



MATERIALS of CONSTRUCTION

Models

HD082C HD161C HD162C HD163C
HD172C HD173C HDL172C HDL173C

Table with 3 columns: Component, Standard, and Optional. Rows include Cylinder, Head, Valve Cap; Distance Piece and Crosshead Guide; Connecting Rod; Crosshead; Crankshaft; Pistons; Crankcase, Flywheel Bearing Carrier; Valve Seats & Bumpers; Valve Plates and Valve Springs; Piston Rods; Packing Box; Wrist Pin; Piston Rings; Piston Ring Expanders; Rod Packing; Bearings, Crank; Bearings, Rod; Bearing, Wrist Pin; Metal Gaskets; Other Gaskets; O-rings; and Intercooler.

Models

**HD361C, HD362C, HD363C
HD372C, HD373C, HDL372C
HD602C, HD603C
HD612C, HD613C**

**HDL362C, HDL363C
HDL372C, HDL373C
HDL602C, HDL603C
HDL612C, HDL613C**

	Standard	Optional
Cylinder, Head, Valve Cap & Valve Cover Plate	Ductile Iron, ASTM A536	Ductile Iron, TNT-12 Treated ASTM A536
Distance Piece and Crosshead Guide	Ductile Iron, ASTM A536	
Connecting Rod	Ductile Iron, ASTM A536	
Crosshead	Gray Iron, ASTM A48	
Crankshaft	Ductile Iron, ASTM A536	
Pistons	Steel	Steel, TNT-12 Treated
Crankcase	Iron	
Flywheel, Bearing Carrier	Gray Iron ASTM A48	
Valve Seats & Bumpers	Ductile Iron	Ductile Iron - TNT-12 Treated, Stainless Steel
Valve Plates	PEEK (Poly Ether Ether Ketone)	Stainless Steel
Valve Springs	Stainless Steel	
Piston Rods	Steel, Black surface to 60 Rc	Chrome Oxide Coated
Packing Box	Steel	Steel - TNT-12 Treated
Wrist Pin	Hardened Steel	
Piston Rings	Glass & Moly Filled PTFE	Poly Filled PTFE
Piston Ring Expanders	Stainless Steel	
Rod Packing	PTFE V-Rings	
Bearings, Crank	Tapered Roller	
Bearings, Rod	Babbitt Lined Steel Backed	
Bearing, Wrist Pin	Steel Needle Bearing	
Valve Gaskets	Iron	
Other Gaskets	Fiber	
O-rings	Buna-N	PTFE, FKM, Neoprene, Ethylene-Propylene
Suction Valve Unloader Body, Piston, and Plunger	Stainless Steel	
Intercooler, Air-Cooled 2-stage: Liquid-Cooled 2-Stage:	--- Brass Shell & Tube	Consult Factory Stainless Steel Shell & Tube



MODELS
HDL322C
HDL342C, HDL343C
HDL642C, HDL643C

	Standard	Optional
Cylinder, Head, Valve Cap & Valve Cover Plate	Ductile Iron, ASTM A536	Ductile Iron, TNT-12 Treated ASTM A536
Distance Piece and Crosshead Guide	Ductile Iron, ASTM A536	
Connecting Rod	Ductile Iron, ASTM A536	
Crosshead	Gray Iron, ASTM A48	
Crankshaft	Ductile Iron, ASTM A536	
Pistons	Steel	Steel, TNT-12 Treated
Crankcase	Iron	
Flywheel, Bearing Carrier	Gray Iron ASTM A48	
Valves	Ductile Iron w/PEEK	Ductile Iron, w/ PEEK plates and Stainless Steel Springs or Ductile Iron - TNT-12 Treated w/ PEEK plates & SS Springs
Piston Rods	Steel, Black surface to 60 Rc	Chrome Oxide Coated
Packing Box	Steel	Steel - TNT-12 Treated
Wrist Pin	Hardened Steel	
Piston Rings	Glass & Moly Filled PTFE	Poly Filled PTFE
Piston Ring Expanders	Stainless Steel	
Rod Packing	PTFE V-Rings	
Bearings, Crank	Tapered Roller	
Bearings, Rod	Babbitt Lined Steel Backed	
Bearing, Wrist Pin	Steel Needle Bearing	
Valve Gaskets	Iron	
Other Gaskets	Fiber	
O-rings	Buna-N	PTFE, FKM, Neoprene, Ethylene-Propylene
Suction Valve Unloader Body, Piston, and Plunger	Stainless Steel	



