





CONSTANT PRESSURE CONTROL

Teknospeed: the new range of variable speed electric pumps and pressure booster units for constant pressure applications utilizing an integral frequency converter in the pump.

USER COMFORT

Constant pressure at your outlet.

No more temperature variations when using water at home (the mixture of hot and cold water does not change even if other taps are opened).



RELIABILITY

- Constant flow of water.
 If one of the two pumps in a Teknospeed unit fails, the other pump can work on its own.
- Maximum performance even in critical operating conditions.

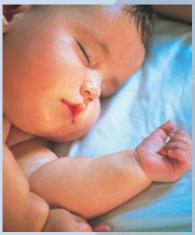
The PFC (Power Factor Controller) circuit maintains the required pressure even in the event of mains voltage fluctuations (sinusoidal input).

Pump protection.

The system is fitted for use with a float switch to protect the pump from running dry.







SILENT RUNNING

• Sleep well with Teknospeed pumps.

The motors work at variable speed and consequently have a reduced noise level.

Protection against solid and
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Industrial protection of the solid protection against allowing installation should also had allowed and should also had allowed and should amental consideration should and protects as additional agiven to local environment against as additional agreed as a solid protection may be required protection may be required.



ENERGY SAVING

The pump pays for itself in a very short time.
 With the new frequency converter, the pumps only consume the power that is strictly necessary.

Needs limited space?

Needs limited space?

Needs limited space?

Needs limited space?

Interpolation of the pumps space?

Needs limited space.

Needs lim



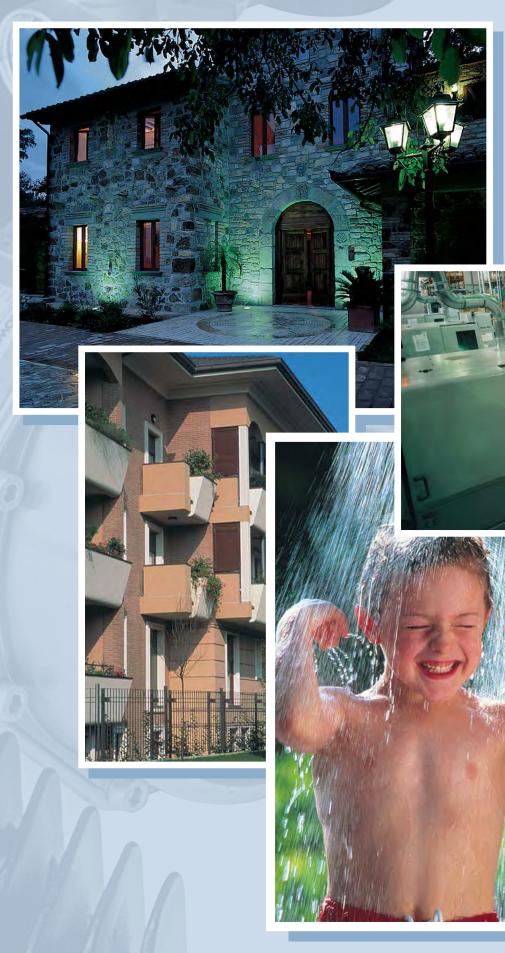
EXTENDED PUMP LIFE-TIME

Minimum maintenance.
 The variable speed motor reduces mechanical stress on the pump components and water hammering during stopping.



QUICK AND EASY INSTALLATION

Connect and go! Easy to install and use, the Teknospeed pumps are supplied with a cable, plug and pressure transmitter; they can be adjusted turning the by while potentiometer the pressure is read directly on the pressure gauge.



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THE MAIN APPLICATIONS







TEKNOSPEED:

AN ESSENTIAL,

COMPACT AND

EASY-TO-USE

SOLUTION

NATURAL HEAT DISSIPATION

Cooling fins in black epoxy powder painted aluminium ensures adequate heat dissipation.

INDICATOR LED'S

GREEN LED: power on.

YELLOW LED: converter working and in

operating mode.

Steady light: pressure control.

Flashing light: motor speed adjustment.

RED LED: alarm.



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REGULATION DIP-SWITCHES

The dip-switches are easy to adjust for specific applications. For controlled pressure applications, the dip-switches are factory-set.

USER AND ELECTRONICS PROTECTION

Two plastic covers offer maximum user electrical safety; the two electronic boards (power and control) are protected from accidental knocks.

POWER CABLE WITH PLUG AND PRESSURE TRANSMITTER CABLE

The frequency converter leaves the factory with its power cable and plug connected to the relative terminals and the earth circuit screw terminal.

The pressure transmitter cable is connected to the relative terminals.

TERMINAL BOARD FOR CONTROL SIGNALS

The control signal terminals are easy to access: pressure transmitter, serial line (for dialogue between the two pumps in booster units), no water input and fault signal output.

PLUG FOR ADJUSTMENT SCREW

After setting the required pressure, screw in the plug to prevent the adjustment screw from being moved by accident.

CABLE HOLDERS

Cable holders are fitted at the pressure transmitter cable and serial interface inputs in order to connect the shielding braids to the earth circuit.

WIRING DIAGRAM

The wiring diagram is directly printed on the plastic protection of the control board.

CONVERTER/MOTOR CONNECTIONS

Simple and direct connection to the motor terminal board with factory-fitted cables.

PROTECTED TO IP55

Cable holders and metric plugs for the cable input and gasket between the radiator and base.

