

# CASE

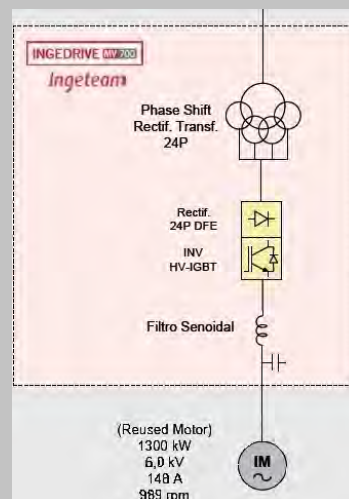
# STUDY

TUBOS REUNIDOS INDUSTRIAL, S.L.U.  
(SPAIN)



In July 2013, Ingeteam received an order from Tubos Reunidos, S.A., one of the main global suppliers of seamless steel tubes in carbon, alloyed, high-alloyed and stainless steel, to upgrade its centrifugal fan of the dedusting system of the electric arc furnace of its plant of Amurrio (Spain), in order to obtain a reduction of energy consumption.

Before the upgrade, the centrifugal fan motor (make INDAR, an Ingeteam brand) was driven by means of a soft starter and the air flow controlled with a shutter valve. The proposed change consisted in replacing the soft starter by a frequency converter, type Ingedrive MV700, which controls the speed motor in its full speed range thereby controlling the air flow in different points of work. Energy savings of up to 21% have been achieved after the upgrade. Additionally, the upgrade has enabled more operational flexibility to the plant.



Centrifugal Fan for Dedusting System



	<b>Scope of Supply</b>	
	Project management Basic and detailed engineering Equipment supply: · Ingedrive MV700 converter with integrated 36 pulse phase-shift rectifier transformer Commissioning and optimization After sales services (360°CRS)	
	<b>Technical Features</b>	
	<b>Ingedrive MV700</b> 3x 24 Pulse Diode Front End (3x 24P DFE), non-regenerative Five level voltage source inverter with HV-IGBT power semiconductors, using PWM modulation techniques based on voltage vectors Consisting of high-capacity long-life polypropylene capacitors Air cooled 3600 x 2740 x 1400 (W x H x D in mm)	
Converter type Rectifier Inverter DC-Bus system Cooling method Overall size	<b>Other Data</b>	
	<b>Before upgrade:</b> Centrifugal fan Inlet box damper (shutter valve)	
	<b>After upgrade:</b> Centrifugal fan Variable speed drive >300.000 kg/year 21%	
Fan Type Flow control method Fan Type Flow control method Total CO <sub>2</sub> reduction Energy savings		

