



# TV SUBMERSIBLE 8", 10" & 12" PUMPS FOR DEEP WELLS

50 Hz

Flygt



**ITT Industries**  
*Engineered for life*

# DEEP WELLS, BIG FLOWS, HIGH HEADS!

Designed for clear, non-aggressive water – with options for sea and thermal water – the TV pumps are built to handle flows of up to 580 m<sup>3</sup>/h. Or heads up to 450 m. Normally with water temperatures to 25°C, or up to 65°C on request. With motor powers

up to 400 kW and normally a 3-phase power supply 400 V, 50 Hz. Or other voltages or frequencies on request.

Almost maintenance-free and built for reliability and availability the TV pumps are used in applications like:

- Water supply
- Booster systems
- Turf and irrigation
- Lowering of the ground-water level
- Draining and water-level control
- Industrial cooling-water supply, flush water systems
- Firefighting, sprinkler systems.

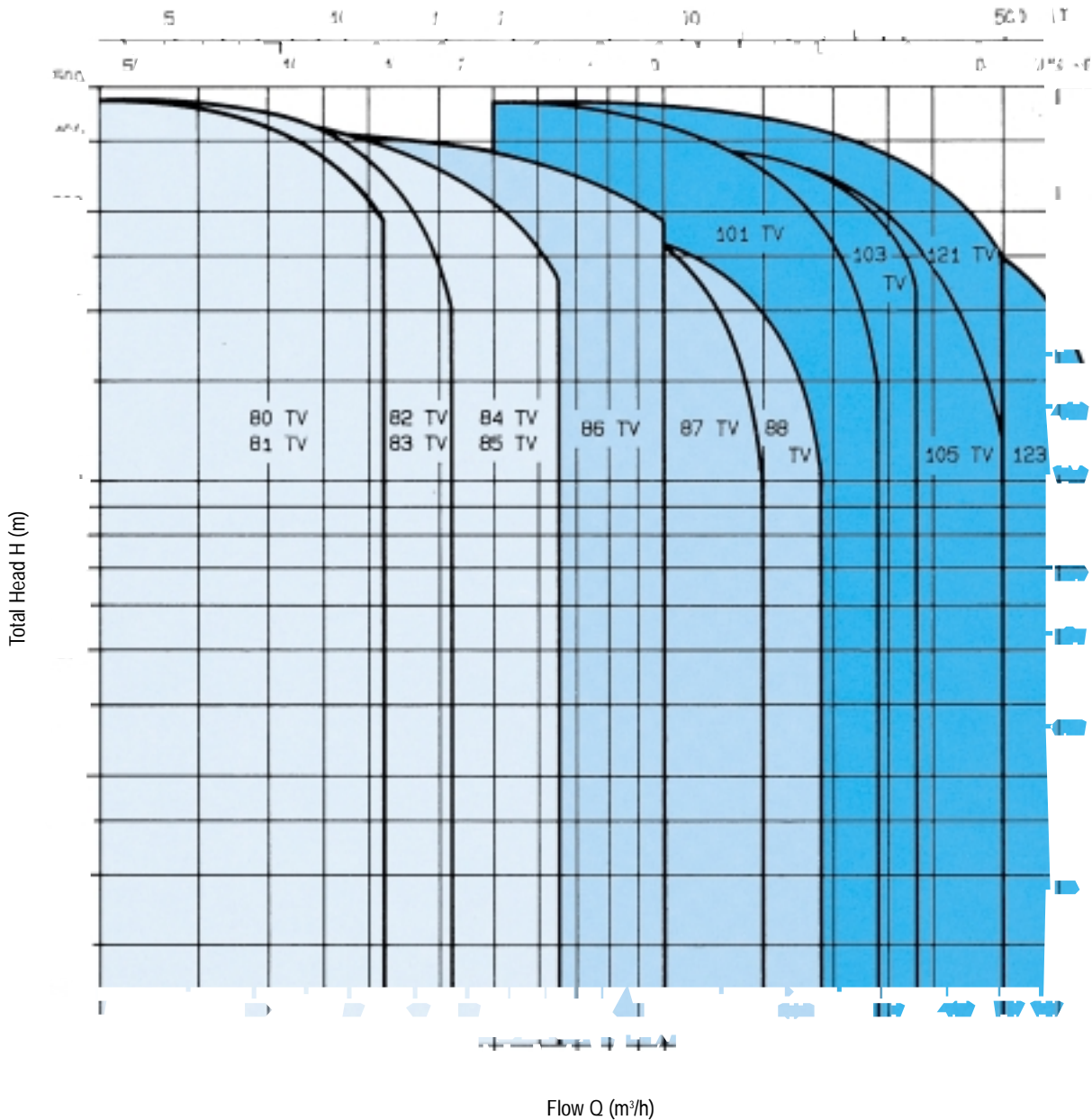
## Sizes

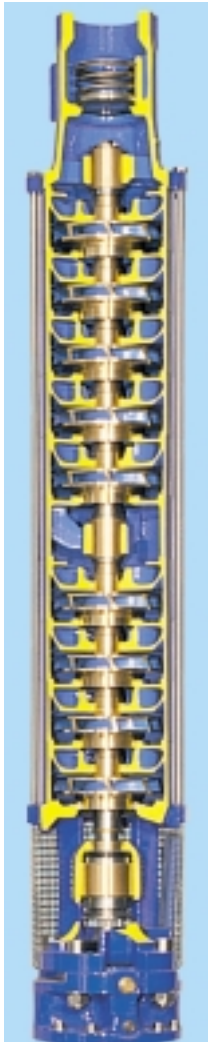
- 80-88 TV, 8" to 10" wells
- 101-105 TV, 10" to 12" wells
- 121-123 TV, 12" to 14" wells.

## Long time performance

- Heavy duty cast design
- Short bearing distances; low friction bearing design
- Proven motor technology
- Material action dependent on application.

Designed and developed in accordance with international standards to fit customer requirements.





## SIZES 80-85 TV WITH RADIAL HYDRAULICS

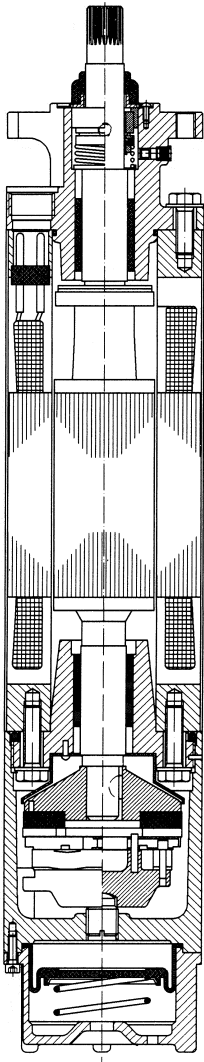
- Discharge casing with threaded connection. Flange adapter optional.
- Built-in check valve as standard; can be deleted, on request.
- Stage casing 80-83 TV with separate and 84-85 TV with integrated diffusers. Low loss design for optimum flow conditions.
- Bronze guide bearing with sleeve of stainless steel.
- Closed radial impellers.
- Impellers keyed to shaft.
- Shaft made from stainless steel.
- Suction casing designed for optimum flow approach to first stage.
