



K O E S T E R[®]

Date: December 12, 2022

To: Donnie Sherwood

Ref: West Windsor Equipment Replacement

Koester Associates is pleased to offer the following equipment solutions. Refer to the attached data sheets for additional information.

Total Equipment PRICE:
\$10,100

Estimated Shipping Cost (to be billed at actual rate):
\$750

Quote Type	Terms	Quote Validity	Freight:	Submittal lead time, ARO:	Delivery after approval of prints:
Budget	NET 30	30 Days	FOB Factory, Freight Allowed to Jobsite	1-3 weeks	14-16 Weeks

Koester Associates Contact Information	
Name:	Gregg Palmer
Cell:	315-897-0698
Email:	gpalmer@koesterassociates.com

Notes/Comments/Clarifications:

- Only items and services explicitly listed in this proposal shall be provided
- Installation, wiring field painting is not included, unless otherwise specified
- Factory lead times are based upon current workload. Lead times are subject to change dependent upon incoming orders.
- If supervisory startup is purchased equipment shall be fully installed and power brought to the unit if applicable. Please notify KAI at least 2 weeks in advance of requested startup dates.
- Standard Terms and Conditions, on the attached page, are incorporated in this quotation. Except for shipping charges, which may be subject to change at date of shipment, prices quoted shall remain firm 60 days. Payment is due net 30 days after shipment. No holdbacks or credits will be allowed.

Accepted on (Insert Date): _____

Purchaser: _____

Address: _____

Accepted by KAI on date: _____

Prepared by: _____

Koester Associates, Inc.

3101 Seneca Turnpike

Canastota, NY 13032

(315) 697-3800 phone

(315) 697-3888 fax

info@koesterassociates.com

www.koesterassociates.com

Terms and Conditions

An order will constitute a contract between the Company and the Buyer when accepted in writing by the Company at its home office in Canastota, NY. A contract resulting from the acceptance of an order may be canceled or altered by the Buyer only if agreed to in writing by the Company at its home office, subject to payment of reasonable charges necessary to protect the Company from loss. Until accepted, as provided herein, an order shall constitute an offer to purchase. Neither the acceptance of any deposit made with an order nor the cashing of any check or other instrument therefore, nor the holding of such deposit by the Company shall be deemed an acceptance of an order, but if the order is not accepted, the Company will promptly refund such deposit.

The Company shall not be liable for any failure to make delivery, for late delivery, or other default by reason of any occurrence or contingency beyond the reasonable control of the Company or of any of its sources of supply or for failure to give notice of any delay. In the event of any such occurrence or contingency, the Company may extend delivery schedules or may, at its option, cancel the order in whole or in part without the liability other than to return any deposit or pre-payment should the whole order be canceled.

The Buyer will reimburse the Company for all taxes, excises and similar charges based upon or measured by the production, storage, sale, transportation or use of the products described herein.

The Company warrants that the products (except products made by the Company to drawings or specifications of the Buyer) will not in themselves infringe any United States patent, but the Company assumes no obligation in regard to patent infringement resulting from the use of the products in combination with equipment or other products not furnished by the Company. Liability under this warranty is limited to the aggregate amount (exclusive of taxes and transportation) to be paid hereunder and is conditioned upon the Buyer's giving the Company prompt written notice of any claim of patent infringement and granting the Company exclusive control of the settlement or litigation thereof.

The Company shall not be bound by any terms, conditions, or representations, which are not stated herein.

The Company shall not be obligated to perform hereunder if, at any time, Buyer's credit rating becomes impaired.

The Company shall retain a security interest in the products supplied hereunder to secure performance of Buyer's obligations and Buyers shall execute all financing statements and other instruments that the Company deems necessary to protect its security interest. If the Buyer defaults in any of its obligations hereunder or is unable to pay its debts as they mature, the Company shall have the right to repossess the products, exercise all legal options to collect the debt and cancel unshipped balances with or without resort to legal process, and Buyer agrees to pay all reasonable collection costs (including reasonable attorney fees) incurred by Company.

