# TK - RANGE

## VERTICAL IN-LINE PUMPS



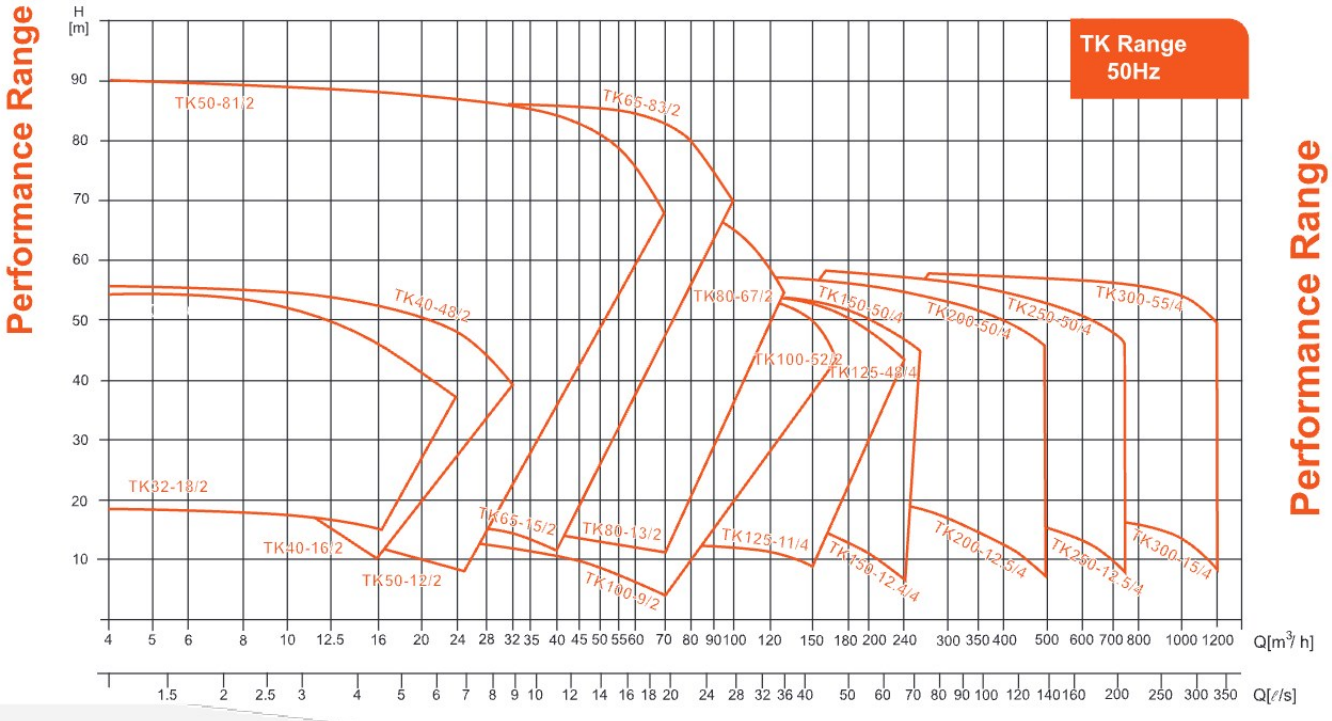
# TK - Range

| | |
|---|---|
| **Power Range:** | 1.1 - 2.2kW (230V Single Phase) |
| | 1.1 - 200kW (400V Three Phase) |
| **Rated Flow:** | 8 - 900m³/h |
| **Maximum Head:** | 81m |
| **DN Suction Nozzle:** | 32 - 300mm |



**TK 65 - 34 / 2**

In-Line Pump
Rated Diameter of Suction Nozzle (DN)
Rated Head
Pole of motor




**Sectors:**

- **Mining** — Water supply, High pressure
- **Industrial** — Water supply, Pressure boosting, Fire fighting Water treatment plants Food prosessing
- **Constuction** — Landscaping, High pressure
- **Agriculture** — Irrigation, Sprinkler systems

# Contents


| | |
|---|---|
| Introduction & Overview | 2 |
| TK32-2 | 4 |
| TK40-2 | 10 |
| TK50-2 | 12 |
| TK65-2 | 16 |
| TK80-2 | 20 |
| TK100-2 | 22 |
| TK125-4 | 24 |
| TK150-4 | 26 |
| TK200-4 | 28 |
| TK250-4 | 32 |
| TK300-4 | 36 |




TESK

South Africa.

