




EQUIPMENT DATA SHEET (INCL PREDICTED PERFORMANCE CURVE)

CLIENT	:	Air Products Manufacturing LLC
PROJECT NAME/NO.	:	WEP Renewables
CLIENT PO NO	:	4505605360
HMD DOCUMENT NO	:	HMD-4505605360-C04-03
CLIENT DOCUMENT NO	:	
HMD PUMP NO	:	839918 A/B
EQUIPMENT TAG NO	:	18-P-253 A/B

2	06/09/2022	ISSUE FOR REVIEW	ARM	AFS	NW
1	30/05/2022	ISSUE FOR REVIEW	JLW	AFS	NW
0	04/03/2022	ISSUE FOR REVIEW	AFS	AFS	NW
REV	DATE	DESCRIPTION	PREPARED BY	CHECKED BY	APPROVED BY

NOTE:

<div></div> <div>RESOLUTION SHEET</div>				
Comment Number	Document Name: EQUIPMENT DATA SHEET (INCL PREDICTED PERFORMANCE CURVE)		Revision from which comment first appeared	Comment Status: Open\Closed - (Date Closed:)
	CLIENT COMMENT	HMD RESPONSE	Current Rev:	
1	Vendor to confirm that the Magnetic Material is in compliance to Table I.1 of API 685	Confirm. <div>Noted, closed</div>	01	Closed (06/09/2022)
2	<div><div>TORQUE REQ'D FOR FULL CURVE (120% BEP) (9.1.3.7c)</div><div>20.95</div><div>REQUIRED/ACTUAL SERVICE FACTOR (9.1.3.8)</div><div>5.5</div></div>	Noted and updated. <div>Noted, closed</div>	01	Closed (06/09/2022)
3	<div><div>53 HERTZ</div><div>54 MINIMUM STARTING VOLTAGE</div><div>55 INSULATION CLASS</div><div>56 FULL LOAD AMPS</div><div>57 LOCKED MOTOR AMPS</div><div>58 START CONDITION</div><div><div>Specify Details</div><div>60</div><div>80%</div><div>F</div><div>OPEN VALVE (FULLY-LOADED)</div></div></div>	Noted and updated. <div>Noted, closed</div>	01	Closed (06/09/2022)



WORLD ENERGY PARAMOUNT
World Energy Renewables Project
Paramount, California

MECHANICAL EQUIPMENT DATASHEET
Document Number: A8KM-18-089-540096-A
Rev. 2, 6-Sep-2022
HMD-4505605360-C04-03



WORLD ENERGY RENEWABLES PROJECT
MECHANICAL EQUIPMENT DATA SHEET FOR 18-P-253A/B
TRANSFER PUMPS
Document No. HMD-4505605360-C04-03

Fluor Project No: A8KM


2	6-Sep-2022	Issue for Review	7	ARM	AFS	NW	
1	30-May-2022	Issue for Review	7	JLW	AFS	NW	
0	4-Mar-2022	Issue for Review	8	AFS	AFS	NW	
REV	DATE	DESCRIPTION	PAGES	ORIG	CHK'D	APPV'D	CLIENT


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		SEALESS CENTRIFUGAL PUMP API 685, 2nd EDITION DATA SHEET		Contract: A8KM	
				Item No: 18-P-253A/B	
				Revision: 2 Date: 6-Sep-22	
				Unit: SWSPlus Unit	
				Doc. No.: HMD-4505605360-C04-03	
				Inquiry No.: 4505605360	
				Sheet 2 of 7	
				REV	