All material is sold F.O.B. shipping point and title and risk of loss passes to Buyer on delivery to the common carrier at shipping point. Orders for replacement material must be a new purchase order.

The Buyer shall have the right to inspect the products prior to payment and acceptance and if Buyer's inspection reveals any defects in the products, Buyer shall notify the Company within thirty (30) days after receipt of the products of any claim Buyer might have concerning such defects. Buyer's failure to notify the Company within such thirty-day period shall constitute a waiver by Buyer of all claims covering such defects in the products.

The Company's acceptance of order cancellation or order reduction requests is conditioned upon receiving Buyer's written agreement to assume termination charges.

The Company reserves the right to refuse to accept any order which does not meet quantity requirements which the Company may establish for any given product or group of products.

Prices are based on quality levels commensurate with normal processing. If a different quality level is required, Buyer must specify the requirements and pay any additional costs that may be applicable.

The Company reserves the right to correct clerical or stenographic errors or omissions.

THE PRODUCT WARRANTY IS AS SUBMITTED HERewith. NO OTHER WARRANTIES EXPRESS OR IMPLIED, INCLUDING IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE, WILL APPLY.

The terms of this agreement and all rights and obligations hereunder shall be governed by the laws of the State of New York. The foregoing terms and conditions will prevail notwithstanding any variance with the terms and conditions of Buyer's order for the products.

KSB KRT Quote / Order Form

KSB Project Quote #:		Project Name	Equipment Tag #:	KSB Representative	Date:
1017221212		West Windsor			2022-12-12
Purchase Order #:		Contractor/Customer:	Specification Section:	Prepared By:	Market Segment:
NA				John Revette	Municipal
Qty	Description	Municipal, Waste water treatment plant, Waste water treatment process (RAS, WAS, Filter Feed), WAT-71-70		Net Each	Ext. Net
Pump Information					
1	Stocked: Model: Voltage: Installation Type: Operating Point: Ident:	Factory Order ARX D-max 080-140/029C2YSG-115 3.9hp 460V (Single Voltage) Flygt Retrofit (includes claw) 150.00 gpm @ 53.00 ft ARX D-max 080-140/029C2YSG-115			
Options / Adders					
1	Cable	50ft Standard			
1	Mech Seal	Standard Seal			
1	Pump Safe Relays	Qty 1 Module A - motor moisture and temperature monitoring			
Accessories				Ident No.	
1	Retrofit Claw	Retrofit Claw for 3" riser		05018041	
Warranty					
1	Warranty	Standard 12/18 Month Warranty			
Rep Net Cost					
Ship To:			Comments:		
John Revette 3101 Seneca Turnpike Canastota , NY, 13032,					
Notes:					
1. Shipping: Bestway / prepay & add 2. Terms: Standard KSB terms and conditions 3. Prices are valid for period below, after which KSB reserves the right to adjust the price, if necessary: a. A purchase order must be received within 60 days of the date of this quotation. And, b. Equipment must be released to production within 60 days of receipt of purchase order. And, c. Requested delivery of equipment is within quoted lead time.			4a. Shipment: 14-16 weeks (up to 3 units). For delivery time of higher quantities, consult factory. 4b. Stock Items Availabilty & Shipment Timeframes are subject to prior sale. User must consult the resource center has prior to order.		
Version 7.3.3 KSB, Inc. building a reputation...Not resting on one!!!!				Tier 3 Customer Customer	

