

Series description: Wilo-Sub TWU 3 HS



TWU 3-..-HS-ECP TWU 3-..-HS-I

Desian

Submersible pump, multistage

Application

- For private water supply from boreholes, wells and rainwater storage tanks
- For domestic water supply, sprinkling and irrigation
- For pumping water without long-fibre and abrasive constituents

Type key

e.g.	Wilo sub TWU 3-0305-HS-E-CP
TWU	Submersible pump
3	Diameter of the hydraulic unit in inches ["]
03	Nominal volume flow [m³/h]
05	Number of hydraulic stages
HS	High-speed version
E	Frequency converter version
	E = external frequency converter
	I = external frequency converter
СР	Control function
	CP = constant pressure control
	without = fixed speed with up to 8400 rpm

Special features/product advantages

Expanded flow capacity by increased rotation speed (up to 8400 rpm)

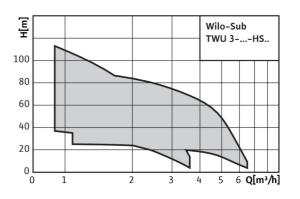
- Rewindable motor
- Integrated non-return valve
- . Parts that come in contact with fluids are corrosion-free
- Including frequency converter (HS-E...: external, installed in the piping; HS-I...: built into the motor)
- Vertical and horizontal installation possible

Technical data

- Submersible pump:
- Power supply:
 - HS-E...: 1~230 V, 50/60 Hz (connection to the AC mains supply by a frequency converter)

HS-I...: 1~230 V, 50/60 Hz (direct connection to the AC mains supply) Immersed operating mode: S1

- Fluid temperature: 3-35 °C
- Minimum motor flow: 0.08 m/s



motralec

4 rue Lavoisier . ZA Lavoisier . 95223 HERBLAY CEDEX Tel.: 01.39.97.65.10 / Fax.: 01.39.97.68.48 Demande de prix / e-mail : service-commercial@motralec.com

www.motralec.com

Equipment/function

- Multistage submersible-motor pump with radial impellers
- Integrated non-return valve
- Including frequency converter (HS-E...: external, HS-I...: built-in)
- Thermal motor protection built into the frequency converter •

Materials

- Hydraulic housing: Stainless steel 1.4301
- Impellers: Polycarbonate
- Hydraulics shaft: 1.4104 stainless steel
- Motor housing: Stainless steel 1.4301
- Motor shaft: 1.4305 stainless steel •

Description/design

Submersible pump for vertical or horizontal installation. Hydraulics

Multistage submersible pump with radial impellers with sectional construction. Integrated non-return valve. All parts in contact with the fluid are made of corrosion-free materials. Motor

Corrosion-free asynchronous motor for connection to the frequency converter supplied (HS-E...) or for direct connection to the mains power supply (HS-I...). Rewindable oil-filled motor with self-lubricating bearings, designed for high speeds up to 8400 rpm. Frequency converter

External frequency converter or frequency converter integrated within the motor, for operation of the pump at speeds up to 8400 rpm, including the following functions:

Soft starter

www.wilo.co.uk

• Undervoltage, overvoltage and short-circuit protection

Thermal overload protection of the motor and the frequency converter • The version "HS-E..." with external frequency converter offers the

- following additional equipment features: Control function "CP": Constant pressure
- Avoidance of frequent switching (cycling) by leakage monitoring
- . Dry-running protection with automatic reset
- Change of direction of rotation
- Setting for max. flow and target pressure
- Pressure is shown on the display
- Settings, operating statuses and error messages are shown by LEDs or on the display.

The frequency converter always must be installed outside the fluid where it will be protected against overflows!