TECHNICAL

DATA FOR

FREQUENCY

CONVERTER

UNIT

ELECTRICAL DATA

| POWER INPUT: | 230V +/- 10% 1~ 50/60 Hz | | | | | | | | | |
|---------------------|---|--|--|--|--|--|--|--|--|--|
| INPUT CURRENT: | 6.8 A | | | | | | | | | |
| OUTPUT VOLTAGE: | 230V 3~ variable according to the V/F curve (motor connected to 230V) | | | | | | | | | |
| OUTPUT CURRENT: | 4.6 A | | | | | | | | | |
| OUTPUT FREQUENCY: | Variable 12÷50 Hz in the speed adjustment mode | | | | | | | | | |
| | Variable 15÷50 Hz in the constant pressure control mode | | | | | | | | | |
| RECOMMENDED MOTORS: | max. Lowara SM motor 1.1 kW 3~ max. overcurrent 5% | | | | | | | | | |
| PRESSURE | 4÷20 mA standard with two power | | | | | | | | | |
| TRANSMITTER: | | | | | | | | | | |
| ALARM RELAY: | NC (normally closed) contact 1A 230Vac resistive load; | | | | | | | | | |
| | positive logic operation (the contact is open if there are no | | | | | | | | | |
| 1100 | alarm. | | | | | | | | | |
| 1/// 63 | It closes in the event of alarm or no power input) | | | | | | | | | |
| MODULATION TYPE: | PWM Pulse Width Modulation | | | | | | | | | |
| CONTROL TYPE: | PI (Proportional factor – Integral factor) | | | | | | | | | |
| LINE PROTECTION | Magneto-thermal switch 16A curve-type C | | | | | | | | | |
| (recommended): | | | | | | | | | | |
| POWER CABLE: | minimum cross-section 1.5 mm ² | | | | | | | | | |
| PFC (POWER FACTOR | This circuit absorbs sinusoidal current from the power input | | | | | | | | | |
| CONTROLLER) CIRCUIT | line, thereby ensuring the product complies with the | | | | | | | | | |
| | EN 61000-3-2 standard; this is an indispensable requirement | | | | | | | | | |
| | for complying with the EMC (Electromagnetic compatibility) | | | | | | | | | |
| | Directive. | | | | | | | | | |
| | It also guarantees a constant set outlet pressure if the | | | | | | | | | |
| | input voltage varies (within the permitted range | | | | | | | | | |
| | 230V +/- 10%). | | | | | | | | | |
| | | | | | | | | | | |

MECHANICAL DATA

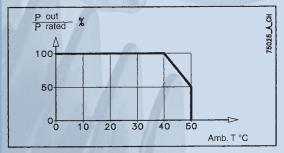
| PROTECTION: | IP55 |
|---------------------|---|
| RECOMMENDED MOTORS: | Direct with standard Lowara SM motor terminal board |
| RADIATOR MATERIAL: | Die-cast aluminium |
| RADIATOR COLOUR: | Black |

OPERATING RANGE

| *AMBIENT TEMPERATURE: | 0÷40 °C |
|------------------------|---------|
| MAX. HUMIDITY (WITHOUT | 95 % |
| CONDENSATION): | |

^{*}For higher temperatures, please see derating curve

DERATING CURVE



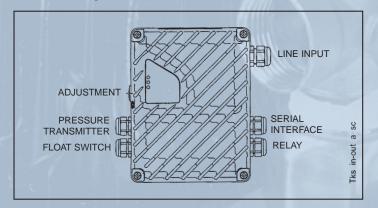
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STANDARDS AND MARKS

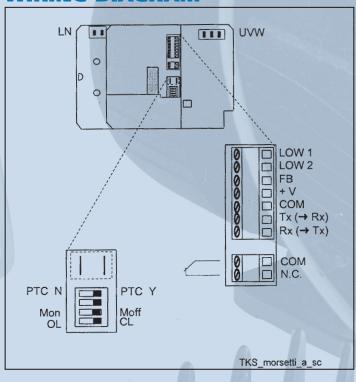
| | 98/037/EEC* |
|-------------------------|-------------------------|
| | (Machinery Directive) |
| | 73/23/EEC |
| | (Low Voltage Directive) |
| | 89/336/EEC |
| | (EMC Directive) |
| Harmonic emission limit | EN 61000-3-2 |

^{*}Applicable to variable speed electric pump system

INPUTS/OUTPUTS



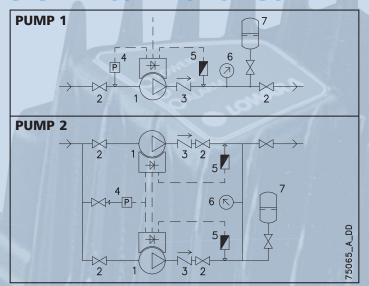
WIRING DIAGRAM



KEY

| REF. | DESCRIPTION | | | | | | | | |
|-------------|------------------------------------|--|--|--|--|--|--|--|--|
| LN | 230V single-phase power input | | | | | | | | |
| UVW | 230V three-phase motor power input | | | | | | | | |
| LOW 1 | Float switch input | | | | | | | | |
| LOW 2 | Float switch input | | | | | | | | |
| FB | Pressure transmitter signal | | | | | | | | |
| + V | Pressure transmitter power input | | | | | | | | |
| СОМ | Common serial line | | | | | | | | |
| TX | Serial signal | | | | | | | | |
| RX | Serial signal | | | | | | | | |
| СОМ | Common relay contact | | | | | | | | |
| N.C. | Normally closed relay contact | | | | | | | | |
| | MICROSWITCHES | | | | | | | | |
| PTC N/PTC Y | PTC configuration (Not used) | | | | | | | | |
| Mon/Moff | Main pump /Secondary pump | | | | | | | | |
| OL/CL | Motor speed adjustment mode (OL) | | | | | | | | |
| | Pressure Control Mode (CL) | | | | | | | | |

SYSTEM CONNECTION SCHEME



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KEY

| AND THE | |
|---------|------------------------|
| REF. | COMPONENT |
| 1 | Teknospeed pump |
| 2 | On/off valve |
| 3 | Check valve |
| 4 | Input pressure control |
| 5 | Pressure transmitter |
| 6 | Pressure gauge |
| 7 | Surge tank (5% Qmax) |

OPERATING MODES

CONSTANT PRESSURE CONTROL



• Operation:

The converter detects the instantaneous pressure in the system through the pressure transmitter and adjusts motor speed to keep it at the required value.

