

Lake County Administrative Office
Solicitation Number Checklist



Dollar Amount	Quotes or Bids	Purchase Order or Contract	Minimum Signing Authority
Up to \$5,000	No Quotes Required	Not Required	Department Head
FOR THE FOLLOWING AMOUNTS, PLEASE USE THE CHECKLIST			
\$5,000+ to \$50,000	Request and Document a minimum of 3 price comparisons	Written Purchase Order or Contract approved by County Counsel	Department Head
\$50,000+ to \$100,000	Request and Document a minimum of 5 Sealed Bids or RFP	Written Purchase Order or Contract approved by County Counsel	Department Head
\$100,000+	Request and Document a minimum of 5 Sealed Bids or RFP	Written Purchase Order or Contract approved by County Counsel	Board Chairman, unless delegated

STEP ONE: Department Requests Solicitation Number

(Send Checklist to Admin via Interoffice mail or to LakeCountyPurchasingAgent@lakecountyca.gov)

Department: Special Districts Fund: 255 Budget Unit: 8355

Project Name/Description: Submersible Pump Assembly to replace pump at Lift Station 2

Exemption Code: None *(Attach reasoning for this exemption)*

Contact Name: Elena Villanueva Email: specialdist.po@lakecountyca.gov

STEP TWO: Admin Assigns Solicitation Number

(Administrative Office assigns and returns to Department)

Assigned Solicitation Number: _____

STEP THREE: Administration Office Review

(Department submits documents to Administration Office)

Date Received by Admin: _____ Appropriate documentation received

Exemption Approved? YES NO N/A Documented Attempts/Responses Attached? YES NO

Admin Changes Requested? NO YES Date Returned to Dept: _____

Notes: _____

Date re-submitted to Admin: _____ Appropriate documentation received

Admin Approval (Name / Date): _____

STEP FOUR: Department Next Steps

(Department to complete, keep Checklist with final documents as they are routed)

County Counsel Approval *(if not on contract)* Signature: _____

To Auditor *(copy of final documents, including Checklist)*



Mr. Allen Miller

September 23, 2024

Lake County Special Districts
1155 Whalen Way
Clearlake, CA 95422

Dear Allen,

Thank you for the opportunity to quote a submersible pump assembly for your NW2 lift station. We are pleased to offer you the following proposal for a new KSB submersible pump assembly:

- KSB KRT K 150-503/1554XNG-S submersible pump assembly
 - o Adapter claw to install pump with 8" Flygt pump installation accessories (the KSB pump has a 6" discharge connection. With this adapter claw we will mate up to the 8" Flygt installation accessories)
 - o Cast iron configuration
 - o Kmax two vane enclosed impeller
 - o Case wearing
 - o 2 mechanical seals in tandem. Silicon carbide running faces, NBR elastomers
 - o Motor: 208 hp, 3/60/460, IP68, explosion proof, 1779 rpm
 - o Rated for 1750 gpm, 248 ft at 73.5% efficiency
- Non-witness hydraulic performance test
- PumpSafe Relay

We are pleased to offer the following pricing:

Item	Price
KSB KRT with K Impeller	\$ 103,330.95
Tax (8.75%) 7.25%	\$ -9,041.46 \$ 7491.49
Shipping	\$ 8,000.00
Total	-\$ 120,372.40 \$ 118,322.44

Lead time is 12 weeks after release to manufacturing. We are excited about this opportunity. Please reach out with any questions and thank you again.

Scott Davis
Pump Sales Engineer
Mobile: (510) 447-0703
Scott.Davis@dxpe.com

Data sheet



Customer item no.:
Communication dated: 06/08/2024
Doc. no.: CR240805A
Quantity: 1

Number: ES 8003109547
Item no.: 100
Date: 19/08/2024
Page: 1 / 6

KRTK 150-503/1554XNG-S

Version no.: 1

Operating data

Requested flow rate	1750.00 US GPM	Actual flow rate	1750.56 US GPM
Requested developed head	248.00 ft	Actual developed head	248.16 ft
Pumped medium	Water	Efficiency	73.5 %
	Clean water	Power absorbed	149.12 HP
Pumped medium details	Not containing chemical and mechanical substances which affect the materials	Pump speed of rotation	1785 rpm
		Shutoff head	337.01 ft
Ambient air temperature	68.0 °F	Max. power on curve	178.43 HP
Fluid temperature	68.0 °F	Design	Single system 1 x 100 %
Fluid density	62.303144 lb/ft ³		
Fluid viscosity	0.0015 in ² /s	Performance test	Yes

Design

Design	Close-coupled submersible	Impeller type	Multivane radial flow impeller (K-max)
Orientation	Vertical	Wear ring	Casing wear ring
Suction flange pump drilled according to(DN1)	unmachined	Impeller diameter	16.69 in
Discharge flange pump drilled according to(DN2)	EN 1092-2 / DN 150 / PN 10	Free passage size	3 in
Shaft seal	2 mech. seals in tandem arrangement with oil reservoir	Direction of rotation from drive	Clockwise
		Temperature sensor PT100	With
Shaft seal manufacturer	KSB	inboard	
Type	MG	Color	Ultramarine blue (RAL 5002)
Material code	SIC/SIC/NBR		KSB-blue

Driver, accessories

Driver type	Electric motor	Motor winding	460 V
Model (make)	KSB	Number of poles	4
Motor const. type	KSB Sub. motor	Starting mode	Direct-on-line starting
NEMA code letter	F	Connection mode	Delta
Frequency	60 Hz	Motor cooling method	Surface cooling
Rated voltage	460 V	Motor version	X
Rated power P2	208.01 HP	Cable design	Rubber hose
Available reserve	16.58 %	Cable entry	Sealed along entire length
Rated current	232.0 A	Power cable	AWG 1/0-4
Starting current ratio	6.1	Number of power cables	2
Insulation class	H according IEC 34-1	Control cable	AWG 15-10
Type of protection	XP/II/1/CD	Number of control cables	1
Motor enclosure	IP68	Moisture sensor	With
Cos phi at 4/4 load	0.90	Float switch mechanical seal	With
Motor efficiency at 4/4 load	93.3 %		
Motor service factor	1.15	Cable length	65.62 ft
Temperature sensor	Bimetal switch / PTC		

Data sheet



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KRTK 150-503/1554XNG-S

Version no.: 1

Materials G

Notes

General criteria for a water analysis: pH-value $\geq 6,5$; chloride content (Cl) ≤ 250 mg/kg. Chlorine (Cl₂) $\leq 0,6$ mg/kg.

Pump casing (101)

Discharge cover (163)

Shaft (210)

Impeller (230)

Bearing bracket (330)

Cast iron A 48 Class 35 B

Cast iron A 48 Class 35 B

Chrome steel ASTM A276
Type 420 T

Cast iron A 48 Class 35 B

Cast iron A 48 Class 35 B

O-Ring (412)

Casing wear ring (502.1)

Shaft protecting sleeve (524)

Motor housing (811)

Motor cable (824)

Screw (900)

Nitrile rubber NBR

Cast iron A 48 Class 35 B

Chrome steel A276 Type 420

Cast iron A 48 Class 35 B

Chloroprene rubber

Stainless steel A 193 B8M

Packaging

IPPC Standard ISPM 15
Packaging category

Yes

B1 Wooden or plywood
case, cover provided with
polypropylene cellular sheet,
outdoor storage up to 3
months
Indoor

Packaging for storage

Packaging for transport

Ship

Outdoor storage at -40°C to $+50^{\circ}\text{C}$ for up to 3 months. Packet
must be covered. No corrosion protection, only transport
protection.

