



SEALING SYSTEMS **FOR ENERGY**
HYDRO

We care about tomorrow



Know-how, service and innovation
for your hydro sealing projects

HYDRO

**Original installation,
rebuild and maintenance**

**We bring experience and professionalism
to the following :**

- ▶ Advice
- ▶ Expertise
- ▶ Study
- ▶ Design
- ▶ Manufacturing
- ▶ Distribution
- ▶ Installation on-site

**We bring our application knowledge and
dedicated service to your projects**

- ▶ Expertise
- ▶ Responsiveness
- ▶ Service
- ▶ Involvement
- ▶ Presence

PXL : your guarantee of World Class work

- ▶ Designed specifically for your job
- ▶ Only the highest quality raw materials and manufacturing processes are used
- ▶ Experienced and responsive installation teams

No split, molded
solid, unlimited
diameter seals

▶ **Most common large diameters :**
between 1500 and 10000 mm

▶ **Largest diameter built to date by
PXL : 30000 mm diameter**

Our patented, field molding process
allows us to produce unlimited diameter
solid seals.

MD WAY™

We mold one-piece solid seals,
on-site in the field, with no
remaining split to leak

Developed and patented seals-changing process
(typically used on Kaplan and Bulb turbines).

Solid, Economic, Fast

Principle

Field mold the two “non-cured, non vulcanized” ends of
the seal with a patented, field molding press resulting in
a solid one-piece seal

