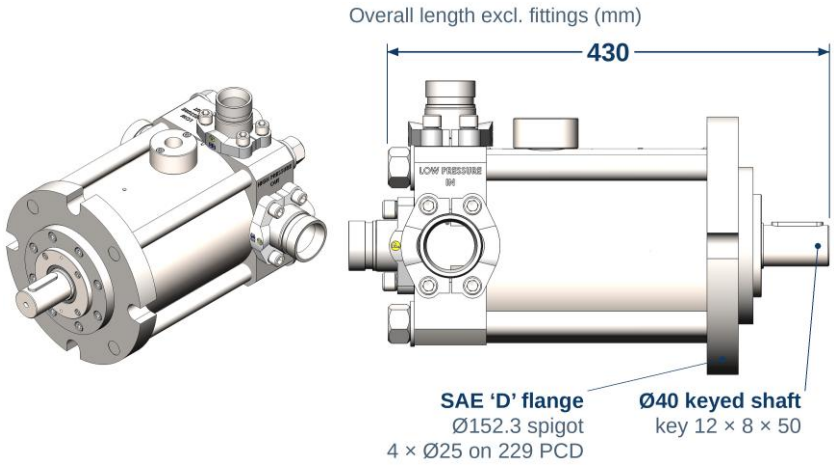
JANUS iERD

INTEGRAL ENERGY RECOVERY · AXIAL PISTON PUMP

The Water Hydraulics Co. Ltd.

SIMPLICITY, NOW IN ONE BLOCK

Janus iERD puts the high-pressure pump and the energy-recovery motor of our proven PowerCentre into a single block. The pump gallery draws and pressurises 100% of the feed; the motor gallery recovers energy from the returning brine, inside the same block, on one input shaft. No separate unit, no coupling between them. No compromise on material selection, all wetted parts remain Duplex 2205.



P180 iERD as supplied with Victaulic OGS fittings; every port also has a 3000 psi SAE 4-bolt flange interface underneath. Dimensions in mm.

100%
of the feed drawn and pressurised

55%
returned internally to regenerate energy

≈ ½
the size of the dual-unit system

0%
brine-to-feed mixing

ELIMINATES THE NEED FOR

- A separate energy-recovery motor and coupling
- High-pressure booster pump and motor
- High-pressure bypass and flow control valves
- Extra frames, mountings and pipework
- Pressure exchanger
- Additional inverter drive
- Flow instrumentation
- Recovery setting on site

SET THE SPEED, NOT THE VALVES

Recovery is fixed at the design stage, so performance matches the system designer's specification. Set the motor speed to reach the duty point: flow is proportional to speed.

ZERO MIXING. RECOVERY EXACTLY TO DESIGN SPEC

A dedicated piston and low-pressure casing ensure positive pressure in the piston bores at all times. Brine never reaches the feed water, so the plant runs to the membrane manufacturer's specification for its whole life.

Mixing will increase operational cost. In operation, mixing can rise from around 2% when new to 15% in service over a years duty. On Gulf seawater, that can raise feed salinity from 40,000 to 44,000 ppm, incurring 3–4 bar of extra feed pressure to hold output, and add 12–14% to the pump bill, an extra 0.23–0.28 kWh/m³ on a 2 kWh/m³ plant.

bsi ISO 9001 Quality Management Systems CERTIFIED
FM 87247

JANUS iERD

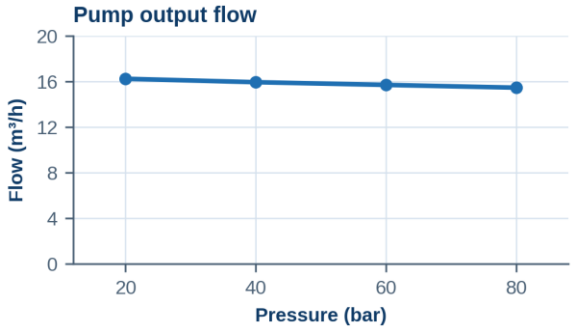
INTEGRAL ENERGY RECOVERY · AXIAL PISTON PUMP

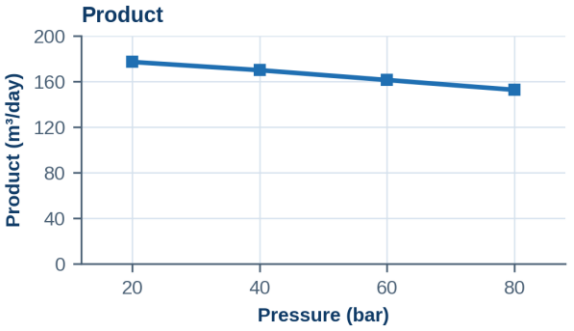
NO SEPARATE SHAFT, NO WEAR AT THE INTERFACE

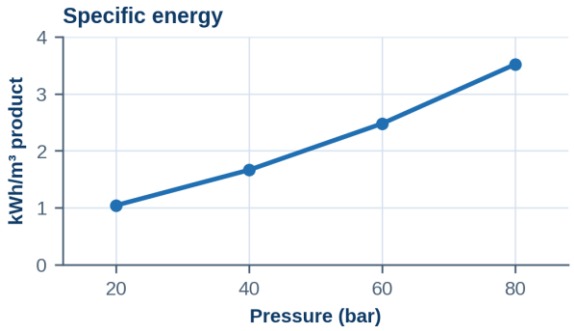
~45% of system energy through the input shaft; the rest stays in the block	**45%** mass reduction	**6 dB(A)** noise reduction

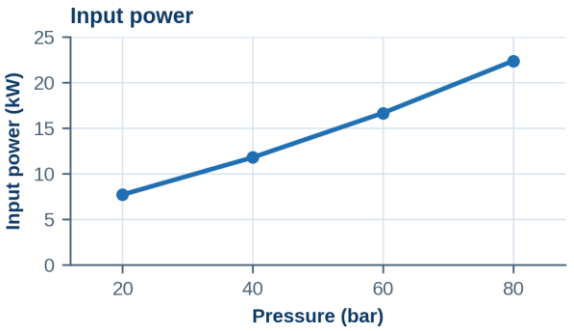
PERFORMANCE DATA AT 1500 RPM

Flow is proportional to speed: set the motor speed to reach the duty point. Specific energy is per m³ of product.









P180 iERD: FIRST FRAME SIZE

Displacement	185 cc/rev
Operating pressure	60 bar
Recovery	45%, set at the design stage
Connections	• Supplied with 4 Victaulic OGS Fittings (2x 2'' and 2x 1½''); SAE 4-bolt flange interface underneath • 1x G3/4'' BSPP Female Casing Drain Port
Overall length	430 mm
Weight	67 kg

****60 & 500m³/day frame sizes are under consideration**

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