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SWQ-K

Submersible Sewage Pump

General-Purpose Pump for Municipal Sewage, Building Drainage & Stormwater Applications



Typical Applications

- Municipal Sewage
- Residential Sewage
- Small Wastewater Treatment
- Stormwater Collection
- Road Drainage
- Construction Dewatering

Key Features

Solids Handling
Passes large solids and fibrous matter reliably

Compact Design
Space-saving, ideal for pit or chamber installation

Easy Maintenance
Simple structure for quick inspection and service

IP68 Motor Protection
Fully sealed motor, safe and reliable in submerged operation

Class F Insulation
High-grade insulation for long service life and stable operation

Multiple Installation Options
Supports fixed coupling, guide rail, and portable installation

MAKE THE FLUID ENDLESS)

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TECHNICAL DATA SHEET

SUBMERSIBLE SEWAGE PUMP

SWQ-K | Compact Sewage & Drainage Pump

For residential, municipal and light-duty wastewater services

The **SWQ-K Series** is designed for efficient and reliable handling of sewage, wastewater and drainage water containing suspended solids and short fibres. Featuring an optimized hydraulic design, compact construction and clog-resistant flow passages, the series ensures dependable pumping performance with simplified installation and maintenance. Equipped with an IP68 submersible motor and Class F insulation, SWQ-K pumps are ideally suited for **residential and commercial buildings, municipal sewage collection, small wastewater treatment plants, stormwater drainage and construction dewatering applications**.



1 Manufacturer-published performance envelope

Maximum rated capacity	100 m^3/h
Maximum rated head	40 m
Motor rated output	0.75–7.5 kW, family range noted in source
Nominal speed	2,900 r/min
Discharge connection	DN40–DN100
Standard cable supplied	5 m
Rotation viewed motor-to-pump	Clockwise

Catalogue maxima describe the model family, not a simultaneous rated duty point. Pump selection requires the approved individual Q–H, efficiency, power and allowable-operating-range curves.

2 Application positioning and differentiating features

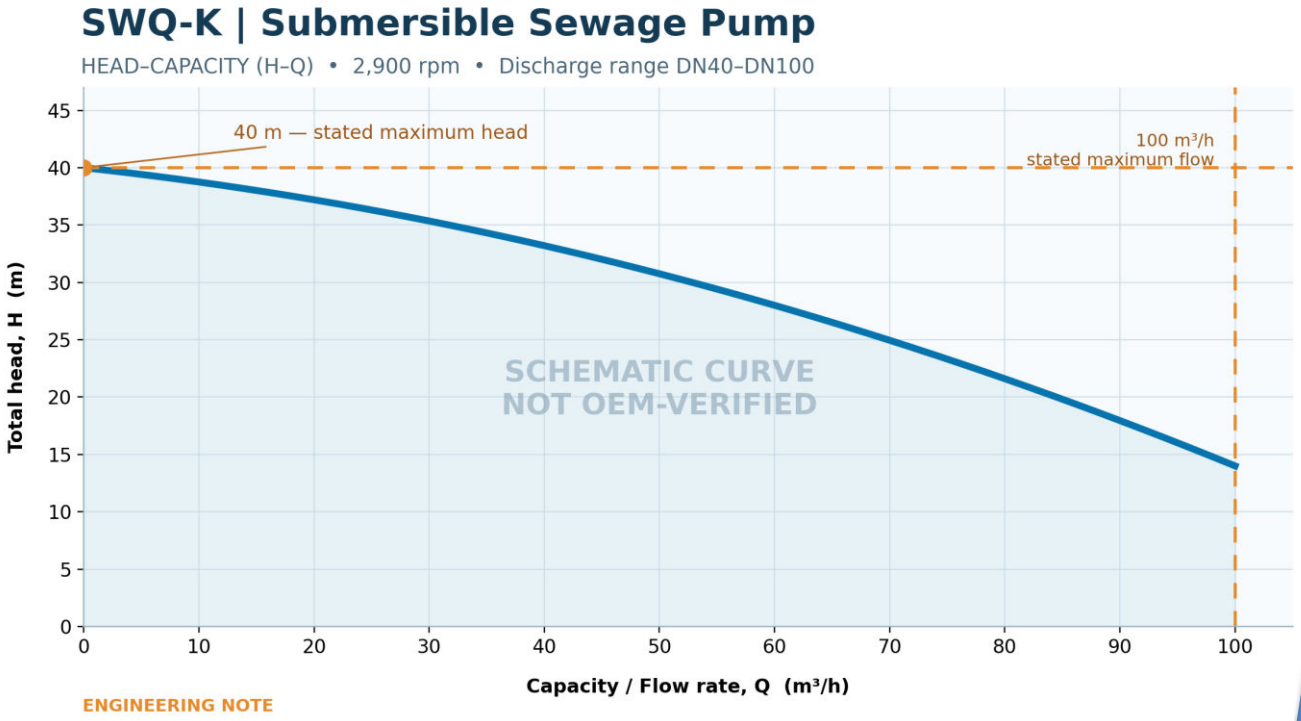
Primary application	Small sewage pumping and drainage with short fibres
Hydraulic character	Compact design and intake screen in source illustration
Handling / installation	Carrying handle and 3 m lifting chain described
Agitation option	Automatic mixing/stirring configuration described for related family; verify exact configuration