Nameplates

Nameplates language

International

Duplicate nameplate

With

Certifications

Hydraulic performance test

Acceptance standard

Quantity meas. points Q-H

Certificate

ANSI HI 2B

7

Inspection cert. 3.1 to EN
10204

Test participation

Quantity, non-witnessed

Quantity, witnessed

Non-witnessed

1

0

Installation parts

Installation type

Scope of supply

stationary 2 guide rail

Pump with installation parts

For guide rail arrangements,
the guide rails are not
included in KSB's scope of
supply.

14.76 ft

G

Installation depth

Material concept

Duckfoot bend

Without

Claw

Without

Lifting chain / -rope

Lifting Bail

Without

With

Performance curve

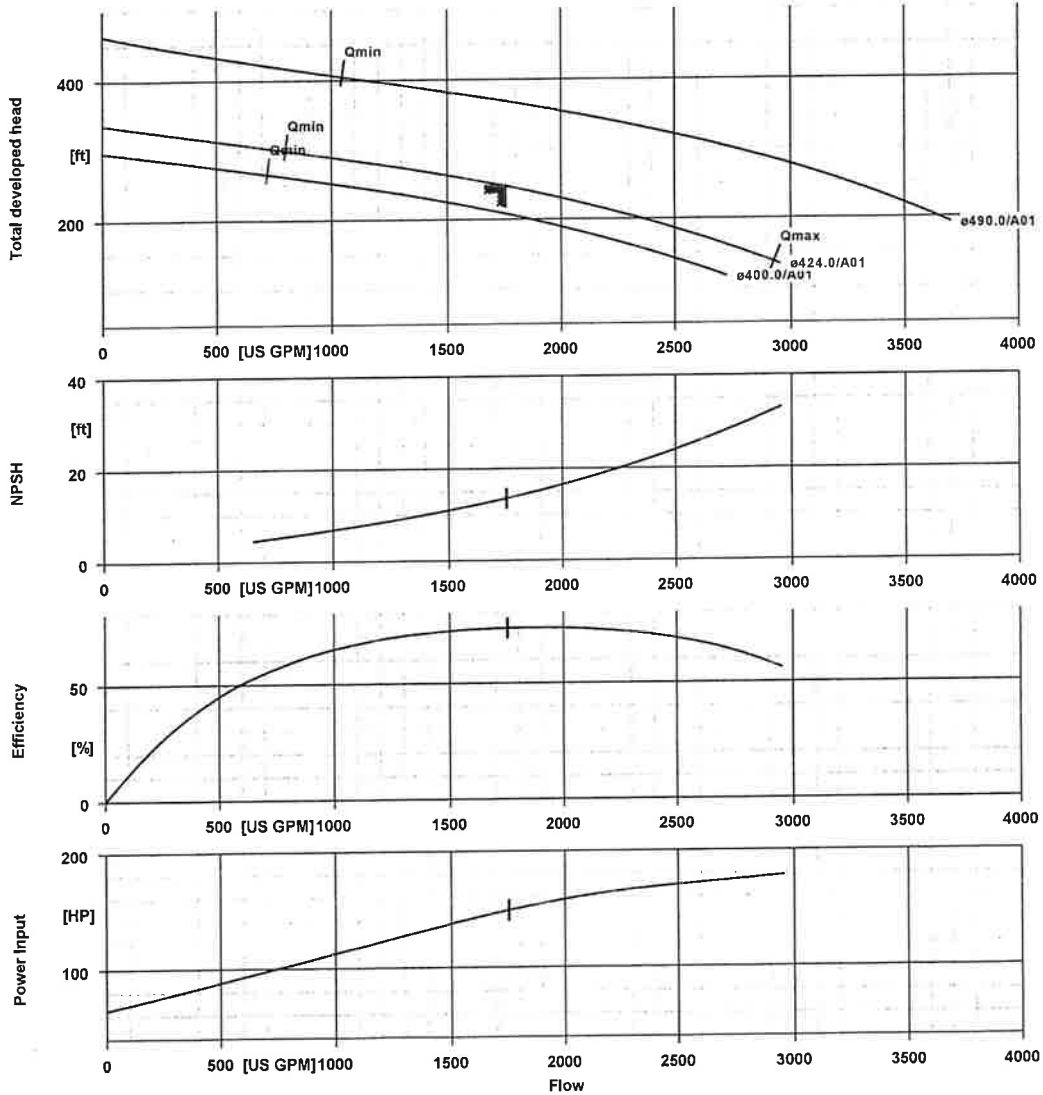


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KRTK 150-503/1554XNG-S

Version no.: 1



Curve data

Speed of rotation	1785 rpm	Efficiency	73.5 %
Fluid density	62.303144 lb/ft ³	Power absorbed	149.12 HP
Viscosity	0.0015 in ² /s	NPSH 3%	13.52 ft
Flow rate	1750.56 US GPM	Curve number	K43629/0
Requested flow rate	1750.00 US GPM	Effective impeller diameter	16.69 in
Total developed head	248.16 ft	Acceptance standard	ANSI HI 2B
Requested developed head	248.00 ft		

Motor data sheet



Customer item no.:
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KRTK 150-503/1554XNG-S

