Water Power

PRICE 4s.

DECEMBER 1963

Pump-Turbines for Hydro-Electric Power Stations

Sulzer Brothers Limited, Winterthur, Switzerland

Sulzer Bros. (London) Ltd., Bainbridge Street, London W.C.1

The English Electric Company Ltd Hydro-Electric Division, Dunnings Bridge Road, Netherton, Bootle 10

Mixed-flow pump-turbine with adjustable runner vanes for a power storage plant in Columbia.

Capacity limits in pump and turbine operation between heads of 100 and 130 ft. and flows of 100,000 and 160,000 g.p.m.
Speed 450 r.p.m.

Motor/generator 4,200 kW.

SULZER ENGLISH ELECTRIC'

CO-OPERATING
ON
PUMPED STORAGE

Steel Bridges Constructional Steelwork **Aerial Ropeways Inclined Hoists Hydraulic Steel** Constructions **Waste Heat Boilers and Gas Cleaning** Installations for **LD-Process Steelworks Steam Boilers Apparatus** Tanks and Vessels **Pipelines Theatre Stage** Equipment Cranes Steel and **Grey Iron Castings Corrosion Protection Blowers and Filters**

WAAGNER-BIRO

WIEN AKTIENGESELLSCHAFT GRAZ HEAD OFFICE: VIENNA V, MARGARETENSTR. 70