

Offer No. 5349/0873 - 1. Amendment

Biodri LLC, Orlando

05/30/2008

Item 1

qty. 1

seepex progressive cavity pump
N 240-24C / A1-C1-L8-F9-4E-X
X= 0330, 06B1, 0804, 11F9, 14U, 20A7

General remarks

Inverter (VFD) by others

Initial testing will be performed at 50 Hz in England.

Subsequent operation at 60 Hz. Gear ratio utilized based upon 60 Hz normal operation.

Motor will be ran at approximately 63-65 Hz for testing.

Application data

Pumped liquid	Sewage Sludge
Viscosity	assumed flowable
Solids content	max 5% ds
Size of solids	no advice
Spec. gravity	assumed 1.0
Temperature	300 F
pH value	no advice
Composition/Concentr.	no advice
Kind of operation	continuous
Site of installation	indoors
Remarks	

Performance data

	Flow rate	Pressure	Speed	
	500 USGPM	300 psi	165 rpm	min
	720 USGPM	300 psi	221 rpm	norm
	1000 USGPM	300 psi	294 rpm	max
Starting torque	2065 lb.ft			
Max. power absorbed	230.48 hp			
NPSH required	13.45 ft			
Suction pressure	assumed flooded			
Discharge pressure	300 psig			
Differential pressure	300 psi			

Materials and executions

Installation	01 H	horizontal
Rotation	02 L	counter clockwise (left)
Lantern / drive casing	04 D	drive casing with double bearing seal
Lantern / drive casing material	05 A1	EN-JL-1040 (grey cast iron 25)
Wetted casing parts	06 B1	suction casing with cleanouts on both sides

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Wetted casing parts material	07 A1	EN-JL-1040 (grey cast iron 25)
Joint execution	09 K	cardan joint
Joints material	10 N6	standard
Universal joint sleeve material	11 F9	HNBR - Therban
Coupling rod	12 N	standard
Coupling rod material	13 C1	1.4021 / 420 SS
Rotor	14 U	Undersize acc. to TI.017.01de
Rotor material	15 L8	1.0503 (C45) / 576 - 1045
Rotor coating	16 3	ductile chromium coating
Stator	17 N	standard
Stator material	18 F9	HNBR - Therban
Shaft sealing	19 4E	single acting mechanical seal as cartridge unit
Shaft seal casing material	20 A7	1.4571 / 316 TI SS
Shaft seal material	21 D	rotating seal face: SiC solid stationary seal face: SiC solid elastomers: FPM spring: 2.4610 / Hastelloy C4 metal parts: 1.4571 / 316 TI SS
Plug-in shaft	22 A	standard
Plug-in shaft material	23 C1	1.4021 / 420 SS
Pump screw fitting	24 A1	standard
Painting	25 1A	standard RAL 5013 (blue)

Connections

Branch / hopper position	03 30	branch position 3
Casing parts connections	08 04	Suction connection flange drilled to ANSI B16,5: DN 10" ANSI B16,5 150lbs discharge connection flange drilled to ANSI B16,5:

Drive

Type	In-line		
Manufacturer	Nord		
Model	SK102-W		
Design	B3		
Gear ratio	i = 6.24		
	Nom.	Min.	Max.
Output speed (rpm)	280	150	294
Motor speed (rpm)	1750	936	1835
Frequency (Hz)	60	32	63

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Electr. motor

Type	Severe Duty
Manufacturer	Baldor-Reliance
Model	ECP4408TR-4
Rated output	250 hp
Rated speed	1750 rpm
Starting	direct at VFD
Voltage	3x460 VAC
Frequency	60 Hz

Options/accessories included

Motor accessories	53 XX	Inverter Rated 10:1 Constant Torque
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Baseplate

Baseplate	60 N	baseplate for pump with free bare shaft design N
Baseplate material	61 ST	steel, painted
Baseplate options	62 LS	side feet

Coupling

Coupling	67 A400	flexible coupling make Flender N-Eupex A400 coupling guard included Low Speed, High Torque Coupling
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Other

Accessories	93 COUPLI A315 Coupling High Speed, Low Torque
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