Version no.: 1

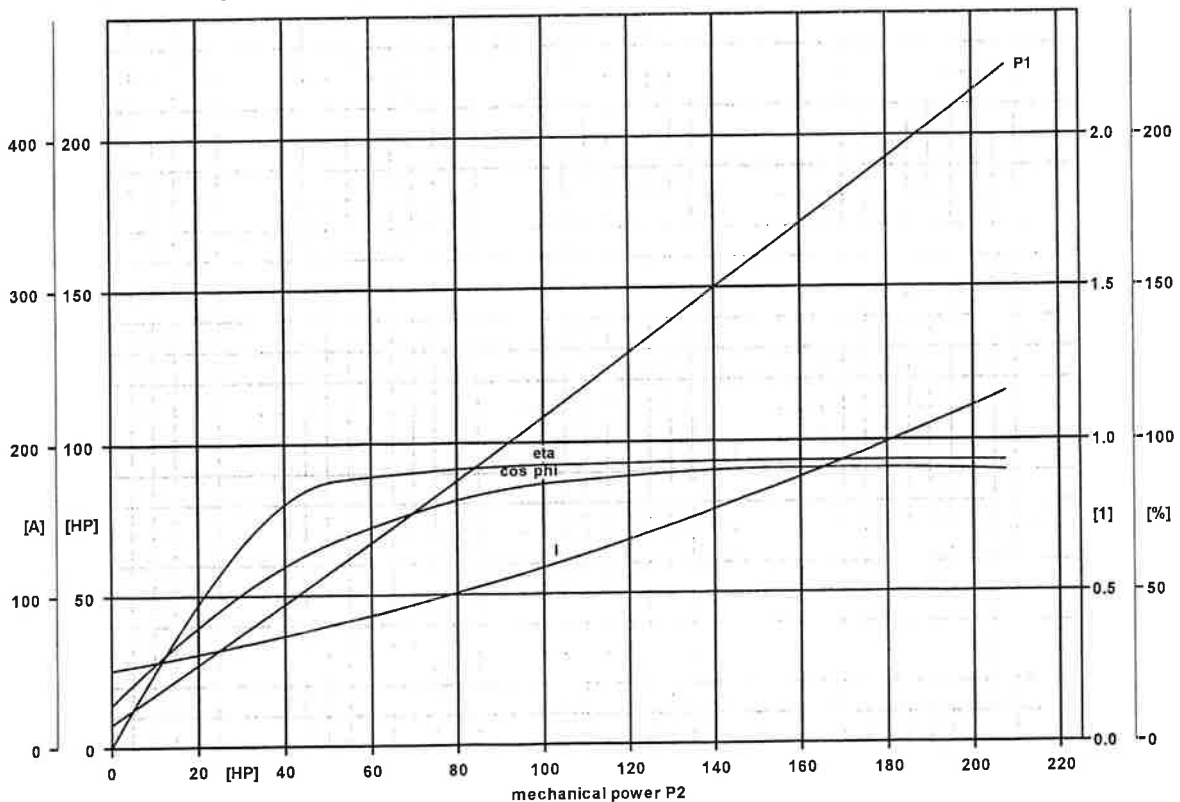
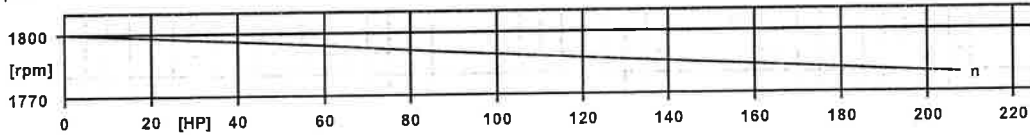
Motor data

Motor manufacturer	KSB	Starting mode	Direct-on-line starting
Motor size	155N	Power cable	AWG 1/0-4
Motor construction type	KSB Sub. motor	Number of power cables	2
Motor material	Grey cast iron EN-GJL-250	Power cable Ø min.	1.37 in
Efficiency class	not classified	Power cable Ø max.	1.45 in
Rated voltage	460 V	Control cable	AWG 15-10
Frequency	60 Hz	Number of control cables	1
Motor power	208.01 HP	Ctrl. cable diameter, min.	0.63 in
Rated current	232.0 A	Ctrl. cable diameter, max.	0.67 in
Rated speed	1779 rpm	Cable standard	NEC
Starting current ratio	6.1	Switching frequency	10.00 1/h

Curve data

The no-load point is not a guarantee point within the meaning of IEC 60034

Load	0.0 %	25.0 %	50.0 %	75.0 %	100.0 %
P2	0.00 HP	52.00 HP	104.00 HP	156.00 HP	208.01 HP
n	1800 rpm	1795 rpm	1789 rpm	1784 rpm	1779 rpm
P1	7.55 HP	59.14 HP	112.24 HP	166.82 HP	223.01 HP
I	51.0 A	81.0 A	121.0 A	172.0 A	232.0 A
Eta	0.0 %	87.9 %	92.7 %	93.5 %	93.3 %
cos phi	0.14	0.68	0.87	0.91	0.90



Installation plan



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KRTK 150-503/1554XNG-S

Version no.: 1

Motor

Motor manufacturer	KSB
Motor size	155N
Motor power	208.01 HP
Number of poles	4
Speed of rotation	1779 rpm
Motor enclosure	IP68

Connections

Suction flange pump drilled according to(DN1)	unmachined
Discharge flange pump drilled according to(DN2)	EN 1092-2 / DN 150 / PN 10

Weight net

Pump, Motor, Cable , Claw	3602 lbm
Total	3602 lbm

For auxiliary connections see separate drawing.

Connect pipes without stress or strain!

Dimensional tolerances for shaft axis height: DIN 747
Dimensions without tolerances, middle tolerances to:
Connection dimensions for pumps:
Dimensions without tolerances - welded parts:
Dimensions without tolerances - gray cast iron parts:
Dimensions without tolerances - stainless steel parts:

ISO 2768-m
EN735
ISO 13920-B
ISO 8062-CT11
ISO 8062-CT12



October 1, 2024

ATTN: Allen Miller - Lake County

QUOTE: CE071-24-204

Project: Lake County

We are pleased to provide pricing for the following equipment:

Qty	Description	Each	Total
1	KSB submersible pump assembly model number KRT K 150-503/1554XNG-S Cast iron material Enclosed impeller Case wearing Dual Mechanical seals 208 hp, 3/60/460, IP68, explosion proof, 1779 rpm motor Conditions of service: 1750 gpm, 248 ft at 73.5% efficiency Non-witness hydraulic performance test PumpSafe Relay	\$ 113,737.00	\$ 113,737.00
1	Tax (7.25%)	\$ 8,245.93	\$ 8,245.93
1	Shipping	\$ 8,000.00	\$ 8,000.00
Please reference CE071-24-204 when placing order.			Total: \$129,982.93

Subject to DXP Terms & Conditions of Sale. Net Thirty (30) Terms are subject to DXP Credit department approval.

<https://www.dxpe.com/terms-html/>

Proposal Valid: (30) Days from Today's Date

F.O.B: Factory

Ships: Pre-pay and Add

Regards,

Tony Nunez

Pump Sales Engineer

Cortech Engineering

Qty	Part Number	Description	Unit Price	Extended Price
		Shop Labor Price		\$ 1,400.00
		Total Price		\$ 148,685.00
		Freight Charge		\$ 6,512.00
		Total Price		\$ 155,197.00

+ tax \$10,579.42
 \$165,776.42

Terms & Conditions

This order is subject to the Standard Terms and Conditions of Sale – Xylem Americas effective on the date the order is accepted which terms are available at <http://www.xylem.com/en-us/Pages/terms-conditions-of-sale.aspx> and incorporated herein by reference and made a part of the agreement between the parties.

Purchase Orders: Please make purchase orders out to: Xylem Water Solutions USA, Inc.

Freight Terms: 3 DAP - Delivered At Place 08 - Jobsite (per IncoTerms 2020)

See Freight Payment (Delivery Terms) below.

Taxes: State, local and other applicable taxes are not included in this quotation.

Back Charges: Buyer shall not make purchases nor shall Buyer incur any labor that would result in a back charge to Seller without prior written consent of an authorized employee of Seller.

Shortages: Xylem will not be responsible for apparent shipment shortages or damages incurred in shipment that are not reported within two weeks from delivery to the jobsite. Damages should be noted on the receiving slip and the truck driver advised of the damages. Please contact our office as soon as possible to report damages or shortages so that replacement items can be shipped and the appropriate claims made.

Terms of Delivery: PP/Add Order Position

Terms of Payment: 100% N30 after invoice date.

Xylem's payment shall not be dependent upon Purchaser being paid by any third party unless Owner denies payment due to reasons solely attributable to items related to the equipment being provided by FLYGT.

Validity: This Quote is valid for thirty (30) days.