- Suction strainer to prevent clogging.
- Coupling shrunk onto pump shaft.
- Motor adapters 6" and 8" motors according to NEMA standard with splined shaft. Additional axial upthrust bearing in the suction casing of the pump.



## SIZES 86-123 TV WITH SEMIAXIAL HYDRAULICS

- Discharge casing with threaded connection. Flange adapter optional.
- Built-in check valve as standard; can be deleted, on request.
- Stage casing and diffuser cast in one piece. Low loss construction for optimum flow conditions, stages bolted together.
- Guide bearings of wear resistant rubber for each stage.
- Closed semiaxial flow impellers.
- Impeller fixed by conical locating sleeves with securing nuts.
- Shaft of stainless steel.
- Suction casing designed for optimum flow approach to first stage.
- Suction strainer to prevent clogging.
- Coupling shrunk onto pump shaft.
- Motor adapters
  - 6" and 8" motors according to NEMA standard. Additional axial upthrust bearing in the suction casing of the pump.
  - 10" and 12" motors with cylindrical shaft for keyed connection.
  - pump coupling and motor shaft secured by grub screw.

## SUBMERSIBLE MOTORS, SEMI WET DESIGN

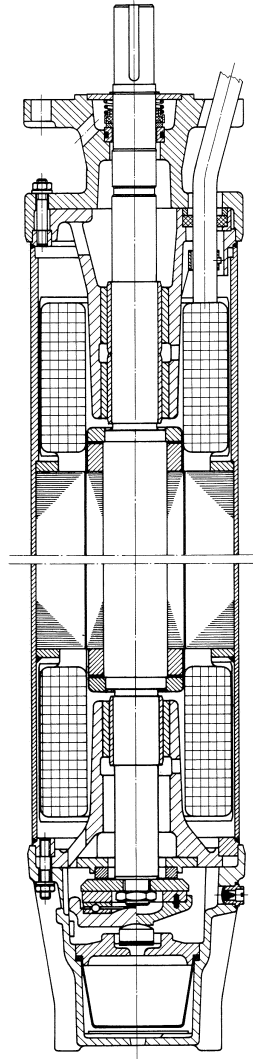


Design	Submersible motor	Performance range
HF	6"	4 - 45 kW
KF	8"	30 - 150 kW

- Motor connection according to NEMA standard.
- Replaceable motor cable with water proof plug connection.
- Shaft sealing by mechanical seal and additional sand protection on the shaft.
- Radial bearing water lubricated slide bearing type.
- Motor space with water filling. The water-filled motor space is hermetically separated from the stator with casing tube.
- Winding cast resin embedded.
- Thrust pad bearing design to take the axial forces of the pump rotor.
- Rubber diaphragm to balance volume variations of the motor liquid.