Product description

Pos.no	Name				
1	West Windsor: Amarex D-max 80-140/029C2USG				
1.1	<p>Centrifugal pump: Amarex D-max 80-140/029C2USG</p> <p>REFERENCE DATA</p> <p>Date:</p> <p>Project:</p> <p>Type of equipment: Waste water pumps</p> <p>Application:</p> <p>Item-Nos.:</p> <p>INPUT</p> <p>Nature of system: Single head pump</p> <p>Quantity of pumps: 1 herein 0 standby</p> <p>Required station total flow: 150 US g.p.m.</p> <p>Total dynamic head: 53 ft</p> <p>Static head : 0 ft</p> <p>Temperature of fluid: 68 °F</p> <p>Density of fluid: 63.2 lb/ft³</p> <p>Viscosity of fluid: 3.079E-5 ft²/s</p> <p>Minimum solid size:</p> <p>SELECTION</p> <p>Manufactured by: KSB</p> <p>Pump type: Amarex D-max 80-140/029C2USG</p> <p>Nos of poles: 2</p> <p>Impeller type: Open Single vane impeller</p> <p>Impeller diameter: 4.5 inch</p> <p>Free passage:</p> <p>Discharge flange: DN 80 to suit PN 16 to EN 1092-2</p> <p>Type of installation:</p> <p>END OF REFERENCE DATA</p> <p>PERFORMANCE REQUIREMENTS</p> <p>Design of pump units: Waste water submersible non-clog pumps</p> <p>Quantity of pumps: 1</p> <p>Quantity of operating pumps: 1</p> <p>Nature of system: Single head pump</p> <p>Rated capacity: 152 US g.p.m.</p> <p>Rated total dynamic head: 54.3 ft</p> <p>Range of operation: 9.0 ft to 66.0 ft</p> <p>Free passage, minimum: 1.484 inch</p> <p>Shut-off head, minimum: 78.4 ft</p> <p>Pumped media temperature, maximum: 68 °F</p> <p>Specific gravity: 63.2 lb/ft³</p> <p>Viscosity: 3.079E-5 ft²/s</p> <p>Rated pump efficiency, minimum: 55 %.</p> <p>Pump nominal speed, maximum: 3600 rpm.</p> <p>Power supply: 460 V,3-phase, 60 Hz</p> <p>Rated motor power, maximum: 4 hp</p> <p>MATERIALS</p> <p>Casing: Grey cast iron EN-GJL-250 (A 48 Class 35B)</p> <p>Cover: Grey cast iron EN-GJL-250 (A 48 Class 35B)</p> <p>Suction cover: D-flector</p> <p>Suction cover material: Ductile cast iron EN-GJS-600-3</p> <p>Discharge cover: Grey cast iron EN-GJL-250 (A 48 Class 35B)</p> <p>Shaft: Stainless steel EN-1.4021+QT800 (A 276 Type 420)</p> <p>Impeller: Ductile cast iron EN-GJS-600-3</p>				
<table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 30%;">Project name West Windsor</td> <td style="width: 20%;">Project ID</td> <td style="width: 20%;">Created by</td> <td style="width: 30%;">Created on 2022-12-12</td> </tr> </table>		Project name West Windsor	Project ID	Created by	Created on 2022-12-12
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Product description

