

Customer pos. no.:
Inquiry date: 2023-07-17
Inquiry no.: Tööstuslik reovesi
Quantity: 1,000

Number: 4005098519 - 495
Line: 000100
Date: 2023-07-17
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Amarex F 080-180 G1

ARX F080-180/017F4USG1-160 /22100M020

Version No.: 1

Operating point 1 Dimensioning operating point

Operating conditions (purchaser requirements)

| | | | |
|-----------------------------------|-----------------------|---------------------------------------|--------------|
| Fluid | Water | Vapour pressure determined | 0.0234 bar.a |
| Fluid variant | Clean water | Minimum allowed ambient temperature | -20 °C |
| Specified fluid temperature | 20 °C | Maximum allowed ambient temperature | 40 °C |
| Density Fluid handled | 998 kg/m ³ | Installation altitude above sea level | 1'000 m |
| Kinematic viscosity Fluid handled | 1 mm ² /s | | |

Operating conditions (performance)

| | | | |
|-----------------|-------------------------|-----------------------------------|-------------|
| Flow rate | 33.39 m ³ /h | Maximum power input at duty point | 1.04 kW |
| Head | 5.5 m | Maximum power input / curve | 1.14 kW |
| Shut-off head | 7.99 m | Pump speed | 1'431 1/min |
| Efficiency Pump | 47.8 % | Discharge pressure-max. | 0.782 bar.r |

Design data pump

| | | | |
|--------------------------------------|---|----------------|----|
| Scope of supply Pump supplied by KSB | Pump with stationary installation parts | Pump directive | CE |
| Installation code | S | | |
| Pump design | Close-coupled | | |
| Pump system design | Single-pump system | | |
| Installation depth | 6 m | | |
| Impeller diameter D2 | 160 mm | | |
| Impeller type | Free flow impeller | | |
| Free passage | 80 mm | | |

Nozzle connections pump

| | | | |
|--|---------|--|---------|
| Nominal diameter Suction nozzle | Without | Nominal diameter Discharge nozzle | DN 80 |
| Nominal pressure Suction nozzle | PN 16 | Nominal pressure Discharge nozzle | PN 16 |
| Suction flange bolt hole pattern as per standard | Without | Discharge flange bolt hole pattern as per standard | Drawing |

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Shaft sealing

| | | | |
|-----------------|------------|-------------------------------|-----------|
| Shaft seal type | DMS tandem | Mechanical seal type inboard | HJ97G |
| | | Material Shaft seal inboard | Q12Q1VGG1 |
| | | Mechanical seal type outboard | MG1G6 |
| | | Material Shaft seal outboard | BVPGG |

Materials

| | | | |
|---|-----------------------|------------------------------------|-----------------------|
| Design concept | G1 | Material motor housing | EN-GJL-250/A48 CL 35B |
| Material Volute casing | EN-GJL-250/A48 CL 35B | Material Power cable sheath | TEFZEL |
| Material Casing cover | EN-GJL-250/A48 CL 35B | Material Bolts/Screws | A4-70 |
| Material Shaft | 1.4021+QT800 | Hydraulic casing | |
| Material Impeller | 1.4517 | Material Impeller fastening | A4-80 |
| Material Static seal Hydraulic casing | FKM 80 | Material Lifting tackle Pump/mixer | WITHOUT |
| Material Inlet part suction-side | EN-GJL-250/A48 CL 35B | Material Elbow Outlet | EN-GJL-250/A48 CL 35B |
| Material Bearing bracket housing pump-end | EN-GJL-250/A48 CL 35B | Material Claw, wet installation | EN-GJL-250/A48 CL 35B |

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Driver

| | | | |
|---|--|--|-------------------------------|
| Drive concept | With electric actuator | Rated speed Motor | 1'370 1/min |
| Motor manufacturer | KSB | Number of motor poles | 4 |
| Motor size | NG09M | Rated power Motor | 1.67 kW |
| Motor version | U | Motor power reserve determined | 46.5 % |
| Rolling element bearing type non-drive end (Basic symbol) | Single-row deep groove ball bearing 6306 | Mains type Motor | Three-phs alternating current |
| Efficiency class | Without | Rated voltage Motor | 400 V |
| Motor cooling method | Surface cooling | Rated frequency Motor | 50Hz |
| Enclosure Motor | IP68 | Motor starting method | DOL |
| Thermal class | 180 (H) nach IEC 60085 | Motor switching type | Star |
| Temperature sensor motor | Bimetal switch | Rated current Motor | 3.71 A |
| Operation on a frequency inverter permitted | Yes (acc to motor manufact) | Starting current ratio Ia/In | 7.3 |
| Length Power cable | 10 m | Cos phi at 4/4 load | 0.83 |
| Quantity Power cables | 1 | Motor efficiency at 4/4 load | 78.3 % |
| Cable type Power cable | TEFZEL (chemically resistant) | Motor service factor | 1.15 |
| Cable cross-section Power cable | 8x1.5 | Explosion protection directive Drive | Without |
| Quantity Control cables | 0 | Moisture protection monitoring Submersible motor | Leakage sensor |
| Cable type Control cable | Without | Motor power P1 | 1.26 kW |
| Seal Cable gland | Resin-sealed, absolutely watertight | P1 at 4/4 load | 2.13 kW |
| Submersible motor | | Specific energy Flow rate | 0.0377 kWh/m ³ |
| | | Number of motor starts (per hour) | 30 |

