

SCREW AIR END PERFORMANCE TEST REPORT

TEST METHOD: Module
 MODULE TYPE: CD8D_22717490 STAGE1 TYPE: CDA80 STAGE2 TYPE: CDB54
 MODULE SN: WJ15895CD823 STAGE1 SN: C23DMW6425 STAGE2 SN: C23DMX7015
 TEST MEDIUM: Air SPECIFICATION: CD8D | G20 | OP20 | RO | RO
 TEST OP: Heng Liu TEST STAND: Small Bed TR3 DATE OF TEST: 20230714/18:52

TEST CONDITION AND PERFORMANCE					
ITEMS	UNIT	DESIGN	TEST(Stage1)	TEST(Stage2)	CORRECTED
AMBIENT PRESSURE	[bara]		0.998		
AMBIENT AIR HUMIDITY	[%]		22.3		
MOTOR SPEED	[r/min]	3570	3570	3570	
COMPRESSOR SPEED	[r/min]	12805/17850	12804	17848	
ABS.SUCTION PRESSURE	[bara]	0.985/3.18	0.983	3.24	
SUCTION TEMPERATURE	[°C]	50.0/61.0	49.6	60.7	
DISCHARGE PRESSURE	[bara]	3.23/11.50	3.28	11.52	
DISCHARGE TEMPERATURE	[°C]	198.5/261.10	192.7	249.2	
PRESSURE RATIO	[-]	11.68	11.718		
SUCTION VOLUME	[m ³ /h]	509.90	521.93		521.51(2.3%)
SHAFT POWER	[kW]	66.20	67.79		67.87(2.5%)
SPECIFIC POWER	[kW/(m ³ /min)]	7.79	7.79		7.81(0.2%)

OIL SYSTEM PARAMETERS						
OIL-TYPE		ISO VG 46				
STAGE		STAGE1			STAGE2	
GEAR OIL						
PRESSURE	[bara]	2.61		2.72		
TEMPERATURE INLET	[°C]	49.46		48.55		
VOLUME	[l/min]	2.21		2.27		
LUBE OIL		SUCTION SIDE	DISCHARGE SIDE	SUCTION SIDE	DISCHARGE SIDE	
PRESSURE	[bara]	2.71	2.44	2.63	2.54	
TEMPERATURE INLET	[°C]	49.06	49.48	49.32	49.64	
VOLUME	[l/min]	2.68	5.37	2.61	6.05	
COOLANT OIL						
PRESSURE	[bara]	2.54		2.54		
TEMPERATURE INLET	[°C]	50.48		50.48		
VOLUME	[l/min]	7.46		7.46		

Released

SCREW AIR END MECHANICAL TEST REPORT

TEST METHOD:	Module				
MODULE TYPE:	CD8D_22717490	STAGE1 TYPE:	CDA80	STAGE2 TYPE:	CDB54
MODULE SN:	WJ15895CD823	STAGE1 SN:	C23DMW6425	STAGE2 SN:	C23DMX7015
TEST MEDIUM:	Air	SPECIFICATION:	CD8D G20 OP20 RO RO		
TEST OP:	Heng Liu	TEST STAND:	Small Bed TR3	DATE OF TEST:	20230714/18:49

v=vertical	h=horizontal	a=axial
()=Filtered Frequency		

StageType	Speed	Vibration								Result
		1v	1h	2v	2h	2a				
Stage1	CDA80	12805	1.38	2.54	3.46	1.65	5.50			
		(213.42)	0.33	0.03	0.85	0.21	0.18			
Stage2	CDB54	17850	1.14	1.87	2.76	1.70	4.80			
		(297.50)	0.20	0.10	0.23	0.29	0.15			

Stage sealing												
Stage	Stage1						Stage2					
	HL	NL	Unit	Result		HL	NL	Unit	Result			
SUCTION SIDE	Tested value	0	0	m ³ /h	Min	H-0.714 N-0.646	Tested value	1.62	1.18	m ³ /h	Min	H0.219 NO.177
		0	0	°C	Max	H-0.063 N-0.057		65	60	°C	Max	H2.482 N2.006
	Corrected value	0.000	0.000	m ³ /h	PASS		Corrected value	0.493	0.365	m ³ /h	PASS	
DISCHARGE SIDE	Tested value	1.73	1.41	m ³ /h	Min	H0.630 NO.549	Tested value	3.23	2.66	m ³ /h	Min	H0.543 NO.441
		56	53	°C	Max	H7.140 N6.222		105	99	°C	Max	H6.154 N4.998
	Corrected value	1.722	1.416	m ³ /h	PASS		Corrected value	0.879	0.736	m ³ /h	PASS	

Released