SALES ACKNOWLEDGEMENT

SULZER

SULZER PROCESS PUMPS (CANADA) INC.
5055, rue Levy,Saint-Laurent, Québec
H4R 2N9,Canada
Phone 514 - 333-7760 Fax 514 - 333-6324

Sulzer Order No. **CAE2000075**	Item # **018**	Order Date **10/11/2000**
Customer P.O. No **445014**		P.O Date **09/22/2000**

Bill to
ALLIANCE FOREST PRODUCTS U.S. CORP.

17589 PLANT ROAD

COOSA PINES, AL 35044-0555

Ship to
ALLIANCE FOREST PRODUCTS U.S. CORP.

17589 PLANT ROAD

COOSA PINES, AL 35044-0555

Marks and Tagging
PUMP, B-LINE P5
FLOTATION CELL FEED
310-1140-021/M94169
445014
4121001112
CAE2000 075 18

Equipment Number
310-1140-021/M94169

Serial Number	Currency **USD**	Net Amount **33302.00**

Terms of Payment
SPECIAL TERMS, SEE NOTE

Terms of Delivery
DDP (INCOTERMS 2000)
COOSA PINES, AL, PREPAID

Way of Delivery **Truck**	Onsite Date **02/16/2001**

Order Contact
TONY LIANE

Sales Contact
TONY GEDEON

Document Requirements
4 Copies in English

Remarks Continued

MUST BE PROVIDED SIX (6) WEEKS PRIOR TO DELIVERY
EXCEPT FOR APT6, APT54 & APT55 WHICH WILL REQUIRE
THEM NINE (9) WEEKS PRIOR TO DELIVERY

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MOTOR MOUNTING:

SULZER WILL DRILL BASE PLATES AS PER CERTIFIED
MOTOR PRINTS BY CUS. SULZER WILL MOUNT CUS.
SUPPLIED NEMA MOTORS AT EASLEY, SC FACTORY
CUS. RESPONSABLE FOR MOUNTING NON-NEMA MOTORS

==========

GAS CONTENT:
DESIGN FLOW IS 1460 USGPM @ DESIGN HEAD
[illegible]

SULZER

PRODUCT SPECIFICATION

Description APT61-24
Serial Number
Time of delivery/EXW 02/09/2001
Date printed 10/13/2000 Page 1

Customer
ALLIANCE FOREST PRODUCTS U.S. CORP.

17589 PLANT ROAD

COOSA PINES, AL 35044-0555
UNITED STATES
Cust. order # 445014
Cust. PO Line # ZOR
Country code US

ALLIANCE FOREST PRODUCTS U.S. CORP.

17589 PLANT ROAD

COOSA PINES, AL 35044-0555
UNITED STATES

Equipment No 310-1140-021/M94169

PROCESS DATA

Mill	13	NPSH av	40 ft
Process	270	Capacity Q	14887 USGPM
Application	FLOTAT. CELL FEED	Head H	44 ft
Pumped liquid	ONP/OMG REP. STOCK	Characteristic curve	K02321
Temperature	125 F	Pump power P	212 HP
pH	7-9	Motor power	250 HP
Consistency	0.3-1.13 % BD	Efficiency	81 %
Gas content	6 TO 8 %	Pump rotational speed	710 RPM
Min head on suction side	13.5 ft	Variable speed	No
Max head on suction side	17 (STATIC) ft	NPSH req	16.8 ft

PUMP

IMPELLER MATERIAL A890 3A
SHAFT MATERIAL SS2324

Supplier	Easley	Casing Material	A890 3A
Dimensional drawing	P20058	Gasket Material	Klinger SIL-4430
Conformity	89/392/EEC machinery /US	O-ring Material	NBR
Version	09	Bearing Unit Lubrication	Oil lubrication
Pump Size	APT61-24	Bearing unit model	01 SS2324/NotSpec
Impeller Type	Special open	Constant level oiler 638	Yes
Impeller No.	286876	Shaft Seal Fitting	P02
Impeller diameter	615 mm	Customer documents lang./q	EN/04
Impeller turning angle	22 °	Component documents lang./	EN/04
Impeller max.diameter	700 mm	Special parts	METCO 16 SLEEVE
Flange Drilling	ASME B16.5 CLASS 150		

DRIVE MOTOR For Information Only

Motor Supplied by	Customer	Rotational Speed	720 RPM
Manufacturer	TOSHIBA	Power	250 HP

TOSHIBA 3154

SULZER PROCESS PUMPS (CANADA) INC.
5055, rue Levy
Saint-Laurent, Québec
H4R 2N9
Canada

Contact Person TONY GEDEON
LBU Order # CAE2000075
LBU Position 018
Telephone 514 - 333-7760
Telefax 514 - 333-6324 (bomcust1)

SULZER

PRODUCT SPECIFICATION

Description: APIGT-24
Serial Number
Time of delivery/EXW 02/09/2001
Date printed 10/13/2000 Page 2

Customer
ALLIANCE FOREST PRODUCTS U.S. CORP.