1	CLIENT: World Energy Paramount									
2	SERVICE: Transfer Pumps				PLANT: World Energy Renewables Plant		SITE: Paramount, CA			
3	NO. REQ'D : 2 x 100% (Note 2.1)		PUMP SIZE : 3 x 1.5 x 6		TYPE: MAGNETIC DRIVEN		NO. STAGES : 1			
4	MANUFACTURER: Sundyne HMD Kontro				MODEL: GSP Frame 1		SERIAL NO.: 839918 A/B			
5	APPLICABLE TO : <input checked="" type="radio"/> PURCHASE									
6	INFORMATION BELOW TO BE COMPLETED: <input type="radio"/> BY PURCHASER <input checked="" type="radio"/> BY SUPPLIER <input type="radio"/> BY EITHER									
7	<input checked="" type="radio"/> LIQUID CHARACTERISTICS					OPERATING CONDITIONS - CONTINUED				
8	LIQUID TYPE OR NAME: Sour Water					NOTE: Max, Min, & Rated values refer only to the property listed				
9			UNITS	MAXIMUM	NORMAL	RATED				
10	VAPOR PRESSURE:		psi (a)			14.7				
11	SPECIFIC GRAVITY:					0.99				
12	SPECIFIC HEAT:		BTU/lbm °F			0.986				
13	VISCOSITY:		cP			0.67				
14	<input checked="" type="radio"/> OPERATING CONDITIONS (6.1.2)									
15			UNITS	MAXIMUM	RATED	NORMAL	MINIMUM			
16	NPSHa Datum			C.L. IMPELLER - 3' Above Grade						
17	PUMPING TEMP.:		°F	150.0	100.0	100.0				
18	FLOW:		gpm		134.3	122.1	48.8			
19	DISCHARGE PRESS: (6.3.2)		psig		69.0					
20	SUCTION PRESSURE:		psig	81.2	2.2					
21	DIFFERENTIAL PRESSURE:		psi		66.8					
22	DIFFERENTIAL HEAD:		ft		155.4					
18-	NPSH _A :		ft		25.1	Excludes required 3' margin				
24	HYDRAULIC POWER:		HP		5.2					
25	SITE AND UTILITY DATA									
26	LOCATION:									
27	OUTDOOR		UNHEATED							
28	MOUNTED AT: GRADE		<input type="radio"/> TROPICALIZATION REQ'D							
29	ELECTRICAL AREA CLASSIFICATION:		<input type="radio"/> NON CLASSIFIED							
30	CLASS: I	GROUP: B,C,D	DIVISION: 2							
31	ZONE:	GROUP:	TEMP. CLASS T3C							
32	SITE DATA:									
33	ELEVATION (MSL): 69 ft		BAROMETER: 14.7 psia							
34	RANGE OF AMBIENT TEMPS: MIN / MAX		35 / 105 °F							
35	RELATIVE HUMIDITY: MIN / MAX		AVG / 54 %							
36	UNUSUAL CONDITIONS:									
37	UTILITY CONDITIONS:									
38	ELECTRICITY:	DRIVERS	HEATING	CONTROL	Instruments					
39	VOLTAGE	460	120	120	24V					
40	PHASE	3	1	1						
41	HERTZ	60	60	60						
42										
43	NOTES									
44	2.1 2 x 100% pumps. One (1) operating & one (1) spare.									
45	2.2 Corrosive compositions dissolved in water (ppmw):									
46	Wet H2S = 1,595 ppmw									
47	NH3 = 6,775 ppmw									
48	CO2 = 9,871 ppmw									
49	2.3 Pump centerline is assumed to be 3'-0" above grade and 27" above top of foundation. Pump Supplier shall adjust the NPSHa based on the actual pump									
50	centerline elevation above the pump foundation. A minimum NPSH margin of 3 ft or 10%, whichever is higher, is required at 110% of Rated flow.									
51	2.4 Pump Control Method: Flow control valve.									
52	2.5 Motor shall be rated for Class 1, Div 2, Gr B,C,D and Temperature Code T3C.									
53	2.6 Pump supports shall meet design load requirements per Project Spec. A8KM-PP-000-40002-A, Structural Data for Mechanical Equipment, and									
54	A8KM-PP-000-20001-A, Plant Site Data Sheet.									
55										
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		SEALESS CENTRIFUGAL PUMP API 685, 2nd EDITION DATA SHEET Note: This Data Sheet has been modified from that in Annex R of API 685, Second Edition.				Contract: A8KM			
						Item No: 18-P-253A/B			
						Revision: 2		Date: 6-Sep-22	
						Unit: SWSPPlus Unit			
						Doc. No.: HMD-4505605360-C04-03			
				Inquiry No.: 4505605360		Sheet 3 of 7		REV	
PERFORMANCE									
PROPOSAL CURVE NO.: K2H/50-2		RPM: 3480		ROTOR CHAMBER TEMP RISE OPERATING:					
As Tested Curve No.:				AT RATED CONDITIONS					
