

Small-scaled Hydro Electric Power Plant

GHE KT 35

GHE SPLITTURBINE with a three blade Kaplan runner, runner diameter 355 mm, manual adjustable runner blades, fixed wicket gates; to be employed for the following ranges:

Net heads:	$H_n =$	1 - 6	m
Discharges:	$Q_A =$	100 - 750	l/s
Turbine outputs:	$P_T =$	2,5 - 40	kW
Generator outputs:	$P_G =$	1,8 - 35	kW
Turbine speeds:	$n_1 =$	520 - 1280	min-1
Runaway speeds:	$n_d =$	1665 - 4100	min-1
Generator speed (50/60 Hz):	$n_2 =$	1500 - 1800	min-1



Our turbines are based on a model test which has been effected in a renowned testing institute.

Technical description:

Butterfly valve:	Intermediate flange made of steel St 360 C; installed for closing of the water discharge on the turbine intake flange; including hand lever.
Turbine housing:	Steel St 360 C, welded, hot galvanised; consisting of: intake tube with connecting flange and cleaning opening, driving pit with bearing brackets and generator base frame with belt tensioning device.
Wicket gate:	Spheroidal iron casting GGG 50, consisting of internal guide vane cone with bearing housing, fixed guide vanes, external intake cone with connecting flanges.
Draft tube cone:	Steel St 360 C, welded, hot galvanised; one-piece, straight, with dismantling flange and inspection eye.
Turbine shaft:	Steel Ck 45.
Turbine shaft bearing:	Grease lubricated roller bearings, the main bearing on pulley side consists of axial and radial bearing, guide bearing on the runner side; including all lubricating conduits.
Bearing sealing:	Guide bearing sealed against water by means of labyrinth sealing, shaft sealing ring and splash collar.
Runner blades:	Aluminium nickel bronze CuAl10 Ni; fixed on the runner hub by means of attachment screws.
Runner hub:	Stainless steel 1.4301.
Runner adjustment:	Adjustment of the runner blades is possible during closed down condition. The discharge can be adjusted within the range of 15 - 100 % of the designed discharge.
Discharge ring:	Spheroidal iron casting GGG 50.
Belt drive:	Polyamide flat belt with leather-coated running surface; pulley made of steel, or aluminium, welded.
Corrosion protection:	All the connecting elements in contact with water are made of rustproof material. As far as steel parts are not hot galvanised, the following corrosion protection is provided: All the surfaces will be derusted by sandblasting (SA 21/2). All the steel parts in contact with water are provided with two priming coats of zinc dust (2 x 40 my) and with two antifouling top coats based on Epoxy-pitch (2 x 65 my). The surfaces in contact with air are provided with two priming coats of zinc dust (2 x 40 my) and two top coats with Epoxy-two components lacquer (2 x 30 my). Steel parts in contact with air which are hot galvanised are provided with single-coat lacquer.

Subject to technical alterations.

GLOBAL HYDRO ENERGY GMBH
4085 NIEDERRANNA 41 - AUSTRIA
Tel: +43 7285 514 Fax: +43 7285 514-20
info@hydro-energy.com
www.hydro-energy.com