- The pressure is read directly on the pressure gauge.
- The water level can be monitored with a float switch.
- A clean 230V 1A alarm contact is available for signalling purposes (LED or buzzer).
- Membrane tank required; recommended size at least 8 litres (Pre-loading pressure: -20% of set pressure).
- Available both with horizontal (TKS/HMZ, TKS/BG, TKS/CEA, TKS/CA) and vertical (TKS/SV) pumps.

CONSTANT PRESSURE CONTROL - TWIN-PUMP UNIT



Operation:

A request for water generates a pressure drop in the system; the first pump starts and if its capacity is sufficient to compensate the request, it keeps the pressure at the set value. Otherwise, when the first pump reaches maximum speed (50 Hz), the second pump starts to assist the first. When the request for water terminates, the system stops.

- **Simple protection panel** (the control takes place inside the converters)
- In the event of a fault in one of the two pumps or converters, the water supply is guaranteed because the system does not stop completely as the main pump can continue to deliver water.
- Cyclical changeover of pumps at every request of water.
- Reduced space.
- Available both with horizontal (GTKS20/HMZ, GTKS20/CA) and vertical (GTKS20/SV) units.

MOTOR SPEED ADJUSTMENT

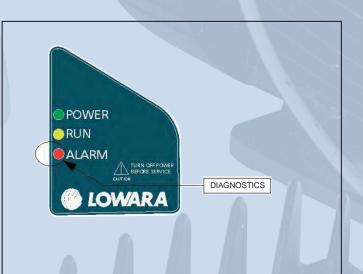


• Operation:

Teknospeed can adjust motor speed in two ways:

- 1. With a potentiometer where the halfway position corresponds to a frequency of about 25 Hz (max. frequency 50 Hz).
- 2. With a 4÷20mA signal at the FB input (proportional speed)
- The LOW1 and LOW2 inputs work as START/STOP (run enable).
- The hydraulic performance of the pump is proportional to the motor speed.

DIAGNOSTICS



| LED N° OF FLASHES | TYPE OF ALARM |
|----------------------|-------------------------------------|
| 2 | Converter overcurrent |
| 3 | Converter overtemperature |
| 4 | Motor overtemperature |
| 5 | No water (LOW1/LOW2) |
| 6 | No signal from pressure transmitter |
| 7 | Undervoltage |
| 8 | Serial interrupted (timeout) |

TYPE OF ALARM

- The number of times the red LED flashes identifies the type of alarm (see table).
- An attempt is made to reset the alarm every 20 seconds; after three unsuccessful attempts, the converter stops.
- If at least 10 minutes elapse after an alarm without any other faults occurring, the reset attempts counter is reset.

NO WATER ALARM

- In the constant pressure control mode, the opening of the contacts between inputs LOW1 and LOW2 (float switch) generates the no water alarm.
- If the contact is reset, the pump starts automatically.

PRODUCT RANGE

TECHNICAL DATA (HYDRAULIC PERFORMANCE AT 50HZ)

TEKNOSPEED VARIABLE SPEED ELECTRIC PUMPS: SINGLE-PHASE POWER INPUT 1 x (230 \pm 10%) V 50/60 Hz the supply includes a pressure transmitter, a power cable with plug and a motor heat probe (PTC).

| PUMP TYPE* | Rated P [kW] | Input I [A] | Q1 [l/min] | Q2 [l/min] | H1 [m] | H2 [m] | |
|--------------------------------|-------------------------|----------------|---------------|---------------|-----------|-----------|------|
| TKS/HMZ HORIZONTAL MULTI-STA | AGE WITH PLASTIC IMP | | | | | | |
| | TKS/2HM3ZT | 0.3 | 2.3 | 20 | 70 | 20.0 | 7.9 |
| | TKS/2HM5ZT | 0.55 | 3.5 | 20 | 70 | 40.0 | 16.5 |
| | TKS/2HM7ZT | 0.75 | 4.9 | 20 | 70 | 50.8 | 20.5 |
| | TKS/4HM4ZT | 0.45 | 3.0 | 40 | 120 | 19.3 | 7.6 |
| | TKS/4HM5ZT | 0.55 | 3.5 | 40 | 120 | 28.6 | 11.5 |
| | TKS/4HM9ZT | 1.1 | 6.8 | 40 | 120 | 48.3 | 20.3 |
| TKS/BG SELF-PRIMING WITH AISI | 304 STEEL IMPELLERS | | | | | | |
| | TKS/BG7 | 0.75 | 4.9 | 20 | 60 | 38.1 | 25.6 |
| | TKS/BG11 | 1.1 | 6.8 | 20 | 70 | 45.8 | 30.3 |
| TKS/CA-CEA WITH AISI 304 STEEL | SINGLE/TWIN IMPELLI | ERS | | | | | |
| | TKS/CEA80/5 | 0.75 | 4.9 | 30 | 100 | 30.0 | 21.0 |
| | TKS/CEA120/5 | 1.1 | 6.8 | 60 | 160 | 28.2 | 17.3 |
| | TKS/CA70/33 | 0.75 | 4.9 | 30 | 80 | 38.8 | 23.9 |
| | TKS/CA70/44 | 1.1 | 6.8 | 30 | 80 | 49.5 | 34.0 |
| TKS/SV VERTICAL MULTI-STAGE V | VITH AISI 304 STEEL IIV | IPELLERS | | | | | |
| | TKS/SV206F07T | 0.75 | 4.9 | 20 | 70 | 56.0 | 22.0 |
| | TKS/SV208F11T | 1.1 | 6.8 | 20 | 70 | 75.0 | 30.0 |
| | TKS/SV404F07T | 0.75 | 4.9 | 40 | 133 | 34.0 | 10.0 |
| | TKS/SV407F11T | 1.1 | 6.8 | 40 | 133 | 59.5 | 18.0 |

For details about the materials of the pump components, please see the General Catalogue