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	<p>O-Rings: Nitrile-butadiene-rubber NBR Cable sheath: Waterproof synthetic rubber compound Elastomer components:</p> <p>PUMP CONSTRUCTION Field of application: Industrial and municipal waste water Type: Submersible non-clog Design: Centrifugal, close-coupled Nos. of stages: Single Pump casing: End suction, "back pull-out" design Discharge type: Centerline Design of watertight sealing: By O-rings Impeller design: Open single vane Minimum free passage: Pump shaft design: Common pump/motor shaft isolated from the pumped medium Maximum shaft deflection: 0,05 mm (0.002 inches) (measured at lower mechanical seal) Type of bearings: Antifriction Nos. of bearings: 1 / 1 Lubrication: Grease lubrication. lubricated for lifetime</p> <p>SHAFT SEAL Type of seal : Double mechanical seal Arrangement : Tandem Lubrication : By liquid in lubricant chamber Lubricant liquid : Environmentally friendly, nontoxic Material metal parts: CrNiMo-stainless steel Mechanical seal on pump-side Dynamic sealing element: Dynamic O-ring Spring system : Rotating, exposed and bi-directional Materials of seal faces: Silicon carbide / Silicon carbide Mechanical seal on bearing-side Dynamic sealing element: Elastomer bellow Spring system: Rotating, protected and independent of sense of rotation Materials of seal faces: Carbon / Silicon carbide</p> <p>PROTECTIVE COATING Preparatory treatment: SSPC near white SP 10 Blasting method: Steel grit blasting Primer: Zinc phosphate or Zinc dust Dry film thickness primer: > 1 1/2 mils (35 microns) Top coat: 2-component epoxy resin Solids content: > 82 % Dry film thickness top coat: > 1,5 mils (40 microns) Color: Ultramarine Blue</p> <p>Motor: 292USG IE3</p> <p>MOTOR Motor type: 3-phase dry squirrel-cage induction Supply voltage: 460 V, 3-phase, AC Supply frequency: 60 Hz Allowances for mains deviation: To range A of IEC 60034-1 Supply voltage: +/- 5 % Supply frequency: +/- 2 % Maximum rated motor power: 3.889 hp</p>		
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Pos.no	Name		
	<p>Duty type: S1 continuous operation Maximum fluid temperature: 104 °F (40 °C) Maximum immersion depth: 100 ft (30 m) Starting: Direct Maximum nos. starts per hour: 30, Motor housing: Air filled, watertight Degree of protection: IP 68 Insulation class: F Impregnation method: Current-UV-Dip-Impregnation Insulation resin: Class H monomer-free polyester Minimum winding fill factor: 95 % Discharge cover: Grey cast iron EN-GJL-250 (A 48 Class 35B)</p> <p>Rotor bars / short circuit rings: Cast aluminum</p> <p>ELECTRIC CABLE AND CABLE ENTRY Power and control cable: Suitable for mobile connection of submersible pumps Applicable standards: NEC, FM, IEC Cable sheath: Neoprene, Ozone, UV, weather, water and oil-resistant Rated voltage: 600/1000 V Maximum conductor temperature: 194 °F (90 °C) Cable length: 26 ft (8 m) Maximum immersion depth: 100 ft (30 m) Cable entry: Threaded cable gland size M25 made of nickel-plated brass. Rated to IP68,dust tight and can withstand being completely submerged in water continuously.</p> <p>Motor manufacturer: Same as pump manufacturer Thermal winding protection: By temperature sensitive switches</p> <p>Shaft seal: FG</p> <p>SHAFT SEAL Type of seal : Double mechanical seal Arrangement : Tandem Lubrication : By liquid in lubricant chamber Lubricant liquid : Environmentally friendly, nontoxic Material metal parts: CrNiMo-stainless steel Mechanical seal on pump-side Dynamic sealing element: Dynamic O-ring Spring system : Rotating, exposed and bi-directional Materials of seal faces: Silicon carbide / Silicon carbide Mechanical seal on bearing-side Dynamic sealing element: Elastomer bellow Spring system: Rotating, protected and independent of sense of rotation Materials of seal faces: Carbon / Silicon carbide</p> <p>Guide cable: EN DN2=80/DN3=80 / G NG Coating: Epoxy - 80 µm</p> <p>PROTECTIVE COATING Preparatory treatment: SSPC near white SP 10 Blasting method: Steel grit blasting Primer: Zinc phosphate or Zinc dust Dry film thickness primer: > 1 1/2 mils (35 microns) Top coat: 2-component epoxy resin</p>		
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	<p>Solids content: > 82 % Dry film thickness top coat: > 1,5 mils (40 microns) Color: Ultramarine Blue</p> <p>Cable sheath material: Standard</p> <p>ELECTRIC CABLE AND CABLE ENTRY</p> <p>Power and control cable: Suitable for mobile connection of submersible pumps</p> <p>Applicable standards: NEC, FM, IEC</p> <p>Cable sheath: Neoprene, Ozone, UV, weather, water and oil-resistant</p> <p>Rated voltage: 600/1000 V</p> <p>Maximum conductor temperature: 194 °F (90 °C)</p> <p>Cable length: 26 ft (8 m)</p> <p>Maximum immersion depth: 100 ft (30 m)</p> <p>Cable entry: Threaded cable gland size M25 made of nickel-plated brass</p> <p>Rated to IP68, dust tight and can withstand being completely submerged in water continuously.</p>		
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Data sheet

Pump type Amarex D-max 80-140/029C2USG

Operating data

Flow	152	US g.p.m.	Fluid	
Head	54.3	ft	Density of fluid	63.2 lb/ft ³
Operating speed	3,489	rpm	Viscosity	3.08E-5 ft ² /s
Shaft power	3.63	hp	Temperature	68 °F
Efficiency	58	%	Hydraulic acceptance acc.	
Required pump NPSH		ft		
Head H(Q=0)	82.5	ft		
Application range	Head		Flow	
	From	66 ft	82.8	US g.p.m.
	To	9.03 ft	357	US g.p.m.

