HDI Range
Electric Lubrication Pumps

Interlube Systems Ltd - Heavy Duty Industrial Lubrication Systems
The HDI pumps, when used with progressive divider valves makes an ideal lubrication system for:

- Off road construction vehicles
- Static plant
- Agricultural machinery
- Food & Beverage machinery and many other industries where reliability is key to profitability
- Wind and Energy applications

The positive displacement action of the HDI pump elements ensure precise, consistent delivery of lubricant during the pumps operation. All HDI models can be controlled by an in-built PCB or the pump can be supplied without controls so that the pump can be controlled externally by a separate controller or the machines own PLC.
All HDI Pumps are supplied with one pump element as standard. Up to three pump elements can be fitted into one HDI pump.

### Pump Elements

- **Spring return Element**
  - PU 300-350
  - PU 400-350

- **Push Pull Element**
  - PU 300-350-A
  - PU 400-350-A

### Operation

The electric motor drives an eccentric cam during the pumps operating time. The pump element piston sucks the grease from the reservoir and then dispenses an accurate precise amount of lubricant to the connected metering device.

### Pump Output

**Standard HDI pump operates at 19/23 revs/min**

<table>
<thead>
<tr>
<th>Part No</th>
<th>Max output/min pressure (BAR/PSI)</th>
<th>Output/min (cc)</th>
<th>Volume (cu in)</th>
<th>Pump Element Outlet Size</th>
<th>Relief Valve Setting 350 BAR 5145 PSI</th>
</tr>
</thead>
<tbody>
<tr>
<td>PU 300-350</td>
<td>300 (4410)</td>
<td>3.2</td>
<td>(0.20)</td>
<td>6mm O.D</td>
<td></td>
</tr>
<tr>
<td>PU 300-350-A</td>
<td>300 (4410)</td>
<td>3.2-1.4</td>
<td>(0.20-0.08)</td>
<td>6mm O.D</td>
<td></td>
</tr>
<tr>
<td>PU 400-350</td>
<td>300 (4410)</td>
<td>3.2</td>
<td>(0.20)</td>
<td>6mm O.D</td>
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<td></td>
</tr>
</tbody>
</table>

Operation conditions: +40°C to -30°C

The grease output figures were based on NLGI 2 Grease at ambient conditions, the output volume may vary depending on lubricant specification and temperature.
### HDI Dimensions

#### Pump Dimensions

<table>
<thead>
<tr>
<th>Reservoir Size</th>
<th>A (mm)</th>
<th>B (mm)</th>
<th>C (mm)</th>
</tr>
</thead>
<tbody>
<tr>
<td>3 Ltr Moulded</td>
<td>340</td>
<td>13 1/2</td>
<td>260</td>
</tr>
<tr>
<td>3 Ltr Standard</td>
<td>300</td>
<td>12</td>
<td>260</td>
</tr>
<tr>
<td>6 Ltr Standard</td>
<td>400</td>
<td>16</td>
<td>260</td>
</tr>
<tr>
<td>9 Ltr Standard</td>
<td>490</td>
<td>19 1/2</td>
<td>260</td>
</tr>
<tr>
<td>15 Ltr Standard</td>
<td>700</td>
<td>27 1/2</td>
<td>260</td>
</tr>
</tbody>
</table>

#### Diagram shows a standard HDI pump

![Diagram of HDI pump](image)

#### Mounting Positions of the HDI Pump

**Standard HDI 3, 6, 9, 15 Ltr**

- 180mm (7")
- 162mm (6 1/4")
- 22mm (7/8")
- 4 holes
- 9mm (1/32") Dia.

**HDI 3Ltr (moulded)**

- 120mm (4 3/8")
- 45mm (1 1/2")
- 4 x holes 6.5mm (1/4") Dia.
HDI filling methods

All HDI models are supplied with dual fill

(A) standard grease nipple use air operated grease pump to fill the reservoir.

