





K			Fan			Item N°	AN12-K-001			
Applicable to :		R.F.Q. <input type="checkbox"/>	Purchase <input type="checkbox"/>		As built <input checked="" type="checkbox"/>					
Installation : AZOMURES - FLUE GAS CLEANING					Unit : AN12		1			
Service : Scrubber Fan					Quantity : 1		2			
Manufacturer: HOWDEN					Type: Centrifugal fan		3			
Fluid : Treated Flue Gas (FG) with less than 15 mg/Nm³ of dust					4					
						5				
OPERATING CONDITIONS FAN						PERFORMANCE				
Fluid handled : Treated gas with less than 15 mg/Nm³ of dust						Proposal curve n° : (513192-01) 701848-P4503-0004 (§3.3)				
Analysis :		Suction :		Speed :		985 Rpm				
Abs. humidity: 30.9 - 32.3 g/kg dry air		Temperature : 32 - 35 °C		Rotation coupling end (CW/CCW): CW						
		Pressure : -520 mmWG		kW rated : 1064 kW		Max.: (*)				
				MD2: 6408		kg.m ²				
Density@suction: 1.03- 1.08 kg/m ³		Discharge :		Motor mass power:		kW				
Cp/Cv : (*)		Temperature : 37.8 °C		Start up type: direct						
Visc.: (*) mPa.s		Pressure : 25 mmWG		Starting time : 43		s				
Capacity:.		Diff. pressure: 545 mmWG		Efficiency 86.1		%				
Rated: 507 000 Nm ³ /h Wet air		Local b-pressure : 730 mmHg		Maximum noise level at 1 meter 85		dBA (2)				
				Speed compared to max. speed 100		%				
MATERIALS (1)					DRIVING MOTOR BY: (4)					
Housing : SS 304L		Gland : -		Item n° : AN12-K-001		Installed by : VENDOR				
Rotor : Uranus 45N (Wn 1.4462)		Bearings: cast iron		Nominal Power 1180 kW		994 Rpm (*)frame				
Shaft : 42 CrMo4+protec. SS		gaskets : Butyl		Manufacturer : SIEMENS						
Packing : Aluminum sealing box		Bolts : ISO Grade A4		Absorbed power : 1064 kW						
Stuff. box : (*)				Insulation : IP55						
CONSTRUCTION					Encl.: IM B3					
NOZZLES		SIZE		DRILLING		LOCATION		Volts/phase/Hz : 6,6 kV / 3 ph / 50 Hz		
Suction : N1 A/B		4415 x 1024		116 x Ø19		Inlet bellows		Starting torque : 9 000 Nm		
Discharge: N2		3058 x 2056		84 x Ø19		Diffuser				
						GEAR BY : VENDOR N/A				
Rotor type: Air foil				Item n° :						
Impeller Diam: 2175 mm				Manufacturer/type :						
Bearings: HFB GOS 228				AGMA factor :						
Type of drive : Direct coupling				Ratio :						
Housing : 6 mm				Rated power :		kW				
Completed drainability req'd (yes/no) : YES				LOUVERS/DAMPER: (*)						
Flow control : Yes Damper type : Electrical – SS construction				Analog signal operation : yes						
Fan Type : Centrifugal				Detector of opening rate : yes						
Fan arrangement: Between bearings				Safety switch : no						
Fan orientation: RD315°				Tightness at closed position: no						
AUXILIARIES (*)					End switches open/closed: yes (on actuator)					
Baseplate (common for fan and driver) by : VENDOR				Type: Electrical actuator						
Coupling type : Direct coupling				MASS (kg) (*)						
Manufacturer : SIEMENS By : Vendor				Fan :		23 000 kg				
				Motor :		7 300 kg				
Guard (yes/no) : Yes By : Vendor				Base plate :		500 kg				
V-belts : n°/type: NO				Gear:		N/A				
					MANUFACTURER FINAL DATA (*)					
Silent blocs Number & type : No				Test curve n° :						
Anchor bolts: Yes by vendor type : Number : 26				Final outline dwg n° 4419-001 / 701848-P4503-0015						
Expansion bellows: Yes										
REMARKS: (*) To be completed by vendor										
(1) Copper and copper alloys are prohibited – all part in contact with fluid must be SS304L or chemically equivalent										
(2) Vendor shall specify a noise insulation if required with fixation (type/thickness/location)										
(4) See specification 701848-0000-47ES-0001 for Medium voltage and Low Voltage induction motors										
Rev.						701848				
By						FLUE GAS CLEANING				
Date						AZOMURES – Tirgu Mures - Roumania				
						doc. No. : 701848-P4503-0014				
Prepared S. TOURNAIRE		 SNC•LAVALIN		 AZOMURES <small>An AMEROPA Company</small>		Sheet: 1/1				
Checked										
Approved P. COGNAUD										
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02