Control function "CP": Constant pressure



Series description: Wilo-Sub TWU 3 HS

- Max. sand content: 50 g/m³
- Max. number of starts: 30 /h
- Max. immersion depth: 150 m
- Protection class: IP 58
- Pressure connection:Rp 1
- Frequency converter for version "HS-E...": Mains connection: 1~230 V, 50/60 Hz
- Output: 3~230 V/max.140 Hz/max.2.2 kW
- Fluid temperature: 3-50 °C
- . Max. pressure: 8 bar
- Protection class: IP X5
- Connection: G 1¼

Operation with the frequency converter means the rotation speed of the unit is adapted to the current water requirements automatically. As a result, the submersible pump always delivers a constant pressure. Cooling

The motor is cooled by the fluid. The motor must always be operated in submerged state. The limit values for the max. fluid temperature and the minimum flow rate must not be exceeded.

In cases of vertical installation, a cooling jacket must be provided depending on the diameter of the bore. In cases of horizontal installation, a cooling jacket must always be provided.

The external frequency converter is also cooled by the fluid. For this the frequency converter must be installed directly in the piping outside the fluid (overflow-proof).

Configuration

- No suction mode is possible with these units!
- The unit must be fully immersed in water during operation.
- An adapter of Rp 1 to G 1¼ in required for installation. This must be • provided on site!

- Scope of deliveryHydraulics + motor ready assembled
- Frequency converter
- 1.75 m connecting cable approved for potable water (cross-section: 4x1.5 mm²)
- Installation and operating instructions •

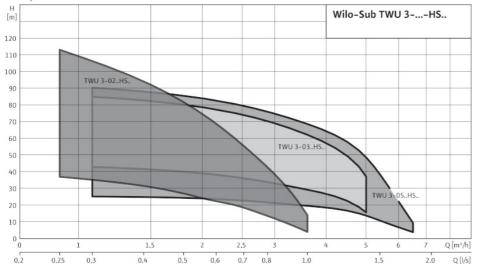
Options

Special cable lengths on request



Duty chart: Wilo-Sub TWU 3 HS

Pump curves



1~230 V, 50 Hz, p = 1 kg/dm3, v = 1x10-6 m2/s, ISO 9906 Annex A, η = pump efficiency