RECOMMENDED APPLICATION ENVIRONMENTS

- Residential and commercial building sump stations
- Small municipal wastewater collection wells
- Rainwater runoff and construction drainage (subject to solids and abrasion limits)
- Small wastewater treatment plant transfer points

3 Source-stated common operating basis

Pumped medium temperature	Up to 30 °C (source common limit)
Pumped medium density	Up to 1,050 kg/m^3
Motor ingress protection / insulation	IP68 / Class F (general family statement)
Flange pressure rating	0.6 MPa at DN200 and below; 1.0 MPa at DN250 and above (source)
Partial exposure above liquid	Motor portion exposed above liquid no more than half its height (source)
Operating point	Within manufacturer's approved head and motor-load range



ENGINEERING NOTE

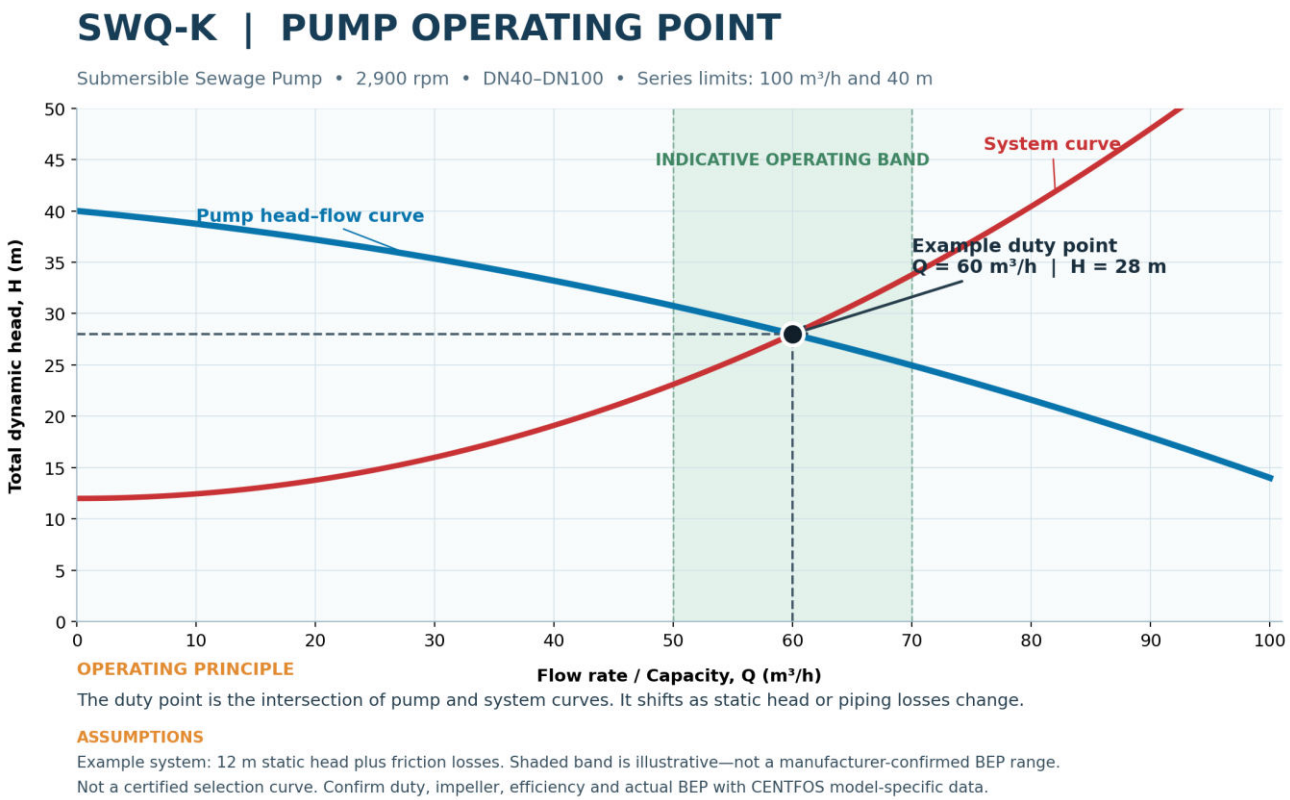
40 m maximum head and 100 m³/h maximum capacity are catalogue limits; they are not a confirmed common duty point. Curve shape is assumed for presentation only. Obtain the manufacturer's model/impeller-specific certified curve for selection.

