

TK-RANGE

VERTICAL IN-LINE PUMPS



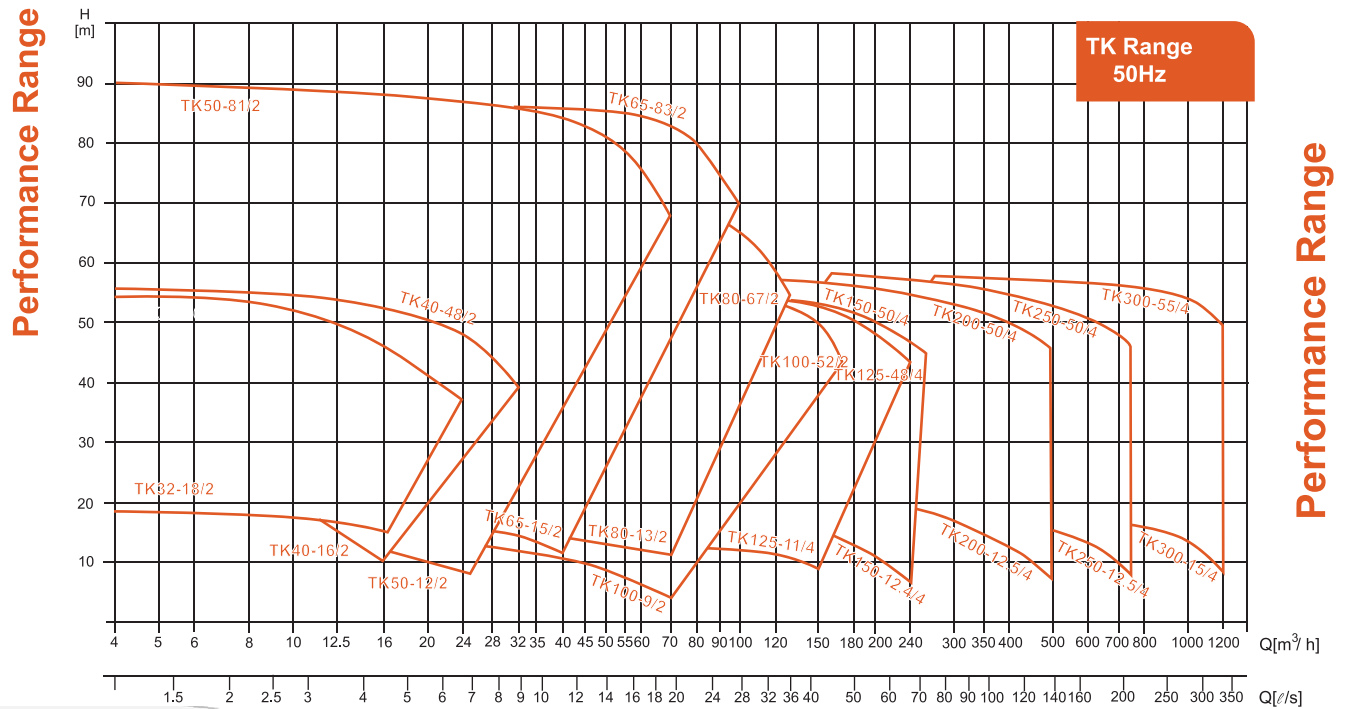
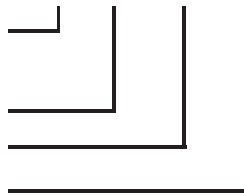


TK - Range

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

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

TK 65 - 34 / 2



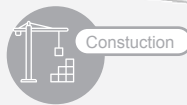
Sectors:



Water supply
High pressure



Water supply
Pressure boosting
Fire fighting
Water treatment plants
Food processing



Landscaping
High pressure



Irrigation
Sprinkler systems

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South Africa.



Overview

Introduction

The TK Series is a single-stage vertical centrifugal pump which completes liquid 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 $+70^{\circ}\text{C}$
Hot temperature pump: -15°C to $+105^{\circ}\text{C}$

Ambient temperature

If the ambient temperature exceeds $+40^{\circ}\text{C}$ 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.

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

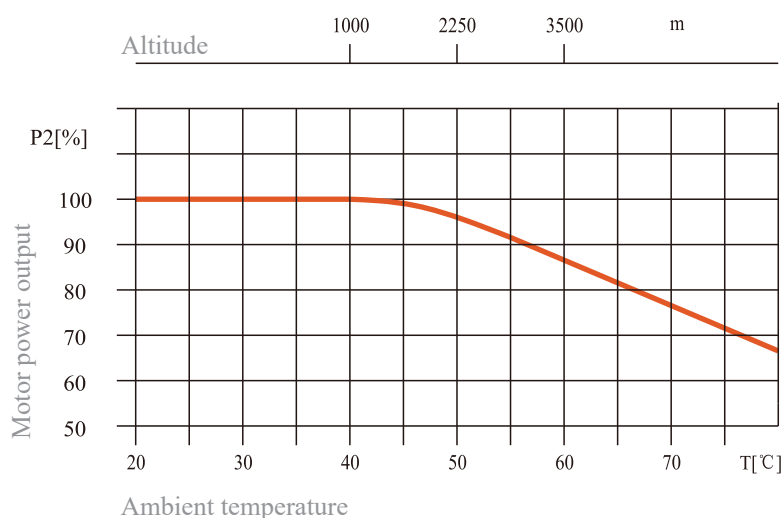
Pumping liquids which are thin, clean, non-flammable, non-combustible or non-explosive with no solid particles or fibres.
Maximum ambient temperature: $+40^{\circ}\text{C}$
Maximum altitude above seal level: 1000m