TEKNOSPEED VARIABLE SPEED TWIN-PUMP UNITS: SINGLE-PHASE POWER INPUT 1 x (230 ±10%) V 50/60 Hz

| UNIT TYPE* | | Rated P [kW] | Input I [A] | Q Min [l/min] | Q Max [l/min] | H Max [m] | H Min [m] |
|-------------------------------|-----------------------|-----------------|----------------|------------------|------------------|--------------|--------------|
| GTKS20/HMZ HORIZONTAL MULT | I-STAGE WITH PLASTIC | IMPELLERS | | | | | |
| | GTKS20/2HM5ZT | 2 x 0.55 | 7.0 | 40 | 140 | 40.0 | 16.5 |
| | GTKS20/2HM7ZT | 2 x 0.75 | 9.8 | 40 | 140 | 50.8 | 20.5 |
| | GTKS20/4HM5ZT | 2 x 0.55 | 7.0 | 80 | 240 | 28.6 | 11.5 |
| | GTKS20/4HM9ZT | 2 x 1.1 | 13.6 | 80 | 240 | 48.3 | 20.3 |
| GTKS20/CA WITH AISI 304 STEEL | | | | | | | |
| | GTKS20/CA70/33 | 2 x 0.75 | 9.8 | 60 | 160 | 38.8 | 23.9 |
| | GTKS20/CA70/44 | 2 x 1.1 | 13.6 | 60 | 160 | 49.5 | 34.0 |
| GTKS20/SV VERTICAL MULTI-STA | GE WITH AISI 304 STEE | L IMPELLERS | | | | | |
| | GTKS20/SV206F07T | 2 x 0.75 | 9.8 | 40 | 140 | 56.0 | 22.0 |
| | GTKS20/SV208F11T | 2 x 1.1 | 13.6 | 40 | 140 | 75.0 | 30.0 |
| | GTKS20/SV404F07T | 2 x 0.75 | 9.8 | 80 | 266 | 34.0 | 10.0 |
| | GTKS20/SV407F11T | 2 x 1.1 | 13.6 | 80 | 266 | 59.5 | 18.0 |

For details about the materials of the pump components, please see the Pressure Booster Unit Catalogue

[★]Frequency converter connected to a three-phase pump with a 230 V delta connection

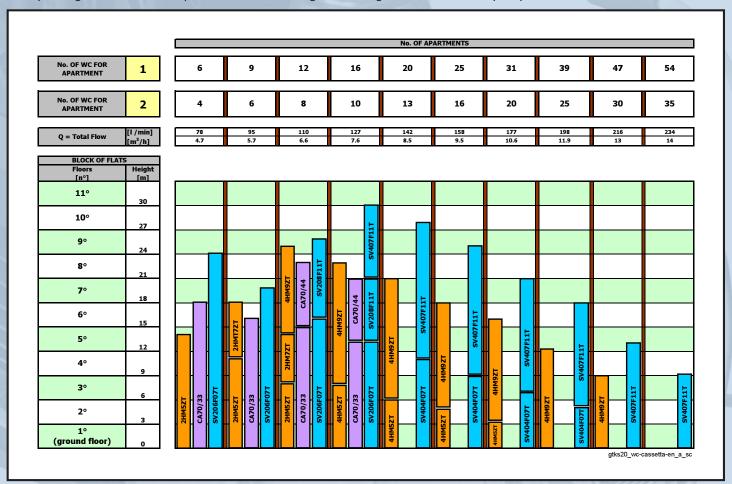
ACCESSORIES

| A | CCESSORY TYPE | DESCRIPTION |
|--|--------------------------|--|
| | TEKNOSPEED HYDRAULIC KIT | For horizontal pumps: TKS/HMZ, TKS/BG, TKS/CEA, TKS/CA Includes 8 litre Hydrotube / Pressure gauge / 5-way connector / Check valve / Pipe extension |
| The same of the sa | PRESSURE GAUGE | Pressure range: 0 ÷ 10 bar Inlet union 1/4" |
| | 8 LITRE HYDROTUBE KIT | For horizontal units: GTKS20/HMZ, GTKS20/CA Includes: PN8 Hydrotube / ball valve |
| | 24 LITRE HYDROTUBE KIT | For vertical units: GTKS20/SV Includes: PN10 Hydrotube / ball valve |
| | FLOAT SWITCH | With 1,5 metre long cable |
| | PROBE UNIT KIT | For twin-pump units GTKS20 Can be fitted in electrical panel Includes: Probe unit (230 V) / three electrodes |

GUIDE TO CHOOSING A GTKS20 PRESSURE BOOSTER UNIT

WC WITH CISTERN

To choose the right pressure booster unit, cross the row corresponding to the number of floors in the apartment block with the column corresponding to the number of apartments in the building (considering the number of WCs per apartment).



EXAMPLE OF HOW TO CHOOSE A PRESSURE BOOSTER UNIT (GTKS20):

FEATURES OF APARTMENT BLOCK:

• TYPE OF WC: WITH CISTERN

N° WC'S PER APARTMENT: 1
N° APARTMENTS: 12

N° FLOORS:

POSSIBLE CHOICES:

UNIT MODEL PUMP TYPE

1. GTKS20/2HM7ZT Horizontal multistage – plastic impeller

4

2. GTKS20/CA70/33 Horizontal with twin-impeller – AISI304 steel impeller

3. GTKS20/SV206F07T Vertical multistage – AISI304 steel impeller

N.B.:

