Q Project:

LAVRION V-CCPP
DMKT 11 21 302

Title: Pump Data Sheet

(HP BoilerFeed Water Pumps 5 LAC30/40 AP001)

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Prepared: MM

Reviewed: LQ

Approved: CV

METKA

LAVRION V CCPP

High Pressure Boiler Feed Water Pumps

(2) 6x14 WXH-10

VARIABLE SPEED Rev 2

	Design Ppint		Normal Point		Run out		Minimum flow		Special Point	
PUMP										
Temperature	128,2	ºC	149,0	ºC	149,0	ºC	149,0	ºC	149,0	ºC
Specific Gravity	0,9361		0,9179		0,9179		0,9179		0,9179	
Flow- Weight	91,01	kg/s	78,79	kg/s	107,09	kg/s	21,93	kg/s	44,88	kg/s
Volumetric- Flow	350,0	m3/h	309,0	m3/h	420,0	m3/h	86,0	m3/h	176,0	m3/h
Suction Pressure	5,00	bar(a)	6,70	bar(a)	6,70	bar(a)	6,70	bar(a)	6,70	bar(a)
Pump Pressure	131,3	bar	114,4	bar	111,6	bar	8,4	bar	125,2	bar
TDH booster pump	1.430	m	1.270	m	1.239	m	93	m	1.391	m
Efficiency	82,9%		81,7%		81,4%		82,6%		65,9%	
RPM	2.905		2.705		2.905		737		2.647	
Power	1.539	kW	1.225	kW	1.599	kW	24	kW	930	kW
NPSHR	6,0	m	5,1	m	8,1	m	0,4	m	2,7	m
Minimum Flow	120	m3/h	110	m3/h	120	m3/h	86	m3/h	110	m3/h
Discharge pressure	136,3	bar(a)	121,0	bar(a)	118,2	bar(a)	15,1	bar(a)	131,9	bar(a)
Shut off head	1.746	m	1.514	m	1.746	m	112	m	1.450	m
Shut off pressure	165	bar(a)	143	bar(a)	164	bar(a)	17	bar(a)	137	bar(a)
VARIABLE SPEED COUPLING										
Mechanical losses	29	Kw	35	Kw	29	Kw	68	Kw	37	Kw
Hydraulic losses	46	Kw	119	Kw	48	Kw	196	Kw	120	Kw
Total consumed power	1.614	Kw	1.379	Kw	1.676	Kw	288	Kw	1.087	Kw
Recommended motor power	1750	Kw	1750	Kw	1750	Kw	1750	Kw	1750	Kw

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HIGH PRESSURE BOILER FEED PUMPS

DATA SHEETS

CONSTRUCTION FEATURES **Pump Type:** **6x14WXH-10**

CASING

Configuration			Ring Section	
Casing rated pressure			180,0	bar
Casing rated temperature			195	ºC
Hydrostatic casing pressure at ambient temperature			270	bar
Nozzles	Suction	Size/Rating/Location	10 in / 600#	Top
	Discharge	Size/Rating/Location	6 in / 1500#	Top

ROTOR

Number of stages			10	
First impeller configuration			Double Suction	
N_{SS} of first impeller		U.S. units	10.500	
Impellers diameter	max/min/rated		369 / 316 / 240	mm
Shaft diameter	at bearings		95	mm
	at impeller		106	mm
	at coupling		95	mm
Axial thrust	balanced by		Lift off device	

SHAFT SEAL

Configuration		Mechanical seal
Manufacturer		Flowserve or equal
Type (cartridge)		Yes

BEARINGS

Radial bearing		Type:	sleeves
Axial bearing	(cooled housing required)	Type:	tilting pad (KTB)

CAPABILITIES

Start-up from any operating condition?	No
Rotation Direction, from coupling to pump	CCW
Noise level one (1) meter from pump	82 dB(A)

MATERIALS		**Designation ASTM**
Suction & Discharge Heads		A 217 Gr WC6
Impellers		A 487 CA6NM
Diffusors		A 487 CA6NM
Channel rings		A 487 CA6NM
Pump shaft		A 276 Ty 410
Shaft sleeves		A 582 Ty 416
Wearing rings	Casing	AISI Series 400 (ASTM A473 Tp416)
	Impeller	AISI Series 400 (ASTM A473 Tp416)
Balancing device	Drum	IR 829 x 300 (ASTM A473 Tp 416)
	Sleeve	A 582 Ty 416
Bearing casing		A 216 Gr WCB
Bearings	Sleeve	Carbon Steel
Stuffing Box Extension		A 217 Gr WC6
Mechanical Seal	stationary ring	Silicon carbide
	rotating ring	Carbon steel
	elastometrics	Ethylene-Propilene
Bolts / Nuts		A193 GrB7/A194 Gr2H
Baseplate		Structural Steel

APPROX.WEIGHTS

Pump	4700	Kg
Motor	5280	Kg
Variable speed coupling	1010	Kg
Baseplate	6100	Kg
Cooler	645	Kg
Accesories	600	Kg
Total	18335	Kg