

Ventilador Modelo: **CSS**
 Diâmetro: **355** mm
 Arranjo: **3**
 Classe: **I** (nº romano)
 Pot. Abs. (Op): **10,00** CV
 Rotação: **1800** rpm
 TAG
 Peso do Rotor: **7,2** kg
 Rend. Pol/Corr (η): **0,92**

Motor Elétrico:
 Potência: **15** CV
 Nº de Pólos: **4**
 Rotação: **1755** rpm
 Conj.c/rotor bloq.: **2,3** Cp/Cn
 Tempo c/rotor bloq.: **5** s

$$\text{Conj. Nom. Motor (Cnm)} = \frac{974 \times \text{Pot. Mot. (kW)}}{\text{Rot. Mot. (rpm)}} = \frac{974 \times 11}{1755} = 6,12 \text{ kg.m}$$

$$\text{Conj. Partida Mot. (Cpm)} = 2,30 \times \text{Conj. Nom. Mot.} = 2,30 \times 6,12 = 14,07 \text{ kg.m}$$

$$\text{Conj. Nom. Vent. (Cnv)} = \frac{974 \times \text{Pot. Vent. (kW)}}{\text{Rot. Vent. (rpm)}} = \frac{974 \times 7,35}{1800} = 3,98 \text{ kg.m}$$

$$\text{Conj. Médio Vent. (Cmv)} = 0,38 \times \text{Conj. Nom. Vent.} = 0,38 \times 3,98 = 1,51 \text{ kg.m}$$

$$\text{Conj. Nom. Motor no Ventilador (Cnmv)} = \frac{\text{Rot. Mot. (rpm)} \times \text{Cnm} \times \eta}{\text{Rot. Vent. (rpm)}} = \frac{1755 \times 6,12 \times 0,92}{1800} = 5,49 \text{ kg.m}$$

$$\text{Conj. Partida Mot. no Ventilador (Cpmv)} = \frac{\text{Rot. Mot. (rpm)} \times \text{Cpm} \times \eta}{\text{Rot. Vent. (rpm)}} = \frac{1755 \times 14,07 \times 0,92}{1800} = 12,62 \text{ kg.m}$$

$$\text{Conjugado Útil (Cútil)} = \text{Cpmv} - \text{Cmv} = 12,62 - 1,51 = 11,11 \text{ kg.m}$$

$$\text{Momento Inércia (GD}^2) = \frac{\varnothing^2(\text{m}) \times \text{Peso Rotor (kg)}}{2} = \frac{0,36 \times 7,24}{2} = 0,456 \text{ kg.m}^2$$

$$\text{Tempo Aceleração (Ta)} = \frac{\text{GD}^2 \times \text{Rot. Vent. (rpm)}}{375 \times \text{Conjugado Útil}} = \frac{0,46 \times 1800}{375 \times 11,11} = 0,20 \text{ s}$$