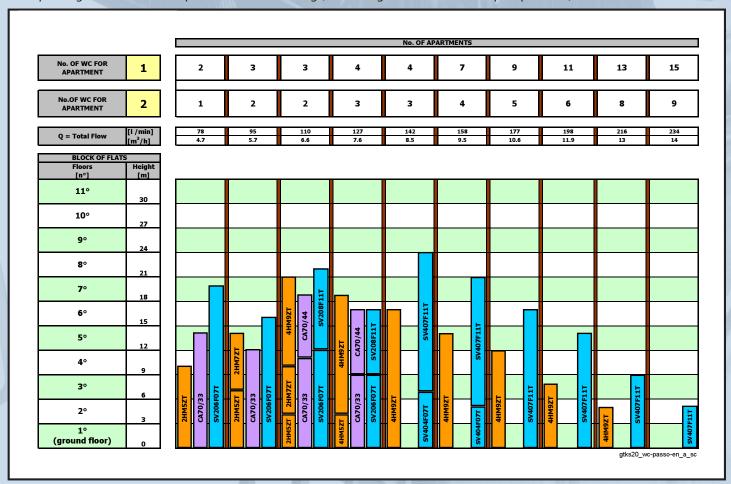
- Useful head at the highest user:
 E
 - 1. 15 m for WCs with cistern
 - 2. 20 m for direct flushing WCs
- Estimated pressure drop in plant: 20% of reference flow head
- Inlet: from tank at the same level as the pressure booster unit

N.B.: For apartment blocks with large numbers of simultaneous requests (e.g.: holiday resorts), increase the number of apartments by at least 20%.

GUIDE TO CHOOSING A GTKS20 PRESSURE BOOSTER UNIT

DIRECT FLUSHING WC'S

To choose the right pressure booster unit, cross the row corresponding to the number of floors in the apartment block with the column corresponding to the number of apartments in the building (considering the number of WCs per apartment).



EXAMPLE OF HOW TO CHOOSE A PRESSURE BOOSTER UNIT (GTKS20):

FEATURES OF APARTMENT BLOCK:

TYPE OF WC :

N° WC'S PER APARTMENT:

N° APARTMENTS:

N° FLOORS:

POSSIBLE CHOICES:

UNIT MODEL

1. GTKS20/4HM9ZT

2. GTKS20/SV407F11T

DIRECT FLUSHING

1

6 (select column with n° apartments = 7)

3

PUMP TYPE

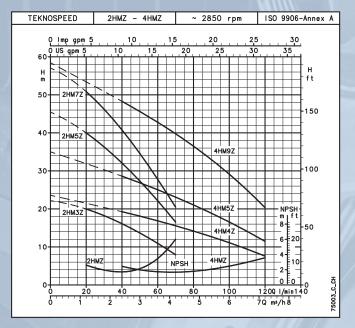
Horizontal multistage – plastic impeller Vertical multistage – AISI304 steel impeller

N.B.:

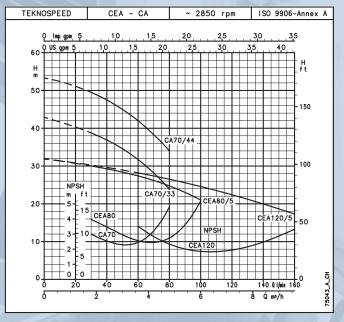
- Useful head at highest user:
 - 1. 15 m for WCs with cistern
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- Estimated pressure drop in plant: 20% of reference flow head
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N.B.: For apartment blocks with large numbers of simultaneous requests (e.g.: holiday resorts), increase the number of apartments by at least 20%.

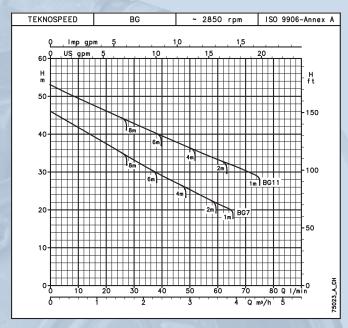
PERFORMANCE CURVES FOR PUMP AT 2850 Hz min-1 50 Hz



| PUMP TYPE | RATED | | | Q = FLOW | | | | | | | | |
|------------|-------|------|---------------------|--|------|------|------|------|------|--------|--------|--------|
| POWE THE | POWER | | l/min 0 | 20 | 30 | 40 | 50 | 60 | 70 | 80 | 100 | 120 |
| | | | m ³ /h 0 | 1,2 | 1,8 | 2,4 | 3 | 3,6 | 4,2 | 4,8 | 6 | 7,2 |
| | kW | HP | H = | H = TOTAL HEAD IN METRES OF WATER COLUMN | | | | | | UMN | | |
| TKS/2HM3ZT | 0,3 | 0,4 | 22,2 | 20,0 | 18,2 | 16,1 | 13,7 | 10,9 | 7,9 | | | |
| TKS/2HM5ZT | 0,55 | 0,75 | 45,5 | 40,0 | 36,3 | 32,1 | 27,3 | 22,1 | 16,5 | | | |
| TKS/2HM7ZT | 0,75 | 1 | 57,0 | 50,8 | 46,2 | 40,8 | 34,6 | 27,8 | 20,5 | | | |
| TKS/4HM4ZT | 0,45 | 0,6 | 23,6 | | | 19,3 | 18,1 | 16,9 | 15,6 | 14,2 | 11,1 | 7,6 |
| TKS/4HM5ZT | 0,55 | 0,75 | 35,0 | | | 28,6 | 26,9 | 25,0 | 23,1 | 21,0 | 16,6 | 11,5 |
| TKS/4HM9ZT | 1,1 | 1,5 | 58,4 | | | 48,3 | 45,6 | 42,8 | 39,8 | 36,5 | 29,1 | 20,3 |
| | | | | | | | | | | tks hn | n-2n50 |) c th |



| PUMP TYPE | RAT | RATED Q = FLOW | | | | | | | | | |
|-------------------|-------|----------------|-------------------------------------|------|------|------|------|------|---------|---------|--------|
| I OWIT TITE | POWER | | l/min 0 | 30 | 40 | 60 | 80 | 100 | 120 | 140 | 160 |
| | | | m ³ /h 0 | 1,8 | 2,4 | 3,6 | 4,8 | 6 | 7,2 | 8,4 | 9,6 |
| | kW | HP | H = TOTAL HEAD IN METRES OF WATER C | | | | | | | LUMN | |
| TKS/CA 70/33 | 0,75 | 1 | 42,9 | 38,8 | 36,9 | 31,7 | 23,9 | | | | |
| TKS/CA 70/44 | 1,1 | 1,5 | 53,3 | 49,5 | 47,5 | 42,0 | 34,0 | | | | |
| TKS/CEA 80/5 | 0,75 | 1 | 32,0 | 30,0 | 29,3 | 27,4 | 24,7 | 21,0 | | | |
| TKS/CEA 120/5 1,1 | | 1,5 | 31,8 | | | 28,2 | 26,5 | 24,6 | 22,4 | 20,0 | 17,3 |
| | | | | | | | | t | ks ca-c | ea-2p50 | 0 b th |



