

SALES ACKNOWLEDGEMENT

SULZER

Print Date 10/13/2000

Page 1

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 # 041	Order Date 10/12/2000
			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			Equipment Number 310-1140-029/M94215		
			Serial Number	Currency USD	Net Amount 23557.00
			Terms of Payment SPECIAL TERMS, SEE NOTE		
Ship to ALLIANCE FOREST PRODUCTS U.S. CORP. 17589 PLANT ROAD COOSA PINES, AL 35044-0555			Terms of Delivery DDP (INCOTERMS 2000) COOSA PINES, AL, PREPAID		
			Way of Delivery Truck		Onsite Date 02/16/2001
Marks and Tagging PUMP, A-LINE FLOTATION ACCEPTS 310-1140-029 / M94215 445014 4121001112 CAE2000 075 41			Order Contact TONY LIANE		
			Sales Contact TONY GEDEON		
			Document Requirements 4 Copies in English		
Pump Size APT54-20	N.Am. Pump Size 20X20-24	Casing Material A890 3A	Consistency 1.27 % BD	Pumped liquid DEINKED STOCK	
Capacity Q 11448 USGPM	Head H 25 ft	NPSH av 26 ft	NPSH req 20.5 ft	pH 7-9	
Capacity in alternative unit 0-29.34 VOL.		Temperature 125 F	Dimensional drawing P20052	Characteristic curve K01934	
Impeller Type Open	Impeller No. 283901	Impeller diameter 540 mm	Pump power P 96 HP	Base plate type Pump Motor/Steel/Zinc	
Coupling Type Rex-Omega ES	Mechanical seal type	Coupling Guard material S + Z EN10025	Dynamic seal power	Shaft Seal Fitting P02	
Motor IEC/NEMA code 449T	Power 150 HP	Rotational Speed 720 RPM	Manufacturer TOSHIBA RELIANCE	Future motor IEC/NEMA code TOSHIBA 5010 US	
Frequency 60 Hz	Voltage 460V	Enclosure TEFC	Motor Supplied by Customer	Bearing Unit Lubrication Oil lubrication	
Order Remarks: 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: ----- 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:		

GAS
CONTENT

SALES ACKNOWLEDGEMENT

SULZER

Print Date 10/13/2000

Page 2

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 # 041	Order Date 10/12/2000
Bill to ALLIANCE FOREST PRODUCTS U.S. CORP. 17589 PLANT ROAD COOSA PINES, AL 35044-0555	Customer P.O. No. 445014		P.O. Date 09/22/2000
Ship to ALLIANCE FOREST PRODUCTS U.S. CORP. 17589 PLANT ROAD COOSA PINES, AL 35044-0555	Equipment Number 310-1140-029/M94215		
Marks and Tagging PUMP, A-LINE FLOTATION ACCEPTS 310-1140-029 / M94215 445014 4121001112 CAE2000 075 41	Serial Number	Currency USD	Net Amount 23557.00
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 =====			
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 =====			
<i>GAS CONTENT:</i> <i>10 PSI AND HARD CONNECTION FOR 6-29/4R BY</i> <i>LINE.</i>			
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			

PRODUCT SPECIFICATION	Description	APT54-20	
	Serial Number		
	Time of delivery/EXW	02/02/2001	
	Date printed	10/13/2000	Page 2
Customer	ALLIANCE FOREST PRODUCTS U.S. CORP.		
17589 PLANT ROAD	17589 PLANT ROAD		
COOSA PINES, AL 35044-0555	COOSA PINES, AL 35044-0555		
UNITED STATES	UNITED STATES		
Cust. order #	445014		
Cust. PO Line #	ZCR		
Country code	US	Equipment No	310-1140-029/M94215

COUPLING

Coupling Type Rex-Omega ES

COUPLING GUARD

Coupling Guard material S+Z EN10025

BASE PLATE

Base plate type Pump Motor/Steel/Zinc Foundation screw type Grouted

ATURE MOTOR IEC/MENA TOSHIBA 5010 US (200HP, 900 RPM)