Equipment/function: Wilo–Sub TWU 3 HS

NEMA connection.Standardised connection.Standardised connection.Integrated non-return valve.Without non-return valve.Single-phase AC motor.Dhee-phase motor.Direct activation.Star-delta activation.Star-delta activation.Star-delta activation.Motor with cast stator.Rewindable motor.Oil motor filling.Oil motor filling.Vater-glycol motor filling.Yader-glycol motor filling.Vater-glycol motor filling.Vater-glycol motor filling.Potable water motor filling.Vater-glycol	Design	
Standardised connection-Integrated non-return valve-Without non-return valve-Single-phase AC motor-Three-phase motor-Direct activation-Star-detta activation-Star-detta activation-Rewindable motor-Oil motor filling-Water-glycel motor filling-Potable water motor filling, Potable water motor filling, Potable water motor filling, Potable water fillingPotable water motor filling, Potable water filling-Potable water filling potable system-Integrated filling potaction system-Potable water filling potable system-<	Design	
Integrated non-return valve • Without non-return valve - Single-phase AC motor • Three-phase motor - Direct activation - Star-deta activation - Star-deta activation - Coperation - Motor with cast stator - Revindable motor - Oil motor filling - Water-glycol motor filling - Motor preasembled - Application - Equipment/function - Fequipment/function - Motor temperature monitoring, PT100 - Notor temperature monitoring, PT100 - Capacito bx for 1-230 V - Dry-running protection system - Integratel fightning protection -		
Without non-return valve-Single-phase AC motor-Three-phase motor-Direct activation-Star-deta activation-Star-deta activation-Koor with cast stator-Rewindable motor-Oil motor filling-Water-glyco motor filling-Vater-glyco motor filling-Vater-glyco motor filling-Vater-glyco motor filling-Potable water motor filling-Vater-glyco motor filling-Potable water motor filling-Potable water motor filling-Potable water motor filling-Potable water motor filling-Motor with results-Potable water motor filling-Potable water motor filling-Potable water motor filling-Vater-glyco motor filling-Vater-glyco motor filling-Potable water motor filling-Potable water motor filling-Vertical installation-Potable water monitoring.PT100-Motor temperature monitoring.PT00-Pot-running protection system-Itergrated light ning protection-Potable staft for horizontal installation-Potable staft for horizontal installation-Non-return walve-Potable staft for horizontal installation-Non-return walve-Potable staft for horizontal installation- </td <td></td> <td></td>		
Single-phase AC motor.Three-phase motor-Direct activation-Star-delta activation-FC operation-Motor with cast stator-Rewindable motor-Oil motor filling-Oil motor filling-Vatae-glycol motor filling-Potable water motor filling-Motor yeasembled-Application-Potable water motor filling-Potable motor-Motor tilling-Potable water motor filling-Potable motor filling motor filling- <tr< td=""><td></td><td>•</td></tr<>		•
Three-phase motor-Direct activation-Star-delta activation-Star-delta activation-Star-delta activation-Coll activation-Revindable motor-Oll motor filling-Oll motor filling-Water-glycol motor filling-Water-glycol motor filling-Potable water motor filling-Neter-glycol motor filling-Potable water monitoring. PTO-Potate monitoring. PTO-Capactor box for 1-230 V-Port-running protection system-Integrated lightning protection-Reversprese-Reversprese-Potomatic for horizontal installation-Non-eturn valve-Porter box-Non-eturn valve-Presers shroud-Potable box-Potable box-Potable box-Potable box-Potable box-Potable box <td></td> <td>-</td>		-
Direct activation•Star-deta activation-FC operation-Motor with cast stator-Rewindable motor-Oil motor filling-Water-glycol motor filling-Potable water motor filling-Potable water motor filling-Hydraulics/motor preassembled-Application-Vertical installation-Vertical installation-Vertical installation-Motor temperature monitoring, PT100-Motor temperature monitoring, PT00-Motor temperature monitoring, PT00-Dy-running protection system-Integrated lightning protection-Resorted-Cooling lacket-Non-return valve-Pressue shroud-Materials-Purp housing (Special version)-Integrate lightning protection-Materials-Motor housing (special version)-Materials-Materials-Materials-Materials-Materials-Materials-Materials-Materials-Materials-Materials-Materials-Materials-Materials-Materials-Materials-Materials-Materials-Materia		•
Star-delta activation-FC operationMotor with cast statorRewindable motorOil motor fillingWater-glycol motor fillingPotable water motor fillingPotati installationVertical installationVertical installationPotaperature monitoring, PTCMotor temperature monitoring, PTCCapacitor box for 1-230 VDry-running protection systemIntegrated lightning protection systemIntegrated lightning protection systemNon-return valvePortonul systemNon-return valvePressure shroudNon-return valvePump housing (special version)ImpellerPalaticImpeller (special version)Impeller (special version)Impeller (special version)Potatic steel <td>•</td> <td>-</td>	•	-
