

SULZER PUMPS SOLUTIONS IN PRODUCT SPECIFICATION	<table> <tr> <td>Description</td><td>CPT23-1B</td></tr> <tr> <td></td><td>100131479</td></tr> <tr> <td>Reference no.</td><td>245370/</td></tr> <tr> <td>Time of delivery/EXW</td><td>09/01/2014</td></tr> <tr> <td>Date printed</td><td>07/15/2015 Page 1</td></tr> </table>	Description	CPT23-1B		100131479	Reference no.	245370/	Time of delivery/EXW	09/01/2014	Date printed	07/15/2015 Page 1
Description	CPT23-1B										
	100131479										
Reference no.	245370/										
Time of delivery/EXW	09/01/2014										
Date printed	07/15/2015 Page 1										
<p>Customer PATRIOT RENEWABLE FUELS INC. 101 PATRIOT WAY ANNAWAN IL 61234 USA</p> <table> <tr> <td>Cust. Order</td><td>93035</td></tr> <tr> <td>Cust. PO line</td><td></td></tr> <tr> <td>Country code</td><td>US</td></tr> </table>	Cust. Order	93035	Cust. PO line		Country code	US	<p>THE WALLING COMPANY 6103 NORTH 90TH STREET OMAHA NE 68134 USA</p> <p>P-115 FEEDSTOCK LOADING</p>				
Cust. Order	93035										
Cust. PO line											
Country code	US										

GENERAL

Pump type: **CPT**
Version: **03**
Classification: **B, Pre-engineered**
Units: **US**
Painting method: **Standard, Corrosivity C4 [NZ]**

Color shade: **NCS 1700**
Coupling and Guard: **Included in the delivery**
Base plate: **Included in the delivery**
Drive motor: **Included in the delivery**

PROCESS DATA

Mill: **PATRIOT RENEWABLE FUELS**
Process: **Biomass Handling**
Application: **FEEDSTOCK LOADING PUMP**
Pumped liquid: **WATER**

Specific gravity: **0.91**
Temperature: **50 °F**
Capacity Q: **150.0 gpm**
Head H: **95.0 Feet**

PUMP PERFORMANCE

Characteristic curve: **K17460, O 1770 rpm 23-1B**
Rated power P: **6.6 HP**
Motor power: **7.5 HP**
Efficiency: **49.0 %**
Pump rotational speed: **1770 rpm**
Variable speed: **No**

NPSH required: **5.1 Feet**
Capacity Q water: **150.0 gpm**
Head H water: **99.0 Feet**
Rated power P water: **7.1 HP**
Efficiency water: **53.0 %**

PUMP

Pump Size: **23-1B**
Flange drilling: **ASME B16.42 CLASS 150**
Impeller no.: **610466, O 23-1B**
Impeller Type: **Open**
Impeller diameter: **10.750 "**
Impeller max. diameter: **11.00 "**
Impeller balance holes: **Yes**
Casing material: **A395 60-40-18**
Casing screw type: **Hexagonal screw**
Screw material: **A4-80 ISO 3506**
Gasket Material: **PTFE/Glass**
Casing gasket thickness: **0,8 mm**

Shaft seal fitting: **MC01 Mechanical seal CS**
Shaft seal box type: **ASB, Standard**
Mechanical seal type: **AES CSSN**
Mechanical seal material: **TC/TC/AZ**
Draining of pump conn. 040: **Yes**
Discharge pipe conn. 027: **Yes**
Press. measuring conn. 036: **No**
Temper. measuring conn. 048: **No**
Bearing Unit Lubrication: **Oil lubrication**
Bearing unit type: **Foot frame Shaft Solid**
Bearing unit model: **06, 52 / 33 / NSs / Met**
Sign: **2006/42/EC**

<p>Sulzer Process Pumps (US) Inc. Easley Pump Factory 155 Ahlstrom Way EASLEY SC 29640</p>	<p>Contact Person Bishop Gabiga LBU Order 0000245370 LBU Position 30 Reference no. 245370/000030 Telephone Telefax</p>
--	--

SULZER PUMPS SOLUTIONS IN PRODUCT SPECIFICATION	Description	CPT23-1B 100131479
	Reference no.	245370/
	Time of delivery/EXW	09/01/2014
	Date printed	07/15/2015 Page 2
Customer PATRIOT RENEWABLE FUELS INC. 101 PATRIOT WAY ANNAWAN IL 61234 USA Cust. Order 93035 Cust. PO line Country code US	THE WALLING COMPANY 6103 NORTH 90TH STREET OMAHA NE 68134 USA P-115 FEEDSTOCK LOADING	