SWQ-K | APPLICATION ENGINEERING GUIDANCE

4 Hydraulic selection and wet-well design

When selecting a compact unit, confirm wet-well turnover, minimum liquid level, motor starts/hour, sump solids loading and discharge pipeline velocity. Do not select exclusively from the series maximum flow and maximum head, which are not a guaranteed single duty point.

- Determine the system curve from static lift, pipe losses, minor losses, peak/average inflow, fouling allowance and future flow scenarios.
- Verify operating point and minimum/maximum permissible flow, motor input power and energy efficiency from certified OEM curves.
- Check discharge velocities, retention and sedimentation, pressure transients, air release and check-valve slam, especially in long rising mains.
- Size usable wet-well storage, start/stop levels and duty/standby sequence for permitted starts per hour and minimum cooling/submergence.
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5 Installation and mechanical integration

Installation alternatives	Mobile hose, fixed flange or automatic coupling; choose according to particular variant and installation
Piping arrangement	Isolating valve, non-return valve, dismantling provision, pressure tapping and safe vent/drain as applicable
Lifting and handling	Use rated lift points and lifting equipment; never lift by power cable
Sump access	Provide safe pump retrieval, cable routing, ventilation/gas testing and confined-space arrangements
Station configuration	Duty/standby or duty/assist/standby per inflow reliability study; N+1 where specified

6 Electrical and automation interfaces

- Provide rated electrical supply, motor protection, earthing, suitable starter/VFD and local isolator per OEM motor data and project hazardous-area assessment.
- Consider level measurement with independent high-high alarm and low-low dry-running stop; include local/manual/automatic modes with protected control logic.
- Typical feedbacks: run, trip, motor overload/thermal, seal leak if fitted, well level, discharge pressure (where needed) and generator/ATS status.
- For multi-pump stations, alternate lead duty, manage maximum simultaneous starts, and preserve safe operation on PLC communications failure.
- SCADA telemetry may include pump hours, start count, energy, station flow/level, faults, events, emergency power state and alarm acknowledgment.

7 Commissioning and acceptance checklist

- Verify pump model, impeller, rotational direction, cable seals, motor insulation resistance and manufacturer's wet-testing method.
- Confirm equipment ratings, protection trips, lifting/coupling integrity, pipework supports and actual operating duty point.
- Trend flow, discharge head, current, voltage, vibration, noise and level-control behaviour through realistic station cycles.
- Test duty/standby changeover, high-high level, seal-leak/thermal protection (if fitted), mains failure and generator/ATS recovery.

SWQ-K | PROCUREMENT AND TECHNICAL QUALIFICATION

8 Application limitations and service planning

- Inspect the inlet screen regularly where fibrous or floating debris is present.
- Confirm that the screen opening is appropriate for required free solids passage; upstream screening may be necessary.
- Automatic stirring is described for the related JYWQ/mixing configuration and must not be assumed on every SWQ-K variant.

Preventive maintenance should be established from duty severity and the approved OEM manual. Inspect cables, lifting gear, couplings, impeller condition, seal chamber, float/level instruments, earth continuity and control/protection functions at project-defined intervals.