02

02

K	Fan	Item N°	AN03-K-001
Applicable to : R.F.Q. <input type="checkbox"/>		Purchase <input type="checkbox"/> As built <input checked="" type="checkbox"/>	
Installation : AZOMURES - FLUE GAS CLEANING		Unit : AN03	1
Service : Scrubber Fan		Quantity : 1	2
Manufacturer: HOWDEN		Type: Centrifugal fan	3
Fluid : Treated Flue Gas (FG) with less than 15 mg/Nm³ of dust			4
OPERATING CONDITIONS FAN			
Fluid handled : Treated gas with less than 15 mg/Nm³ of dust		Proposal curve n° : (513192-01) 701848-P4503-0004 (§3.3)	
Analysis :	Suction :	Speed :	985 Rpm
Abs. humidity : 30.9 - 32.3 g/kg dry air	Temperature : 32 - 35 °C	Rotation coupling end (CW/CCW): CW	8
	Pressure : -520 mmWG	kW rated : 1064 kW	9
		Max.: (*)	10
		MD2: 6408 kg.m²	11
Density@suction: 1.03- 1.08 kg/m3	Discharge :	Motor mass power:	kW
Cp/Cv :	Temperature : 37.8 °C	Start up type: direct	12
Visc.: mPa.s	Pressure : 25 mmWG	Starting time : 43 s	13
Capacity:.	Diff. pressure: 545 mmWG	Efficiency 86.1 %	14
Rated: 507 000 Nm³/h Wet air	Local b-pressure : 730 mmHg	Maximum noise level at 1 meter 85 dBA (2)	15
		Speed compared to max. speed 100 %	16
MATERIALS (1)		DRIVING MOTOR BY: (4)	
Housing : SS 304L	Gland : -	Item n° : AN03-K-001	Installed by : VENDOR
Rotor : Uranus 45N (Wn 1.4462)	Bearings: cast iron	Nominal Power 1180 kW	994 Rpm (*)frame
Shaft : 42 CrMo4+protec. SS	gaskets : Butyl	Manufacturer : SIEMENS	
Packing : Aluminum sealing box	Bolts : ISO Grade A4	Absorbed power : 1064 kW	
Stuff. box : (*)		Insulation : IP55	
CONSTRUCTION		Encl.: IM B3	
NOZZLES	SIZE	DRILLING	LOCATION
Suction : N1 A/B	4415 x 1024	116 x Ø19	Inlet bellows
Discharge: N2	3058 x 2056	84 x Ø19	Diffuser
Rotor type: Air foil		Volts/phase/Hz : 6,6 kV / 3 ph / 50 Hz	
Impeller Diam: 2175 mm		Starting torque : 9 000 Nm	
Bearings: HFB GOS 228		GEAR BY : VENDOR N/A	
Type of drive : Direct coupling		Item n° :	
Housing : 6 mm		Manufacturer/type :	
Completed drainability req'd (yes/no) : YES		AGMA factor :	
Flow control : Yes Damper type : Electrical – SS construction		Ratio :	
Fan Type : Centrifugal		Rated power : kW	
Fan arrangement: Between bearings		LOUVERS/DAMPER: (*)	
Fan orientation: RD315°		Analog signal operation : yes	
AUXILIARIES (*)		Detector of opening rate : yes	
Baseplate (common for fan and driver) by : VENDOR		Safety switch : no	
Coupling type : Direct coupling		Tightness at closed position: no	
Manufacturer : Siemens By : Vendor		End switches open/closed: yes (on actuator)	
Guard (yes/no) : Yes By : Vendor		Type: Electrical actuator	
V-belts : n°/type: NO		MASS (kg) (*)	
		Fan : 23 000 kg	
		Motor : 7 300 kg	
		Base plate : 500 kg	
		Gear: N/A	
Silent blocs Number & type : No		MANUFACTURER FINAL DATA (*)	
Anchor bolts: Yes by vendor type : Number : 26		Test curve n° :	
Expansion bellows: Yes		Final outline dwg n° 4419-001 / 701848-P4503-0015	
REMARKS: (*) To be completed by vendor			
(1) Copper and copper alloys are prohibited – all part in contact with fluid must be SS304L or chemically equivalent			
(2) Vendor shall specify a noise insulation if required with fixation (type/thickness/location)			
(4) See specification 701848-0000-47ES-0001 for Medium voltage and Low Voltage induction motors			
Rev.	PA	PB	00
By	STO	STO	STO
Date	23/09/2014	01/10/2014	17/12/2014
			01
			02
Prepared	S. TOURNAIRE		
Checked			
Approved	P. COGNAUD		
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