MOTOR ALIGNMENT BLOCK

ORDER REMARKS

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.	Contact Person	TONY GEDEON
5055, rue Levy	LBU Order #	CAE2000075
Saint-Laurent, Québec	LBU Position	041
H4R 2N9	Telephone	514 - 333-7760
Canada	Telefax	514 - 333-6324 (bomcust1)

PRODUCT SPECIFICATION	Description: APT54-20 Serial Number Time of delivery/EXW 02/02/2001 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 # ZGR Country code US
ALLIANCE FOREST PRODUCTS U.S. CORP. 17589 PLANT ROAD COOSA PINES, AL 35044-0555 UNITED STATES	Equipment No 310-1140-029/M94215

 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 041
 Telephone 514 - 333-7760

Telefax 514 - 333-6324 (bomcust1)

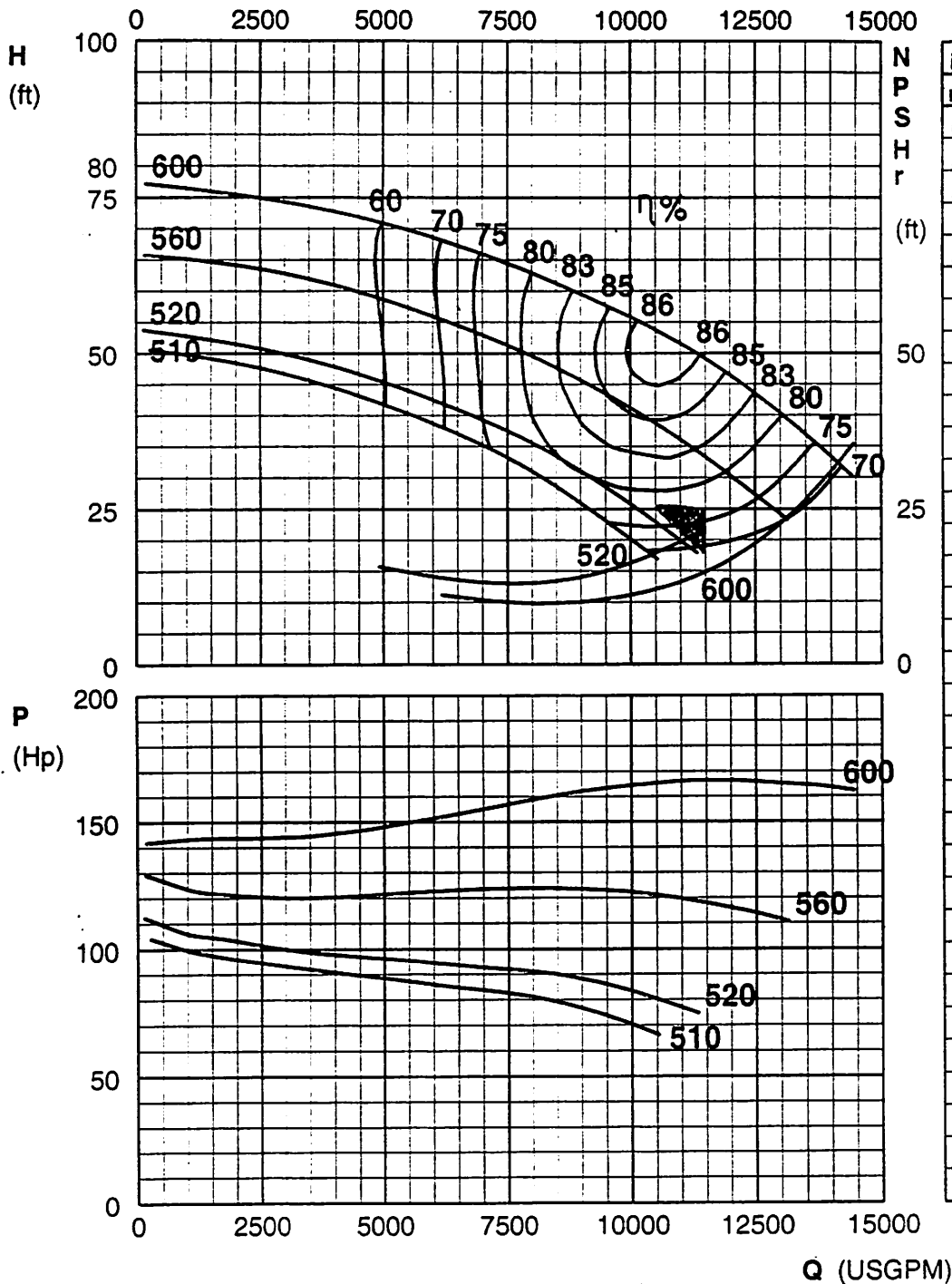
APT Process pumps Characteristic curve K01934



COPYRIGHT © AHLSTROM PUMPS CORP.