Design

Make	KSB	Impeller type	Single vane impeller
Design	Submersible pump		Open
Series	Amarex D	Impeller size	4 1/2 inch
Frame size	80-140		Max. 5 3/8 inch
Stages	1		Min. 4 1/2 inch
Curve number	K2573-62-080140D	Free passage	1 2/5 inch
		Weight	lb
Type of bearings	Antifriction		
Nos. of bearings	1 / 1		
Lubrication	Grease lubrication. lubricated for lifetime		
Suction port	Pressure rating	PN 16	
	Flange size	DN0	---
	Nennweite	DN1	
	Standard	DIN EN 1092-2	
Discharge port	Pressure rating	PN 16	
	Nennweite	DN2	DN 80
	Flange size	DN3	DN 80
	Standard	EN 1092-2	
		Discharge port: discharge elbow (DN3)	

Materials

Casing	Grey cast iron EN-GJL-250 (A 48 Class 35B)
Cover	Grey cast iron EN-GJL-250 (A 48 Class 35B)
Suction cover	D-flector
Suction cover material	Ductile cast iron EN-GJS-600-3
Discharge cover	Grey cast iron EN-GJL-250 (A 48 Class 35B)
Shaft	Stainless steel EN-1.4021+QT800 (A 276 Type 420)
Impeller	Ductile cast iron EN-GJS-600-3
O-Rings	Nitrile-butadiene-rubber NBR

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Data sheet

Pump type

Amarex D-max 80-140/029C2USG

Shaft seal

Type of seal
Arrangement:
Seal on medium side
Mechanical seal. pump-side
Mechanical seal. bearing-side
Elastomers
Cable Entry

Double mechanical seal
Tandem
With protected spring
Silicon carbide / Silicon carbide
Carbon / Silicon carbide
Nitrile rubber (NBR)
Standard cable gland