# Overview

## Introduction

The TK Series is a single-stage vertical centrifugal pump which completesliquid transportation by the centrifugal force generated by the impeller of the rotary pump. The pump body and motor consist of the main shaft, impeller, casing and mechanical seal, which is all connected by a coupling.

These pumps can withstand high temperatures and pressures. They are mainly used for HVAC systems as well as in booster systems for water supply.

The piping structure ensures that the pump is directly installed in the same horizontal system with the same in- and outlet diameters. This design makes the structure and piping of the pump more compact.

## Pump Structure Design

Pull-up design with separate motor and pump body. The pump cover bracket acts as a connection between the motor and pump body, using the O-ring as a seal. The flange sizes meet the requirements of PN16 in GB/T17241.6 or ISO7005-2/DIN2501

## Liquid Temperature

Normal temperature pump: -15°C to +70°C
Hot temperature pump: -15°C to +105°C

## Motor

Totally enclosed, fan-cooled, 2-pole standard motors.
Enclosure class: IP55
Insulation class: F
Voltage: 3-phase 220-240V
3-phase 380-400V
Single phase 220-240V (0.37kW-2.2kW)

## Pump operating conditions

Pumping liquids which are thin, clean, non-flammable, non-compustible or non-explosive with no solid particles or fibres.
Maximum ambient temperature: +40°C
Maximum altitude above seal level: 1000m

## Performance curves

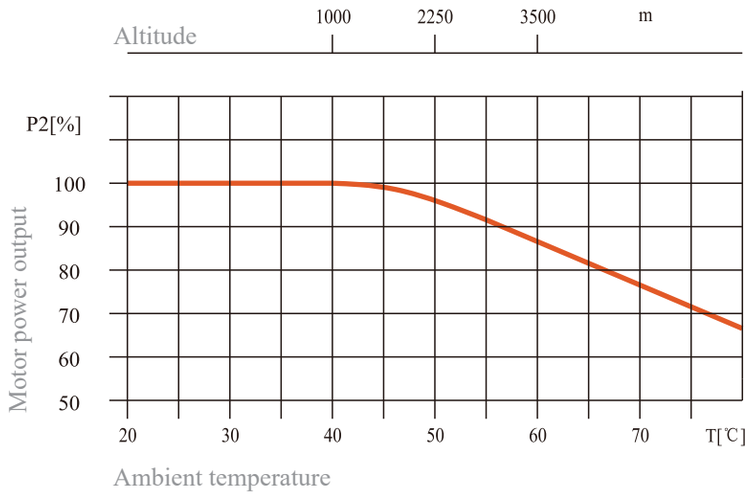
Motor speeds are based on 2900rpm or 2950rpm
Tolerances to ISO9906
Measurements have been made with airless water at 20°C
The curves apply to the following kinematic viscosity: 1mm²/s.
It is advisable to determine the pump selection operating within the bold curve of the pump performance.