17589 PLANT ROAD

COOSA PINES, AL 35044-0555
UNITED STATES
Cust. order # 445014
Cust. PO Line # ZOR
Country code US

ALLIANCE FOREST PRODUCTS U.S. CORP.

17589 PLANT ROAD

COOSA PINES, AL 35044-0555
UNITED STATES

Equipment No 310-1140-021/M94169

C O U P L I N G
Coupling Type Rex-Omega ES

C O U P L I N G G U A R D
Coupling Guard material S+Z EN10025

B A S E P L A T E
Base plate type Pump Motor/Steel/Zinc Foundation screw type Grouted
FUTURE MOTOR TECNSUM 355L

M O T O R A L I G N M E N T B L O C K

O R D E R R E M A R K S
TERMS OF PAYMENT:

ALL PAYMENTS ARE DUE NET THIRTY (30) DAYS AFTER
COMPLETION OF EACH EVENT AND RECEIPT OF INVOICE
COMPLETE WITH SUPPORTING DOCUMENTATION, WHICHEVER
OCCURS LAST
90% UPON DELIVERY OF EACH PUMP THAT HAS BEEN
RELEASED AND THE CORRESPONDING CHANGE ORDER ISSUED
10% HOLD BACK UNTIL COMMISSIONING AND ACCEPTANCE
BY BUYER
==========
PRICING:

FOR NON-MENA MOTORS, FINAL PRICES ARE SUBJECT TO
CONFIRMATION AFTER RECEIPT OF CERTIFIED MOTOR
PRINTS
========
INSPECTION LOCATION:

SULZER PROCESS PUMPS (CANADA) INC.
5055, rue Levy
Saint-Laurent, Québec
H4R 2N9
Canada

Contact Person TONY GEDEON
LBU Order # CAE2000075
LBU Position 018
Telephone 514 - 333-7760
Telefax 514 - 333-6324 (bomcust1)

PRODUCT SPECIFICATION

Description APT6126
Serial Number
Time of delivery/EXW 02/09/2001
Date printed 10/13/2000 Page 3

Customer	
ALLIANCE FOREST PRODUCTS U.S. CORP.	
17589 PLANT ROAD	
COOSA PINES, AL 35044-0555	
UNITED STATES	
Cust. order #	445014
Cust. PO Line #	ZOR
Country code	US

ALLIANCE FOREST PRODUCTS U.S. CORP.

17589 PLANT ROAD

COOSA PINES, AL 35044-0555
UNITED STATES

Equipment No 310-1140-021/M94169

FOR INSPECTION PURPOSES PLEASE CONTACT:
MR. SAM SEWELL
SULZER PROCESS PUMPS (US)
155 AHLSTROM WAY (PUE FACTORY)
EASLEY, SC, USA, 29640
TEL: (864) 855-9090, FAX: (864) 855-9095

PAINTING:

SULZER STANDARD FACTORY APPLIED PAINTING WITH
THE RAL 5019 (CAPRI BLUE) COLOR & GUARDS IN
RAL 1021 (SAFETY YELLOW) AT NO EXTRA CHARGE

FINAL IMPELLER TRIMS:

MUST BE PROVIDED SIX (6) WEEKS PRIOR TO DELIVERY
EXCEPT FOR APT6, APT54 & APT55 WHICH WILL REQUIRE
THEM NINE (9) WEEKS PRIOR TO DELIVERY

MOTOR MOUNTING:

SULZER WILL DRILL BASE PLATES AS PER CERTIFIED
MOTOR PRINTS BY CUS. SULZER WILL MOUNT CUS.
SUPPLIED NEMA MOTORS AT EASLEY, SC FACTORY
CUS. RESPONSABLE FOR MOUNTING NON-NEMA MOTORS

P A I N T I N G

Painting	E180/3-Fe Sa2 1/2 SFS4962
Color Shade	RAL-5019

SULZER PROCESS PUMPS (CANADA) INC.
5055, rue Levy
Saint-Laurent, Québec
H4R 2N9
Canada