Please note that this pricing is valid for 30 days and contingent upon final approval of submittals and release to fabrication by (within 90 days of bid date).

This quotation is subject to change if any changes to the specifications or plans are made that alter the scope of supply.

Schedule: Please consult your local Flygt Branch Office to get fabrication and delivery lead times.

Thank you for the opportunity to provide this quotation. Please contact us if there are any questions.

Sincerely,





Xylem Water Solutions USA, Inc.
Flygt Products

September 3, 2024

790-A Chadbourne Rd
 Fairfield, CA 94534
 Tel (707) 422-9894
 Fax (707) 422-9808

Lake County Special Districts
 230 N MAIN ST
 LAKEPORT CA 95453-4816

Quote # 2024-FFB-0356
 Project Name: Lake County
 Job Name: NorthWest 3231

Xylem Water Solutions USA, Inc. is pleased to provide a quote for the following Flygt equipment.

Pumps

Qty	Part Number	Description	Unit Price	Extended Price
1	003231ZZZZ0	Flygt NP 3231, 63-480, 395 mm Intended for semi permanent wet installation, guiding claw included other installation components to be ordered individually Hard iron impeller and insert ring Drive Unit: 745 4 pole, 250 hp, 480 V, Std motor Approval: FM Ex Cooling jacket for direct media cooling Standard connection housing Insulated support bearing Cables(Customer has cables) Material Shaft: AISI 431 Stainless steel Supervision FLS, leakage detector, in junction box FLS, leakage detector, in stator housing PT-100 in one stator winding PT-100 in lower bearing Pump memory	\$ 145,923.00	\$ 145,923.00
Pumps Price				\$ 145,923.00

Accessories

Qty	Part Number	Description	Unit Price	Extended Price
1	14-58 72 07	KIT,CHAIN FITTINGS FSWL 7150#	\$ 362.00	\$ 362.00
20	14-48 71 18	CHAIN 1/2" 316SS SWL7350#	\$ 50.00	\$ 1,000.00
Accessories Price				\$ 1,362.00

Shop Labor

Qty	Part Number	Description	Unit Price	Extended Price
10	14-69 00 02A	LABOR,SVC FLYGT,NO TAX Z3-TP MODELS: 3000,6000,7000,8000	\$ 140.00	\$ 1,400.00



Zack Cederlind
Sales Representative

Cell: 916-279-1661
zackery.cederlind@xylem.com





**Xylem Water Solutions USA, Inc.
Flygt Products**

Customer Acceptance

This order is subject to the Standard Terms and Conditions of Sale – Xylem Americas effective on the date the order is accepted which terms are available at <http://www.xylem.com/en-us/Pages/terms-conditions-of-sale.aspx> and incorporated herein by reference and made a part of the agreement between the parties.

A signed copy of this Quote is acceptable as a binding contract.

Purchase Orders: Please make purchase orders out to: Xylem Water Solutions USA, Inc.

Quote #: 2024-FFB-0356
Customer Name: Lake County Special Districts
Job Name: NorthWest 3231
Total Amount: \$ 148,685.00
(excluding freight)

Signature: _____	Name: _____ (PLEASE PRINT)
Company/Utility: _____	PO: _____
Address: _____	Date: _____
_____	Phone: _____
_____	Email: _____
_____	Fax: _____





Quotation #DP5525

7 PAMARON WAY, SUITE A, NOVATO, CA 94949
P. 415-da884-4501, F. 415-883-3961

To: David McGrath @ Lake County Special Districts
 230 North Main Street
 Lakeport, CA 95453
David.McGrath@lakecountyca.gov
 Office 707-263-8279

Date: September 16, 2024

Pages: 2

Subject: HOMA submersible pump model AKX844-415/214H/C FM for the duty of 2,000 GPM @ 250' TDH. Replaces existing Flygt pump

Qty.	Item / Description	Net Price	Ext. Net Price
1	HOMA submersible Pump Model AKX844-415/214H/C FM 8" submersible pump, 4" solids handling, 214 HP, 3/460VAC, 1750 RPM, Class H Insulated, Prem. Effic., Inverter Duty, Explosion Proof (FM approved) rated motor. Inc - #8734286; 316 SST. pump lifting handle - #GSPMR5; PMR-5 relay to fit in place of the existing Mini-CAS relay for motor thermal/seal failure protection - Certified pump performance test, duty of 2,000 GPM @ 250' TDH - 60' long motor and control cable - #7321891; 8" HOMA guide claw adapter for Flygt Guide Rail system for 3" dia. guide rails <i>Shipping weight: 3,300 lbs. each.</i>	\$84,175.00	\$84,175.00
Lot	Sales Tax @ 8.75% (Lake County)		\$7,365.31
Lot	Approx. Freight Charges		\$3,960.00
Lot	One day of startup services and training		\$1,500.00
Lot	Total Net Sale		\$97,003.31

516 610269
 \$95,737.69

Notes:

- 1) The existing Flygt lift-out rail system with 3" guide rails shall remain in place to accept the HOMA (Flygt) Guide Rail Adapter plate.
- 2) The existing pump lifting chain/cable assembly shall be used on the replacement HOMA pump.
- 3) If any additional startup is required, please add \$1,500.00 per day. Includes a field inspection and pump start-up report.

+ would require modifications

FOB: Ansonia, CT

Freight charges shall be Prepaid and Add

Subject to our standard terms and conditions of sale

Terms: Net 30 days

Pricing valid for 30 days

Lead time: Will Advise!

Off-Loading of equipment shall be by others

Provided by,

Dennis Prahm



Flo-Line Technology, Inc.

11822 Kemper Rd, Auburn, CA 95603
 Ph 530-887-2240, Fax 530-887-2243
 www.flolinepumps.com

ATTENTION	DAVID MCGRATH
COMPANY	LAKE COUNTY SPECIAL DISTRICT
EMAIL	DAVID.MCGRATH@LAKECOUNTYCA.GOV
PHONE	707-263-8279
FAX	
CELL	
QUOTE NO	25419_R2
DATE	09.20.2024

PREPARED BY	TODD CALLAWAY	LEAD TIME	8 - 10 WEEKS
CELL	530-887-2240	FREIGHT	PP&ADD
E-MAIL	TODD@FLOLINEPUMPS.COM	SHIP VIA	BEST WAY
SUBJECT	SULZER ABS XFP PUMPS	TERMS	NET 30 O.A.C.
REFERENCE	2,000GPM @ 250FT	VALIDITY	30 DAYS

Qty	Part No	Description	Unit Price	Ext'd
		SULZER ABS XFP PUMP OPTION		
		2,000GPM @ 250', 460V, 4 POLE MOTOR		
1	XFP200M-CH2 PE1850/4	8" XFP200M-CH2 PE1850/4 SUBMERSIBLE DRY PIT PUMP - 460V, 248HP, 3PH, 1780RPM, 2-VANE CHANNEL IMP., 420MM(16.5") IMP. DIA., PE6A, 32' CABLE	\$100,438.00	\$100,438.00
1	41426050	8" ADAPTER GUIDE BRACKET FOR 3" RAILS	\$3,738.00	\$3,738.00
1	62306244-316	HARDWARE KIT, 316SS	\$186.00	\$186.00
1	091224DC1	PC441 MONITORING BOX - NEMA 4X, FIBERGLASS ENCLOSURE - 30x21x12 - INCLUDES: CA442 TEMP MONITORING MODULE, PC441 PUMP CONTROLLER, CA511 GRAPHIC DISPLAY, CA441 MOISTURE MONITORING MODULE.	\$8,028.00	\$8,028.00
1	SHIPPING	ESTIMATED FREIGHT	\$8,300.00	\$8,300.00
		FREIGHT NOT INCLUDED		
		ALL SALES ARE FINAL		