FC operation•Motor with cast stator-Rewindable motor-Oil motor filling-Oil motor filling-Water-glyco motor filling-Potable water motor filling-Potable water motor filling-Hydraulics/motor preassembled-Application-Vertical installation-Vertical installation-Motor temperature monitoring, PT100-Motor temperature monitoring, PT0-Capacitor box for 1-230 V-Dry-running protection system-Integrated lightning protection-Accessories-Bearing brackets for horizontal installation-Non-return valve-Pressure Shoud-Pump housing (Special version)-Pump housing (special version)-Impeller (special version) <t< td=""><td>Direct activation</td><td>•</td></t<>	Direct activation	•
Motor with cast stator-Rewindable motor-Oil motor filling-Water-glycol motor filling-Potable water motor filling-Potable water motor filling-Hydraulics/motor preassembled-Application-Vertical installation-Vertical installation-Motor temperature monitoring, PT100-Motor temperature monitoring, PT100-Motor temperature monitoring, PT100-Capactor box for 1-230 V-Dry-running protection system-Integrated lightning protection-Recessories-Persure should-Non-return valve-Pressure should-Pump housing (special version)-Pump housing (special version)-Impeller (special version)-Impeller (special version)-Motor housing-Motor housing-Notor		-
Rewindable motor•Oil motor filling•Water-glycol motor filling-Potable water motor filling-Potable water motor filling-Potable water motor filling-Mutra ulics/motor pressembled-Application-Vertical installation•Vertical installation-Notor temperature monitoring.PT100-Motor temperature monitoring.PT00-Motor temperature monitoring.PT0-Capacitor box for 1-230 V-Dry-running protection system-Notareted lightning protection system-Accessories-Earling brackets for horizontal installation-Cooling jacket-Non-return walve-Presure shoud-Pump housing (special version)-Pump housing (special version)-ImpellerPlasticImpellerPlasticImpeller (special version)-Motor housingStainless steel	FC operation	•
Oli motor filling•Water-glycol motor filling-Potable water motor filling-Hydraulics/motor preassembled•Application•Horizontal installation•Vertical installation•Vertical installation•Motor temperature monitoring, PT100-Motor temperature monitoring, PT100-Capacitor box for 1~230 V-Dry-running protection system-Integrated lightning protection system-Reason between the system system-Cooling jacket for horizontal installation-Non-return valve-Pressure shroud-Pump housing (special version)-Pump housing (special version)-ImpellerPasticImpeller (special version)-Motor housingStainless steel	Motor with cast stator	-
Water-glycol motor filling-Potable water motor filling-Hydraulics/motor preassembled-Application-Horizontal installation-Vertical installation-Motor temperature monitoring, PT100-Motor temperature monitoring, PT00-Motor temperature monitoring, PT00-Objection system-Integred lightning protection system-Integred lightning protection system-Cooling jacktoptionalNon-return valve-Pressure shroud-Metricals-Pump housing (special version)-Pump housing (special version)-ImpellerPlasticImpellerPlasticMotor housing-Motor hous	Rewindable motor	•
Potable water motor filling-Hydraulics/motor preassembled-Application-Horizontal installation-Vertical installation-Equipment/function-Equipment/function-Motor temperature monitoring, PT100-Motor temperature monitoring, PTC-Capacitor box for 1-230 V-Dry-running protection system-Integrated lightning protection-Rearing brackets for horizontal installation-Cooling jacket-Non-return valve-Pressure shroud-Pump housing (special version)Stainless steelPump housing (special version)-Pump fousing (special version)-Motor housingStainless steel	Oil motor filling	•
Hydraulics/motor preassembled•ApplicationHorizontal installation•Vertical installation•Equipment/function-Equipment/function-Motor temperature monitoring, PT100-Motor temperature monitoring, PT0-Capacitor box for 1-230 V-Dry-running protection system-Integrated lightning protection-Accessories-Bearing brackets for horizontal installation-Cooling jacketoptionalNon-return valve-Pressure shroud-Pump housing (special version)Stainless steelPump housing (special version)-ImpellerPlasticImpeller (special version)-Motor housingStainless steel	Water-glycol motor filling	-
ApplicationHorizontal installation•Vertical installation•Vertical installation•Equipment/function-Motor temperature monitoring, PT100-Motor temperature monitoring, PTC-Capacitor box for 1-230 V-Dry-running protection system-Integrated lightning protection-Bearing brackets for horizontal installation-Cooling jacketoptionalNon-return valve-Pressure shroud-Materials-Pump housing (special version)-Pump housing (special version)-Impeller (special version)-Motor housing-Motor housing- <td>Potable water motor filling</td> <td>-</td>	Potable water motor filling	-
Horizontal installation•Vertical installation•Equipment/function-Motor temperature monitoring, PT100-Motor temperature monitoring, PTC-Capacitor box for 1~230 V-Dry-running protection system-Integrated lightning protection-Recessories-Bearing brackets for horizontal installation-Cooling jacketoptionalNon-return valve-Pressure shroud-Materials-Pump housing (special version)-Pump lousing (special version)-Impeller (special version)-Motor housingStainless steelMotor housing-Motor housing <td>Hydraulics/motor preassembled</td> <td>•</td>	Hydraulics/motor preassembled	•
