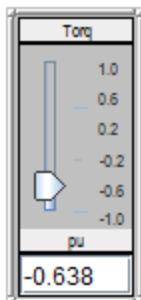


Induction Motor 2 Validation

Manufacturer Parameters Converted by ATP Draw

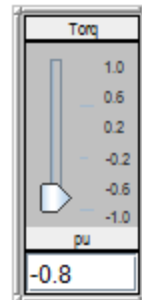
Induction machine fitting						
Input	Entered	Adjusted	Weight	Output	pu	Ohm/H
Power factor	0.9	0.89	1	Rs	0.049163	18.62588
Efficiency	0.932	0.934	1	Xs	0.067829	0.068165
Slip [%]	1.3888889	1.415	1	Xm	2.622329	2.635314
Current start	6.5	6.749	1	Xr	0.067829	0.068165
Torque start	0.65	0.638	1	R1	0.01473	5.580729
Current rated	1.0	0.978	1	R2	0.0	0.0
Maximum torque	2.5	2.507	0	X2	0.0	0.0

Cage factor: Rated torque: [Nm]



IND1IA, I...
0.1501

IND1W
-0.03277



IND1IA, I...
0.0214

IND1W
0.9863

Current Values

Starting

Calculated

$$|I_{st}| = 0.15 \text{ kA}$$

Measured

$$I_{start} := 0.15 \text{ kA}$$

Full Load

Calculated

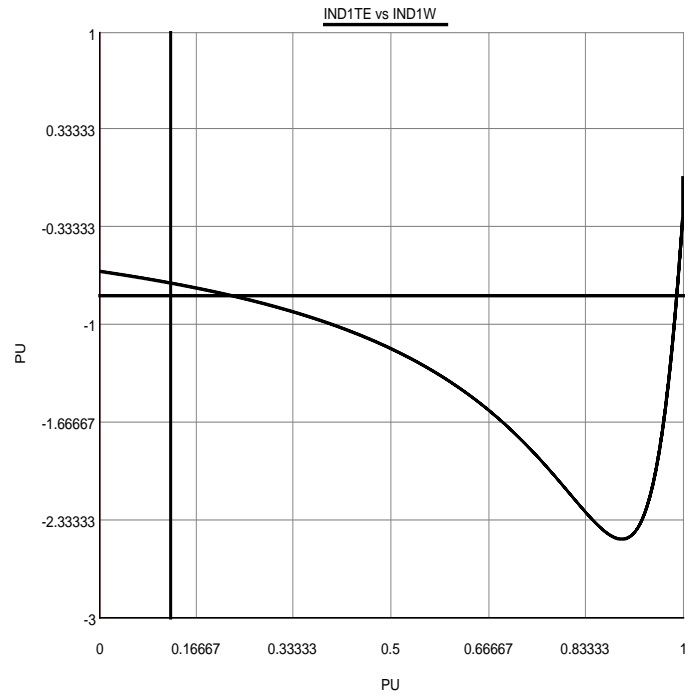
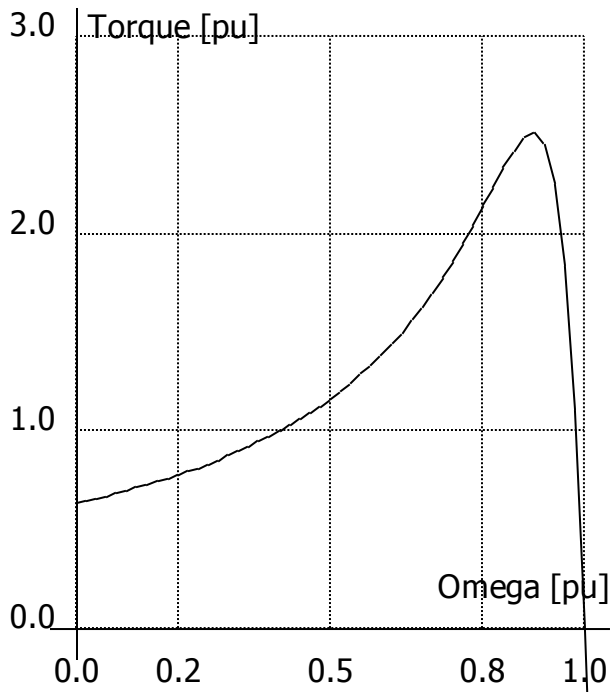
$$|I_{FL}| = 22.195 \text{ A}$$

Measured

$$I_{full} := 21.4 \text{ A}$$

$$\text{Error}_{SI} := \left| \frac{|I_{st}| - I_{start}}{I_{st}} \right| = 0.136\%$$

$$\text{Error}_{FI} := \left| \frac{|I_{FL}| - I_{full}}{I_{FL}} \right| = 3.583\%$$



Measured Torque Values

Starting

Calculated

$$T_{st_fl} = 0.638 \cdot pu$$

Measured

$$T_{start} := 0.6383 pu$$

Starting Torque Error

$$Error_{ST} := \left| \frac{T_{st_fl} - T_{start}}{T_{st_fl}} \right| = 0.047\%$$

Maximum

Calculated

$$T_{m_fl} = 2.507 \cdot pu$$

Measured

$$T_{max} := 2.465 pu$$

+

Maximum Torque Error

$$Error_{MT} := \left| \frac{T_{m_fl} - T_{max}}{T_{m_fl}} \right| = 1.675\%$$