THANK YOU VERY MUCH FOR THE OPPORTUNITY TO QUOTE THE ABOVE PRODUCTS

Total \$120,690.00

+ tax \$ 8148.28 = \$128,838.28
 + Modifications

Submersible Sewage Pump Type ABS XFP

XFP 200M-CH2 | 8", 4 Pole, 3-Phase, 60 Hz, PE6

Cable Data, PE6 Frame

	Motor	Motor Voltage	Cable Qty	Cable Type	Cable Nominal Outside Diameter +/- .5mm (.02")	
					Power	Ground
Power Cable	PE 1500/4	460 volt	4	3x3/0 AWG + 1x1/0 AWG (ground)	3/0: 20.0mm (0.79")	1/0: 16.9mm (0.66")
		600 volt	1	G-GC 3/0-3	48.0mm (1.89")	Integrated w/ Power
	PE 1850/4	460 volt	4	3x4/0 AWG + 1x1/0 AWG (ground)	4/0: 21.3mm (0.84")	1/0: 16.9mm (0.66")
		600 volt	1	G-GC 4/0-3	51.8mm (2.04")	Integrated w/ Power
	PE 2200/4	460 volt	4	3x262 MCM + 1x3/0 AWG (ground)	262: 23.8mm (0.97")	3/0: 20.0mm (0.79")
		600 volt	4	3x3/0 AWG + 1x1/0 AWG (ground)	3/0: 20.0mm (0.79")	1/0: 16.9mm (0.66")
PE 2800/4	460 volt	4	3x373 MCM + 1x4/0 AWG (ground)	373: 27.8mm (1.09")	4/0: 21.3mm (0.84")	
	600 volt	4	3x262 MCM + 1x3/0 AWG (ground)	262: 23.8mm (0.97")	3/0: 20.0mm (0.79")	
Control Cable	Motor Monitoring Type ³		Cable Qty	Cable Type	Cable Nominal Outside Diameter +/- .5mm (.02")	
	Std full monitoring w/ 3 RTDs		1	SOOW 16/12	17.7mm (0.70")	
	Opt full monitoring w/ 5 RTDs		2	SOOW 16/10	17.2mm (0.68")	
	Opt full monitoring w/ 3 RTDs & VS ⁴		2	SOOW 16/8	14.2mm (0.56")	
			2	SOOW 16/10	17.2mm (0.68")	

Cable Length Standard: 10m (32 feet) Optional: 5m (16 feet) increments up to 30m (98 feet), Consult Factory for longer lengths

³ See motor protection on page 1. Optional full monitoring systems with RTD options do not include bearing bi-metallic switches. ⁴ VS = Vibration Sensor

Pump Data

Discharge Size	8" flanged, compatible with 8" class 125 ANSI flanges			
Suction Size (Wet-Pit / Dry-Pit) ³	8" undrilled / 8" flanged, compatible with 8" class 125 ANSI flanges, threaded for 8x3/4-10 UNC screws, 40mm (1.6") deep			
Volute Pressure Rating	10 bar (145 psi)			
Impeller Type	Closed Channel, 2-vane, w/ Seal Protection System			
Impeller	Code			
	Diameter, mm (in.)	335 (13.2)	360 (14.2)	395 (15.6) 420 (16.5)
Solids Passage Size, mm (in.)	100x90 (4.0x3.5)	100x90 (4.0x3.5)	100x90 (4.0x3.5)	100x90 (4.0x3.5)
Min. Recommended Flow, GPM ⁶	1150	1175	1350	1400

³ Wet-pit version can be drilled to dry-pit specifications upon request. Consult factory for details. ⁶ Recommend minimum continuous flow. Consult factory for applications below this flow rate.

Materials of Construction

	Standard	Optional
Power/Control Cable Jacket	Chlorinated Polyethylene (CPE)	Chlorinated Polyethylene (CPE) w/ Viton [®] Sleeve
Lifting Hoop	Steel 1.0060 (ASTM A-572, Grade 65)	Duplex Stainless Steel 1.4462 (UNS S31803)
Cable Connection Chamber	Cast Iron EN-GJL-250 (ASTM A-48, Class 35B)	
Motor Housing	Cast Iron EN-GJL-250 (ASTM A-48, Class 35B)	
Cooling Jacket	Steel 1.0036 (ASTM A-570, Grade D)	Stainless Steel 1.4571 (AISI 316Ti)
Intermediate Housing	Cast Iron EN-GJL-250 (ASTM A-48, Class 35B)	
Seal Plate/Cooling Chamber	Cast Iron EN-GJL-250 (ASTM A-48, Class 35B)	
Pump and Motor Shaft	Stainless Steel 1.4021 (AISI 420)	Duplex Stainless Steel 1.4462 (UNS S31803)
Impeller	Cast Iron EN-GJL-250 (ASTM A-48, Class 35B)	Duplex Stainless Steel 1.4470 (ASTM A890, CD3MN Grade 4A)
Wear Parts	Impeller Wear Ring	N/A
	Volute Wear Ring	Cast Iron EN-GJL-300 (ASTM A-48, Class 40B)
	Bottom/Wear Plate	N/A
	Shroud	N/A
Volute	Cast Iron EN-GJL-250 (ASTM A-48, Class 35B)	Duplex Stainless Steel 1.4470 (ASTM A890, CD3MN Grade 4A)
External Hardware	Stainless Steel 1.4401 (AISI 316)	
O-Rings and Cable Glands	Nitrile (Buna-N)	Viton [®]
Mechanical Seals	Lower	Silicon Carbide / Silicon Carbide, Nitrile, 316 SS
	Upper	Silicon Carbide / Silicon Carbide, Nitrile, 316 SS
Lower Bearing Lip Seal	Nitrile (Buna-N)	
Coating/Protection	Two-part epoxy, blue, 100µm (3.9 mil) DFT	Two-part epoxy, blue, 200 µm (7.9 mil) or 360 µm (14.2 mil); Coal tar epoxy, blue, 200 µm (7.9 mil); Non-toxic epoxy, blue, 200 µm (7.9 mil); Zinc Anodes