## Maximum working pressure

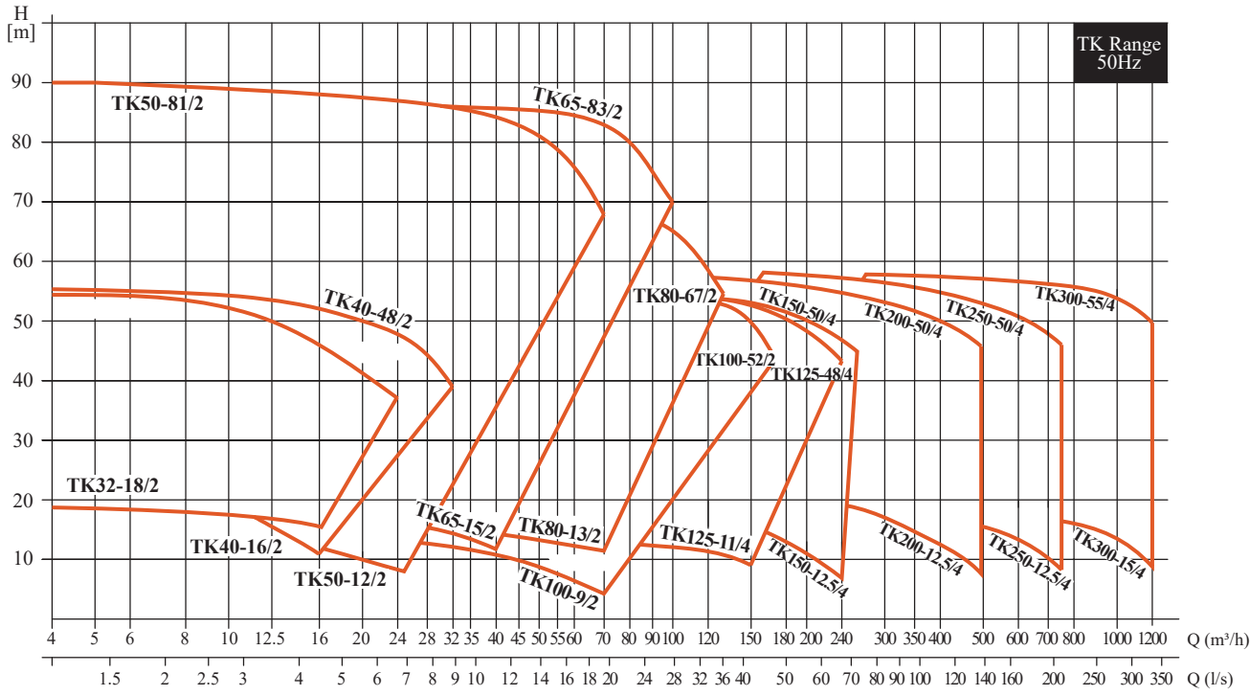
Normal pressure type: PN12bar
High pressure type: PN16bar

## Ambient temperature

If the ambient temperature exceeds +40°C or the pump is installed at an altitude exceeding 1000m above sea level, the motor output power (P2) will decrease. In such cases it is necessary to use a motor with a higher rated output.



## Pump performance range



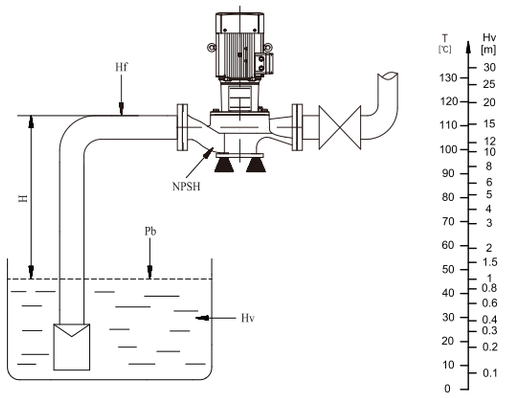

## Minimum inlet pressure, NPSH

Cavitation may occur if the following conditions exist during the operation of the water pump:

- The water tank or pool is lower than the pump inlet
- Actual flow is significantly greater than the rated flow

To avoid cavitation, make sure there is a minimu pressure on the inlet side of the pump. The maximum suction range H (m) can be calculated as follows:

Pb = Atmospheric pressure (atmospheric pressure can be set to 1bar)
HT = Net positive suction head (can be read from the maximum possible flow rate on the NPSH curve).
Hl = Pipeline loss at inlet
Hv = Vaporization pressure
HS = Safety margin, minimum 0.5m head




If the calculated value of H is positive, the pump can be operated at the maximum suction range H.

If the calculated value of H is negative, there must be a head with a minimum inlet pressure H.