Vertical installation•Equipment/function·Motor temperature monitoring, PT00-Motor temperature monitoring, PTC-Capacitor box for 1~230 V-Dry-running protection system-Integrated lightning protection-Rearing brackets for horizontal installation-Cooling jacketoptionalNon-return valve-Pressure shroud-Matterials-Pump housing (special version)-ImpellerPlasticImpeller (special version)-Motor housingStainless steelMotor housingStainless steel	Application	
Equipment/functionMotor temperature monitoring, PT100-Motor temperature monitoring, PTC-Capacitor box for 1~230 V-Dry-running protection system-Integrated lightning protection-Recessories-Bearing brackets for horizontal installation-Cooling jacketoptionalNon-return valve-Pressure shroud-Materials-Pump housing (special version)-ImpellerPlasticImpeller (special version)-Motor housing-Motor housing-	Horizontal installation	•
Motor temperature monitoring, PT100-Motor temperature monitoring, PTC-Capacitor box for 1~230 V-Dry-running protection system-Integrated lightning protection-Accessories-Bearing brackets for horizontal installation-Cooling jacket-Non-return valve-Pressure shroud-Pump housing (special version)-Pump housing (special version)-ImpellerPlasticImpeller (special version)-Motor housingStainless steelMotor housing-Motor housing-Motor housingStainless steelImpeller (special version)-Motor housingStainless steelMotor housing-Motor housingStainless steel	Vertical installation	•
Motor temperature monitoring, PTC-Capacitor box for 1~230 V-Dry-running protection system-Integrated lightning protection-Accessories-Bearing brackets for horizontal installation-Cooling jacketoptionalNon-return valve-Pressure shroud-Materials-Pump housing (special version)-ImpellerPlasticImpeller (special version)-Motor housing-Motor hou	Equipment/function	
Capacitor box for 1~230 V-Dry-running protection system-Integrated lightning protection-Accessories-Bearing brackets for horizontal installation-Cooling jacketoptionalNon-return valve-Pressure shroud-Materials-Pump housing (special version)Stainless steelImpeller (special version)-Motor housing-Motor housing-Motor housingStainless steel	Motor temperature monitoring, PT100	-
Dry-running protection system-Integrated lightning protection-Accessories-Bearing brackets for horizontal installation-Cooling jacketoptionalNon-return valve-Pressure shroud-Pressure shroud-Pump housingStainless steelPump housing (special version)-ImpellerPlasticImpeller (special version)-Motor housingStainless steel	Motor temperature monitoring, PTC	-
Integrated lightning protection-AccessoriesBearing brackets for horizontal installation-Cooling jacketoptionalNon-return valve-Pressure shroud-MaterialsPump housing (special version)Stainless steelPumpler-Impeller (special version)-Motor housingStainless steelMotor housingStainless steel	Capacitor box for 1~230 V	-
AccessoriesBearing brackets for horizontal installation-Cooling jacketoptionalCooling jacket-Non-return valve-Pressure shroud-Materials-Pump housing (special version)Stainless steelPumpleler-Impeller (special version)-Motor housingStainless steelMotor housingStainless steel	Dry-running protection system	-
Bearing brackets for horizontal installation–Bearing brackets for horizontal installationoptionalCooling jacketoptionalNon-return valve–Pressure shroud–Pressure shroud–MaterialsPump housing (special version)Stainless steelImpeller (special version)–Impeller (special version)–Motor housingStainless steel	Integrated lightning protection	-
Cooling jacketoptionalNon-return valve-Pressure shroud-MaterialsPump housing (special version)Stainless steelPumpleler-Impeller (special version)-Motor housingStainless steel	Accessories	
Non-return valve-Pressure shroud-Materials-Pump housing (special version)Stainless steelPump lousing (special version)-Impeller (special version)-Impeller (special version)-Motor housingStainless steel	Bearing brackets for horizontal installation	-
Pressure shroud-MaterialsPump housingStainless steelPump housing (special version)-ImpellerPlasticImpeller (special version)-Motor housingStainless steel	Cooling jacket	optional
MaterialsPump housingStainless steelPump housing (special version)-ImpellerPlasticImpeller (special version)-Motor housingStainless steel	Non-return valve	-
Pump housingStainless steelPump housing (special version)-ImpellerPlasticImpeller (special version)-Motor housingStainless steel	Pressure shroud	-
Pump housing (special version) – Impeller Plastic Impeller (special version) – Motor housing Stainless steel	Materials	
Pump housing (special version) – Impeller Plastic Impeller (special version) – Motor housing Stainless steel	Pump housing	Stainless steel
Impeller Plastic Impeller (special version) - Motor housing Stainless steel		-
Impeller (special version) – Motor housing Stainless steel		Plastic
Motor housing Stainless steel	•	
5		Stainless steel
	Motor housing (special version)	