Monitoring

Thermal winding protection
Explosion proof protection
Motor housing monitoring

By temperature sensitive switches
By temperature sensitive switches
Without

Coating

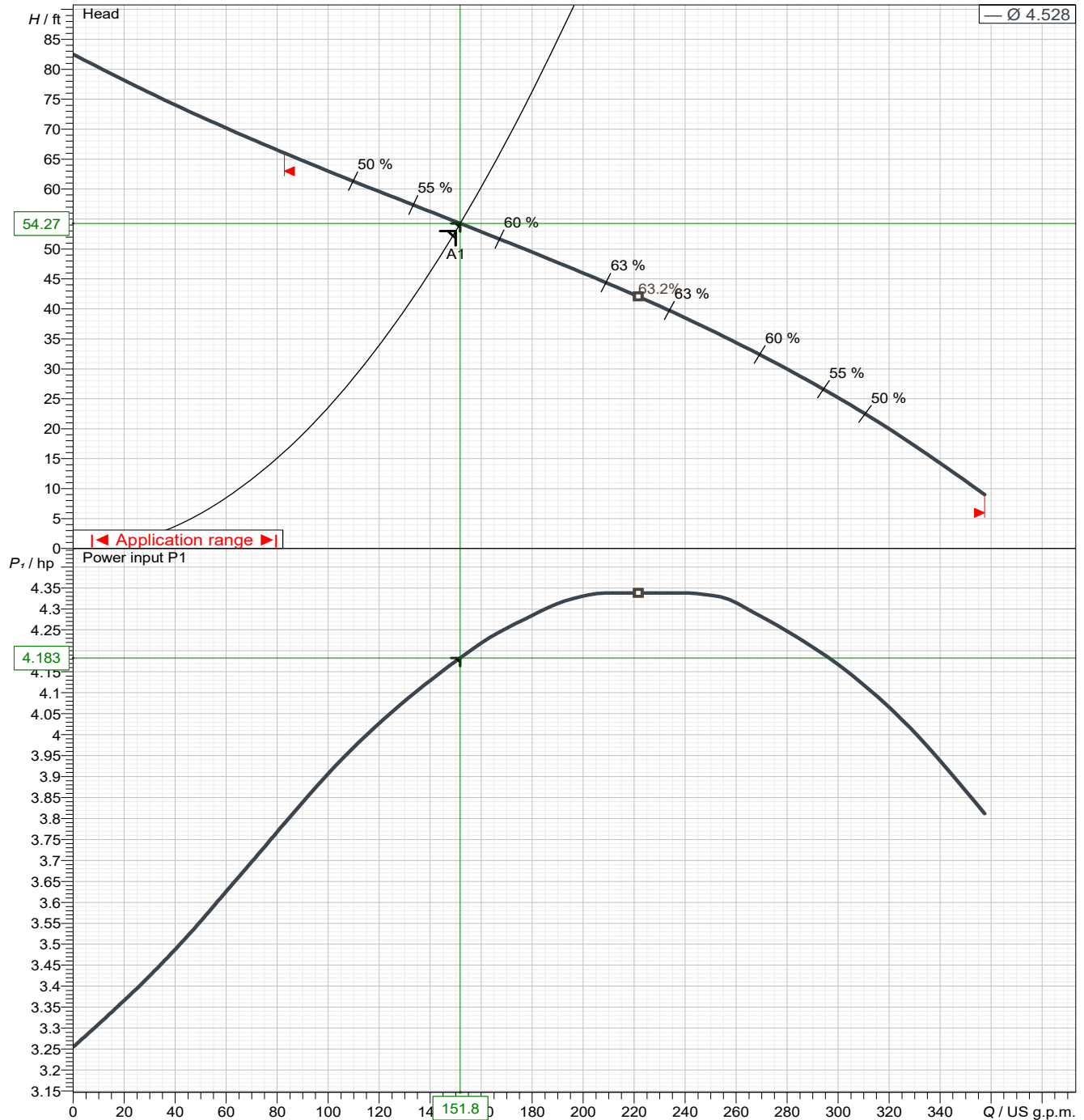
Preparatory treatment
Blasting method
Primer
Dry film thickness primer
Top coat
Solids content
Dry film thickness top coat
Color

SSPC near white SP 10
Steel grit blasting
Zinc phosphate or Zinc dust
> 1 1/2 mils (35 microns)
2-component epoxy resin
> 82 %
> 3 mils (80 microns)
Ultramarine Blue (RAL 5002 to DIN 6174)