Starting direct or star-delta, softstarter. Speed control via frequency inverters is possible.

## SUBMERSIBLE MOTORS, WET DESIGN



Design	Submersible motor	Performance range
HMC	6"	4 - 45 kW
KMC	8"	37 - 92 kW
NMC	10"	92 - 150 kW
PMC	12"	185 - 300 kW
RP	14"	280 - 400 kW

- 6" and 8" motor connection (with motor shaft) according to NEMA standard. 10"-14" motor with shaft for keyed connection.
- Waterproof cable connection.
- Shaft sealing by double radial shaft seals, optional design with mechanical seal. Additional sand protection on the shaft.
- Radial bearing, water-lubricated slide bearing.
- Motor entirely filled with water.
- Winding specially isolated and renewable.
- Thrust pad bearing design to take the axial forces of the pump rotor.
- Rubber diaphragm to balance volume variations of the motor liquid.

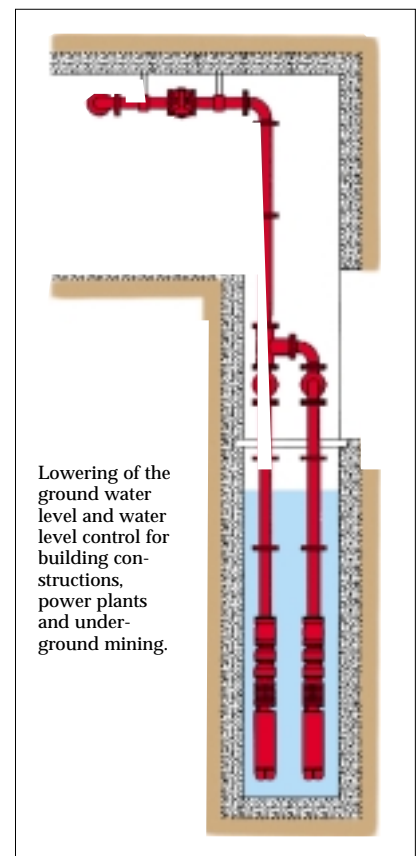
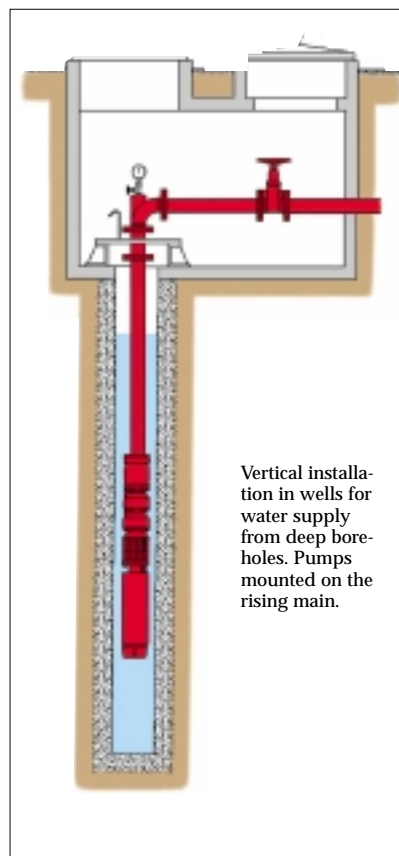
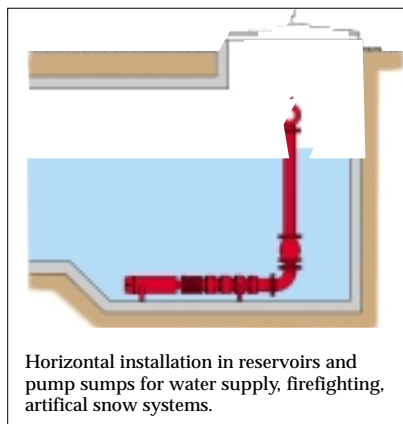
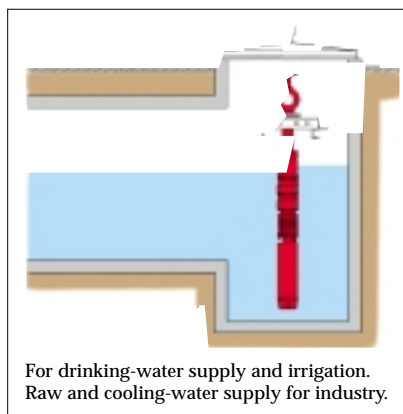
Starting direct or star-delta, softstarter. Speed control via frequency inverters is possible.