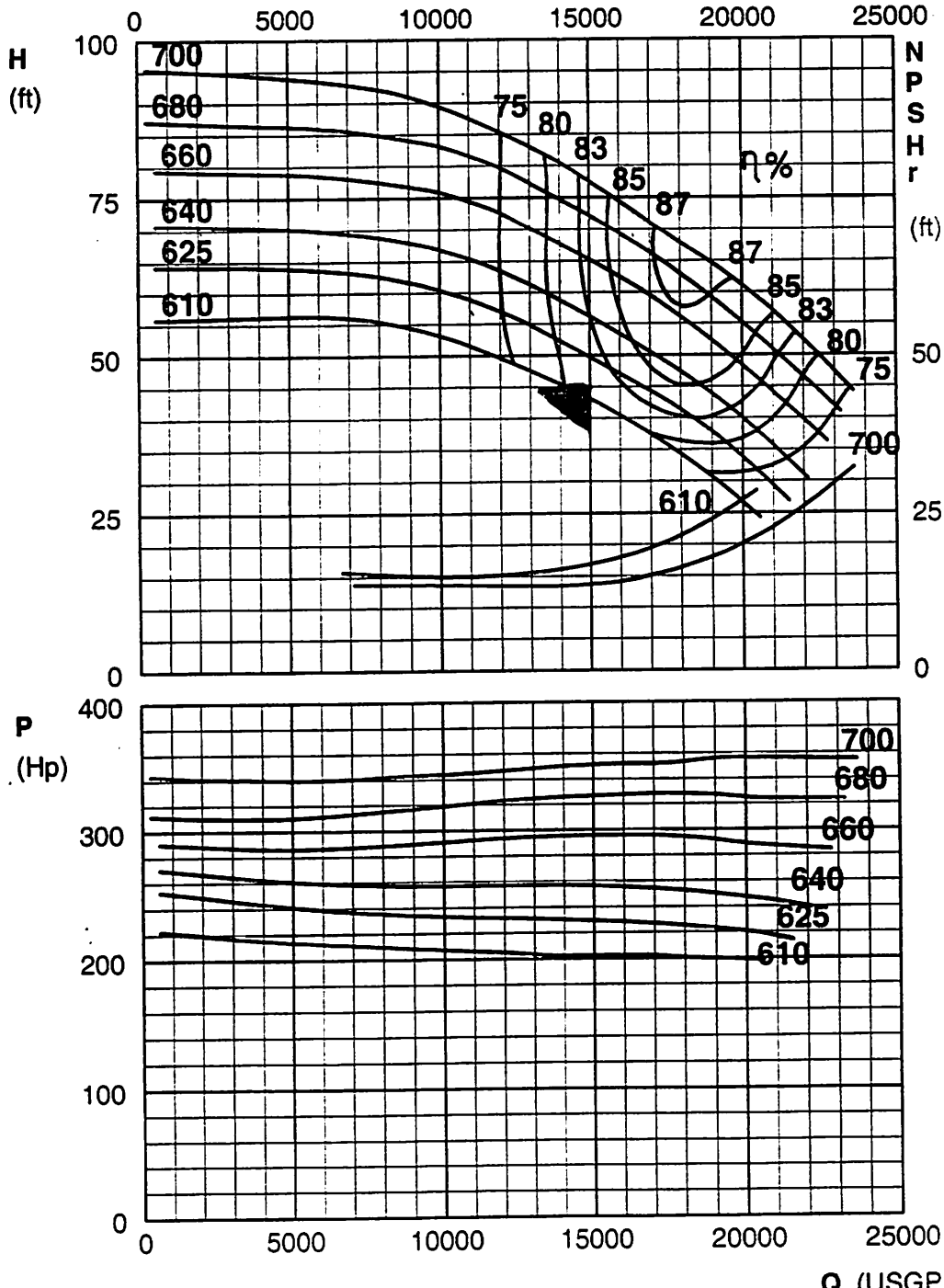
Contact Person TONY GEDEON
LBU Order # CAE2000075
LBU Position 018
Telephone 514 - 333-7760
Telefax 514 - 333-6324 (bomcust1)

APT Process pumps
Characteristic curve K02321

AHLSTROM

Version 01> / en / 920908 / Replaces 901101 / **K02321**

APT61-24 (24x24-28)
Impeller 286876 OPEN B5.24 Z4
710 rpm



IMPELLER DIA		
mm	in	deg
700	27.6	15
695	27.4	15
690	27.2	15
685	27.0	15
680	26.8	15
675	26.6	16
670	26.4	16
665	26.2	16
660	26.0	17
655	25.8	17
650	25.6	18
645	25.4	18
640	25.2	19
635	25.0	19
630	24.8	20
625	24.6	20
620	24.4	21
615	24.2	22
610	24.0	23

B Line P5 Flotation Cell Feed P.