Version 01> / en / 920824 / Replaces 890401 / K01934

APT54-20 (20x20-24)
Impeller 283901 OPEN B4.49 Z6
710 rpm



IMPELLER DIA		
mm	in	deg
600	23.62	15
595	23.43	15
590	23.23	15
585	23.03	15
580	22.83	15
575	22.64	16
570	22.44	16
565	22.24	16
560	22.05	17
555	21.85	17
550	21.65	18
545	21.46	18
540	21.26	19
535	21.06	19
530	20.87	20
525	20.67	20
520	20.47	21
515	20.28	22
510	20.08	23

SERVICE:	A Line Flotation Accepts P.
EQUIP. No.:	310-1140-029 / M94215
CUST. P.O. No.:	445014
API-C JOB No.:	CAE2000 075 41
DATE / REV.:	OCT-16-2000 / R. 0

FLOW (USGPM)	TDH (R)
334488 11473	25.00
EFF. (%)	Power (HP)
76	150.0
NEMA PR.	NEMA FUT.
BY OWNER	BY OWNER

REUN449T TOSHIBA 5010US

APT Process Pumps

Dimensional drawing P20052

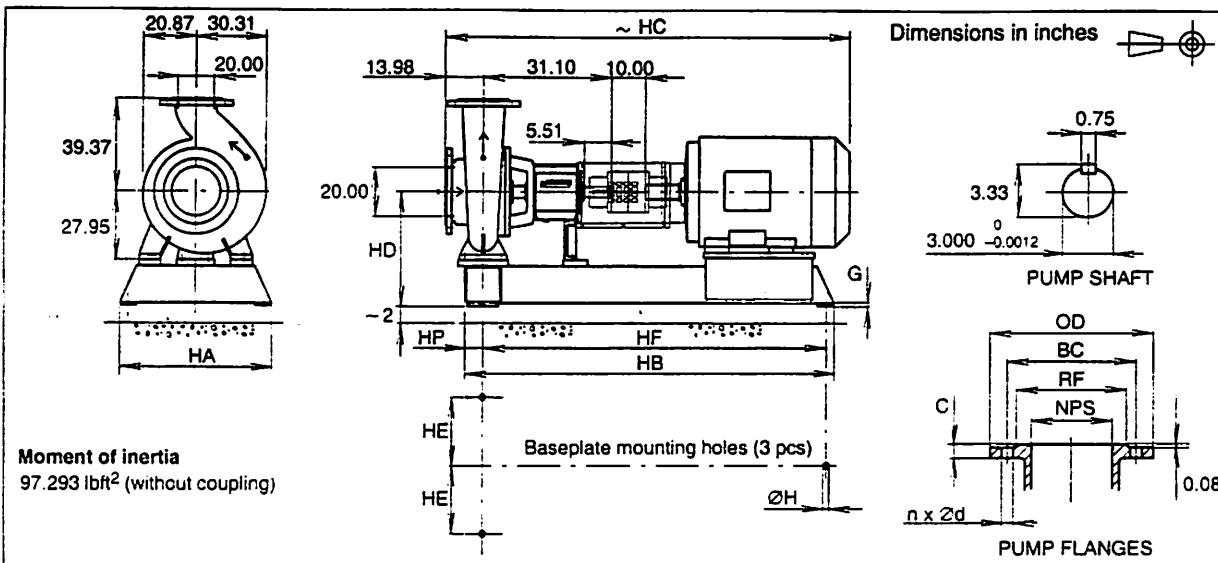


COPYRIGHT © AHLSTROM PUMPS CORP.

