



## Tender text

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| Pos.no | Description                                                                                                                                                                                                                                                                                                                                         | Item no.                                     |
|--------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------|
|        | <b>Submersible dirty water motor pumps</b>                                                                                                                                                                                                                                                                                                          |                                              |
|        | Amarex Fmax 100-230/035 F 4 YS G                                                                                                                                                                                                                                                                                                                    | 39120266                                     |
|        | <b>Amarex</b>                                                                                                                                                                                                                                                                                                                                       |                                              |
|        | <b>KSB submersible motor pump for waste water applications, in grey cast iron and special materials</b>                                                                                                                                                                                                                                             |                                              |
|        | Vertical submersible motor pump set for wet installation, single-stage, with three-phase motor to IEC standards. Temperature sensor for protection against overheating, optional leakage sensor in the motor space, power cable with resin-sealed, absolutely water-tight cable entry and service-friendly plug-type connection in the motor space. |                                              |
|        | <b>Pump set:</b>                                                                                                                                                                                                                                                                                                                                    |                                              |
|        | Make                                                                                                                                                                                                                                                                                                                                                | : KSB                                        |
|        | Impeller                                                                                                                                                                                                                                                                                                                                            | : Amarex F / 100-230                         |
|        | type                                                                                                                                                                                                                                                                                                                                                | : F-max vortex impeller                      |
|        | F-max is a vortex impeller optimised for operating reliability. With its large free passage of 100 mm max. it is especially suitable for handling waste water containing all kinds of solids and fibres.                                                                                                                                            |                                              |
|        | Impeller diameter                                                                                                                                                                                                                                                                                                                                   | : 190 mm                                     |
|        | Free passage                                                                                                                                                                                                                                                                                                                                        | : 100 mm                                     |
|        | <b>Operating data:</b>                                                                                                                                                                                                                                                                                                                              |                                              |
|        | Fluid handled                                                                                                                                                                                                                                                                                                                                       | : Water                                      |
|        | Flow rate                                                                                                                                                                                                                                                                                                                                           | :                                            |
|        | Head                                                                                                                                                                                                                                                                                                                                                | :                                            |
|        | Power input                                                                                                                                                                                                                                                                                                                                         | : 4,41 kW                                    |
|        | Operating temperature                                                                                                                                                                                                                                                                                                                               | : 40 °C max.                                 |
|        | <b>Drive:</b>                                                                                                                                                                                                                                                                                                                                       |                                              |
|        | Nominal voltage                                                                                                                                                                                                                                                                                                                                     | : 3~400 V                                    |
|        | Nominal frequency                                                                                                                                                                                                                                                                                                                                   | : 50 Hz                                      |
|        | Starting method                                                                                                                                                                                                                                                                                                                                     | : DOL / star-delta starting is also possible |
|        | Enclosure                                                                                                                                                                                                                                                                                                                                           | : IP68 to EN 60529 / IEC 529,                |

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| Pos.no | Description                                                                                                 | Item no.                                                     | Qty. | UP / EUR | TP / EUR |
|--------|-------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------|------|----------|----------|
|        | thermal class H                                                                                             |                                                              |      |          |          |
|        | Explosion protection                                                                                        | : ATEX II 2G Ex db h IIB T4 Gb                               |      |          |          |
|        | Max. fluid temperature                                                                                      | : 40 °C                                                      |      |          |          |
|        | Thermal motor protection                                                                                    | : Temperature sensor                                         |      |          |          |
|        | Leakage sensor in the motor space                                                                           | : no                                                         |      |          |          |
|        | Efficiency class                                                                                            | :                                                            |      |          |          |
|        | Duty type                                                                                                   | : S1 submerged / with motor section partly outside the fluid |      |          |          |
|        | Motor rating P2                                                                                             | : 3,55 kW                                                    |      |          |          |
|        | Motor rating P1                                                                                             | : 4,41 kW                                                    |      |          |          |
|        | Motor efficiency                                                                                            | : 80,5%                                                      |      |          |          |
|        | Nominal current                                                                                             | : 7,56 A                                                     |      |          |          |
|        | Speed                                                                                                       | : 1.376 1/min                                                |      |          |          |
|        | Cable length                                                                                                | : 10 m                                                       |      |          |          |
|        | Cable entry                                                                                                 | : Screwed cable entry / cable entry                          |      |          |          |
|        | with individually stripped, resin-embedded cores and service-friendly plug-type connection inside the motor |                                                              |      |          |          |
|        | <b>Materials:</b>                                                                                           |                                                              |      |          |          |
|        | Pump casing                                                                                                 | : Grey cast iron EN-GJL-250 (A 48 Class 35B)                 |      |          |          |
|        | Handle                                                                                                      | : 1.4306                                                     |      |          |          |
|        | Impeller                                                                                                    | : Grey cast iron EN-GJL-250 (A 48 Class 35B)                 |      |          |          |
|        | Discharge cover                                                                                             | : Grey cast iron EN-GJL-250 (A 48 Class 35B)                 |      |          |          |
|        | Suction cover                                                                                               | : Grey cast iron EN-GJL-250 (A 48 Class 35B)                 |      |          |          |
|        | Shaft                                                                                                       | : 1.4021                                                     |      |          |          |
|        | Cable sheath                                                                                                | : Chloroprene rubber                                         |      |          |          |
|        | Elastomer seals                                                                                             | : Nitrile-butadiene-rubber NBR                               |      |          |          |
|        | Coating                                                                                                     | : Two-component high-solid epoxy resin                       |      |          |          |
|        | Colour                                                                                                      | : RAL 5002                                                   |      |          |          |
|        | <b>Shaft seal:</b>                                                                                          |                                                              |      |          |          |
|        | 2 independent mechanical seals arranged in the oil reservoir                                                |                                                              |      |          |          |
|        | Pump end                                                                                                    | : Bellows-type mechanical seal                               |      |          |          |



