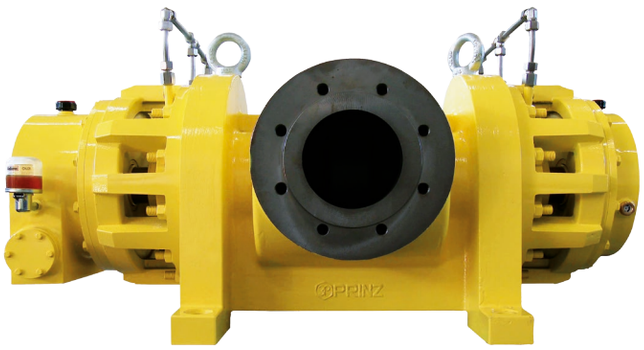

HD - HDL - HDV
Series

Note

PUMPS MANUFACTURING COMPANY

PUMP TYPE	TWIN SCREW PUMPS - EXTERNAL TIMING GEARS		
Pump Series	**HD Series:**	**HDL Series:**	**HDV Series :**
Installation Options:	**Horizontal (Cast Casing)**	**Horizontal (Fabricated Steel Casing, with Replaceable Liner)**	**Vertical**
Executions:	Standard & API 676 - Timing Gears - External Gears and Bearings		
Optimized for Applications in:	**Oil&Gas, Petrochemical, Chemical, Marine & Shipbuilding, General Industry**		
Suitable to Fluid having the following properties:	Abrasive and not Abrasive		
	Corrosive (Alkaline / Acid / Aggressive) and not Corrosive		
	Low / Medium / High / Very High Viscosities		
	Not Lubricating or Lubricating		
	Medium / High percentage of Gas or Air dissolved in Liquid (Multiphase versions available)		
	Slightly Dirty (small particles)		
Advantages of the Operating Principle:	Capability of handling a Wide Range of viscosities and pressures = one pump for many types of fluids and many flow rates!		
	High Suction Lift Capability – the pump NPSH being very low - down to 1,5 meters.		
	Self Priming without any auxiliary devices.		
	Capable to pump very viscous fluids thanks to its smooth axial and low-pulsation movement.		
	Pulsations are minimized and flow rate is uniform, allowing to handle fluids that are very viscous and sensitive to shear stresses or turbulences, thanks to the low Internal velocities given by the screws movement.		
	High Rotating Speeds are possible thanks to the low inertia of the screws.		
	Screws are contact-less so wear-out is minimized and Pump Life is extended.		
	Flow rate is constant even when pressure changes.		
	Reversible at Low Speeds / Pressure.		
	Capability of Dry Running for a limited period and in particular conditions.		
	Low noise level & Low vibration.		
Pump Series	**HD, HDL, HDV Series:**		
Maximum design pressure:	20 bar (standard) [300 psig]		
Flow rates:	up to 3500 m3/h [15400 psig]		
Viscosity of the pumped fluid:	up to 35.000 cSt		
Pipe Nominal Size DN:	from 50 to 750 [from 2" up to 30"]		
Rotation speed:	from 200 up to 2200 rpm		
Temperature range:	-46 / +350 °C [-51 / +662 °F] **- ON REQUEST -60°C**		
Pulsations:	Minimized (almost zero)		
Bearing types:	External Bearings and Gears in oil bath		
Standard Materials:	Casing / Liner	Screws	Shafts
	Cast Iron, Ductile Cast Iron	Ductile Cast Iron	High Strenght Low Alloy Steel
	Carbon Steel (Cast or Fabricated)	High Strenght Low Alloy Steel	Stainless Steel AISI 420
	Low Temperature Carbon Steel (Cast or Fabricated)	Stainless Steel AISI 420	Stainless Steel 17-4 PH
	12% Cr Stainless Steel	Stainless Steel AISI S316/S316L	Stainless Steel XM-19
	Stainless Steel AISI S316/S316L (Cast or Fabricated)	Stainless Steel 17-4 PH or AISI 431	Duplex & Super Duplex St. Steel
	Bronze, Nickel Aluminium Bronze	Duplex & Super Duplex St. Steel	Monel, Inconel® , Hastelloy
	Duplex & Super Duplex St. Steel	Monel, Inconel® , Hastelloy	HVOF Spray Coating /Tungsten Carbide Coating
	Inconel Weld Overlay (cladding)	HVOF Spray Coating /Tungsten Carbide Coating	Chromium Plating
	Monel, Inconel® , Hastelloy	CRA Weld Overlaid	CRA Weld Overlaid
	Ni-Resist	Nitriding	Nitriding
Customized materials:	**Other Alloys and Material Combinations are available on request**		
	NORSOK Compliant Materials are available on request		
Main Application Fields:	**HD / HDL / HDV Series**		
	OIL & GAS UPSTREAM / MIDSTREAM / DOWNSTREAM: FPSOs, Offshore Platforms, Oil Fields, Oil Pipelines, Gathering Stations, Tank Storages / Terminals		
	PETROCHEMICAL: Refinery, Petrochemical Complex, Lubricants Plants, Bitumen/Asphalt/Tar Plants		
	CHEMICAL: Resin Production, Paint Production, Green Fuels, Polymeric Suspensions		
	MARINE & SHIPBUILDING: Tankers, Barges, Cargo Ships, Support Vessels, FPSOs, Offshore Platforms Hulls		
	POWER GENERATION: Heavy Fuel Oil Power Plants, Lube Oil Systems		