9 Data required for final project-specific selection

Hydraulic duty	Required Q, total dynamic head, min/normal/peak flow, operating hours and system curve
Fluid properties	Temperature, density, pH, chloride, solids %, particle size, fibrous debris and abrasion/corrosion potential
Installation	Sump dimensions, minimum/maximum level, wet/dry configuration, guide rails, discharge layout
Electrical	Voltage, frequency, supply tolerance, start method, motor thermal/seal sensors, cable run, area classification
Operational	Duty/standby philosophy, starts/hour, power backup, PLC/SCADA protocol and alarm requirements
Acceptance	Guaranteed duty/efficiency/absorbed power, pressure tests, FAT, certificates and warranty
OEM confirmation	Certified model-specific curve, motor kW, impeller diameter, free passage, materials, mass, dimensions and tolerances

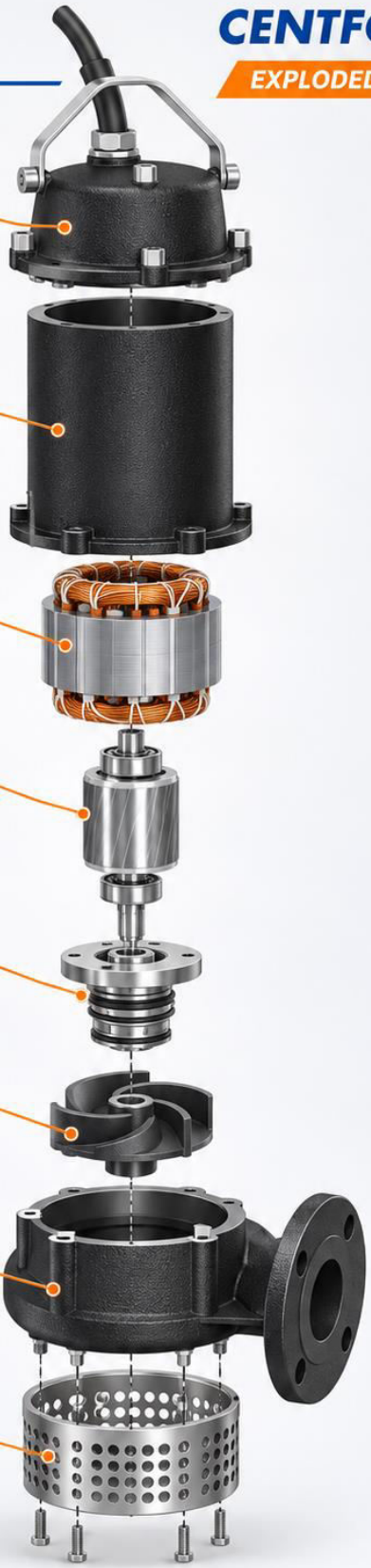
10 Technical submittal deliverables

- Certified performance and absorbed-power curves at actual operating speed, with preferred/allowable range and test tolerance.
- General arrangement drawing, dimensions/weight, lifting arrangement, wet-well/coupling installation drawing and interface details.
- Motor, seal, bearing, impeller, coating/material and cable schedules; corrosion suitability and solids-handling declaration.
- Wiring/termination diagram, instrument/protection list, control philosophy, I/O list, FAT/SAT/inspection plan and O&M manual.

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EXPLODED ASSEMBLY VIEW



01 Cable Entry & Top Cover with Lifting Bracket

- Power cable with sealed cable gland
- Domed top cover (cast iron)
- Stainless lifting handle (carrying bracket)

02 Motor Shell (Enclosure)

- Cylindrical motor housing (cast iron)
- Protective enclosure for stator and rotor
- Corrosion-resistant, compact design

03 Stator Assembly

- Laminated stator core
- Copper windings (insulated)
- Stationary part of the electric motor

04 Rotor / Shaft Assembly

- Squirrel-cage rotor (aluminum casting)
- Precision shaft
- Upper and lower rolling bearings (deep-groove ball bearings)

05 Lower Bearing & Mechanical Seal Cartridge

- Lower motor bearing (rolling bearing)
- Mechanical seal (cartridge type)
- Sealing between motor and pump chamber (prevents water ingress)

06 Sewage Impeller

- Closed/open-type centrifugal impeller (for sewage with solid particles)
- Anti-clogging, wear-resistant design

07 Hydraulic Pump Casing (with Discharge Flange)

- Compact pump casing (cast iron)
- Integrates motor and pump chamber
- Right-hand side discharge flange (for pipeline connection)

08 Suction Strainer (Basket)

- Perforated stainless steel suction basket
- Prevents large debris from entering the pump
- Retained by bolts to the pump casing

CONCEPTUAL ASSEMBLY — INTERNAL CONFIGURATION SUBJECT TO OEM CONFIRMATION

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TECHNICAL DATA SHEET



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