

DATA MESIN INDUK

MAK		Diesel Engine				Sheet 1 of 2					
Acceptance Test Record											
Engine Type: <u>6Mu601</u>	Order No.: <u>241087/2</u>	Engine Serial No.: <u>63074</u>									
Atmospheric conditions during test run:				Ambient temperature: <u>29</u> °C							
Atmospheric pressure: <u>1025</u> mbar		Relative humidity: <u>43</u> %		Altitude: <u>10</u> m							
We used for the test run:				Test bed: <u>50/3</u>							
Fuel density: <u>0,828</u> kg/dm ³		Heavy fuel: <u> </u> % sSt at 50°C		Hydraulic brake: <u>111K005-015</u>							
Luboil type: <u>SAE40</u>		Heavy fuel: <u> </u> % °C before injection pumps									
Engine Data:											
Four-stroke, direct injection, port engine,				/clockwise rotation (viewed from the drive end)							
Rated power: <u>6400</u> kW		Rated speed: <u>428</u> 1/min									
Bore: <u>580</u> mm		Stroke: <u>600</u> mm		Firing order: <u>1-3-5-6-4-2</u>							
Turbocharger type: <u>VTR 50A-2P</u>		Serial No.: <u>HT363137</u>		Specification: <u>E5T39411C8350W1H3</u>							
Max. speed: <u>14300</u> 1/min		Max turbine inlet temperature: <u>650</u> °C		Test: <u>26620FRM14-83</u>							
Fuel injection pump: <u>L'Orange PGO-6006H</u>		Plunger diameter: <u>470</u> mm		Idle stroke "X": <u>8,0 ± 0,1</u> mm							
Fuel injector: <u>L'Orange VVO-T067a/E</u>		Opening pressure: <u>360</u> bar		Specification: <u>10 × 0,86 × 3 = 150°</u>							
Oil cooler: <u> </u> %		Cooling surface area: <u> </u> m ²		Crankshaft drawing No.: <u>1836-2510.01-02</u>							
Fresh water cooler: <u> </u> %		Cooling surface area: <u> </u> m ²		Crankshaft No.: <u>3655</u>							
Timing Data											
to drawing No.:		Cylinders									
		Bank	1)	2	3	4	5	6	7	8	9
Inlet opens before T.D.C.		A ¹⁾	55	55	55	55	55	55			
		B ²⁾									
Inlet closes after B.D.C.		A	40	40	40	40	40	40			
		B									
Exhaust opens before B.D.C.		A	55	55	54	54	54	55			
		B									
Exhaust closes after T.D.C.		A	35	35	35	35	34	35			
		B									
Flywheel diameter: <u>1950</u> mm		1 ²⁾		<u>170</u> mm		Flywheel weight: <u>3681</u> kg					
Settings											
		Bank	Cylinders								
			1	2	3	4	5	6	7	8	9
Distance from liner top edge to piston top edge in T.D.C. [mm]		A	27,0	27,0	26,8	26,8	26,9	26,8			
		B									
Injection commencement measured with stroboscope (dynamically)	Commencement of injection pump delivery indicated in timing window of pump, degrees before T.D.C.	Ahead	A	20,0	19,0	19,5	19,5	20,0	19,5		
		Astern	A	21,5	18,0	20,5	20,5	21,0	19,5		
		B									
		B									
Fuel injection pump rack position when control handle on "stop" [mm]		A	0,0	0,0	0,0	0,0	0,0	0,0			
		B									
Fuel injection pump rack position [mm]		A	53,0	53,0	53,0	53,0	53,0	53,0			
		B									
Fuel limited at 53,0 mm		A	10,5	10,5	10,5	10,5	10,5	10,5			
		B									
Governor speed setting: <u>428</u> 1/min.			Air consumption for starting and reversing								
Maximum speed no load: <u>450</u> 1/min			Bottle capacity: <u>1,1</u> m ³								
Minimum speed no load: <u>155</u> 1/min			Initial pressure: <u>22,0</u> bar								
Minimum speed with load: <u>150</u> 1/min			Alternate starting and reversing: <u>5</u> times to <u>7,0</u> bar								
			Remaining pressure in bottle: <u>6,0</u> bar								
1) No. 1 cylinder on flywheel end of engine. Bank A = left, viewed from drive end. Bank B = right.		Acceptance:		Date: <u>13.04.84</u>		Engineer in charge: <u>15.04.84</u>		Approved: <u>28.05.84</u>		Surveyor:	
2) Delete if not applicable		<u>Germanischer Lloyd</u>		<u>67427K</u>		<u>4 GbK184</u>		Signature: <u>W.H.H.</u>		<u>Reinhold</u>	