Version 04 > / 940221 / en / P20052

APT54-20 (20x20-24)

Steel baseplate for pump and motor



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	12	39.65	103.00	106.25	5.00	99.00	52.75	24.00	1.50	0.69	3870
449T	5011LL	-	12	39.65	109.00	106.25	5.00	99.00	52.75	24.00	1.50	0.69	3870
449TS	509LS	-	12	39.65	106.00	106.25	5.00	99.00	52.75	24.00	1.50	0.69	3770

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⁾
20.00	28.74	23.03	1.69	25.00	1.25	20		25.00	1.25	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

SERVICE:	A-Line Flotation Accepts P.
EQUIP. No.:	310-1140-029 / M94215
CUST. P.O. No.:	445014
API-C JOB No.:	CAE2000 075 41
HP / RPM / FRAME:	96.0 / 710 / BY OWNER

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

1449T

APT Process Pumps

Design data



COPYRIGHT © AHLSTROM PUMPS CORP.

Version 09 > / 960801 / en / N12851 / Page 6 (7)

Table 6 Bearing unit size 5, continued

Pump type	54-16	54-20	55-4	55-8	55-10	55-12
Shaft diameters						
At impeller				2.559		
Under sleeve				3.150		
Between bearings				4.09		
At coupling				3.000		
Bearings						
Radial bearing type				NUP 317		
Thrust bearing type				2x7318 BECB		
Radial brg. life (HRS. x 10 ³) ⁽¹⁾	1000 +	1000 +	1000 +	1000 +	1000 +	1000 +
Thrust brg. life (HRS. x 10 ³) ⁽¹⁾	50	100	23	120	100	50
Bearing span				11.10		
Shaft overhang				11.75		
Stuffing box						
Bore				4.750		
Depth				3.937		
Shaft sleeve dia.						
Packing				3.500		
Mechanical seal, general				3.375		
Mech. seal, ready-fitted ⁽²⁾				3.150		
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	0.034	0.036	0.027	0.029	0.029	0.032
Impeller						
Front clearance (open impeller)				0.020		
Back clearance				0.040		
Eye area (in ²)						
Closed	220.9	263.00	50.6	90.0	113.2	162.1
Open	220.9	263.00	50.6	90.0	113.2	162.1
Special open	220.9	263.00	-	-	113.2	162.1
Max. diameter solids (in)						
Closed	2.95	4.45	1.18	1.34	1.69	2.64
Open	2.91	4.45	1.18	1.81	1.69	2.68
Special open	3.62	4.45	-	-	1.69	2.68
Max. shaft deflection at st. box				0.002		
Casing						
Type (single or dual)	DV	DV	SV	SV	DV	DV
Casing thickness (iron)	0.75	0.79	0.79	0.75	0.75	0.79
Casing thickness (steel)	0.63	0.63	0.79	0.63	0.63	0.67
Bearing unit weight (LBS)				333		
HP/100 rpm (shaft SS2324)				74		

- 1) Min. L10h-life, full impeller dia., max. speed, direct coupled and 50 - 100 % BEP
- 2) Installed on the pump shaft

PUMP, A-LINE FLOTATION ACCEPTS

SERVICE:	A-Line Flotation Accepts P.
EQUIP. No.:	310-1140-029 / M94215
CUST. P.O. No.:	445014
MODEL / SIZE:	APT54-20 / 20x20-24
API-C JOB No.:	CAE2000 075 41

APT Process Pumps

Shaft sealing



COPYRIGHT © AHLSTROM PUMPS CORP.

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 x 2 3/8 x 3/8	2 x 2 3/4 x 3/8	2 3/8 x 3 3/8 x 1/2	2 3/4 x 3 3/4 x 1/2	3 1/2 x 4 3/4 x 5/8	3.937 x 5.198 x 5/8

Pressure behind the impeller can approximately be calculated from the formula

$$p_T = p_0 - 0.725 \text{ psi}$$

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

Atmospheric pressure used as reference pressure = 0 psi.

PUMP, A-LINE FLOTATION ACCEPTS.

SERVICE:	A-Line Flotation Accepts P.
EQUIP. No.:	310-1140-029 / M94215
CUST. P.O. No.:	445014
MODEL / SPEED:	APT54-20 / 710
APLC JOB No.:	CAE2000 075 41