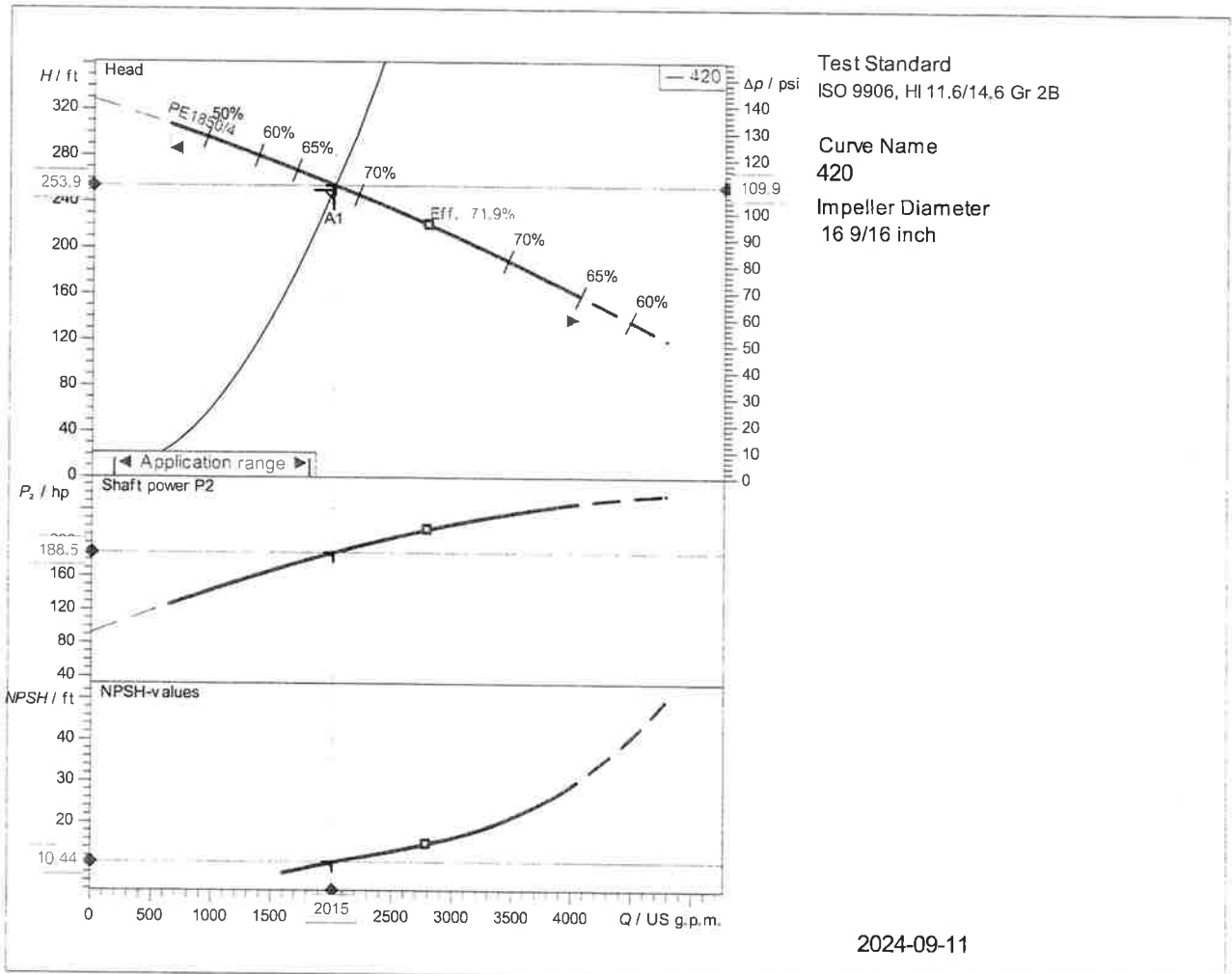
General Data (Standard Materials of Construction & Cable Length)

	PE 1500/4	PE 1850/4	PE 2200/4	PE 2800/4
Overall Height	2198mm (86.5")	2198mm (86.5")	2358mm (92.8")	2358mm (92.8")
≈ Pump Weight	1840 kg (4057 lb)	1945 kg (4289 lb)	2285 kg (5038 lb)	2390 kg (5270 lb)