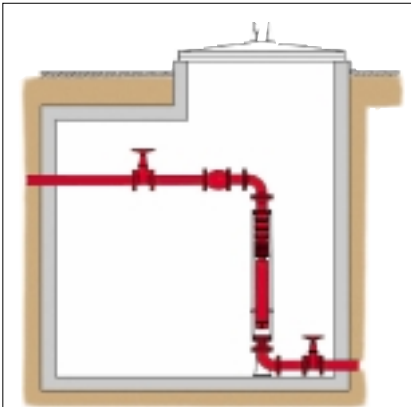
# MATERIALS FOR VARIOUS OPERATING CONDITIONS

Size	Version	Impellers	Casing	Wear rings (DIN)	Stage casing	Shaft (DIN)	Bearing sleeves (DIN)	Bearing bushes
80, 82, 84	TN	noryl	GG 25	-	GG 25	1.4021	1.4021	bronze
81, 83, 85	SN	bronze	GG 25	-	GG 25	1.4021	1.4021	bronze
81, 83, 85	SS	bronze	bronze	1.4462	bronze	1.4462	1.4462	bronze
86, 87, 88	N	GG 25	GG 25	-	GG 25	1.4021	-	rubber
86, 87, 88	SN	bronze	GG 25	-	GG 25	1.4021	-	rubber
86, 87, 88	SS	bronze	bronze	1.4462	bronze	1.4462	-	rubber
86, 87, 88	W	V.4460	V.4460	1.4462	V.4460	1.4462	-	rubber
101-123	N	GG 25	GG 25	-	GG 25	1.4021	-	rubber
101-123	SN	bronze	GG 25	-	GG 25	1.4021	-	rubber
101-123	SS	bronze	bronze	1.4462	bronze	1.4462	-	rubber
101-123	W	V.4460	V.4460	1.4462	V.4460	1.4462	-	rubber

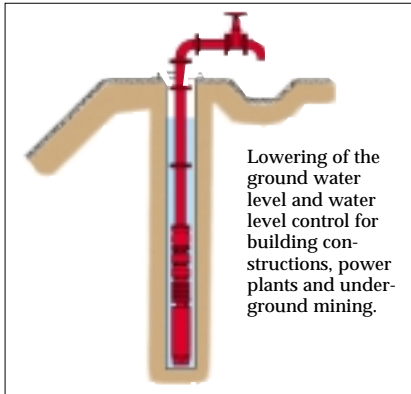
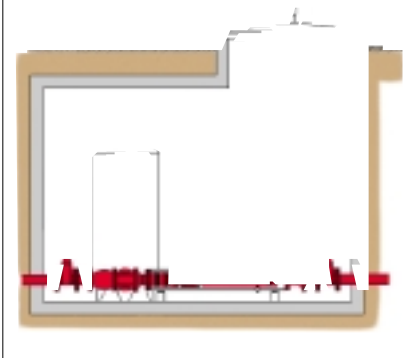
Additional material combinations are available on request.

## SOME APPLICATIONS

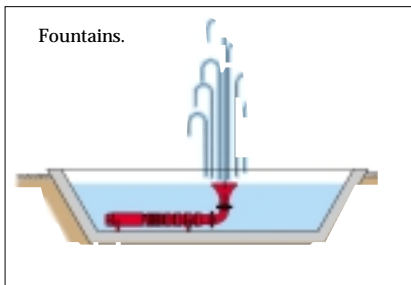




Pressure shroud design for water supply.



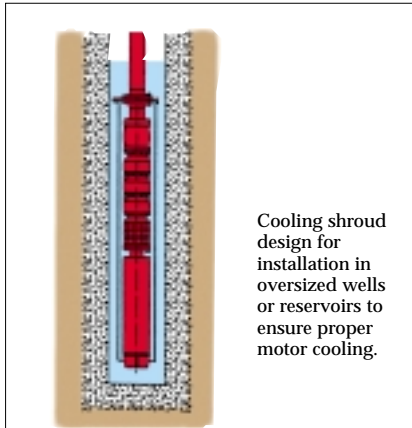
Lowering of the ground water level and water level control for building constructions, power plants and underground mining.



Fountains.

Liability of manufacturer and/or supplier.

The mentioned limits of operation and/or application are only a general information and may not be applied for every case. The permitted range of operation and/or application for the specific case is to be obtained from our acknowledgement of order and/or the instruction for installations, operation and maintenance, set with the goods.



Cooling shroud design for installation in oversized wells or reservoirs to ensure proper motor cooling.