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| Pos.no | Description                                                                                                                                                                                                                                                  | Item no.                                  | Qty. | UP / EUR | TP / EUR |
|--------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------|------|----------|----------|
|        | Motor end                                                                                                                                                                                                                                                    | : Bellows-type mechanical seal,           |      |          |          |
|        | Carbon-Al <sub>2</sub> O <sub>3</sub>                                                                                                                                                                                                                        |                                           |      |          |          |
|        | Oil fill                                                                                                                                                                                                                                                     | : Environmentally friendly, non-toxic oil |      |          |          |
|        | <b>Dimensions and connections:</b>                                                                                                                                                                                                                           |                                           |      |          |          |
|        | Nominal size                                                                                                                                                                                                                                                 | : PN 16                                   |      |          |          |
|        | Discharge side                                                                                                                                                                                                                                               |                                           |      |          |          |
|        | Nominal size                                                                                                                                                                                                                                                 | : DN 100                                  |      |          |          |
|        | Suction side                                                                                                                                                                                                                                                 |                                           |      |          |          |
|        | Weight                                                                                                                                                                                                                                                       | : 96 kg                                   |      |          |          |
|        | Pump                                                                                                                                                                                                                                                         |                                           |      |          |          |
|        | <b>Purchase order information:</b>                                                                                                                                                                                                                           |                                           |      |          |          |
|        | Make                                                                                                                                                                                                                                                         | : KSB                                     |      |          |          |
|        | Type series / size                                                                                                                                                                                                                                           | : Amarex F100-230                         |      |          |          |
|        | Material price group                                                                                                                                                                                                                                         | : 18                                      |      |          |          |
|        | Weight                                                                                                                                                                                                                                                       | : 96 kg                                   |      |          |          |
|        | <b>Item number</b>                                                                                                                                                                                                                                           | <b>: 39120266</b>                         |      |          |          |
|        | Motor: 354YSG                                                                                                                                                                                                                                                |                                           | 1    |          |          |
|        | MOTOR                                                                                                                                                                                                                                                        |                                           |      |          |          |
|        | The motor shall be three-phase, dry squirrel-cage induction type in design conforming to IEC / VDE / EN standards. The motor shall be adequately sized and rated for continuous operation to maximum a fluid temperature of 40 °C (104 °F).                  |                                           |      |          |          |
|        | The motor housing shall be both air filled and watertight. Motor protection shall be at minimum IP 68. Allowable maximum submergence shall be not less than 25 m.                                                                                            |                                           |      |          |          |
|        | The motor shall be rated for supply voltage of 400 V and frequency of 50 Hz and accept voltage fluctuations as per range A of DIN EN 60 034-1 (Supply voltage +10 supply frequency -5%/+3%). The motor shall be explosionproof to ATEX II 2G T4, EEX d II B. |                                           |      |          |          |
|        | The motor shall be designed for a maximum of 30 number of starts per hour. Starting of the motor shall be direct.                                                                                                                                            |                                           |      |          |          |
|        | The motor stator shall be wound to have an overall motor rating of 155°C, Class H. The rotor bars and short circuit rings shall be made of cast aluminum.                                                                                                    |                                           |      |          |          |
|        | The motor and pump set complete shall be designed and manufactured by the same company.                                                                                                                                                                      |                                           |      |          |          |
|        | <b>MOTOR THERMAL PROTECTION</b>                                                                                                                                                                                                                              |                                           |      |          |          |
|        | Temperature monitors shall be embedded in the motor windings for use in conjunction with and supplemental to external motor overload protection.                                                                                                             |                                           |      |          |          |