O-ring Material: **EPDM**

Adapter guard 683: **Stainless steel**

ASSEMBLY

Dim.drawing, Assembly of Pump: **P12032, STYLE1,2 NEMA 23-1B<**

Foundation screw type: **Grouted**

Next larger motor frame option: **Not included in the deliver**

Coupling type: **Rex Viva VS**

Base plate type: **Style 1 PuMo Steel Paint**

Coupling guard material: **S+Z EN10025**

Baseplate color shade: **NCS 1700**

Riser block material: **Steel**

Motor NEMA code: **213T**

MOTOR

Motor Supplier: **Easley**

Power: **7.50 HP**

Motor manufacturer: **WEG**

Frequency: **60 Hz**

Motor NEMA code: **213T**

Voltage: **208-230/460**

Motor type: **SEVERE DUTY**

Enclosure: **TEFC**

Rotational speed: **1,800 rpm**

Specialities of Motor: **PB-SD7.5/1800WEG.208-230/460**

CUSTOMER INSTRUCTIONS

End user language: **English**

Sulzer Process Pumps (US) Inc.
Easley Pump Factory
155 Ahlstrom Way
EASLEY SC 29640

Contact Person Bishop Gabiga
LBU Order 0000245370
LBU Position 30
Reference no. 245370/000030
Telephone
Telefax

SULZER PUMPS SOLUTIONS IN PART LIST	Description	CPT23-1B
	Reference no.	100131479
	Time of delivery/EXW	245370/
	Date printed	09/01/2014
		07/15/2015 Page 3

Customer Instructions

000.01	1	SPECIFICATION AND PART LIST	000 SERIAL NUMBER
001.01	1	Dimensional drawing	P12032EN
001.02	1	Dimensional drawing	P11990EN
002.01	1	Characteristic curve	K17460EN
010.01	1	ASSEMBLY SECTDWG	N14219EN_20100215
011.01	1	PUMP SECTDWG	N15078EN_20080601
012.01	1	SHAFT SEAL SECTDWG	N15085EN_20010515
013.01	1	BEARING UNIT SECTDWG	N13970EN_20020501
058.01	1	DECLARATION OF QUALITY	N15110EN_20100430
059.01	1	PAINTING CERTIFICATE	N15111EN_20100430
062.01	1	INTENDED USE	N15252EN_20100430
063.01	1	SAFETY OF MACHINERY	N31142EN
063.02	1	SAFETY INSTRUCTIONS	N15062EN_20101025
064.01	1	HOISTINGS AND TRANSPORTATIONS	N15063EN_20010515
065.01	1	COMMISSIONING	N15064EN_20010515
067.01	1	INSTALLATION	N15253EN_20020501
068.01	1	OPERATION	N15066EN_20010515
069.01	1	PREVENTIVE MAINTENANCE	N15254EN_20040401
070.01	1	CORRECTIVE MAINTENANCE	N15255EN_20110929
071.01	1	SPARE PARTS RECOMMENDATION	N15069EN_20080601
D001.01	1	INSTRUCTION, DRIVE MOTOR, WEG, NEMA	C10632EN
D001.02	1	INSTRUCTION, DRIVE MOTOR	CJE51300754EN
D002.01	1	INSTRUCTION, COUPLING, REX VIVA	C10014EN
D003.01	1	INSTRUCTION, MECHANICAL SEAL, AES CSSN	C10775EN
D003.02	1	Component documents, Shaft seal	CFH022540B3EN

Connections

027.01	CON027	1	DISCHARGE PIPE CONN. 1/4-18NPT
040.01	CON040	1	DRAINING OF PUMP 1/2-14NPT
042.01	CON042	1	OIL FILLING 1/2-14NPT
043.01	CON043	1	DRAINING OF LUBRICAT 1/2-14NPT
044.01	CON044	2	CONSTANT LEVEL OILER 1/4-18NPT

Parts

102.01	530240CA5H	1	VOLUTE CASE CPT23-1B O	(5H) A395 60-40-18
Flange drilling: ASME B16.42 CLASS 150				
Draining of pump conn. 040: Yes				
Discharge pipe conn. 027: Yes				

Sulzer Process Pumps (US) Inc. Easley Pump Factory 155 Ahlstrom Way EASLEY SC 29640	Contact Person Bishop Gabiga LBU Order 0000245370 LBU Position 30 Reference no. 245370/000030 Telephone Telefax
--	--

