

VA TECH HYDRO

COMPACT HYDRO ELECTRICAL EQUIPMENT



Customized electrical control equipment for hydroelectric power plants up to 15 MW

ELECTRICAL EQUIPMENT

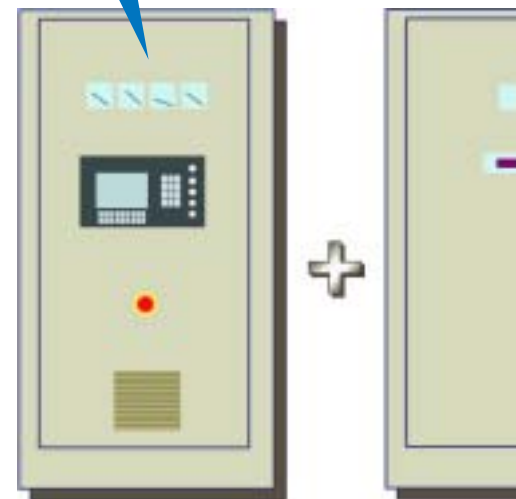
In addition to the turbines, the Compact Hydro program includes all electrical equipment and the control systems for power plants with a unit output of 15 MW.

The users of hydroelectric power plants can profit from the following benefits by buying complete solutions from a single source:

- Perfectly matched components ensure optimum solutions for specific applications.
- Reduced interfaces accelerate the process and shorten the delivery and start-up times.
- Control and protection systems based on decades of experience and know how in water turbine practice guarantee optimal safety, availability and economy of the hydropower plant.
- Valuable consulting and personnel training services are available to customers for new installations, rehabilitation projects and overhauls.

Turbine control cubicle

- Turbine control and governor systems for fully automatic operation
- MSensing of hydraulic parameters
- Malfunction alarm indication and recording

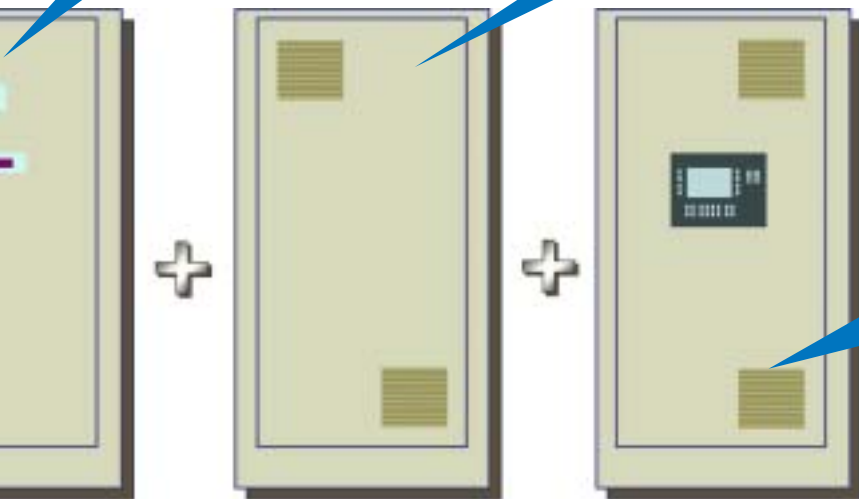


Generator control cubicle

- Turbine and generator safety systems
- Automatic synchronizing system
- 24 V D.C. power supply and monitoring system

Generator switchgear cubicle

- Power circuit breaker for synchronization
- Generator connection
- Grid connection



Options:

Main control system

- Process visualizing system
- Remote control and maintenance
- Weir control, head pond level control
- Joint Control
- Turbine optimization controller

Compensation of reactive current

- with asynchronous generators

Medium voltage switchgear

- 24 kV Medium voltage switchgear
- Main and station service transformers
- Circuit breakers and load interrupter switch in vacuum, air or SF6 versions



Erection, installation, testing and commissioning

- Installation of all cubicles and distribution panels
- Complete control and power cabling
- Own test facilities and functional testing
- Powerhouse lighting and power circuit installation
- Commissioning of complete plant



VA TECH HYDRO worldwide

VA TECH HYDRO GmbH & Co
 Penzinger Strasse 76
 A-1141 Vienna, P.O. Box 5
 Phone (+43/1) 89 100-0
 Fax (+43/1) 89 46 046

VA TECH BOUVIER HYDRO S.A.
 45/51 Boulevard Paul Langevin
 BP No. 7
 F-38601 Fontaine Cedex, France
 Phone (+33/476) 85 95 23
 Fax (+33/476) 26 16 20

VA TECH ESCHER WYSS GmbH
 P.O. Box1380
 D-88183 Ravensburg
 Escher-Wyss-Strasse 25
 D-88212 Ravensburg
 Phone (+49/751) 83-00
 Fax (+49/751) 83-2396



VA TECH ESCHER WYSS S.r.l.
 Via Daniele Manin 16/18
 Casella postale 274
 I-36015 Schio (Vicenza)
 Phone (+39/0445) 67 82 11
 Fax (+39/0445) 67 82 18

VA TECH ESCHER WYSS S.L.
 Paseo de la Castellana, 163
 E-28046 Madrid
 Phone (+34/91) 425 10 00
 Fax (+34/91) 425 10 01

VA TECH ESCHER WYSS S.A. de C.V.
 Av. Cd. Industrial No. 977
 Col. Cd. Industrial
 Mex-58200 Morelia, Mich.
 Phone (+52/43) 23 15 30
 Fax (+52/43) 23 15 38

VA TECH ESCHER WYSS Flovel Ltd.
 Amar Nagar
 P.O. 13/1 Mathura Road
 IND-Faridabad/Haryana 121 003
 Phone (+91/129) 527 43 19
 Fax (+91/129) 527 43 20

VA TECH Energ Ltda
 Rua Bernardo Guimaraes
 2063 Lourdes
 BR-CEP 30.140-082, Belo Horizonte-MG
 Phone (+55/31) 3335 11 09
 Fax (+55/31) 3335 13 67

VA TECH VOEST MCE Corporation
 812-A West Innes Street
 USA-Salisbury, NC 28144
 Phone (+1/704) 647 9276
 Fax (+1/704) 647 9277

VA TECH BOUVIER CANADA, Inc.
 102, Chemin du Tremblay
 Boucherville PQ
 CDN-Quebec J4B 6Z6
 Phone (+1/450) 449 1228
 Fax (+1/450) 449 1229

VA TECH HYDRO S.A.
 Luis Rodrigues V.
 4668 Las Condes, Casilla 57
 RCH-Santiago de Chile
 Phone (+56/2) 366 9022
 Fax (+56/2) 366 9035

VA TECH HYDRO South Africa
 The Ferns Office Park VA HOUSE
 364 Pretoria Avenue
 SA-Johannesburg 2194
 (Cramerview 2060)
 Phone (+27/11) 886 0900
 Fax (+27/11) 886 0941

VA TECH ESCHER WYSS Peru, S.A.
 Avenida Aramburu 166, Dep. 2A
 Miraflores,
 PE-Lima 18
 Phone (+51/1) 441 45 41
 Fax (+51/1) 222 26 59

VA TECH ESCHER WYSS
 Carrera 7o no 33-81
 CO-Bogotá
 Phone (+57/1) 323 69 00 ext. 235
 Fax (+57/1) 338 03 71 or 318 83 70

VA TECH ESCHER WYSS AG
 Stockenstrasse 27
 CH-9249 Algetshausen
 Phone (+41/71) 950 01 66
 Fax (+41/71) 951 66 24