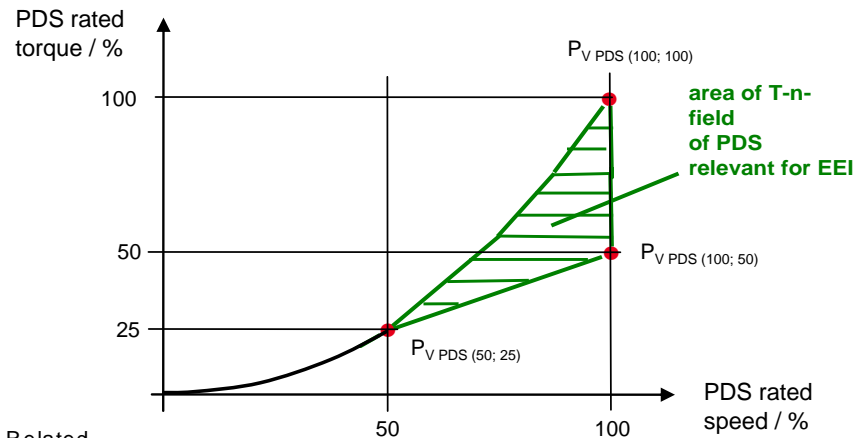
Analytical efficiency model of a driven application

Related losses of the embedded PDS

Efficiency Class of a driven application

Permissible tolerances

PDS-losses relevant for a “SAM”



- Complex formulars and Parameters for qualification
- Complex determination methods while measurement

IE 0, 1, 2, Reserved just for the efficiency of the component line fed electrical motor

IE 10, 11, 12, ... Reserved just for the efficiency of the component converter fed electrical motor

IE 20, 21, 22,... Reserved just for related losses of the component CDM with a progressive tolerance, dependant on nominal power, (e.g. >4% to <1% for 18,5kW)

IE 30, 31, 32, ... Reserved for related losses of the PDS with a progressive tolerance, dependant on nominal power, (e.g. of >16% to <4% for 18,5kW)

Nominal Power of typical example 18,5 kW