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|--------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------|------|----------|----------|
|        | <p>These temperature sensitive switches shall allow for direct integration with the motor control circuit to shut down the pump if high temperatures are detected. The switches shall be normally closed rated for 250 V AC and a current of not less than 2 A. Additional temperature sensitive switches shall be embedded in the motor winding to limit temperatures of the motor as per explosion-proof certification. The pump's control shall shut down the pump should any of the monitors detect high temperature. Automatic reset shall not be allowed.</p> <p>MOTOR HOUSING MOISTURE PROTECTION</p> <p>A moisture detector shall be mounted in the motor's stator cavity allowing a control panel mounted relay to de-energize the motor when a leakage occurs.</p> |          |      |          |          |

## Data sheet: technical data

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Item-No.

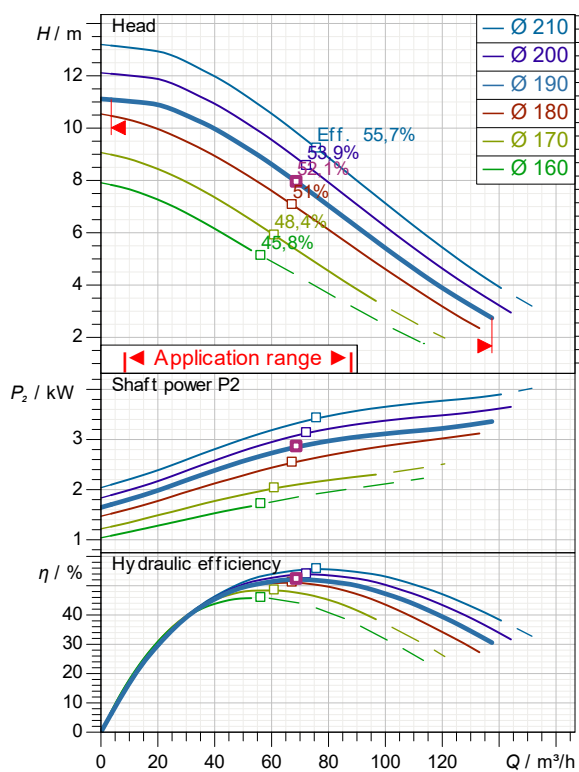
Design  
Type / Coding

Submersible dirty water motor pumps  
Amarex Fmax 100-230/035 F 4 YS G

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### demand data

Flow  
Total head  
Geodetic head  
Media  
Liquid temperature

Water  
20 °C

### Pump data

Make  
Type  
Design  
Specific design  
No. of pumps  
Standby pump  
Max. fluid temperature

KSB  
Amarex Fmax 100-230/035 F 4 YS G  
Submersible dirty water motor p  
Single head pump  
1  
No  
40 °C

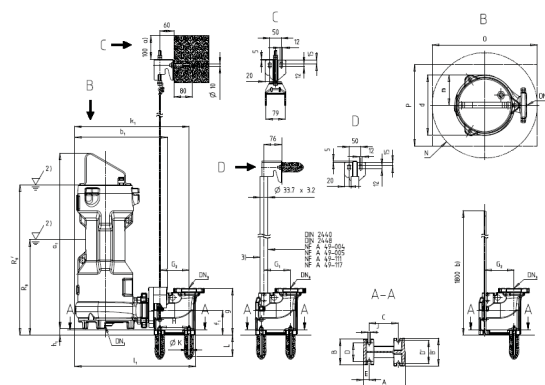
### Hydraulic data (Duty point)

Flow  
Head

### Material / sealing element

Casing  
Cover  
Suction cover material  
Discharge cover  
Shaft  
Impeller  
O-Rings

Grey cast iron EN-GJL-250 (A 48 Class 35B)  
Grey cast iron EN-GJL-250 (A 48 Class 35B)  
Grey cast iron EN-GJL-250 (A 48 Class 35B)  
Grey cast iron EN-GJL-250 (A 48 Class 35B)  
1.4021  
Grey cast iron EN-GJL-250 (A 48 Class 35B)  
Nitrile-butadiene-rubber NBR



### Dimensions

Discharge flange standard DN 100

### Rated motor data

Power input (P1)  
Rated power (Pn)  
Speed  
Rated voltage  
Rated current (In)

4,41 kW  
3,55 kW  
1.376 1/min  
400 V  
7,56 A

### Product information

Ident. No./ type key  
Weight loaded  
Gross price  
PL 2025-01-20  
Price group

39120266  
96 kg  
7.783,60 EUR