

SPECIFICATION SHEET

Low Pressure - Hydraulic Energy Management Integration (LP-HEMI™)

MODEL LPH-160

for Reverse Osmosis Desalination

HYDRAULIC DESIGN	
TURBINE	Impeller vanes custom designed and machined for optimal efficiency at design conditions.
PUMP	Vertical or horizontal multi-stage centrifugal pump with barrel-flanged joint construction.
BRINE CONTROL	Integral variable area auxiliary nozzle optional. Electronic actuator optional.

FITTINGS	
PUMP PIPE JOINTS (Grooved-style couplings)	Feed Inlet 6"
	Feed Outlet 6"
TURBINE PIPE JOINTS (Grooved-style couplings)	Brine Inlet 2" - 4"
	Brine Outlet 3" - 6"
EYE BOLTS	Motor only

OPERATING PARAMETERS	
LIQUID	Seawater, brine
OPERATING TEMPERATURE	0.6 - 70.0° C
MAXIMUM STORAGE TEMPERATURE	85° C
MINIMUM PUMP-SIDE FLOW*	80 m³/h
MAXIMUM PUMP-SIDE FLOW*	672 m³/h (with maximum of 3 modules)
MINIMUM TURBINE-SIDE FLOW*	30 m³/h
MAXIMUM TURBINE-SIDE FLOW*	300 m³/h
MAXIMUM OPERATING PRESSURE	35 bar
MINIMUM BRINE OUTLET PRESSURE	0.5 bar
NOMINAL SOUND	75-85 dBA
NOMINAL VIBRATION	0.05"/sec - 0.15"/sec
FILTRATION REQUIREMENT	20 microns

DRIVE	
MOTOR	Available per customer specific requirements NEMA FRAME STANDARD, IEC AVAILABLE
VARIABLE FREQUENCY DRIVE	Available per customer specific requirements

BEARINGS	
THRUST	FEDCO Water Bearing™ Product Lubricated
COOLING	Hydrostatic/Hydrodynamic type
LUBRICATION	Product lubricated (no user lubrication required)

*Range may vary. Custom hydraulic passages are built to customer specifications.

PERFORMANCE	
PEAK EFFICIENCY	Contact FEDCO for specific performance data

TESTING AND INSPECTION	
PERFORMANCE TEST	Standard
**Hydraulic Institute (HI) Hydrostatic and Centrifugal Pump Testing Standards	
HYDROSTATIC TEST	Standard
**Hydraulic Institute (HI) Hydrostatic and Centrifugal Pump Testing Standards	
VISUAL/DIMENSION CHECK	Optional
WITNESS TEST	Optional
CERTIFIED TEST DATA	Optional
MATERIAL CERTIFICATES	Optional

MATERIALS	
SHAFT	Duplex 2205 one-piece construction machined from bar stock S31803 ASTM A276/479 (Super Duplex SS optional S32750 ASTM A276/479)
SHELL	316 SS S31600 ASTM A312
SHELL BOLTING	316 SS S31600 A193/A320/F593
INLET/DISCHARGE	316 SS S31600 A351 (Optional Duplex 2205 S31803 ASTM A890)
IMPELLERS/DIFFUSERS	Passivated and electropolished 316 SS S31600 ASTM 276/479
MOTOR COUPLING	Flexible disc coupling (Horizontal Mount) - FNC treated Carbon Steel S45C ASTM 1045 (Horizontal Mount) Duplex 2205 S31803 ASTM A276/479 (Vertical Mount Drop Out Type)
MECHANICAL SEAL	316 Carbon silicon carbide Buna N FITS ISO DIN/ANSI TYPE 2100
COUPLING GUARD	316L S31603 ASTM 276/479
PUMP LEVELING FOOT (Horizontal Mount)	Powder coated carbon steel A36 ASTM A570/A
BEARING DRAIN LINE TUBING / THROTTLE NIPPLE	Duplex 2205 SA789-11a ASTM A789-10 /Duplex 2507 S32750 ASTM A276/479
TURBINE NOZZLE RING	316 SS S31600 ASTM 276/479
TURBINE WEAR RING	Ertalyte ASTM D638/D3418
TURBINE IMPELLER	316 SS S31600 ASTM 276/479 (Duplex 2205 Option S31803 ASTM A276/479)
TURBINE INLET/DISCHARGE	316 SS S31600 ASTM 351 (Duplex 2205 Option S31803 ASTM A890)
BASEPLATE	Painted carbon steel optional ASTM A36

SHIPPING	
PROTECTIVE COVERS/EXPORT CRATING	Standard
ADDITIONAL SHIPPING OPTIONS	Available per customer requirements
ESTIMATED UNIT WEIGHT	Contact FEDCO
OUTLINE	
OUTLINE DIMENSIONS	Each LPH model is custom designed to specific customer requirements. Contact FEDCO.



NOTE: All numeric values are based on performance norms. Specific performance data is included with each individual unit. FEDCO reserves the right to make specification changes at any time without prior notice. Please contact your FEDCO representative for information. email: sales@fedco-usa.com

**General Code Groups, Associations, Laboratories, and Approval Bodies include the American Society for Testing and Materials (ASTM), the International Organization for Standardization (ISO), and the NSF International.