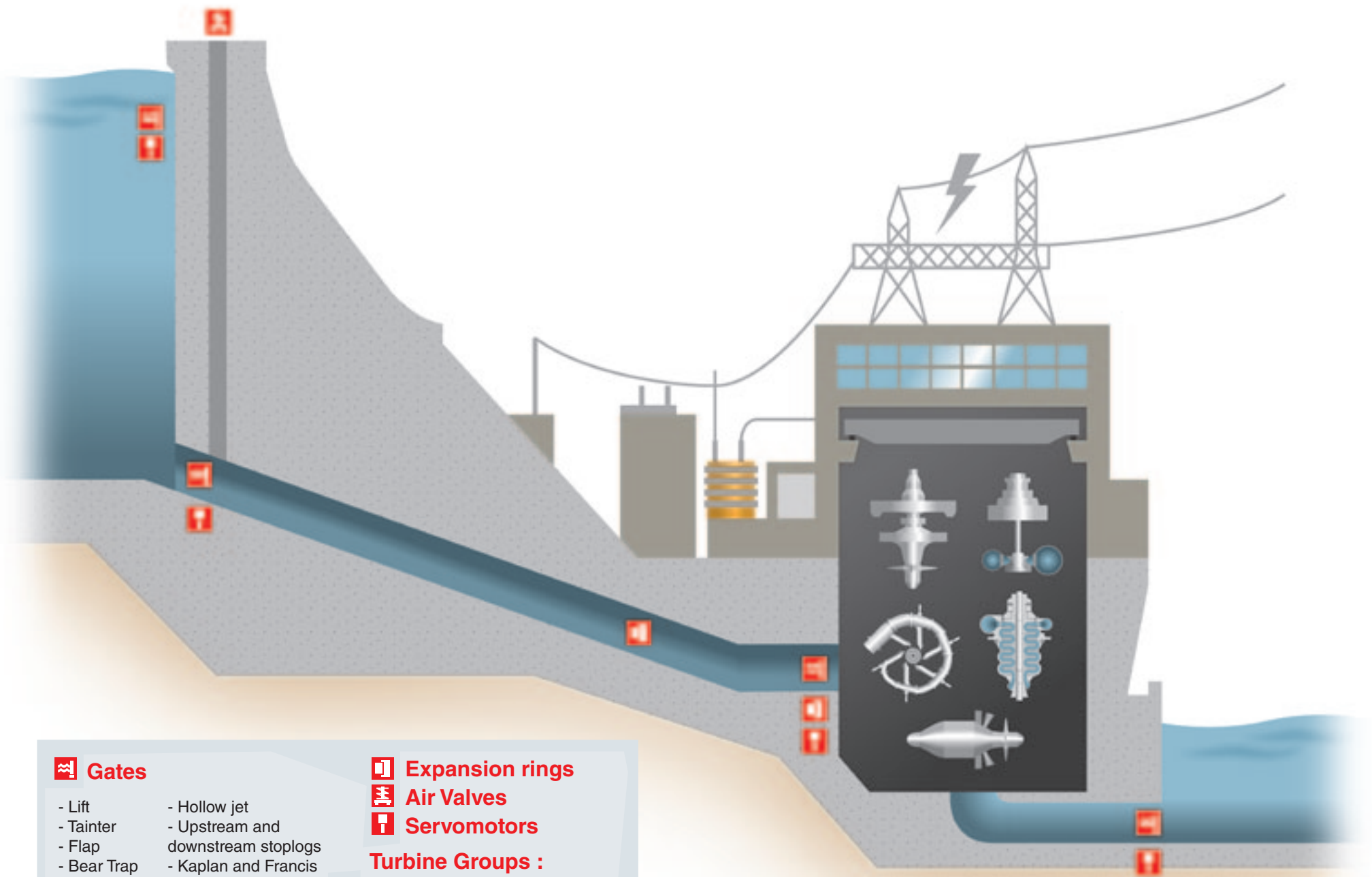
Benefits

- ▶ No glue or bonding components used
- ▶ It guarantees identical mechanical properties over
the entire circumference of the seal
- ▶ Dimensional tolerances obtained are those of molded
products

**This molding process, developed by PXL, results in
the most reliable, cost effective sealing solution in
the Hydro Power market.**

For further information visit
www.mdway.pxlseals.com





Gates

- Lift
- Tainter
- Flap
- Bear Trap
- Spherical
- Butterfly
- Hollow jet
- Upstream and downstream stoplogs
- Kaplan and Francis turbine Ring Gate

