

 GRUBER HERMANOS, S. A.		<h2 style="text-align: center;">FAN DATA SHEET</h2>					
JOB NO.: 42488		ITEM NO.: C-28-02-10					
PURCHASER / OWNER: AIR LIQUIDE HYDROGENE		DOCUMENT NO.: BEH-21-01-691-004					
SERVICE: COMBUSTION AIR FAN		LOCATION: Belle Etoile Hydrogene plant, France					
1	FAN MANUFACTURER: GRUBER HERMANOS, S. A.		MODEL/SIZE: H3N-1.10D, Size 127				REV.
2	ARRANGEMENT: 8 SWSI (Dp)		SERVICE: Combustion air fan				
3	NO. REQUIRED: 1		DRIVE SYSTEM: Electrical motor				
4	FAN ROTATION FROM DRIVEN END: X		CW		CCW		
5	GAS HANDLED: Air ambient		MOLECULAR WEIGHT: 28.47 kg/kmol				
6	SITE ELEVATION, m:		FAN LOCATION:				
7	OPERATING CONDITIONS						
8	OPERATING CONDITION / CASE:		NORMAL	RATED@7%	TURNDOWN		
9	INLET CAPACITY, kg/h		42780	45775	17112		
10	INLET CAPACITY, m3/s		10,80	11,56	4,32		
11	INLET DENSITY, Kg/m3		1,1	1,1	1,1		
12	INLET TEMPERATURE, °C		40	40	40		
13	RELATIVE HUMIDITY, %						
14	STATIC PRESSURE @ INLET, bara		1,0054	1,0038	1,012		
15	STATIC PRESSURE @ OUTLET, bara		1,072	1,08	1,028		
16	PERFORMANCE:						
17	Kw @ TEMPERATURE (ALL LOSSES INCLUDED)		96	110	38		
18	FAN SPEED, RPM		1484	1484	1484		
19	STATIC PRESSURE RISE ACROSS FAN, mm H2O		680	778	163		
20	INLET VANE POSITION		23° closed	Totally opened	76° closed		
21	DISCHARGE DAMPER POSITION		N/A	N/A	N/A		
22	FAN STATIC EFFICIENCY, %		75	80	18		
23	STEAM RATE, Kg/kwh (TURBINE ONLY)		N/A	N/A	N/A		
24	FAN CONTROL:		DRIVE ELECTRICAL MOTOR				
25	AIR SUPPLY		BRAND LEROY-SOMMER	TYPE FLSES315LA			
26	FAN CONTROL FURNISHED BY GRUBER HERMANOS		RATED KW 160	RPM 1500			
27	METHOD INLET DAMPER		ELECTRICAL AREA CLASSIFICATION: NON ATEX zone				
28	OUTLET DAMPER		CLASS F	POWER			
29	INLET GUIDE VANES	X	GROUP N/A	VOLTS 690			
30	VARIABLE SPEED		DIVISION N/A	PH 3			
31	STARTING METHOD Direct on-line starting			Hz 50			
32	CONSTRUCTION FEATURES						
33	HOUSING:		BEARINGS:				
34	MATERIAL EN 10025 235 JR	THICKNESS 6 mm	HYDRODYN.		ANTIFRICT.	X	
35	SPLIT FOR REMOVAL (YES / NO) YES		TYPE 22217 EK - C3 (both sides) - SKF brand				
36	DRAINS: No.: 1	SIZE 2"	LUBRICATION OIL				
37	ACCESS DOORS: No.: 1	SIZE 400 x 550	COOLANT REQ'D NO				
38	BLADES:		m3/s @ °C				
39	TYPE: Backward curved blades		THERMOST.CONTROL.HEATERS (Y/N) NO				
40	No.: 13	THICKNESS 6 mm	TEMPERATURE DETECTORS (YES/NO) YES (1 per bearing)				
41	MATERIAL EN 10025 355 JO		VIBRATION DETECTORS (YES/NO) YES (2 per bearing)				
42	HUB:		SPEED DETECTORS:				
43	SHRINK FIT KEYED X		NON-CONTACT PROBE		NO		
44	MATERIAL EN 10025 355 JO		SPEED SWITCH		NO		
45	SHAFT:		OTHER		NO		
46	MATERIAL EN 10083-1-1.1191		COUPLINGS:				
47	DIAMETER @ BRGS., mm 75		TYPE METALLIC NON LUBRICATED				
48	SHAFT SLEEVES:		BRAND KTR	MODEL RADEX N-80			
49	MATERIAL N/A		SERVICE FACTOR 1.5				
50	SHAFT SEALS:		MOUNT COUPLING HALVES				
51	TYPE Double type - manufacturing design		FAN		DRIVER		
52			SPACER (YES / NO) YES				
53	WR2, Kg.m2 251	INERTIA 63 kg.m2	SPACER LENGTH, mm 140				
54	NOTES:						
55	Start-up with IGV in close position is possible						
56	Shaft is 75 mm and bearings is 85mm with sleeve						
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REVISION		0	1	2			
DATE		27/01/2022	09/03/2022	13/04/2022			
BY		C.R.	C.R.	C.R.			
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GRUBER HERMANOS, S. A.

FAN DATA SHEET

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CONSTRUCTION FEATURES (continued)

1	MISCELLANEOUS:				Rev
2	X	COMMON BASE PLATE (FAN, DRIVER)		X	SILENCER (INLET)
3		INLET (SCREEN)		X	BEARING PEDESTALS / SOLEPLATES
4		EVASE		X	HOUSING DRAIN CONNECTION
5	X	PERFORMANCE CURVES			VIBRATION ISOLATION
6	X	SPARK RESISTANT COUPLING GUARD		X	SECTIONAL DRAWING
7		TYPE BY VENDOR		X	INSULATION CLIPS
8	X	OUTLINE DRAWING		X	SPECIAL COATINGS
9	X	INSPECTION ACCESS			INLET BOXES
10		CONTROL PANEL			INLET FILTER
11	NOISE ATTENUATION:				WEIGHTS, Kg
12	MAX.ALLOWABLE SOUND PRESS. LEVEL		85	DBA	FAN 2205
13		@	1	m	DRIVER 1055
14	PREDICTED SOUND PRESS. LEVEL		77	DBA	BASE 735
15		@	1	m	SOUND TRUNK 300
16	ATTENUATION METHOD		INSULATION lagging (70mm)&INLET SILENCER		EVASE 685
17	FURNISHED BY		GRUBER HERMANOS		TOTAL SHIPPING WEIGHT 3560
18	PAINTING:				CONNECTIONS:
19		MANUFACTURERS STANDARD			SIZE RATING ORIENTAT.
20		CUSTOMER SPECIFICATION X		INLET	Diam. 800mm Man. Std. Hztal.
21	SHIPMENT:				OUTLET 880 x 508 Man. Std. 45°
22		DOMESTIC		EXPORT	DRAINS 1 x 2" ANSI Hztal.
23		EXPORT BOXING REQUIRED X			
24					
25	ERECTION:				TESTS:
26		ASSEMBLED		X	MECHANICAL RUN IN. (NO LOAD)
27	X	PARTLY ASSEMBLED		X	WITNESSED PERFORMANCE
28		OUTDOOR STORAGE OVER 6 MONTHS		X	ROTOR BALANCE
29	APPLICABLE SPECIFICATIONS:				SHOP INSPECTION
30				X	ASSEMBLY AND FIT-UP CHECK
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34	NOTES:				
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REVISION	0	1	2		
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