# Overview

## Pump labelling

**TK 65-34/2**

TK 65 - 34 / 2

- TK — End suction pump
- 65 — Rated diameter of suction nozzle (DN)
- 34 — Rated head
- 2 — Pole of motor

## Applications

### Water supply

- Water filtering
- Boosting
- Pressurization for hotels
- Industrial pressurization

### Industrial boosting

- Cleaning systems
- High pressure flushing systems
- Firefighting systems
- Vehicle cleaning equipment

### Industrial liquid transport

- Air-conditioning systems
- Boiler feed water
- Condensing systems & cooling towers
- Machine tool cooling lubrication systems

### Water treatment

- Ultra-filtration systems
- Reverse osmosis systems
- Distillation systems
- Separator
- Swimming pools

### Irrigation

- Regional irrigation
- Sprinkler irrigation
- Drip irrigation
- Greenhouse irrigation

## Pump parameters

| Model | Q ($m^3/h$) | H (m) | n (r/min) | Voltage (V) | |
|---|---|---|---|---|---|
| | | | | 1 x 220V | 3 x 380V |
| | | | | kW | |
| TK32-18/2 | 8 | 18 | 2900 | 1.1 | 1.1 |
| TK32-21/2 | 12.5 | 21 | | 1.5 | 1.5 |
| TK32-25/2 | 12.5 | 25 | | 2.2 | 2.2 |
| TK32-32/2 | 12.5 | 32 | | | 3 |
| TK32-38/2 | 12.5 | 38 | | | 4 |
| TK32-50/2 | 12.5 | 50 | | | 5.5 |
| TK40-16/2 | 12.5 | 16 | | 1.1 | 1.1 |
| TK40-20/2 | 12.5 | 20 | | 1.5 | 1.5 |
| TK40-18/2 | 20 | 18 | | 2.2 | 2.2 |
| TK40-25/2 | 20 | 25 | | | 3 |
| TK40-30/2 | 25 | 30 | | | 4 |
| TK40-36/2 | 25 | 36 | | | 5.5 |
| TK40-48/2 | 25 | 48 | | | 7.5 |
| TK50-32/2 | 12.5 | 32 | | | 3 |
| TK50-38/2 | 12.5 | 38 | | | 4 |
| TK50-48/2 | 12.5 | 48 | | | 5.5 |
| TK50-12/2 | 16 | 12 | | 1.1 | 1.1 |
| TK50-15/2 | 20 | 15 | | 1.5 | 1.5 |
| TK50-18/2 | 25 | 18 | | 2.2 | 2.2 |
| TK50-24/2 | 25 | 24 | | | 3 |
| TK50-28/2 | 30 | 28 | | | 4 |
| TK50-35/2 | 30 | 35 | | | 5.5 |
| TK50-40/2 | 35 | 40 | | | 7.5 |
| TK50-50/2 | 40 | 50 | | | 11 |
| TK50-60/2 | 50 | 60 | | | 15 |
| TK50-70/2 | 50 | 70 | | | 18.5 |
| TK50-81/2 | 50 | 81 | | | 22 |
| TK65-36/2 | 25 | 36 | | | 5.5 |
| TK65-48/2 | 25 | 48 | | | 7.5 |
| TK65-15/2 | 30 | 15 | | 2.2 | 2.2 |
| TK65-19/2 | 30 | 19 | | | 3 |
| TK65-22/2 | 40 | 22 | | | 4 |
| TK65-30/2 | 40 | 30 | | | 5.5 |
| TK65-34/2 | 50 | 34 | | | 7.5 |
| TK65-40/2 | 50 | 40 | | | 11 |
| TK65-50/2 | 50 | 50 | | | 15 |
| TK65-61/2 | 50 | 61 | | | 18.5 |
| TK65-67/2 | 50 | 67 | | | 22 |
| TK65-83/2 | 50 | 83 | | | 30 |
| TK80-13/2 | 50 | 13 | | | 3 |
| TK80-18/2 | 50 | 18 | | | 4 |