Expansion rings

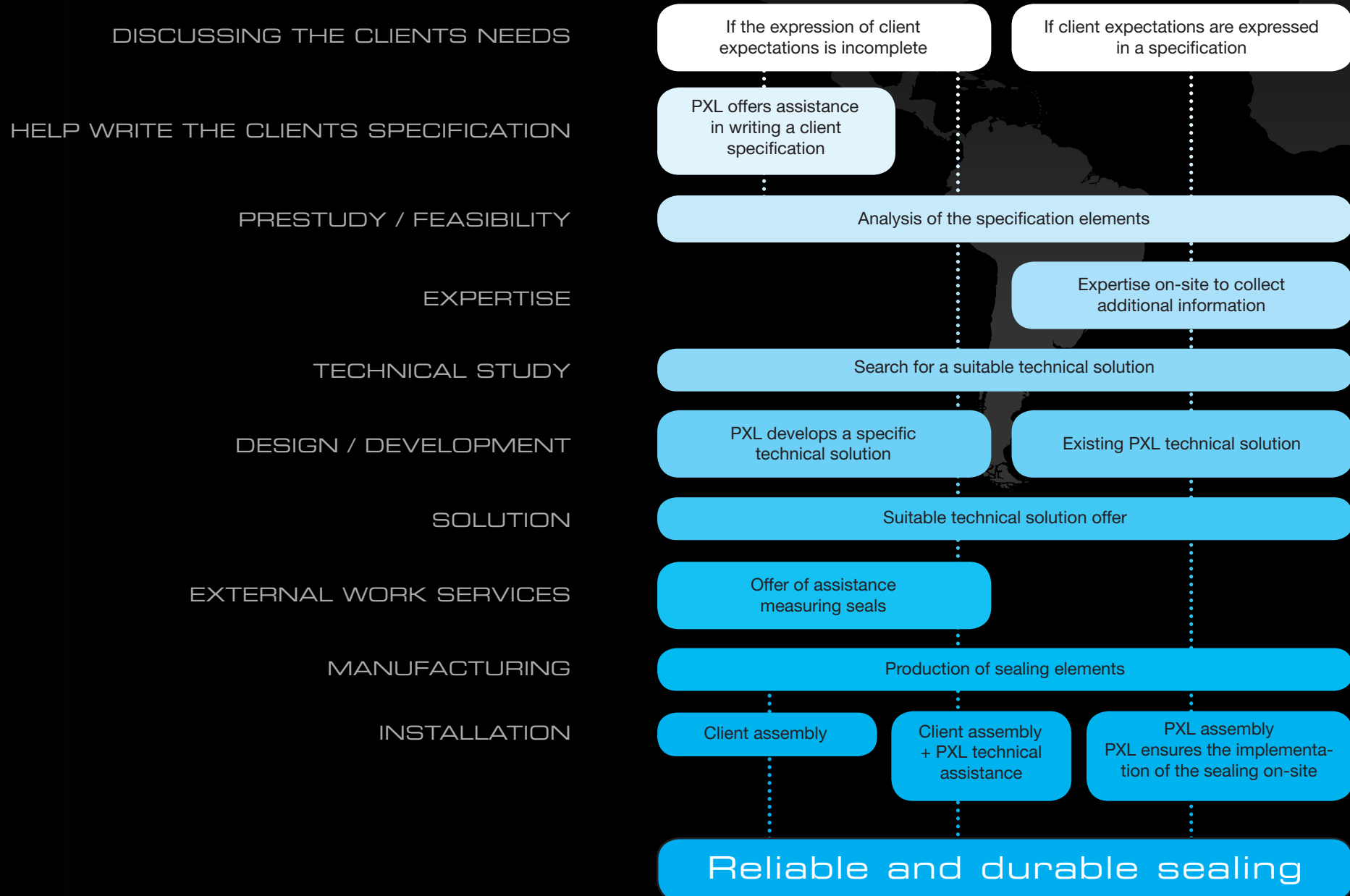
Air Valves

Servomotors

Turbine Groups :

- Francis
- Pelton
- PPS
- Kaplan
- Bulb

The PXL approach



HYDRO Applications

Turbine Groups



Pelton

Sealing of injectors, injector control servomotors, deflector control servomotors, turbine shaft bearings, and alternator bearings



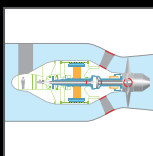
Francis

Sealing of spraying chamber of the shaft seal, turbine shaft swivel, alternator bearings, steering trunnions, turbine inter wicket gate and control servomotors of the valve circle



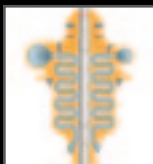
Kaplan

Sealing of alternator bearings, turbine shaft swivel, turbine shaft bearings, blade control servomotors, blade trunnions, valve circle control servomotors of turbine wicket gates and wicket gate trunnions



Bulb

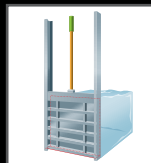
Sealing of alternator bearings, turbine shaft swivel, blade control servomotors, blade trunnions, valve circle control servomotors of turbine wicket gates and wicket gate trunnions



Pump-turbine for PSPS station (Pumped Storage Power Station)

Sealing of alternator bearings, turbine shaft swivel, shaft seal spraying chamber, valve circle control servomotors of turbine wicket gates, wicket gate trunnions and turbine inter wicket gate

Gates



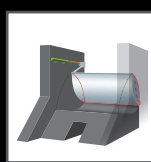
Lift

(track, guillotine, wagon, Stoney)
Frame sealing (frontal, lateral and threshold) and control servomotors



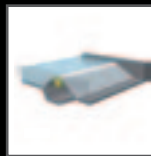
Tainter

Frame sealing (frontal, lateral and threshold) and control servomotors and joint trunnions



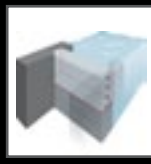
Flap

Frame sealing (lateral and threshold) and control servomotors and joint trunnions



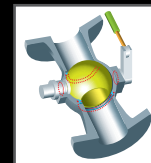
Bear Trap

Frame sealing (lateral and threshold) and control servomotors and joint trunnions



Upstream and downstream stoplogs

Frame sealing (frontal, lateral and threshold) and control servomotor



Spherical

Sealing of control servomotors, trunnions, mobile ring and fixed seat



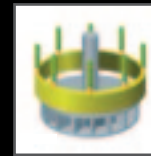
Butterfly

Sealing of control servomotors, of trunnions and lens



Hollow jet

Sealing of control servomotors and sliding ring



Kaplan and Francis Turbine Ring Gate

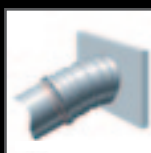
Sealing of control servomotors and of hollow shaft

Other applications



Control servomotors

Rod, piston and static sealing



Expansion rings

Sealing of the sliding ring



Air Valves

Sealing of the guide pin and closing valve

PXL has earned the trust of

Energy

ADAMS AG
ALSTOM - Hydro Power
ANDRITZ - Hydro
CNR - Compagnie Nationale du Rhône
EDF - Electricité de France - Hydro Power
FCT - Flow Control Technologies,
TYCO Group
HYDRO EXPLOITATION SA
LITOSTROJ POWER, CIMOS Group
SBM OFFSHORE GROUP
VOITH Hydro

Large Bearings

DEFONTAINE - Rings
NFM TECHNOLOGIES
ROTHE ERDE GMBH
SKF - Bearings

Distributors

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