

KWS Archimedean screw pump

for transporting aqueous material

KUHN KWS Archimedean screw pump

For several thousands of years the use of Archimedean screws has been an established method for conveying water. The experience gained over this long period combined with the simple technique make these pumps the proven aid in urban hydraulic engineering. **KUHN** GmbH is one of the few German companies that produces this lifting machine. We maintain the highest level of quality through constant development of components.

Application

KUHN KWS Archimedean screw pumps are lifting devices, which are extremely well-suited for sewage transport and as drainage pumps and are unsurpassed by any other type of pump in terms of technology and efficiency. They are used mainly as intermediate lifting stations in a sewer network, as draw and polder pumping stations, as inlet pumps for sewage treatment plants and as sludge return pumps.

Principles of operation

The **KUHN** KWS Archimedean screw pump is a constant-pressure lifting device, for which a given volume of water is held in a lift and brought to the required height without changing the pressure or speed. The screw consists of the central pipe, the flights and the surrounding trough.

The screw design of the flights and the rotary motion applied from outside propel the water steadily upwards. Low rotational speeds (18-92 min⁻¹) make them inherently resistant to wear. Clogging does not occur and tight-fitting barrier materials can easily be removed without having to dismantle the unit.

A major advantage is the self-regulation of the fluid quantity in part-load operation. The machine automatically adjusts to the required flow rate.

Design (Technical features)

The superior design of the components as well as the screw itself ensures an extremely economical operation and guarantees a long-term return on your investment. Depending on the application, the following designs are possible:

1. Installation in an open trough
 - a. profiled concrete
 - b. prefabricated stone trough
 - c. steel-/ stainless steel trough
 - d. stand alone version
2. Installation in a closed pipe
 - a. in solid pipe material
 - b. in a rotating pipe sleeve

Depending on the required flow rate, **KUHN** KWS Archimedean screws are supplied with single, double or triple flights.

The superior design of our KWS Archimedean screws ensures an optimal operation, both in an ecological and economical sense, and guarantees a long-term return on your investment, owing in part to the following advantages:

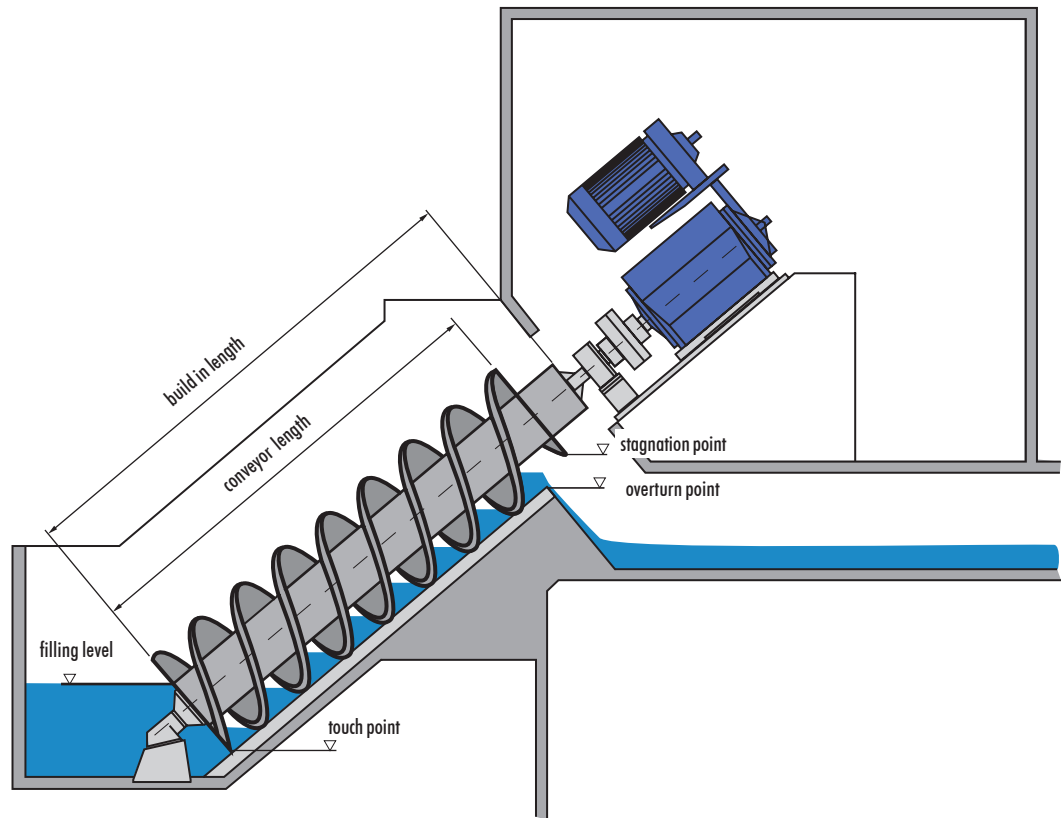
- Reduced wear due to low speed
- Extremely durable
- Inclination angle up to 40°
- High degree of efficiency up to 85 %
- Careful treatment of biological cultures through continuous, smooth, laminar and pressure-free conveyance
- Additional screening systems are unnecessary since the conveyance of water with the coarsest impurities is possible
- The Archimedean screws are extremely resistant to clogging
- Low maintenance required as a result of simple and robust construction
- High-quality, robust materials used



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All dimensions in mm.
We reserve the right to make technical alterations.

D (mm)	300	600	900	1200	1600	2000	2400
l/s	14	68	176	360	715	1210	1845
m ³ /h	51	245	635	1295	2590	4350	6650

Data for a 30° inclination angle

Any installation angle up to 40° is possible.

Intermediate sizes are naturally also available.

The degree of efficiency of **KUHN** Archimedean screws varies between 50% and 85% according to the size and design.

Special tempered materials (e.g. Brinar, Hardox, etc.) are possible.