Diesel Engine Acceptance Test Record														Sheet 2 of 2																											
														Order No.:	Engine Serial																										
														2 HA087/2	6307																										
Cyl. Bank	Running hours	Fuel rack	Output		Mean eff. press. bar	Fuel consumption		Lubricating oil		Cooling water		Charge air cooler		After turbine	Exhaust gas	Speed	Turbocharger	Change air pressure before/after cooler (bar)	Cool. water pressure before/after cooler (bar)	Exhaust gas temp. before/after turbine (°C)																					
			P _h kW	Lead %		Quantity kg/h	Consumption g/kWh	Pressure bar	Temperature °C	Water	Air	Temp. °C	Temp. °C								Temp. °C	Temp. °C	Temp. °C	Temp. °C	Temp. °C	Temp. °C	Temp. °C	Temp. °C													
A	530	448	6400	1495	100	1488	188	75	182.6	191.3	132.4	51	50	64	2.8	2.8	77	83	70	78	40	190	52	420	425	455	460	445	450	360	360	22102	182480	8%	24	13300	53553				
B	50																																								
A	530	448	6400	1495	100	1488	188	80	194.6	191.5	132.5	51	49	64	2.8	2.8	75	80	62	78	40	190	50	425	430	455	460	445	450	360	360	21952	172775	8%	23	13300	53553				
B	50																																								
A	530	448	6400	1495	100	1488	188	70	170.4	191.7	132.7	51	49	64	2.8	2.8	75	80	62	78	40	190	50	425	430	455	460	445	450	360	360	22002	182480	8%	23	13300	53553				
B	50																																								
A	585	448	7040	1593	110	1582	201	90	191.4	193.0	133.0	51	66	62	2.8	2.8	80	87	71	80	40	203	51	460	475	500	495	485	495	385	385	21452	392285	8%	27	13900	57056				
B	46																																								
A	448	448	5760	1346	90	1285	169	65	176.9	190.4	109.5	51	49	62	2.8	2.8	75	80	71	80	40	175	51	400	400	445	435	445	430	345	345	19204	95495	8%	26	12600	50550				
B	30																																								
A	330	340	3200	944	50	899	112	40	196.8	189.3	62.6	47	46	42	2.8	2.8	76	80	75	76	40	175	51	345	355	375	395	375	380	365	365	21700	85850	8%	20	8800	48077				
B	30																																								
A	325	270	1600	592	25	566	75	20	191.4	191.9	30.7	43	42	45	2.8	2.8	78	80	77	78	40	175	61	47	310	295	300	340	330	340	340	340	340	340	340	340	340	340	340		
B	30																																								
A	530	448	6400	1495	100	1488	188	60	145.0	191.7	132.7	51	50	63	2.8	2.8	76	80	71	76	40	175	51	435	445	460	460	455	460	365	365	21002	172775	8%	20	13300	54053				
B	30																																								

Notes:

Compression pressure	Combustion pressure ahead	Combustion pressure astern	20 is basic value for crankweb deflection. / 100 mm									30 is basic value for crankweb deflection. / 100 mm									Exhaust gas back pressure at full load:	Oil pressure at 49 °C. in 1/11																																																				
			Cylinders			B. D. C.			Exhaust side			T. D. C.			Camshaft side			Cylinders					B. D. C.			Exhaust side			T. D. C.			Camshaft side																																										
A	91	91	90	90	90	91																			5.5	15.5																																																
B																																																																										
A	133	133	133	133	130	131																				49																																																
B																																																																										
A	135	131	133	133	134	132																				Germanischer Lloyd																																																
B																										674274																																																

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