DS-E02-080 REV. 2 DATE: 10/16 Specifications Subject to Change Without Notice



XFP200M-CH2 60 HZ

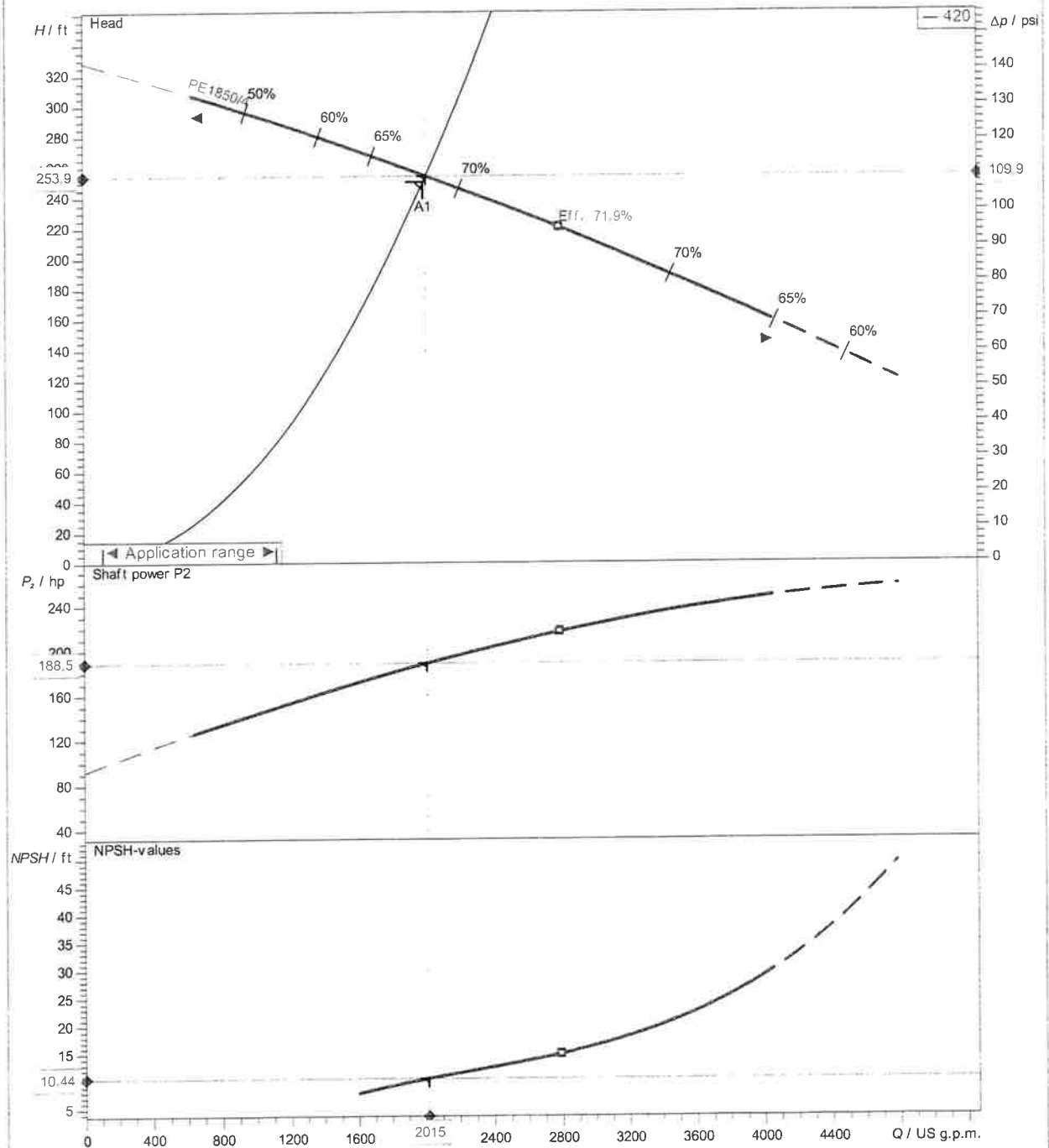


2024-09-11

Operating data specification Flow 2015 US g.p.m. Efficiency 68.5 % NPSH 10.4 ft Temperature 68 °F No. of pumps 1		Power input 196 hp Head 254 ft Shaft power 188 hp Fluid Water Nature of system Single head pump	
Pump data Type XFP200M-CH2 60 HZ Series XFP PE4-PE7 N° of vanes 2 Free passage 3.94 x 3.54 inch Discharge flange DN200 Moment of inertia 22.5 lb ft²		Make SULZER Impeller 2-vane channel impeller Impeller size 16 9/16 inch Suction flange DN200 Type of installation Wet well vertical installation 2"	
Motor data Rated voltage 460 V Rated power P2 248 hp Number of poles 4 Power factor 0.873 Starting current 2220 A Starting torque 1970 lbf ft Insulation class H(140)		Frequency 60 Hz Nominal Speed 1790 rpm Efficiency 95.9 % Rated current 277 A Rated torque 728 lbf ft Degree of protection IP 68 No. starts per hour 15	

Sulzer reserves the right to change any data and dimensions without prior notice and can not be held responsible for the use of information contained in this software.

Curve number		Pump performance curves			SULZER	
Reference curve XFP200M-CH2 60 HZ						
				Discharge DN200	Frequency 60 Hz	
Density 62.32 lb/ft ³	Viscosity 1.082E-5 ft ² /s	Test Standard ISO 9906, HI 11.6/14.6 Gr 2B			Rated speed 1792 rpm	Date 2024-09-11
Flow 2015 US g.p.m.	Head 254 ft	Shaft power 188 hp	Power input 196 hp	Rated power P2 248 hp	Hyd. efficiency 68.5 %	NPSH 10.4 ft



Wet well vertical installation 2"						
Impeller size 16 9/16 inch	N° of vanes 2	Impeller 2-vane channel impeller	Solid size 3.94 x 3.54 inch	Revision		

Frequency
60 Hz

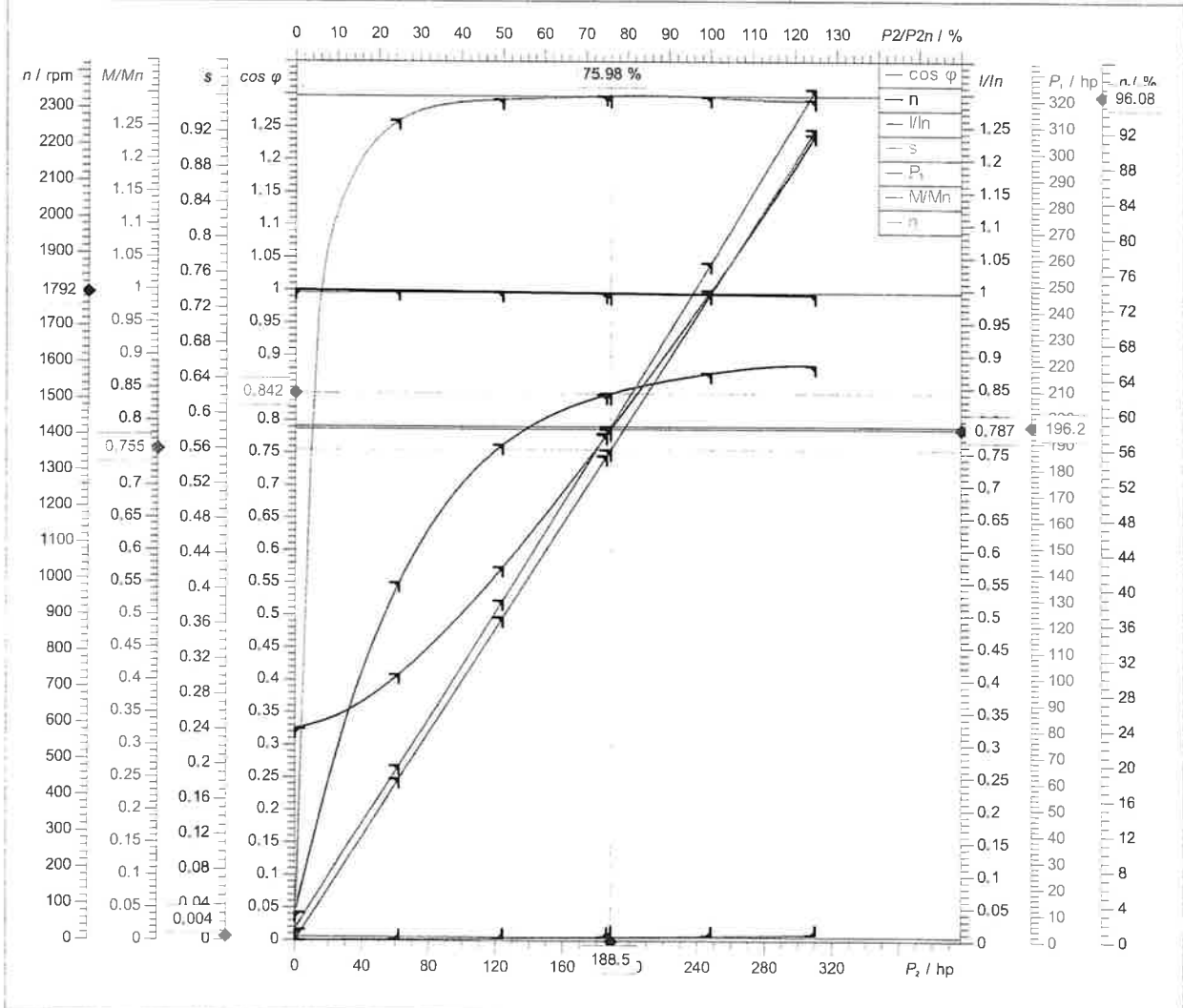
PE6A

Motor performance curve

SULZER

PE1850/4

Rated power 248 hp	Service factor 1.15	Nominal Speed 1782 rpm	Number of poles 4	Rated voltage 460 V	Date 2024-09-11
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Symbol	No load	25 %	50 %	75 %	100 %	125 %
P_2 / hp	0	62.02	124	186.1	248.1	310.1
P_1 / hp	4.047	66.47	129.6	193.7	258.5	324.3
I / A	90.04	113.2	159.1	215.7	277.1	343
$\cos \phi$	0.04207	0.5496	0.7627	0.8403	0.8734	0.8849
n / rpm	1800	1798	1795	1792	1790	1788
s / %	0	0.1389	0.2778	0.4167	0.5556	0.6944
M / lbf ft	0	181.2	363	545.2	728	911.2
η / %	0	93.31	95.68	96.07	95.95	95.62