SULZER PUMPS SOLUTIONS IN PART LIST	Description	CPT23-1B
	Reference no.	100131479
	Time of delivery/EXW	245370/
	Date printed	09/01/2014
		07/15/2015 Page 4

			Press. measuring conn.036: No	
			Temper. measuring conn. 048: No	
161.01	610506CC5H	1	CASE COVER CPT23 ASB	(5H) A395 60-40-18
			Temper. measuring conn. 048: No	
183.01	610481SF52	1	SUPPORT FOOT CPT2	(52) A48 CL 30 B
210.01	610500SH33	1	SHAFT CPT2 SO	(33) SS2324
230.01	610466MP41	1	IMPELLER O 11" B33/64" Z5 CPT23-1B	(41) A890 3A
			Impeller diameter: 10.750 "	
			Impeller max. diameter: 11.00 "	
320.01	G433000311	1	ANTIFRICTION BEARING NUP311 ECJ	
320.02	G325007309	2	ANTIFRICTION BEARING 7309 BECBM	
330.01	533175BH52	1	BEARING HOUSING CPT2 O	(52) A48 CL 30 B
339.01	6130942206	1	BEARING UNIT CPT2 O FSO	
344.01	610510AD5H	1	ADAPTER CPT23	(5H) A395 60-40-18
360.01	712198BC52	1	BEARING COVER CPT2	(52) A48 CL 30 B
382.01	712194BR5H	1	BEARING CARRIER O CPT2	(5H) A395 60-40-18
400.01	E808304D84	1	GASKET 304(-2/-3)/284(-1/-2)X0.8	(84) PTFE/Glass
412.01	E124041094	1	O-RING 41,0 X 1,78 BS1806 SIZE NO.030	(94) PTFE
412.02	E11B119591	2	O-RING 119,5X3 SMS1586	(91) NBR
412.03	E11B094591	1	O-RING 94,5X3 SMS1586	(91) NBR
423.01	GK1A320000	1	LABYRINTH RING CPT2 VBX 2,125" INBOARD	Bronze
423.02	GK1B320000	1	LABYRINTH RING CPT2 VBX 1,375" OUTBOARD	Bronze
433.01	FH022540B3	1	MECHANICAL SEAL CSSN/2.125"/3AVTT17A01	TC/TC/AFLAS
554.01	B360010537	4	WASHER 10,5 DIN7349	(37) A4 ISO3506
554.02	B310010537	6	WASHER ISO 7089-10-200 HV-A4	(37) A4 ISO3506
554.03	B360008437	4	WASHER 8,4 DIN7349	(37) A4 ISO3506
554.04	B360013037	2	WASHER 13 DIN7349	(37) A4 ISO3506
554.05	B360013037	2	WASHER 13 DIN7349	(37) A4 ISO3506
554.10	B310006437	1	WASHER ISO 7089-6-200 HV-A4	(37) A4 ISO3506
556.01	7092640710	4	RISER BLOCK 4"X4"X4.5"	(10) S EN10025
571.01	9392030132	1	CLAMP CPT1-3	(32) SS2333
642.01	GH3330506D	2	SIGHT GLASS SM-12 ISO 228/1-G 1/2	(6D) Al (aluminium)
644.01	914706LR12	1	OIL RING CPT2 D122/57	(12) Fe P01 EN10130
672.01	GH55305000	1	VENTING DEVICE EV 1028-14-00 R 1/2	
683.01	93919701BG	1	GUARD CPT23	(BG) EN 1.4301
683.02	93919701BG	1	GUARD CPT23	(BG) EN 1.4301
683.03	93745501BG	1	GUARD A1-A3 T	(BG) EN 1.4301
685.01	6105780111	1	GUARD END 250MM O.D. FOR BEARING UNIT #2	(11) S235JRG2 EN10025
686.01	933203011K	1	GUARD JACKET D250,L200	(1K) S+Z EN10025
686.02	384476011K	1	GUARD JACKET D250 L165	(1K) S+Z EN10025
800.01	JE51300754/PB	1	MOTOR WEG 7.5HP/1800RPM/213T/230-460V	
840.01	KAC1035349	1	COUPLING VS110-R-FBH D1=1.375 D2=1.375	
890.01	610558XX10	1	BASEPLATE #252 MULTI DRILLED	(10) S EN10025

Sulzer Process Pumps (US) Inc. Easley Pump Factory 155 Ahlstrom Way EASLEY SC 29640	Contact Person Bishop Gabiga LBU Order 0000245370 LBU Position 30 Reference no. 245370/000030 Telephone Telefax
--	--