Installation

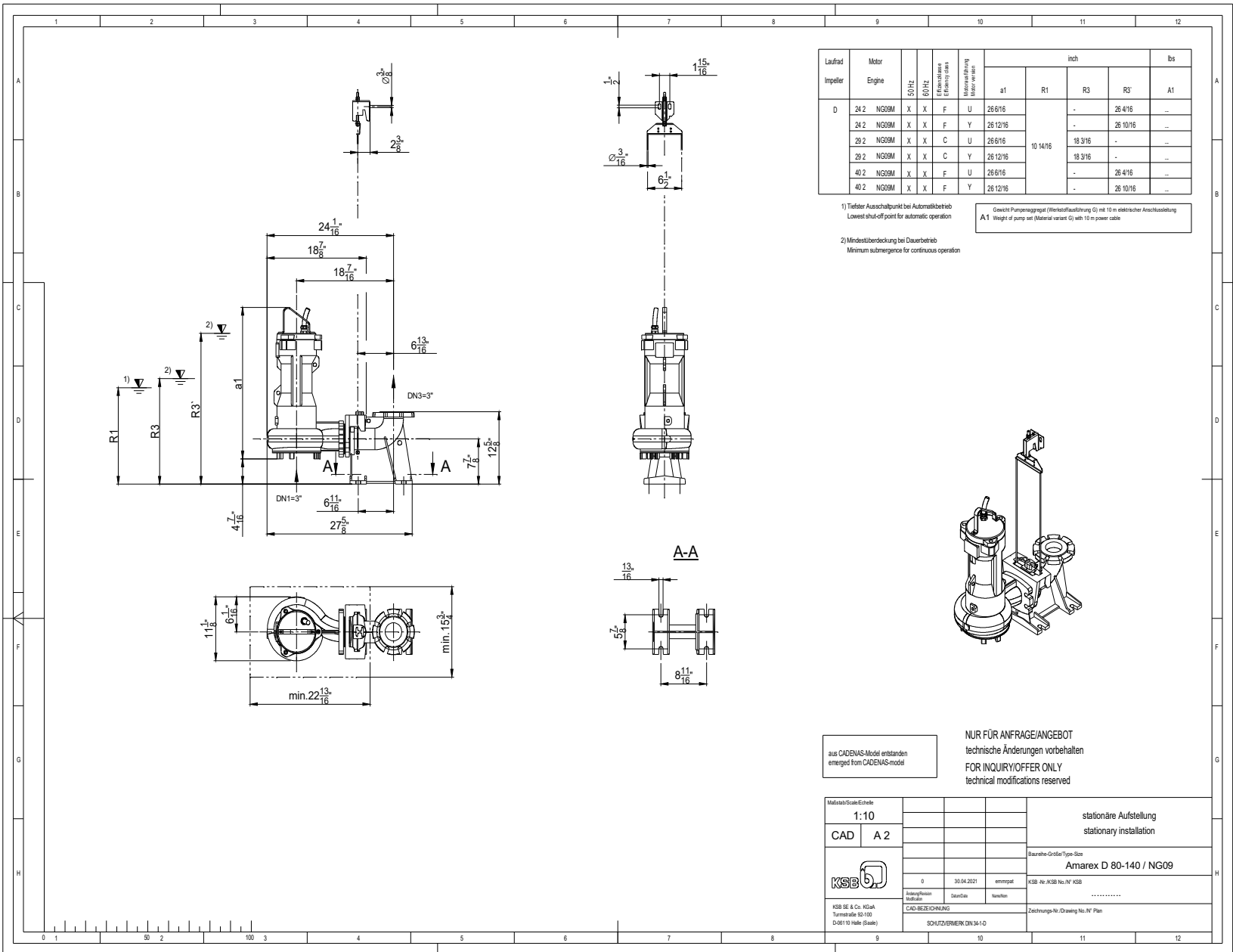
Performance curve

Pump type Amarex D-max 80-140/029C2USG



Impeller type	Single vane impeller , Open	Curve number	K2573-62-080140D/0
Free passage	1 1/2inch	Density	62.322 lb/ft ³
Impeller size	4 1/2inch	Viscosity	1.082E-5 ft ² /s
		Frequency	60 Hz
		Speed	3,489 1/min

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Data sheet: Motor data

Motor type **292USG IE3**

Motor manufacturer	KSB SE & Co. KGaA	Rated voltage	460	V
Design acc. standard	IE3	Rated frequency	60	Hz
Degree of protection	IP68	Rated HP (D.O.L) or VFD	3.89	hp
Insulation class		Rated current	5.49	A
Coolant temperature	< / = 104 °F (40 °C)	Nominal speed	3,480	rpm
Starting mode	Direct starting	Starting to rated current	11.5	
No. starts / h	30	Starting current	63.1	A
		Max. voltage	483	V
		Min. voltage	437	V
Discharge cover	Grey cast iron EN-GJL-250 (A 48 Class 35B)			
Explosion protection	--			
Pump type	Amarex D-max 80-140/029C2USG			

Load	P1 kW	P2 hp	eta %	cos phi	I A
4/4	3.33	3.9	87.0	0.76	5.5
3/4	2.50	2.9	86.9	0.67	4.7
2/4	1.71	1.9	84.6	0.52	4.1
1/4	0.97	1.0	75.0	0.32	3.7

Main cable 1 x AWG 15-7 Diameter 0.55 inch...0.69 inch
 Control cable --- Diameter
 Cable. outer sheath Waterproof synthetic rubber compound
 Cable length 26 ft (8 m)