IMPELLER DIA.: RATED: 6.35		MAX: 6.69		MIN: 5.12		in		°F	
HYDRAULIC EFFICIENCY AT RATED POINT:		51		%				°F	
HYSTRERESIS & MECHANICAL LOSSES:				HP				°F	
RATED POWER: 11.1		HP		EFFICIENCY: 47.7		%			
RATED CURVE BEP FLOW (at rated impeller dia.)		180		gpm				MAX ALLOWABLE SOUND PRESSURE LEVEL 85 dBA	
MIN. FLOW THERMAL: 16.38		gpm		STABLE: 16.38		gpm		ESTIMATED MAX SOUND PRESSURE LEVEL 68 dBA	
PREFERRED OPERATING REGION: (6.1.11)		126		to 216		gpm		SYSTEM DESCRIPTION	
ALLOWABLE OPERATING REGION:		16.38		to 235		gpm		SUCTION VESSEL: CLOSED	
MAX. HEAD @ RATED IMPELLER:		171		ft				PUMP LOCATION: BELOW LIQUID LEVEL	
MAX. POWER @ RATED IMPELLER:		13.9		HP				SUCTION VESSEL ON LEVEL CONTROL? YES	
PERCENT RISE TO SHUTOFF:		10.04		%				PRESSURE SENSOR ON SUCTION VESSEL? NO	
ORIFICE USED TO STEEPEN CURVE OR GIVE CONT. RISE		NO						SUCTION VESSEL PRESSURE MAINTAINED BY LIQUID LEVEL PLUS:	
NPSH3 at RATED FLOW:		6.89		ft				FLUID VAPOR PRESSURE	
CL PUMP TO U/S BASEPLATE:		1.39		ft				IF FLUID LEVEL OR TANK PRESSURE DROPS TOO LOW, WILL	
NPSH MARGIN at RATED FLOW:		18.21		ft				SYSTEM AUTOMATICALLY STOP THE PUMP? YES	
SPECIFIC SPEED: (6.1.16)		gpm,rpm,ft		1044				WILL THE PUMP RUN DRY IN NORMAL OPERATION? NO	
SUCTION SPECIFIC SPEED LIMIT:		9,000						REMARKS:	
SUCTION SPECIFIC SPEED:		gpm,rpm,ft		8950					
CONSTRUCTION									
API PUMP TYPE: OH2		[Based on API 610 Definitions]							
NOZZLE CONNECTIONS: (6.4.5)									
		SIZE	FACING	RATING	POSITION				
SUCTION		3	RF	300	END				
DISCHARGE		1.5	RF	300	TOP				
FLANGE THICKNESS REQ'S NON-STD BOLT LENGTH									
PRESSURE CASING AUXILIARY CONNECTIONS: (6.3.3)		NO.	SIZE	TYPE	FACING	RATING	POSITION		
PURGE/FLUSH OUT		-	-	-	-	-	-		
DRAIN		1	3/4	BW	RF	300LB	SIDE		
VENT		-	-	-	-	-	-		
PRESSURE SENSOR		1	1	BW	RF	300LB	SIDE		
TEMP SENSOR		-	-	-	-	-	-		
WARM-UP LINE		-	-	-	-	-	-		
EXTERNAL		-	-	-	-	-	-		
2ND DRAIN		1	3/4	BW	RF	300LB	SIDE		
GUSSET SUPPORT REQUIRED (6.3.3.5):		YES							
DRAIN CONNECTION FOR SECONDARY CASING		NO							
ROTOR CAVITY DRAINABLE THROUGH 2ND DRAIN:		N/A							
DRAIN VALVE SUPPLIED BY:		SUPPLIER							
VENT VALVE SUPPLIED BY:		N/A							
NO THREAD CONS TO SECONDARY CASING:		NO							
SPECIAL FITTINGS FOR TRANSITIONING (6.3.3.2):		NO							
CYLINDRICAL THREADS REQUIRED (6.3.3.11.3):		NO							
MACHINED AND STUDDED CONNECTIONS (6.3.3.7):		NO							
CASING MOUNTING: CENTERLINE									
CASING TYPE: (6.3.10) SINGLE VOLUTE									
ROTATION: (VIEWED FROM COUPLING END)									
CASE PRESSURE RATING:									
MAWP: (6.2.2) 580.151		psig		@ 150		°F			
HYDROTEST: 870.226		psig		@ 100.4		°F			
TYPE BOLTING USED ON PUMP (6.1.31.1):									
AUXILIARY CIRCULATION PIPING PLAN									
PIPING FORM:									
PIPING MATERIAL:									
PIPING ASSEMBLY:									
IF FLANGED:									
COOLING WATER REQUIREMENTS: NOT APPLICABLE									
COOLING WATER PIPING PLAN									
PIPING FORM:									
PIPING MATERIAL:									
PIPING ASSEMBLY:									
IF FLANGED:									
FOR: JACKET		gpm							
HEAT EXCHANGER		gpm							
TOTAL COOLING WATER		gpm							
HEATING REQUIREMENTS: NOT APPLICABLE									
HEATING MEDIUM		gpm							
HEATING PIPING		MATERIAL:							
ROTOR:									
IMPELLER TYPE		CLOSED							
RENEWABLE IMPELLER WEAR RINGS REQUIRED		YES							
RENEWABLE CASE WEAR RINGS REQUIRED		YES							
COMPONENT BALANCE TO ISO 1940 G1.0		YES							
NOTES									
3.1 Flanges for spiral wound gaskets shall have flange surface finish of 125 µin Ra to 250 µin Ra maximum. Finishes shall be judged by visual comparison with surface roughness standards conforming to ASME B46.1									
3.2 Reduced hardness materials are required in accordance with API 685, 2nd Edition, Section 6.10.1.11									