SULZER PUMPS SOLUTIONS IN PART LIST	Description	CPT23-1B
	Reference no.	100131479
	Time of delivery/EXW	245370/
	Date printed	09/01/2014
		07/15/2015 Page 5

901.01	A132073839	12	HEXAGON HEAD SCREW 5/8-11UNCX1 1/2 ANSI	(39) A4-80 ISO3506
901.02	A132052539	2	HEXAGON HEAD SCREW 3/8-16UNC X 1 ANSI B1	(39) A4-80 ISO3506
901.03	A142063839	6	HEXAGON HEAD SCREW 1/2-13UNC X 1 1/2" AN	(39) A4-80 ISO3506
901.04	A132062539	2	HEXAGON HEAD SCREW 1/2-13 UNC X 1" ANSI	(39) A4-80 ISO3506
901.05	A142053239	3	HEXAGON HEAD SCREW 3/8-16UNC X 1 1/4 ANS	(39) A4-80 ISO3506
901.06	A132041939	4	HEXAGON HEAD SCREW 5/16-18UNC X 3/4 ANSI	(39) A4-80 ISO3506
901.09	A132051939	3	HEXAGON HEAD SCREW 3/8-16UNCX3/4 ANSI B1	(39) A4-80 ISO3506
901.11	A132064539	2	HEXAGON HEAD SCREW 1/2-13UNCX1 3/4 ANSI	(39) A4-80 ISO3506
901.12	A132064539	2	HEXAGON HEAD SCREW 1/2-13UNCX1 3/4 ANSI	(39) A4-80 ISO3506
901.20	A132033239	1	HEXAGON HEAD SCREW 1/4-20UNC X 1 1/4 ANS	(39) A4-80 ISO3506
902.02	AC22055733	4	STUD 3/8-16 UNC X 2 1/4 SAC200	(33) SS2324
902.03	AC2204G233	4	STUD 5/16-18UNC X 6 SAC200	(33) SS2324
903.01	CC25050034	1	THREADED PLUG 1/2-14 NPT SCC102	(34) SS2343
903.02	CC25030034	1	THREADED PLUG 1/4-18 NPT SCC102	(34) SS2343
903.05	CC25030034	1	THREADED PLUG 1/4-18 NPT SCC102	(34) SS2343
903.06	CC25030034	1	THREADED PLUG 1/4-18 NPT SCC102	(34) SS2343
903.07	CC25050034	1	THREADED PLUG 1/2-14 NPT SCC102	(34) SS2343
903.08	CC25030016	2	THREADED PLUG 1/4-18 NPT SCC102	(16) S+ZE EN10025
914.01	A611103539	3	CAP SCREW, SOCKET HD M10X35 ISO4762	(39) A4-80 ISO3506
918.01	AP2207N613	4	FOUNDATION SCREW 5/8-11UNCX14" SAP200	(13) S355J0 EN10025
920.02	B122050039	4	NUT 3/8-16UNC ANSI B18.2.2	(39) A4-80 ISO3506
920.03	B222704030	3	NUT M10 - PTROM-1040	(30) SS
920.04	B122040039	4	NUT 5/16-18.UNC ANSI B18.2.2	(39) A4-80 ISO3506
920.07	B12207001J	8	NUT 5/8-11UNC ANSI B18.2.2	(1J) 8 ZnK ISO898
923.01	GA11000910	1	BEARING NUT KM9	(10) S EN10025
931.01	GC10000910	1	LOCK WASHER MB9	(10) S EN10025
932.01	B710001030	3	RETAINING RING 10 - DIN471	(30) SS
940.01	B820804115	1	KEY 5/16X5/16X15/8 ANSI B 17.1-1967	(15) CK45K DIN1652
970.01	WK3130307A	2	SIGN SULZER LOGO L130 W30	(6D) Al (aluminium)
971.01	93265101BG	1	NAME PLATE CENTRIF PUMP EASLEY	(S0708) EN 1.4301
975.02	SS00050102	2	WARNING SIGN	
975.03	SS00050202	2	WARNING SIGN	
975.04	SS00050802	1	WARNING SIGN	
976.01	SS0006M002	1	MANDATORY ACTION SIG EN	
976.02	SS0006M022	1	MANDATORY ACTION SIG	

Sulzer Process Pumps (US) Inc. Easley Pump Factory 155 Ahlstrom Way EASLEY SC 29640	Contact Person Bishop Gabiga LBU Order 0000245370 LBU Position 30 Reference no. 245370/000030 Telephone Telefax
--	--