SERVICE:	B Line P5 Flotation Cell Feed P.
EQUIP. No.:	310-1140-021 / M94169
CUST. P.O. No.:	445014
API-C JOB No.:	CAE2000 075 18
DATE / REV.:	OCT-16-2000 / R. 0

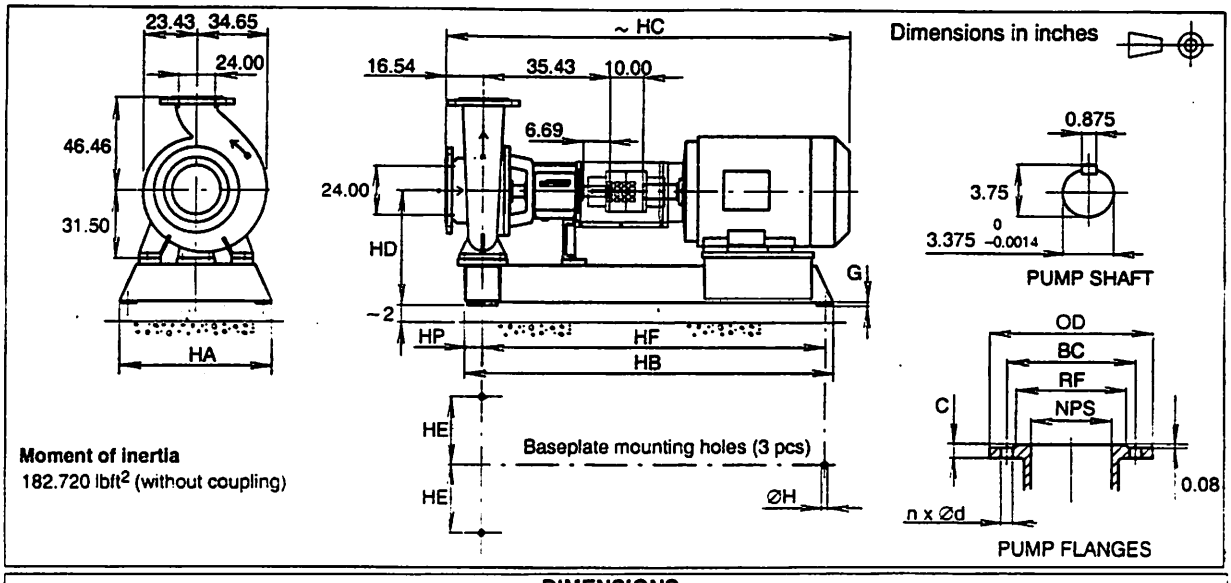
FLOW (USGPM)	TDH (ft)
14580.00 | 4787	44.00
EFF. (%)	Power (HP)
81	250.0
NEMA PR.	NEMA FUT.
BY OWNER	BY OWNER

APT Process Pumps
Dimensional drawing P20058

AHLSTROM

Version 04 > / 940221 / en / **P20058**

APT61–24 *(24x24–28)*
Steel baseplate pump and motor



Moment of inertia
182.720 lbft^2 (without coupling)

3151

DIMENSIONS													
Primary motor frame	Max motor frame (1	(2	Baseplate	HD	HC	HB	HP	HF	HA	HE	H	G	Weight lbs (3
447T	5011LL	449T	13	43.20	110.00	117.25	5.00	110.00	52.75	24.00	1.50	0.69	5710
449T	5011LL	–	13	43.20	116.00	117.25	5.00	110.00	52.75	24.00	1.50	0.69	5710
449TS	509LS	–	12	43.20	113.00	106.25	5.00	99.00	52.75	24.00	1.50	0.69	5580

DRILLING OF FLANGES									
				ANSI B 16.1 Class 125			ANSI B 16.5 Class 150		
NPS	OD	RF	C	BC	d	n (4	BC	d	n (4
24.00	33.27	26.97	1.88	29.50	1.42	20	29.50	1.42	20

1. Max. NEMA motor frame, which can be installed onto the baseplate.
2. Max. NEMA motor frame with the same shaft height as primary motor.
3. Weight without coupling and motor.
4. Flange bolting straddles centerline.