• = available, = not available



Product list: Wilo-Sub TWU 3 HS

Pump type	Mains connection	Max. volume flow	Max. delivery head	Motor diameter	Pressure connection	Nominal motor power	Art no.
		Q _{max} /m ³ /h	H _{max} /m	ø /"		P ₂ /kW	
TWU 3-0202-HS-E-CP	1~230 V, 50/60 Hz	3	43	3	Rp 1	0.60	6064266
TWU 3-0202-HS-I	1~230 V, 50/60 Hz	3	43	3	Rp 1	0.60	6064276
TWU 3-0204-HS-E-CP	1~230 V, 50/60 Hz	3	85	3	Rp 1	0.90	6064267
TWU 3-0204-HS-I	1~230 V, 50/60 Hz	3	85	3	Rp 1	0.90	6064277
TWU 3-0205-HS-E-CP	1~230 V, 50/60 Hz	3	107	3	Rp 1	0.90	6064268
TWU 3-0205-HS-I	1~230 V, 50/60 Hz	3	107	3	Rp 1	0.90	6064278
TWU 3-0206-HS-E-CP	1~230 V, 50/60 Hz	3	128	3	Rp 1	1.50	6064269
TWU 3-0206-HS-I	1~230 V, 50/60 Hz	3	128	3	Rp 1	1.50	6064279
TWU 3-0302-HS-E-CP	1~230 V, 50/60 Hz	5	46	3	Rp 1	0.60	6062862
TWU 3-0302-HS-I	1~230 V, 50/60 Hz	5	46	3	Rp 1	0.60	6064280
TWU 3-0303-HS-E-CP	1~230 V, 50/60 Hz	5	69	3	Rp 1	0.90	6062863
TWU 3-0303-HS-I	1~230 V, 50/60 Hz	5	69	3	Rp 1	0.90	6064281
TWU 3-0304-HS-E-CP	1~230 V, 50/60 Hz	5	91	3	Rp 1	1.50	6062864
TWU 3-0304-HS-I	1~230 V, 50/60 Hz	5	91	3	Rp 1	1.50	6064282
TWU 3-0501-HS-E-CP	1~230 V, 50/60 Hz	6	26	3	Rp 1	0.60	6062865
TWU 3-0501-HS-I	1~230 V, 50/60 Hz	6	26	3	Rp 1	0.60	6064283
TWU 3-0503-HS-E-CP	1~230 V, 50/60 Hz	6	75	3	Rp 1	0.90	6062866
TWU 3-0503-HS-I	1~230 V, 50/60 Hz	6	75	3	Rp 1	0.90	6064284
TWU 3-0504-HS-E-CP	1~230 V, 50/60 Hz	6	96	3	Rp 1	1.50	6062867
TWU 3-0504-HS-I	1~230 V, 50/60 Hz	6	96	3	Rp 1	1.50	6064285

4 rue Lavoisier . ZA Lavoisier . 95223 HERBLAY CEDEX Tel. : 01.39.97.65.10 / Fax. : 01.39.97.68.48 Demande de prix / e-mail : service-commercial@motralec.com www.motralec.com