| PUMP TYPE | RA | ΓED | | | | Q = | FLOW | <i>-</i> | | | |
|------------------|------|-----|---------|-------|------|-------|--------|----------|-------|------|------|
| I FOIVIF TITE | POV | VER | l/min 0 | 10 | 20 | 30 | 40 | 50 | 60 | 65 | 70 |
| | | - 1 | | 0.6 | 1.2 | 1.8 | 2.4 | 3 | 3.6 | 3.9 | 4.2 |
| | kW | HP | H = | TOTAL | HEAD | IN ME | TRES O | F WAT | ER CO | LUMN | |
| TKS/BG7 | 0.75 | 1 | 45.4 | | 38.1 | 34.8 | 31.7 | 28.6 | 25.6 | | |
| TKS/BG11 | 1.1 | 1.5 | 53.2 | | 45.8 | 42.5 | 39.5 | 36.5 | 33.5 | 31.9 | 30.3 |
| | | | | | | | | | | | |
| | | | | | | | | | | | |
| | | | | | | | | | | | |
| | | | | | | | | | | | |
| tks bg-2p50 a th | | | | | | | | | | | |

TEKNOSPEED SV2 - SV4 ~ 2850 rpm ISO 9906-Annex A

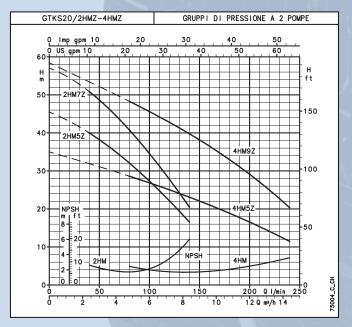
0 Imp (gpm) 10 20 30

H (m) SV208
80 SV208
80 SV208
80 SV208
80 SV208
80 SV407
80 SV407
80 SV407
80 SV404

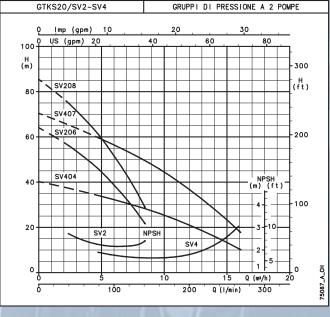
| PUMP TYPE | RA | ΓED | | | | Q = | FLO\ | N | | | |
|---------------|------|-----|---------|-------|------|------|-------|------|--------|------|------|
| PUIVIP I TPE | POV | VER | l/min (| 20 | 30 | 40 | 60 | 70 | 80 | 100 | 133 |
| | | ŗ | | 1.2 | 1.8 | 2.4 | 3.6 | 4.2 | 4.8 | 6.0 | 8.0 |
| | kW | HP | H = | TOTAL | HEAD | IN M | ETRES | OF W | ATER (| OLUN | 1N |
| TKS/SV206F07T | 0.75 | 1 | 64.0 | 56.0 | 51.0 | 45.5 | 31.0 | 22.0 | | | |
| TKS/SV208F11T | 1.1 | 1.5 | 85.5 | 75.0 | 68.0 | 61.0 | 41.5 | 30.0 | | | |
| TKS/SV404F07T | 0.75 | 1 | 40.0 |) | | 34.0 | 30.5 | 28.0 | 26.0 | 21.0 | 10.0 |
| TKS/SV407F11T | 1.1 | 1.5 | 70.0 |) | | 59.5 | 53.0 | 49.0 | 46.0 | 37.0 | 18.0 |

tks_sv-2p50_a_th

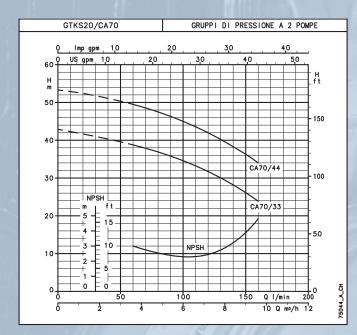
PERFORMANCE CURVES FOR PUMP AT 2850 Hz min⁻¹ 50 Hz



| PUMP TYPE | RAT | ED | | | (| Q = F | LOW | | | | |
|---------------|--------|--------|-----------|--------|------|-------|------|-------|--------|------|------|
| FOIVIF TTFE | POV | VER | l/min 0 | 40 | 60 | 80 | 120 | 140 | 160 | 200 | 240 |
| | | | m^3/h 0 | 2,4 | 3,6 | 4,8 | 7,2 | 8,4 | 9,6 | 12 | 14 |
| | kW | HP | H = TC | OTAL I | HEAD | IN ME | TRES | OF WA | ATER C | OLUN | /IN |
| GTKS20/2HM5ZT | 2x0,55 | 2x0,75 | 45,5 | 40,0 | 36,3 | 32,1 | 22,1 | 16,5 | | | |
| GTKS20/2HM7ZT | 2x0,75 | 2x1 | 57,0 | 50,8 | 46,2 | 40,8 | 27,8 | 20,5 | | | |
| GTKS20/4HM5ZT | 2x0,55 | 2x0,75 | 35,0 | | | 28,6 | 25,0 | 23,1 | 21,0 | 16,6 | 11,5 |
| GTKS20/4HM9ZT | 2x1,1 | 2x1,5 | 58,4 | | | 48,3 | 42,8 | 39,8 | 36,5 | 29,1 | 20,3 |