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						Revision: 2 Date: 6-Sep-22	
						Unit: SWSP Plus Unit	
						Doc. No.: HMD-4505605360-C04-03	
						Inquiry No.: 4505605360	
Sheet 4 of 7		REV					
CONSTRUCTION (CONT'D)							
MATERIAL (6.10.1.1)				MAGNETIC DRIVEN PUMP SPECIFIC (9.1)			
APPENDIX H CLASS: A-8: 316L SS / 316L SS				DRIVER TYPE MOTOR GEAR NO			
MINIMUM DESIGN METAL TEMP (6.10.4.1) psig @ 32 °F				CLOSE COUPLED DESIGN APPROVED (9.1.1.2):			
IMPACT TEST SPECIFICATION				DESIGN FOR REMOVAL OF DRIVE END WITHOUT DISTURBING THE			
REDUCED HARDNESS MATERIALS REQ'D (6.10.1.11) YES				PRESSURE CASING OR DRIVER (9.1.1.4): YES			
APPLICABLE HARDNESS STANDARD (6.10.1.11) MR0103				DESIGN CONTAINMENT SHELL FOR VACUUM (6.2.4):			
COPPER IN CONTACT W/ PROCESS FLUIDS NOT ALLOWED				CONTAINMENT SHELL VACUUM DESIGN: psig			
CASING & COVER: 316L Stainless Steel (ASTM A351 CF3M)				MAGNETIC COUPLING TYPE: SYNCHRONOUS			
IMPELLER: 316L Stainless Steel (ASTM A744 CF3M)				MAGNETS:			
SHAFT: 316L Stainless Steel (BS EN 10088-3 1.4404)				MAGNETIC MATERIAL			
WEAR RINGS: 316L Stainless Steel Hard Faced				MOUNTING METHOD			
CONTAINMENT SHELL/STATOR LINER: PEEK Composite				TEMP. LIMIT °F			
INNER MAG SHEATH/ROTOR LINER: 316L Stainless Steel - Resin Potted				HERMETIC. SEALED			
BEARING SLEEVE: Silicon Carbide				NO. OF MAGNETS			
BEARING BRUSHING: Silicon Carbide				PROTECTION OF OUTER MAG RING (9.1.3.5):			
STATOR HOUSING/FRAME:				STARTING REQUIREMENT: ACROSS-THE-LINE			
INSPECTION CLASS LEVEL 2				TORQUE RATING (DECOUPLING) 92.93 ft-lb			
PRESSURE VESSEL DESIGN CODE REFERENCES				MAX TORQUE REQ'D ON STARTING (9.1.3.7a) 3.32 ft-lb			
THESE REFERENCES MUST BE LISTED BY THE MANUFACTURER:				PUMP TORQUE AT RATED (+5%), (9.1.3.7b) 16.74 ft-lb			
SOURCE OF MATERIAL PROPERTIES ASTM				DESIGN FOR FULL CURVE TORQUE REQUIREMENTS (9.1.3.7c) YES			
CASTING FACTORS USED IN DESIGN (TABLE 3)				TORQUE REQ'D FOR FULL CURVE (120% BEP), (9.1.3.7c) 20.95 ft-lb			
WELDING AND REPAIRS				REQUIRED/ACTUAL SERVICE FACTOR (9.1.3.8) 1.25 / 5.5			
ALTERNATE WELDING CODES AND STANDARDS				SUBMIT MAG-COUPLING TORQUE VS TEMP. CURVE YES			
WELDER QUALIFICATION				SUBMIT SPEED VS TORQUE CURVE (9.1.3.10) YES			