# Overview

## Pump parameters

| Model | Q ($m^3/h$) | H (m) | n (r/min) | Voltage (V) | |
|---|---|---|---|---|---|
| | | | | 1 x 220V | 3 x 380V |
| | | | | kW | |
| TK80-22/2 | 50 | 22 | 2900 | | 5.5 |
| TK80-28/2 | 50 | 28 | | | 7.5 |
| TK80-40/2 | 50 | 40 | | | 11 |
| TK80-48/2 | 50 | 48 | | | 15 |
| TK80-30/2 | 80 | 30 | | | 11 |
| TK80-38/2 | 80 | 38 | | | 15 |
| TK80-47/2 | 80 | 47 | | | 18.5 |
| TK80-54/2 | 80 | 54 | | | 22 |
| TK80-67/2 | 80 | 67 | | | 30 |
| TK100-9/2 | 50 | 9 | | 2.2 | 2.2 |
| TK100-15/2 | 60 | 15 | | | 4 |
| TK100-17/2 | 80 | 17 | | | 5.5 |
| TK100-22/2 | 80 | 22 | | | 7.5 |
| TK100-27/2 | 100 | 27 | | | 11 |
| TK100-33/2 | 100 | 33 | | | 15 |
| TK100-40/2 | 100 | 40 | | | 18.5 |
| TK100-48/2 | 100 | 48 | | | 22 |
| TK100-52/2 | 130 | 52 | | | 30 |
| TK125-11/4 | 120 | 11 | 1450 | | 5.5 |
| TK125-14/4 | 120 | 14 | | | 7.5 |
| TK125-18/4 | 160 | 18 | | | 11 |
| TK125-22/4 | 160 | 22 | | | 15 |
| TK125-28/4 | 160 | 28 | | | 18.5 |
| TK125-32/4 | 160 | 32 | | | 22 |
| TK125-40/4 | 160 | 40 | | | 30 |
| TK125-48/4 | 160 | 48 | | | 37 |
| TK150-12.5/4 | 200 | 12.5 | | | 11 |
| TK150-17/4 | 200 | 17 | | | 15 |
| TK150-21/4 | 200 | 21 | | | 18.5 |
| TK150-25/4 | 200 | 25 | | | 22 |
| TK150-33/4 | 200 | 33 | | | 30 |
| TK150-40/4 | 200 | 40 | | | 37 |
| TK150-50/4 | 200 | 50 | | | 45 |
| TK200-15/4 | 300 | 15 | | | 18.5 |
| TK200-18/4 | 300 | 18 | | | 22 |
| TK200-24/4 | 300 | 24 | | | 30 |
| TK200-30/4 | 300 | 30 | | | 37 |
| TK200-35/4 | 300 | 35 | | | 45 |
| TK200-44/4 | 300 | 44 | | | 55 |
| TK200-53/4 | 300 | 53 | | | 75 |
| TK200-12.5/4 | 400 | 12.5 | | | 22 |

## Pump parameters

| Model | Q ($m^3/h$) | H (m) | n (r/min) | Voltage (V) | |
|---|---|---|---|---|---|
| | | | | 1 x 220V | 3 x 380V |
| | | | | kW | |
| TK200-20/4 | 400 | 20 | 1480 | | 30 |
| TK200-23/4 | 400 | 23 | | | 37 |
| TK200-27/4 | 400 | 27 | | | 45 |
| TK200-32/4 | 400 | 32 | | | 55 |
| TK200-43/4 | 400 | 43 | | | 75 |
| TK200-50/4 | 400 | 50 | | | 90 |
| TK250-15/4 | 500 | 15 | | | 30 |
| TK250-18/4 | 500 | 18 | | | 37 |
| TK250-21/4 | 500 | 21 | | | 45 |
| TK250-27/4 | 500 | 27 | | | 55 |
| TK250-36/4 | 500 | 36 | | | 75 |
| TK250-44/4 | 500 | 44 | | | 90 |
| TK250-53/4 | 500 | 53 | | | 110 |
| TK250-12.5/4 | 630 | 12.5 | | | 30 |
| TK250-14/4 | 630 | 14 | | | 37 |
| TK250-17/4 | 630 | 17 | | | 45 |
| TK250-20/4 | 630 | 20 | | | 55 |
| TK250-26/4 | 630 | 26 | | | 75 |
| TK250-32/4 | 630 | 32 | | | 90 |
| TK250-40/4 | 630 | 40 | | | 110 |
| TK250-50/4 | 630 | 50 | | | 132 |
| TK300-15/4 | 900 | 15 | | | 55 |
| TK300-20/4 | 900 | 20 | | | 75 |
| TK300-25/4 | 900 | 25 | | | 90 |
| TK300-30/4 | 900 | 30 | | | 110 |
| TK300-35/4 | 900 | 35 | | | 132 |
| TK300-44/4 | 900 | 44 | | | 160 |
| TK300-55/4 | 900 | 55 | | | 200 |