Tolerance according to VDE 0530 T1 12.84 for rated power

Starting current 2220 A	Starting torque 1970 lbf ft	Moment of inertia 90.4 lb ft ²	No. starts per hour 15
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Spaix® 6-24.2 - 2024/07/22 (Build 651), 64 bit
Data version

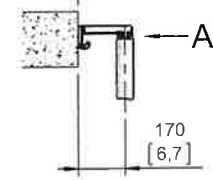
No: M-02.3079 - 02	2	XFP 200M-CH2
Dat/Nam.: 30.05.2016 / K, Srb		Dimension sheet PE6 WET WELL Installation
Cad Code: M_023079		
Technical changes reserved Änderungen vorbehalten Sous réserve de modifications		Maßblatt PE6 Nassinstallation
		Plan d'encombrement PE6 installation submersible

SULZER

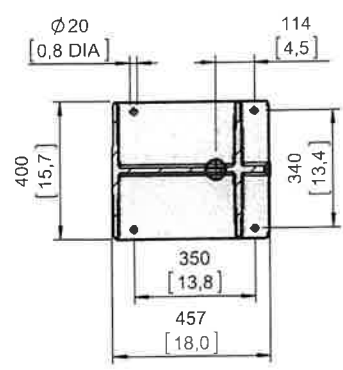
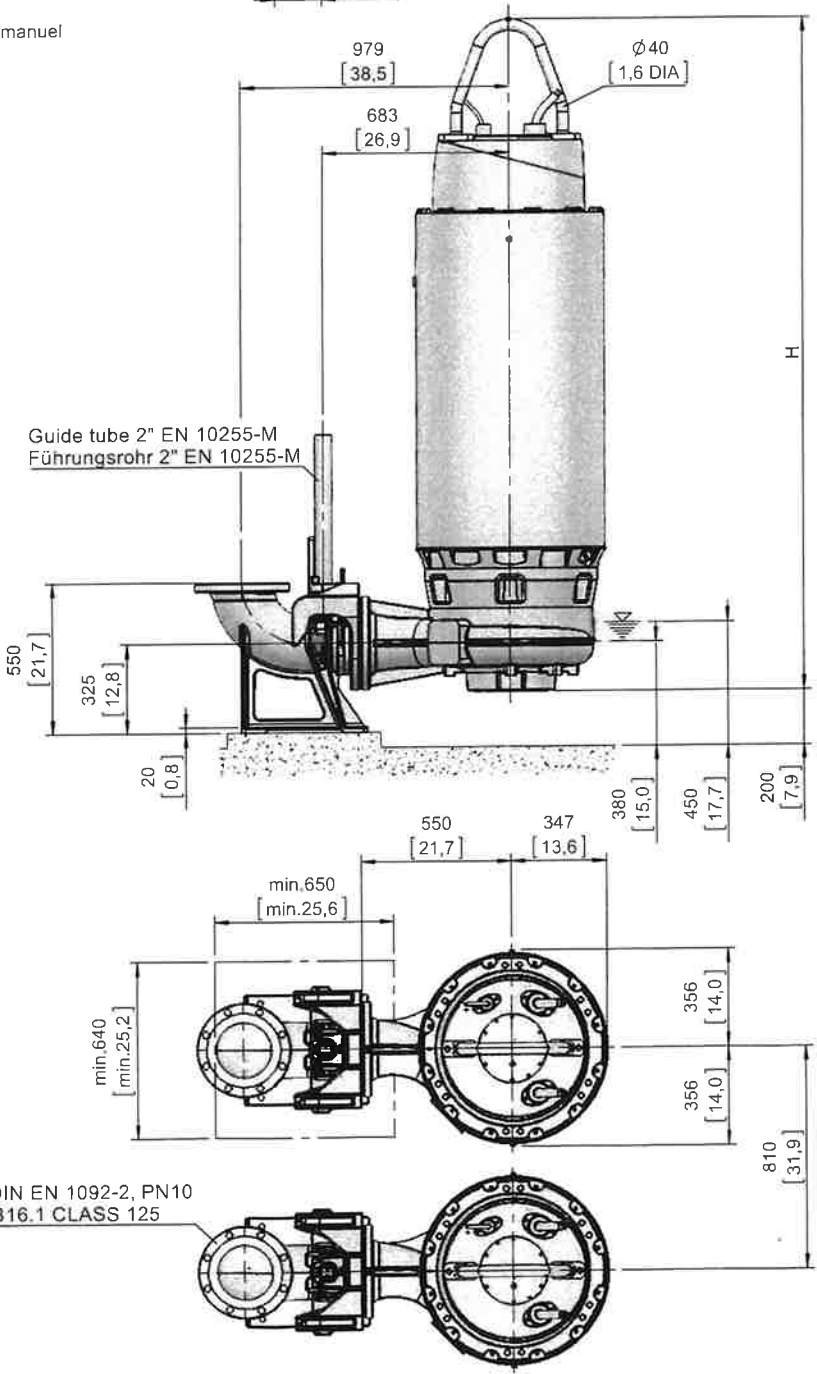
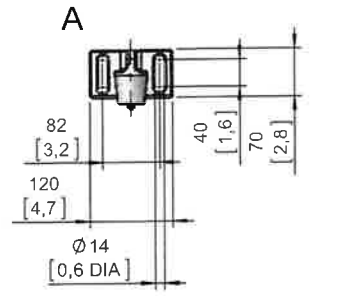
Type Typ Type	Type Typ Type	Weight Gewicht Poids		H		Size
		MK		(mm)	(inch)	
50Hz	60Hz	(-kg)	(-lb)			
PE 1320/4-M	PE 1500/4-M-60	1840	4057	2198	86.5	A
PE 1600/4-M	PE 1850/4-M-60	1945	4289			
PE 2000/4-M	PE 2200/4-M-60	2285	5038	2358	92.8	B
	PE 2800/4-M-60	2390	5270			

Weight: Includes pump, slider bracket and 10m cable
 Gewicht: Beinhaltet Pumpe, Halterung und 10m Kabel
 Poids: Pompe, coulisseau et 10m de câble
 For different cable length see IOM, chapter 1.5
 Für abweichende Kabellänge siehe EBA, Kapitel 1.5
 Pour des longueurs supérieures, voir la section 1.5 du manuel
 For hex.-woodscrew 0,4*2,8 plug 0,5 DIA
 Für Skt.-Holzschr. 10*70 Dübel Ø12mm
 Pour vis à bois hexagonale 10*70 trou de 12mm
 Installation instructions "pedestal" 1 597 2507
 Installationsanweisung "Fußstück" 1 597 2507
 Instruction d'installation du "pied d'assise" 1 597 2507

1300 x 900 (1pump/Pumpe/pompe)
 1300 x 1750 (2pumps/Pumpen/pompes)
 [51,2] x [35,4] (1pump/Pumpe/pompe)
 [51,2] x [68,9] (2pumps/Pumpen/pompes)



min. Sump opening
 min. Schachttöffnung
 Largeur mini de la trappe



DN200, DIN EN 1092-2, PN10
 8" ANSI B16.1 CLASS 125

mm [inch]
 MK = Mit Kühlmantel
 With cooling jacket
 Avec enveloppe de refroidissement