| PUMP TYPE | RA | ΓED | Q = FLOW | | | | | | | | |
|------------------|--------|-------|----------|------|------|-------|------|------|--------|--------|------|
| POWP TTPE | POV | VER | l/min 0 | 40 | 60 | 80 | 120 | 140 | 160 | 200 | 266 |
| | | | | 2.4 | 3.6 | 4.8 | 7.2 | 8.4 | 9.6 | 12 | 16 |
| | kW | HP | H = T | OTAL | HEAD | IN ME | TRES | OF W | ATER (| OLUN | /N |
| GTKS20/SV206F07T | 2x0.75 | 2x1 | 64.0 | 56.0 | 51.0 | 45.5 | 31.0 | 22.0 | | | |
| GTKS20/SV208F11T | 2x1.1 | 2x1.5 | 85.5 | 75.0 | 68.0 | 61.0 | 41.5 | 30.0 | | | |
| GTKS20/SV404F07T | 2x0.75 | 2x1 | 40.0 | | | 34.0 | 30.5 | 28.0 | 26.0 | 21.0 | 10.0 |
| GTKS20/SV407F11T | 2x1.1 | 2x1.5 | 70.0 | | | 59.5 | 53.0 | 49.0 | 46.0 | 37.0 | 18.0 |
| | | | | | | | | gtk | (s20 s | v-2p50 | a th |

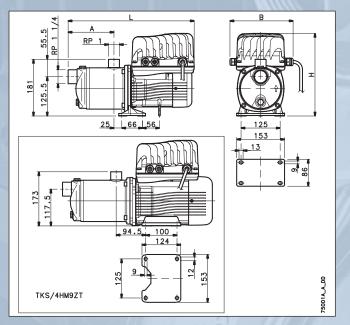


| DUMD TVDE | RAT | ED | Q = FLOW | | | | | | | | |
|-----------------|--------|---|---|---|-----------|-----------|---|--|--|--|--|
| PUIVIP I TPE | POV | VER | l/min 0 | 60 | 80 | 120 | 160 | | | | |
| | | | m³/h 0 | 3.6 | 4.8 | 7.2 | 9.6 | | | | |
| | kW | HP | H = TOTAL HEAD IN METRES OF WATER COLUI | | | | | | | | |
| GTKS20/CA 70/33 | 2x0.75 | 2x1 | 42.9 | 38.8 | 36.9 | 31.7 | 23.9 | | | | |
| GTKS20/CA 70/44 | 2x1.1 | 2x1.5 | 53.3 | 49.5 | 47.5 | 42.0 | 34.0 | | | | |
| | | | | | | | | | | | |
| | | | | | | | | | | | |
| | | PUMP TYPE POW kW GTKS20/CA 70/33 2x0.75 | POWER kW HP GTKS20/CA 70/33 2x0.75 2x1 | PUMP TYPE POWER /min 0 m³/h 0 H = TOTAL GTKS20/CA 70/33 2x0.75 2x1 42.9 | PUMP TYPE | PUMP TYPE | PUMP TYPE POWER /min 0 60 80 120 m³/h 0 3.6 4.8 7.2 | | | | |

gtks20 ca-2p50 a th

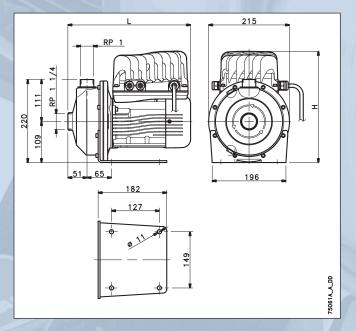
Figures refer to two pumps working at the same time. For just one pump, reduce flow rates by 50%.

DIMENSION AND WEIGHT OF PUMP

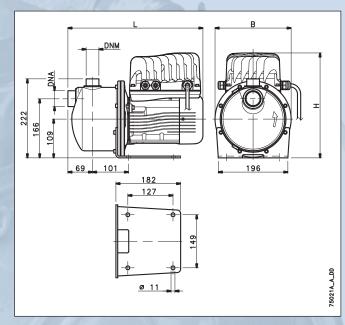


| | DIME | | | | | | | | | | | | | | |
|-----------|----------------------------|---|---|---|---|--|--|--|--|--|--|--|--|--|--|
| | | WEIGHT | | | | | | | | | | | | | |
| Nr STAGES | Α | kg | | | | | | | | | | | | | |
| 2 | 264 | 354 | 202 | 96 | 9,6 | | | | | | | | | | |
| 4 | 264 | 404 | 202 | 146 | 11,4 | | | | | | | | | | |
| 5 | 274 | 435 | 202 | 171 | 14,2 | | | | | | | | | | |
| 2 | 264 | 354 | 202 | 96 | 10,1 | | | | | | | | | | |
| 3 | 264 | 379 | 202 | 121 | 10,9 | | | | | | | | | | |
| 5 | 274 | 479 | 202 | 171 | 14,7 | | | | | | | | | | |
| | 2 4 5 2 3 5 | 2 264 4 264 5 274 2 264 3 264 | 2 264 354 4 264 404 5 274 435 2 264 354 3 264 379 | 2 264 354 202 4 264 404 202 5 274 435 202 2 264 354 202 3 264 379 202 | 2 264 354 202 96 4 264 404 202 146 5 274 435 202 171 2 264 354 202 96 3 264 379 202 121 | | | | | | | | | | |

tks_hm-2p50_b_td

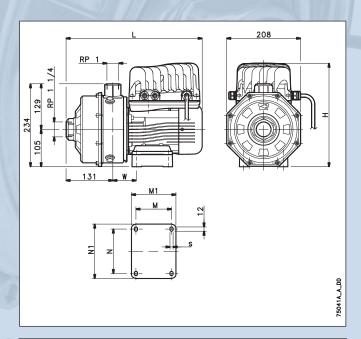


| PUMP TYPE | DIMENSIO | ONS (mm) | WEIGHT |
|---------------|----------|----------|-------------------|
| | L | Н | kg |
| TKS/CEA 80/5 | 325 | 295 | 15 |
| TKS/CEA 120/5 | 370 | 303 | 15.5 |
| | | | |
| | | | tks_cea-2p50_a_td |



| PUMP TYPE | | DIME | NSIONS (n | nm) | | WEIGHT |
|------------|-----|------|-----------|---------|------|--------|
| | Н | L | В | DNA | DNM | kg |
| TKS / BG7 | 295 | 380 | 215 | Rp 11/4 | Rp 1 | 15.5 |
| TKS / BG11 | 303 | 425 | 215 | Rp 11/4 | Rp 1 | 18.5 |
| | | | | | | |
| | | | | | | |
| | | | | | | |
| | | | | | | |