WELD PROCEDURE QUALIFICATION				BEARINGS AND LUBRICATION (9.1.4)			
MP OR LP EXAM OF PLATE EDGE				DRIVE MAGNET BEARING (TYPE / NUMBER): See Note 6.7 for additional requirements			
POST WELD HEAT TREAT				RADIAL Ball / 6209			
POST WELD HEAT TREAT OF CASING				THRUST Ball / 6209			
ALTERNATE STD/ACCEPT CRITERIA APPLIES				LUBRICATION METHOD: OIL BATH			
INSPECTION METHOD CASTINGS FABRICATIONS				OIL VISC. ISO GRADE VG 68			
RADIOGRAPH				CONSTANT LEVEL OILER (9.1.4.2.1)			
ULTRASONIC				PREFERENCE Note 5.2			
MAG PARTICLE				HOUSING VENT Required			
LIQ PENETRATE				SUMP COLLECTOR REQUIRED (9.1.4.2.2)			
VISUAL				BEARING HOUSING END SEALS Inpro or Equal			
MOTOR REQUIREMENTS APPLICABLE TO ALL (7.1.2), See Sheet 8				SHAFT COUPLING & GUARD: (9.1.5.2)			
MANUFACTURER: BALDOR				COUPLING MANUFACTURER: John Crane			
FRAME OR MODEL: 284 TS				MODEL Metastream TSKS 13 SPACER LENGTH 5.51 in			
ORIENTATION: HORIZONTAL				RATING (POWER / 100 RPM) SERVICE FACTOR min. 1.5			
NAMEPLATE POWER HP 20				COUPLING BALANCED TO ISO 1940-1G6.3 (9.1.5.2.3) G2.5			
SERVICE FACTOR 1.15				COUPLING TO ISO 14691 (9.1.5.2.9)			
NOMINAL RPM 3480				COUPLING GUARD STANDARD (9.1.5.2.11) ANSI B15.1			
RATED LOAD RPM				IGNITION HAZARD ASSESSMENT REQUIRED (9.1.5.2.11.5) N/A			
VARIABLE SPEED REQUIRED NO				SPARK RESISTANT MATERIAL (9.1.5.2.11.6) YES			
SOURCE OF VARIABLE SPEED				BASEPLATE (9.1.5.3)			
VOLTAGE 460				API BASEPLATE NUMBER (9.1.5.3.3):			
PHASE 3				BASEPLATE CONSTRUCTION (9.1.5.3.1.1): FULL TOP DECKING			
HERTZ 60				BASEPLATE DRAINAGE (7.3.1) DRAIN RIM			
MINIMUM STARTING VOLTAGE 80%				MOUNTING: EPOXY GROUTED			
INSULATION CLASS F				NON-GROUT CONSTRUCTION (9.1.5.3.13) NOT REQUIRED			
FULL LOAD AMPS 23				OPEN DECK DESIGN (9.1.5.3.14):			
LOCKED MOTOR AMPS 143				PROVIDE STAINLESS SPACER PLATE UNDER ALL EQUIP. FEET (9.1.5.3.6):			
START CONDITION OPEN VALVE (FULLY-LOADED)				OTHER Furnish two (2) diagonally opposed grounding provisions, Note 6.3			
				SEPARATE MOTOR DRIVER, See Sheet 8			
				APPLICABLE SPEC: ENCLOSURE:			
				INCLUDE: SPACE HEATER VIB. SENSOR			
				LUBRICATION:			
				DRIVER MOTOR BEARING (TYPE / NUMBER):			
				RADIAL /			
				THRUST /			