FOR REFERENCE

PUMP B-LINE PS FLOTATION CELL FEED

SERVICE:	~~B-Line PS Flotation Cell Feed P.~~
EQUIP. No.:	310-1140-021 / M94169
CUST. P.O. No.:	445014
API-C JOB No.:	CAE2000 075 18
HP / RPM / FRAME:	212.0 / 710 / ~~BY OWNER~~

CERTIFIED FOR CONSTRUCTION	
DATE / REV.:	OCT-16-2000 / R. 0
SIGNED:	

/315L

Table 7 Bearing unit size 6

Pump type	61-20	61-24	62-16
Shaft diameters			
At impeller		2.953	
Under sleeve		3.543	
Between bearings		4.80	
At coupling		3.375	
Bearings			
Radial bearing type		NUP 320	
Thrust bearing type		2x7322 BECB	
Radial brg. life (HRS. x 10^3) (1	1000	500	500
Thrust brg. life (HRS. x 10^3) (1	150	100	100
Bearing span		13.20	
Shaft overhang		11.80	
Stuffing box			
Bore		5.197	
Depth		3.937	
Shaft sleeve dia.			
Packing		3.947	
Mechanical seal, general		3.750	
Mech. seal, ready-fitted (2		3.543	
Packing size		0.625	
No. of packing rings		4	
Lantern ring width		0.79	
Neck bush clearance		0.042	
Distance to nearest obstruction		3.94	
Wear ring clearance		-	
Impeller			
Front clearance (open impeller)		0.020	
Back clearance		0.040	
Eye area (in^2)			
Closed		-	
Open	302.0	308.0	308.0
Special open	302.0	308.0	308.0
Max. diameter solids (in)			
Closed		-	
Open	3.39	5.19	5.19
Special open	4.21	5.19	5.19
Max. shaft deflection at st. box		0.002	
Casing			
Type (single or dual)	DV	DV	DV
Casing thickness (iron)	0.95	0.95	0.95
Casing thickness (steel)	0.93	0.71	0.71
Bearing unit weight (LBS)		333	
HP/100 rpm (shaft SS2324)		120	

1) Min. L10h-life, full impeller dia., max. speed, direct coupled and 50 - 100 % BEP

2) Installed on the pump shaft

PUMP, B-LINE P5 FLOTATION CELL FEED

SERVICE:	~~B-Line P5 Flotation Cell Feed~~ P.
EQUIP. No.:	310-1140-021 / M94169
CUST. P.O. No.:	445014
MODEL / SPEED:	APT61-24 / 710
API-C JOB No.:	CAE2000 075 18

Version 09 > / 960601 / en / **N12559**

Gland packings

Fitting P02

2 braids + lantern ring + 2 braids. Standard casing cover. Installed onto the shaft wearing sleeve.

Characteristics of fitting

E	External flushing that prevents pumped liquid from precipitating in the sealing housing. Flushing liquid is mixed with the pumped liquid.

Pumped liquid	Impure liquids, stock, lye
Temperature (°F)	max 250
Stuffing box pressure p_T (psi)	Positive or negative

Sealing waters	
Connection No.	020
Size (NPT)	3/8 – 18
Quality	External clean water, maximum particle size 0.002 in, maximum solid material content (PPM-value) 0.00027 lb/in^3.
Flow rate (USGPM)	0.5 – 0.8
Pressure (psi)	p_T + 7 psi min. 7 psi

Seal size (Ø in)

Bearing unit					
1	**2**	**3**	**4**	**5**	**6**
1 5/8 × 2 3/8 × 3/8	2 × 2 3/4 × 3/8	2 3/8 × 3 3/8 × 1/2	2 3/4 × 3 3/4 × 1/2	3 1/2 × 4 3/4 × 5/8	3.937 × 5.198 × 5/8

Pressure behind the impeller can approximately be calculated from the formula

$p_T = p_0 - 0.725$ psi

Where p_T = pressure behind the impeller (psi)
p_0 = inlet pressure (psi)

Atmospheric pressure used as reference pressure = 0 psi.

Pump, B-Line P5 Flotation Cell ~~Feed~~

SERVICE:	~~B-Line P5 Flotation Cell Feed~~ P.
EQUIP. No.:	310-1140-021 / M94169
CUST. P.O. No.:	445014
MODEL / SPEED:	APT61-24 / 710
API-C JOB No.:	CAE2000 075 18