



How To Choose The Proper Step-Down Transformer

Question:

Is there a formula to determine which step-down transformer is right to use for different wattage applications?

Rated VA of the transformer must be greater than the Total VA:

- **Total VA** = (VA of the load) + (Transformer VA Loss)
- **VA of the load** = (Input Watts of the Load) ÷ (Power Factor of the Load)
- The **Transformer VA Loss** information is published on our data sheet for each model

Example:

Find the proper Step-down Transformer for a 200W eHID ballast:

- Input watts of the load (*i.e., this ballast*) = 229W
- Power factor of the load (*i.e., this ballast*) = 0.94
- VA of the Load = $229 \div 0.94 = 243.6\text{VA}$
- Total VA = $243.6 + 10$ (for 245VA transformer) = 253.6W

Since $253 > 245$ (Rated VA), the 245VA transformer cannot be used. Use TRP's 460VA transformer.



Thomas Research Products has three Step-down Transformer models available

These accept 347V or 480V input voltage and produce 277V output voltage.

Available VA ratings:

- 125
- 245
- 460

Also available are two Step-up Transformer models

These accept 120V input voltage and produce 277V output voltage.

Available VA ratings:

- 275
- 500