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		Revision: 2	Date: 6-Sep-22				
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		Doc. No.: HMD-4505605360-C04-03					
		Inquiry No.: 4505605360					
		Sheet 5 of 7	REV				

<div style="border: 1px solid black; padding: 5px;"> CANNED MOTOR PUMP SPECIFIC (9.2) MOTOR WINDING INSULATION CLASS (9.2.2.8) [] SOLID OR LIQUID HEAT TRANS. MEDIA ALLOWED IN STATOR? [] DESIGN MOTOR FOR FREQUENT STARTS (9.2.2.9) [] STARTS PER [] IMPACT ON LIFE: [] DESIGN MOTOR FOR (9.2.2.9): [] UL, FM, ATEX OR EQUIVALENT REQUIRED (9.2.2.10) [] CERTIFICATION OF IEEE 252 TEST REQUIRED (5.2.7.1) [] DESIGN STATOR LINE FOR VACUUM (6.2.4) STATOR LINER VACUUM DESIGN: [] psig DECONTAMINATION CONNECTION ON STATOR (9.2.2.11) [] SECONDARY CONTROL / CONTAINMENT NFPA RATING: HEALTH: [] FLAMMABILITY: [] INSTABILITY: [] USE ANNEX B HAZARD BASED PROCEDURE [] HAZARD STATEMENT [] RISK PHRASE [] <div style="border: 1px solid black; display: inline-block; padding: 2px;">HAZARD GROUP</div> [] REQUIRED MEASURE: [] SECONDARY CONTROL (3.67) MAX LEAKAGE ON PRIMARY FAILURE: [] gpm FLOW RESTRICTION: DRY-RUN MECHANICAL SEAL DEVICE MANUFACTURER: [] MATERIAL: [] ELASTOMERS: [] MANUFACTURER CODE: [] SECONDARY CONTAINMENT (3.65) SECONDARY SEAL: [] DESIGN PRESSURE: [] psig INSTRUMENTATION (7.4.2) DETECT OPER. OUTSIDE ACCEPT. RANGE OR DECOUPLE (7.4.2.1) [] METHOD: [] LOCATION: [] IF LOCAL PROVIDED BY: [] USE FOR: [] MONITOR LEAKAGE INTO SECOND CASING: YES METHOD: ULTRASONIC SENSOR BY: SUPPLIER TYPE: TRANSMITTER USE FOR: ALARM MONITOR VIBRATION: NOT REQUIRED METHOD: [] PROVISION REQUIRED: [] SENSOR BY: [] IF FULL TIME, USE FOR: [] MONITOR TEMPERATURE OF: NOT REQUIRED METHOD: [] SENSOR BY: [] TYPE: [] USE FOR: [] </div>	<div style="border: 1px solid black; padding: 5px;"> PREPARATION FOR SHIPMENT (8.4.1) TYPE OF SHIPMENT (8.4.1): EXPORT EXPORT BOXING Timber Box (Certified wood) N2 PURGE DURING SHIPPING (9.2.8.4) [] OUTDOOR STORAGE MORE THAN 6 MONTHS YES PURGE DURING STORAGE (9.2.8.4) NO DETAILS OF LIFTING DEVICES [] SPARE PARTS (include cost & details w/ proposal) START - UP YES NORMAL MAINTANANCE YES SPARE ASSEMBLY: [] OTHER: [] WEIGHTS lb <table border="1" style="width:100%; border-collapse: collapse;"> <thead> <tr> <th>ITEM NO.</th> <th>PUMP</th> <th>DRIVER</th> <th>GEAR</th> <th>BASE</th> <th>TOTAL</th> </tr> </thead> <tbody> <tr> <td>18-P-253A</td> <td>265</td> <td>677</td> <td>44</td> <td>820</td> <td>1806</td> </tr> <tr> <td>18-P-253B</td> <td>265</td> <td>677</td> <td>44</td> <td>820</td> <td>1806</td> </tr> <tr> <td> </td> <td> </td> <td> </td> <td> </td> <td> </td> <td> </td> </tr> <tr> <td> </td> <td> </td> <td> </td> <td> </td> <td> </td> <td> </td> </tr> </tbody> </table> OTHER PURCHASER REQUIREMENTS COORDINATION MEETING REQUIRED (10.1.3) YES CASTING REPAIR WELD PROCEDURE APPR REQ'D (6.10.2.5) Note 5.1 MAXIMUM DISCHARGE PRESSURE TO INCLUDE (6.2.3): MAX RELATIVE DENSITY YES OPERATION TO TRIP SPEED [] MAX DIAM. IMPELLERS YES CONNECTION DESIGN APPROVAL (6.10.3.4.4) [] DEMONSTRATE CO-PLANAR MOUNTING PAD SURFACES IN PUMP VENDOR SHOP (9.1.5.3.5) NONE DYNAMIC BALANCE TO ISO 1940-1 gr. G1.0 (6.8.4.2) YES INSTALLATION LIST IN PROPOSAL (10.2.3.1) YES INCLUDE PLOTTED VIBRATION SPECTRAS (6.8.3.2.1) YES CONNECTION BOLTING COATING PAINTED SUBMIT EST. SPL BY OCTAVE BAND REQUIRED MATERIAL CERTIFICATION REQUIRED (6.10.1.7) CASING YES IMPELLER YES SHAFT YES OTHER: All wetted pressure containing components and wear rings VENDOR SUBMIT TEST PROCEDURES (8.3.1.1) YES ADDITIONAL DATA REQUIRING 20 YEARS RETENTION (8.2.1.1G) [] SURFACE PREPARATION AND PAINT MANUFACTURER'S STANDARD YES <div style="border: 1px solid black; padding: 2px; text-align: center;">MFR STD per A8KM-PP-000-500520-A</div> PUMP: PUMP SURFACE PREPARATION Per A8KM-PP-000-500520-A PRIMER MFR std in compliance or exceed ISO 12944-C4 FINISH COAT Same as above BASEPLATE: BASEPLATE SURFACE PREPARATION Per A8KM-PP-000-500520-A PRIMER MFR std in compliance or exceed ISO 12944-C4 FINISH COAT No finish coat on underside. Epoxy grout compatible </div>	ITEM NO.	PUMP	DRIVER	GEAR	BASE	TOTAL	18-P-253A	265	677	44	820	1806	18-P-253B	265	677	44	820	1806												
ITEM NO.	PUMP	DRIVER	GEAR	BASE	TOTAL																										
18-P-253A	265	677	44	820	1806																										
18-P-253B	265	677	44	820	1806																										