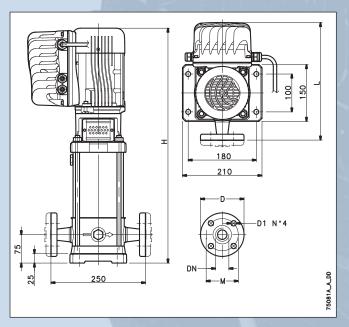
tks_bg-2p50_a_td



| N | PUMP TYPE | | DIMENSIONS (mm) | | | | | | | | | |
|---|--------------|-----|---------------------------------|-----|-----|-----|-----|---|----|------|--|--|
| | | Н | H L M M1 N N1 S W | | | | | | | kg | | |
| | TKS/CA 70/33 | 291 | 383 | 90 | 113 | 112 | 135 | 7 | 66 | 17.5 | | |
| | TKS/CA 70/44 | 299 | 420 | 100 | 125 | 125 | 153 | 9 | 76 | 21 | | |
| | | | | | | | | | | | | |

tks_ca-2p50_a_td

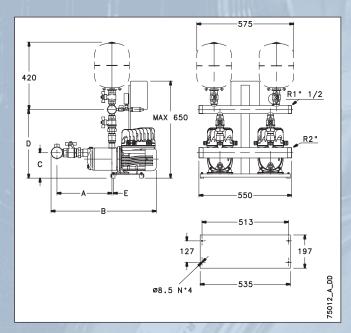
DIMENSION AND WEIGHT OF PUMP



| PUMP TYPE | | | DIME | NSION | (mm) | | WEIGHT |
|---------------|-----|-----|------|-------|------|---------------|--------|
| | Н | L | D | D1 | M | DN | kg |
| TKS/SV206F07T | 621 | 311 | 115 | 14 | 85 | DN25 (Rp1) | 24.5 |
| TKS/SV208F11T | 708 | 319 | 115 | 14 | 85 | DN25 (Rp1) | 25.5 |
| TKS/SV404F07T | 571 | 311 | 140 | 18 | 100 | DN32(Rp1 1/4) | 23.5 |
| TKS/SV407F11T | 683 | 319 | 140 | 18 | 100 | DN32(Rp1 1/4) | 25.5 |

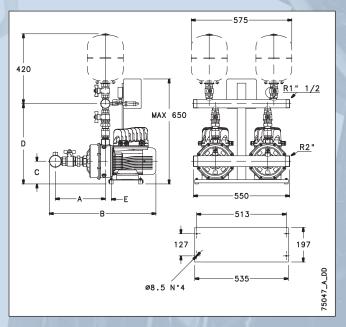
tks_sv-2p50_a_td

DIMENSION AND WEIGHT OF UNITS

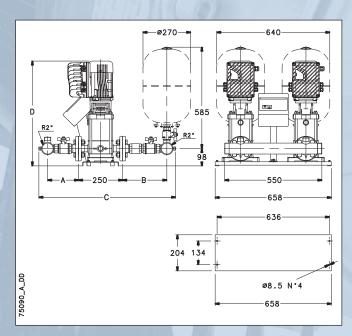


| PUMP TYPE | | DIMENSIONS (mm) | | | | | | | | |
|-----------------|--------|-----------------|-----|-----|-----|------|----|--|--|--|
| | PUMP | Α | В | c | D | E | kg | | | |
| GTKS20 / 2HM5ZT | 2HM5ZT | 306 | 594 | 149 | 419 | 28 | 37 | | | |
| GTKS20 / 2HM7ZT | 2HH7ZT | 331 | 625 | 149 | 419 | 28 | 48 | | | |
| GTKS20 / 4HM5ZT | 4HM5ZT | 281 | 569 | 149 | 486 | 28 | 47 | | | |
| GTKS20 / 4HM9ZT | 4HM9ZT | 331 | 670 | 141 | 478 | 97,5 | 49 | | | |

gtks20_hm-2p50_b_td



| PUMP TYPE | | DIMENSIONS (mm) | | | | | | | |
|---------------------|---------|-----------------|-----|-----|-----|----|----|--|--|
| TOWN TITE | PUMP | Α | В | C | D | E | kg | | |
| GTKS20/CA70/33 | CA70/33 | 291 | 574 | 128 | 472 | 39 | 43 | | |
| GTKS20/CA70/44 | CA70/44 | 291 | 612 | 128 | 472 | 79 | 43 | | |
| | | | | | | | | | |
| | | | | | | | | | |
| gtks20_ca-2p50_a_td | | | | | | | | | |



| | PUMP TYPE | | DIMENSIONS (mm) | | | | WEIGHT |
|--|------------------|-----------|-----------------|-----|-----|-----|--------|
| | | PUMP | Α | В | С | D | kg |
| | GTKS20/SV206F07T | SV206F07T | 125 | 195 | 655 | 644 | 50 |
| | GTKS20/SV208F11T | SV208F11T | 125 | 195 | 655 | 731 | 52 |
| | GTKS20/SV404F07T | SV404F07T | 130 | 200 | 665 | 594 | 49 |
| | GTKS20/SV407F11T | SV407F11T | 130 | 200 | 665 | 706 | 51 |

gtks20_sv_2p50_a_td

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