Performance curves

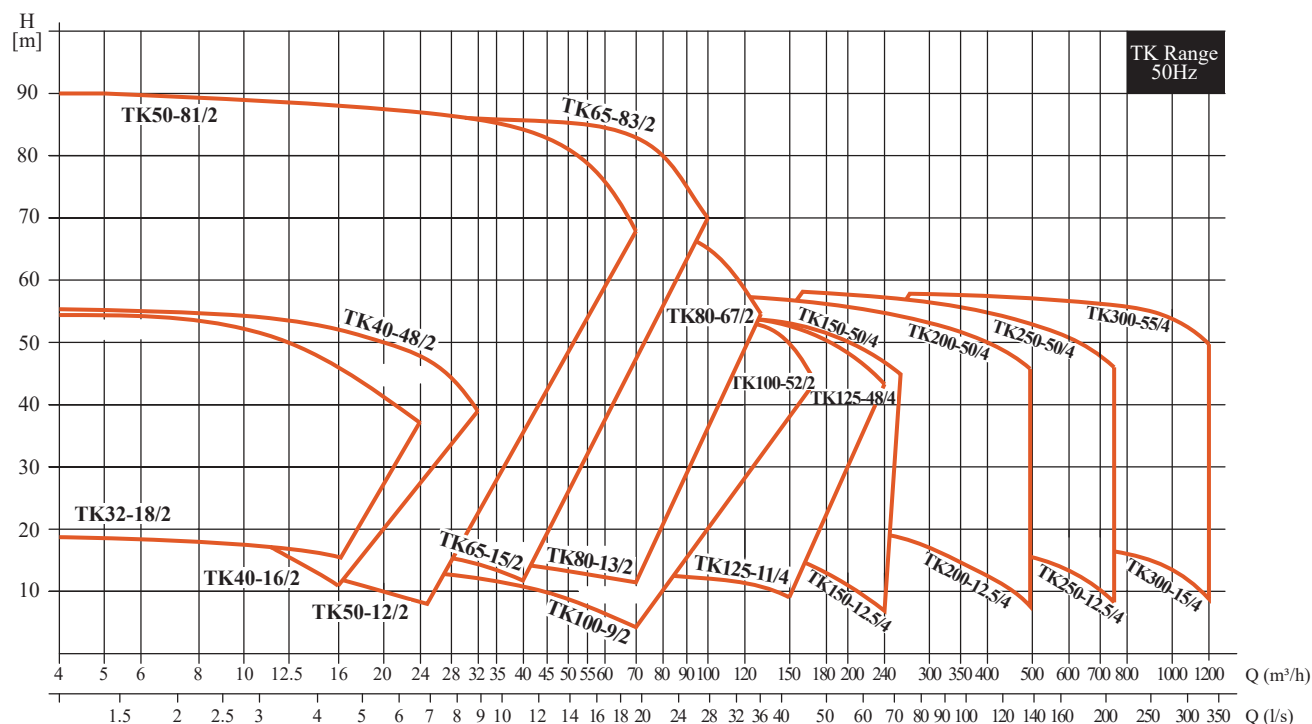
Motor speeds are based on 2900rpm or 2950rpm
Tolerances to ISO9906
Measurements have been made with airless water at 20°C
The curves apply to the following kinematic viscosity: $1\text{mm}^2/\text{s}$.
It is advisable to determine the pump selection operating within the bold curve of the pump performance.

Maximum working pressure

Normal pressure type: PN12bar
High pressure type: PN16bar



Pump performance range



Minimum inlet pressure, NPSH

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

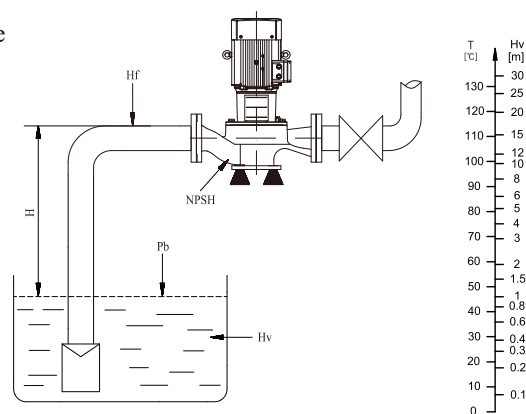
- The water tank or pool is lower than the pump inlet
- Actual flow is significantly greater than the rated flow

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

- P_b = Atmospheric pressure (atmospheric pressure can be set to 1bar)
- H_T = Net positive suction head (can be read from the maximum possible flow rate on the NPSH curve).
- H_I = Pipeline loss at inlet
- H_v = Vaporization pressure
- H_S = 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 .

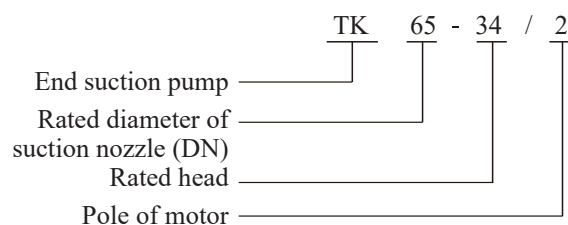
If the calculated value of H is negative, there must be a head with a minimum inlet pressure H .



Overview

Pump labelling

TK 65-34/2



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 (m³/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