Installation parts / Accessories

Installation type Stationary, twin guide rails

Duckfoot

Nominal size Inlet Elbow DN 80
Nominal size Outlet Elbow DN 80
Standard Bolt hole pattern EN1092-2
Connection Outlet Elbow
Connection element type Chemical anchors
Foundation

Lifting tackle / Lifting parts

Lifting tackle Pump/mixer Without

Guide rail arrangement (bracket(s) without rail(s))

Quantity Spacer Guide rail 0
Guidance length 6 m

Claw

Claw design Vertical
Nominal size Inlet Claw DN 80
Nominal size Outlet Claw DN 80

Technical Datasheet



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Coating

Surface preparation
Properties Top coat
Thickness Top coat
Colour Top coat

Free from dirt, grease, rust
2-comp epoxy resin, high solid
80 µm
RAL5002 Ultramarine Blue

Packaging

| | |
|------------------------|-------------------|
| Suitable for transport | Truck transport |
| Suitable for storage | Indoor storage |
| Packaging category | KSB's choice (A0) |

Nameplates

| | |
|----------------------------|-----|
| Duplicate name plate | Yes |
| Additional text Name plate | No |

Performance Curve (Pump)



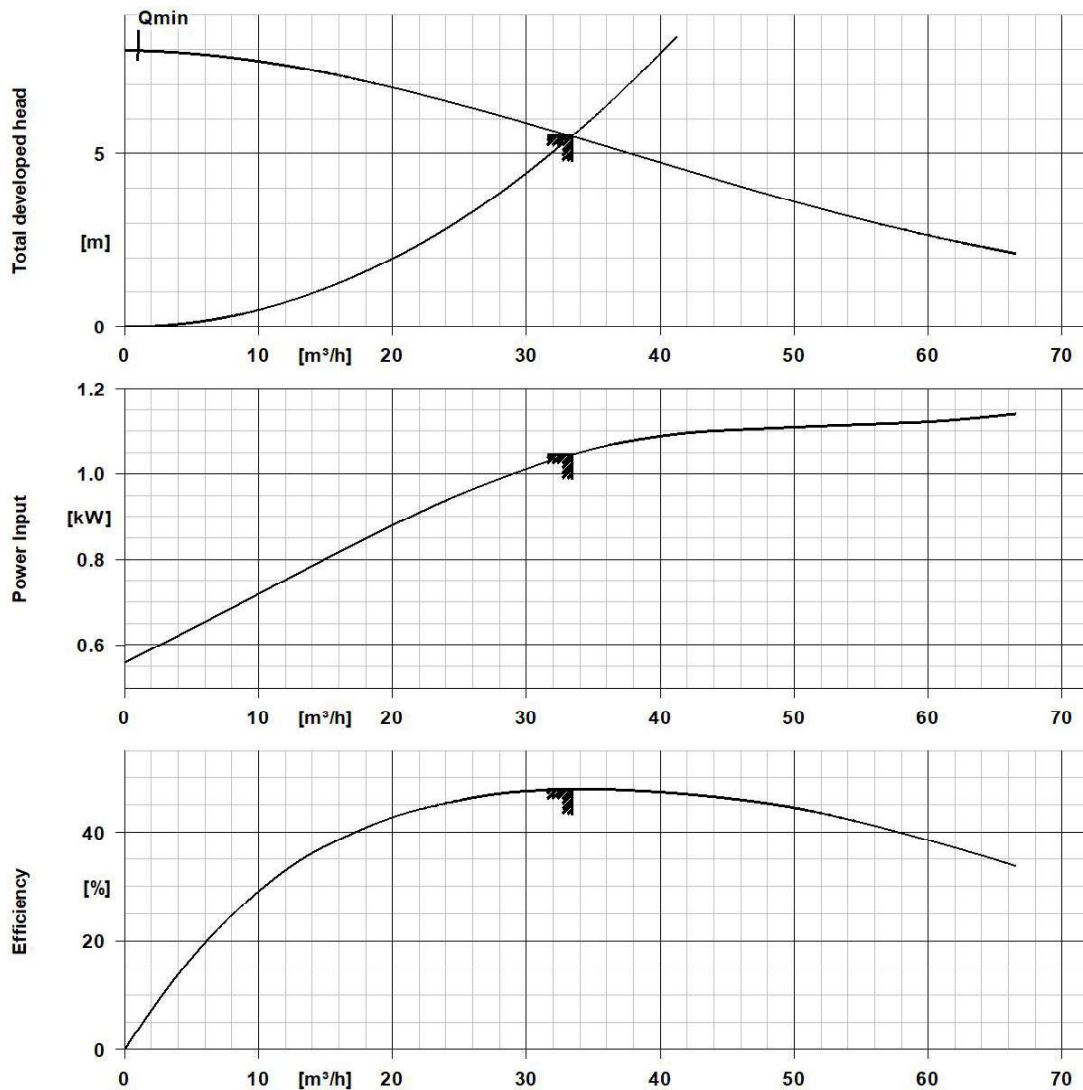
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Curve Data