MODELS

HD942B, HDL942B, HD943B, HDL943B

	Standard	Optional
Cylinder, Head, Piston, Valve Cover Plate, Valve Cap	Ductile Iron, ASTM A536	Ductile Iron, TNT-12 Treated ASTM A536
Crosshead Guide	Ductile Iron, ASTM A536	
Connecting Rod	Ductile Iron, ASTM A536	
Crosshead	Gray Iron, ASTM A48	
Crankshaft	Ductile Iron, ASTM A536	
Crankcase	Iron	
Flywheel, Bearing Carrier	Gray Iron ASTM A48	
Valve Seats & Bumpers	Ductile Iron	Ductile Iron - TNT-12 Treated, Stainless Steel
Valve Plates	PEEK	Stainless Steel
Valve Springs	Stainless Steel	
Piston Rods	Steel, Black Surface to 60 Rc	
Packing Box	Steel	Steel - TNT-12 Treated
Wrist Pin	Hardened Steel	
Piston Rings	Glass & Moly Filled PTFE	Poly Filled PTFE
Piston Ring Expanders	Stainless Steel	
Rod Packing	PTFE	
Bearings, Crank	Tapered Roller	
Bearings, Rod	Babbitt Lined Steel Backed	
Bearing, Wrist Pin	Steel Needle Bearing	
Valve Gaskets	Iron	
Other Gaskets	Fiber	
O-rings	Buna-N	PTFE, FKM, Neoprene Ethylene-Propylene
Suction Valve Unloader Body, Piston, and Plunger	Stainless Steel	

CONNECTION SIZES and TYPES

All Connections are Flange Type except those marked 'Tapped'

Model		Standard	Optional
HD082C, HD161C, HD162C HD163C HDS162C	Inlet	3/4" NPT, tapped	
	Outlet	3/4" NPT, tapped	
HD361C HD362C, HDL362C HD363C, HDL363C HDS362C	Inlet	1-1/2" ANSI 300#	
	Outlet	1-1/2" ANSI 300#	
HDL322C, HDL342C HDL343C	Inlet	1-1/2" ANSI 600#	
	Outlet	1-1/2" ANSI 600#	
HD602C, HDL602C HD603C, HDL603C HDS602C	Inlet	2" ANSI 300#	
	Outlet	2" ANSI 300#	
HDL642C HDL643C	Inlet	2" ANSI 600#	
	Outlet	2" ANSI 600#	
HD942B, HDL942B HD943B, HDL943B	Inlet	2" ANSI 300#	
	Outlet	2" ANSI 300#	
HD172C, HDL172C HD173C, HDL173C HDS172C	Inlet, Stage 1	3/4" NPT, tapped	
	Outlet, Stage 2	3/4" NPT, tapped	
HD372C, HD373C HDS372C	Inlet, Stage 1	1-1/4" NPT, tapped	
	Outlet, Stage 2	1" NPT, tapped	
HDL372C HDL373C	Inlet, Stage 1	1-1/4" NPT, tapped	
	Outlet, Stage 1	Steel, 3/4" NPT	Steel, 1" NPT
	Inlet, Stage 2	Steel, 3/4" NPT	Steel Weld, 3/4", 1"
	Outlet, Stage 2	1" NPT, tapped	
HD612C, HDL612C HD613C, HDL613C HDS612C	Inlet, Stage 1	DI*, 2" NPT	DI*, 1-1/2" NPT Steel Weld, 1-1/2", 2"
	Outlet, Stage 1	Steel, 1" NPT	Steel Weld, 1"
	Inlet, Stage 2	Steel, 1" NPT	Steel Weld, 1"
	Outlet, Stage 2	DI*, 1-1/2" NPT	DI*, 2" NPT Steel Weld, 1-1/2", 2"

* DI = Ductile Iron, ASTM A536, 65-45-12