NOTES	
5.1 Minor defects of a surface nature in the pressure casting (amounting to less than 20% of the wall thickness and less than 10 in ² in total area) may be repaired without Buyer's approval	
5.2 Bearing housing oilers shall be Trico 8-oz. constant-level sight feed. Vendor to provide standard 3/4" NPS bullseye level gauge.	
5.3 Deleted	

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SEALESS CENTRIFUGAL PUMP
API 685, 2nd EDITION
DATA SHEET

Note: This Data Sheet has been modified from that in
Annex R of API 685, Second Edition.

Contract:	A8KM
Item No:	18-P-253A/B
Revision:	2
Date:	6-Sep-22
Unit:	SWSPPlus Unit
Doc. No.:	HMD-4505605360-C04-03
Inquiry No.:	4505605360
Sheet	7 of 8

REV

Quoted Pump Curve:
K2H/50-2:

Performance curve	K2H/50-2		
Impeller type	Radial Vane		
Direction of rotation	Clockwise from the drive end		
Impeller construction	Closed		
Impeller Eye Area	6.3101 sq in	NSS (US unit)	8950
Frequency	60 Hz	Hz	Speed 3480 rpm

Impeller type	Radial Vane	
Impeller construction	Closed	
Impeller Ø	Max.	inch 6.89
	Designed	inch 6.35
	Min.	inch 5.12
Flow	Nominal	US g.p.m. 135
	Max.	US g.p.m. 235
	Min.	US g.p.m. 10.4
Head	Nominal	ft 157
	at Max Flow-	ft 106
	at Min Flow-	ft 171
Head H(Q=0)	ft 171	
NPSH 3%	ft 6.97	
Shaft power	hp 11.1	
Max. shaft power sel. Impeller	hp 13.9	
Efficiency	% 47.7	