Pump speed 1'431 1/min
Density Fluid handled 998 kg/m^3
Kinematic viscosity Fluid 1 mm^2/s
Flow rate 33.39 m^3/h
Target flow rate 0 m^3/h
Head 5.5 m
Target head 0 m

Efficiency Pump 47.8 %
Maximum power input at duty point 1.04 kW
NPSH required 0 m
Characteristic curve number K2573-54-80180F/2
Impeller diameter D2 160 mm
Hydraulic calculation EN ISO 9906 §4.4.2 (pump according to standard/class input power below 10 kW)

Installation plan



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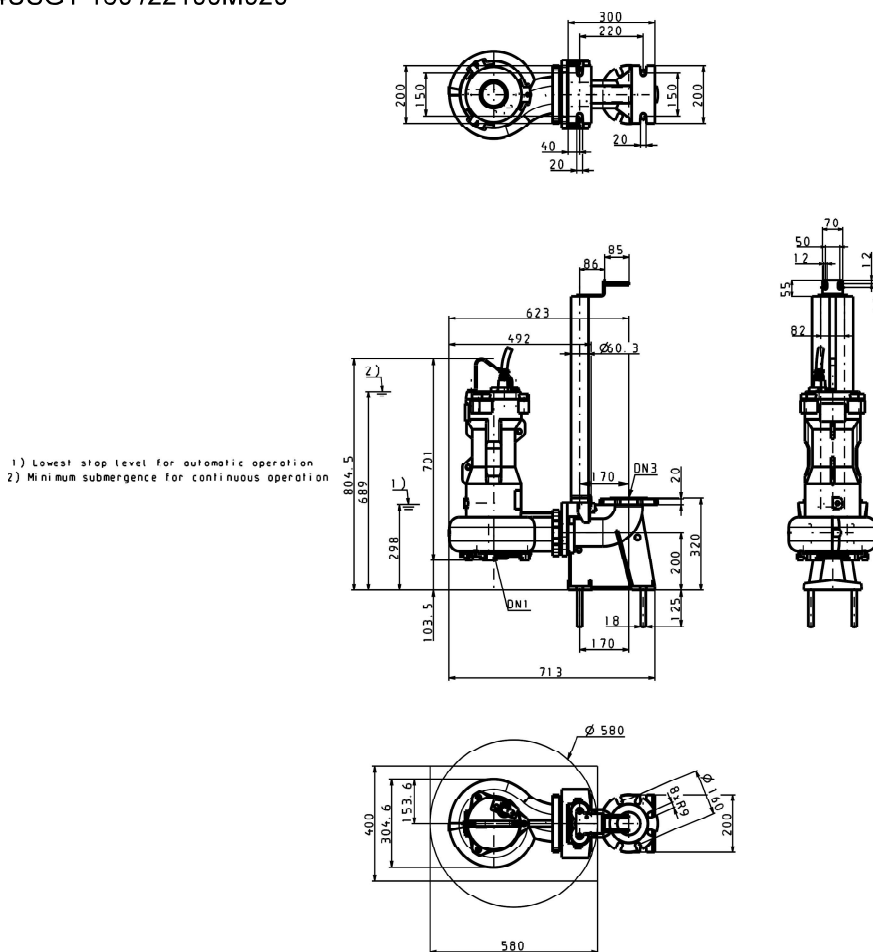
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Drawing is not to scale.

Motor

| | |
|-----------------------|-------------|
| Motor manufacturer | KSB |
| Motor size | NG09M |
| Rated power Motor | 1.67 kW |
| Number of motor poles | 4 |
| Rated speed Motor | 1'370 1/min |
| H | |

Connect pipelines stress-free

Connections

| | |
|--|---------|
| Nominal diameter Suction nozzle | Without |
| Suction flange bolt hole pattern as per standard | Without |
| Nominal diameter Discharge nozzle | DN 80 |
| Discharge flange bolt hole pattern as per standard | Drawing |
| Nominal pressure Suction nozzle | PN 16 |
| Nominal pressure Discharge nozzle | PN 16 |

Net weight

| | |
|------------------------------|----------|
| Total weight Pump | 70.51 kg |
| Total weight Pipe adaptation | 29.33 kg |

Installation plan



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Dimensional tolerances for shaft axis height: DIN 747
Dimensions without tolerances, middle tolerances to: ISO 2768-m
Connection dimensions for pumps: EN735
Dimensions without tolerances - welded parts: ISO 13920-B
Dimensions without tolerances - gray cast iron parts: ISO 8062-CT9

| | |
|---------------------------------|----------|
| Total weight Installation parts | 0.92 kg |
| Total weight Pump set | 100.8 kg |

Plan for additional connections see extra drawing