(B) quick release coupling use a hand operated volume bucket pump.

(C) Or alternatively fit the pump with a quick fill adapter and use a quick fill gun to fill the reservoirs.

Quick Fill Gun

Hand operated quick fill gun

<table>
<thead>
<tr>
<th>Part No.</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>HDI - 57549-1</td>
<td>Quick fill gun</td>
</tr>
<tr>
<td>HDI - 36763-1</td>
<td>Straight adapter for the pump</td>
</tr>
<tr>
<td>HDI - 36763-2</td>
<td>90° adapter</td>
</tr>
</tbody>
</table>

Bucket Pump

Hand operated bulk fill pump complete with:
1.5m hose, female quick release coupling to fit directly onto the Interlube quick connect fitting fitted to the pump. Ideal for use with NLGI 1 or 2 greases.

<table>
<thead>
<tr>
<th>Part No</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>IL-108501</td>
<td>European Pump (12.5-18 KG), cover 265mm to 310mm</td>
</tr>
<tr>
<td>IL-108502</td>
<td>USA Pump (35lb) cover 285mm to 330mm</td>
</tr>
<tr>
<td>IL-417001</td>
<td>Grease follower plate 260mm to 298mm</td>
</tr>
<tr>
<td>IL-417003</td>
<td>Grease follower plate 300mm to 340mm</td>
</tr>
</tbody>
</table>
HDI Electrical Data

All HDI models can be supplied with or without an inbuilt controller. The HDI in-built controller has a dual LED digital display for programming and running the pump.

**Control criteria**

Pump run times can be selected with time on mode (t) adjustable from 1-99 min. Pump delay time is variable from 1 min to 99 hours 59 min. The controller has a manual override facility.

HDI Models can be supplied with or without in-built controller.

**With Controller**
The HDI in-built controller has a dual LED digital display for programming and running the pump.

**Without Controller**
HDI without controller can be supplied in two standard variations:
1) Direct to motor
2) Direct to motor with integral reed switch to monitor rotation

**HDI Electrical data**
- Electrical supply = 12v/24vDC
- maximum amps 12v Pump = 5A
- maximum amps 24v Pump = 5A
- Dual voltage PCB = 12v/24v
- IP65 protected

**Wiring diagram for HDI with controller**

**Wiring diagram for HDI without controller**

**EMC Compliant**

- Transient protection to ISO 7637
- Operating conditions: +40°C to -30°C
- Use 5Amp slow blow inline fuse for all pumps

**Electrical supply**
- 12v/24v DC
- Maximum amps: 12v Pump = 5A, 24v Pump = 5A
- Dual voltage PCB = 12v/24v
- IP65 protected

**Designated Colors**
- IGNITION: Blue
- BATTERY -VE: Yellow/Green
- BATTERY +VE: Red
- CAB MOUNTED LAMP (OPTION): White
- CAB MOUNTED MANUAL OVERRIDE (OPTION) SWITCH: Grey
- MOTOR +ve: Blue
- MOTOR - ve: Brown
- REED SW. Red: 1
- REED SW. Grey: 2
- MOTOR +ve: Brown
- MOTOR - ve: Black
HDI Control and Alarm Functions

HDI With Controller

HDI Fully programmable controller

- Pump run times and pump delay time are totally variable, giving full customization for all applications
- The controller has a manual override facility. (see information manual ISF294).
- Low level
- Grease flow monitor

CONTROL CRITERIA

<table>
<thead>
<tr>
<th></th>
<th>Minimum Pause time</th>
<th>Maximum Pause time</th>
<th>Minimum Run time</th>
<th>Maximum Run time</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>1 minute</td>
<td>99 hours</td>
<td>1 minute</td>
<td>99 minutes</td>
</tr>
</tbody>
</table>

Low level

To detect low grease level Interlube have developed high reliability capacitive sensors, fully sealed and encapsulated to operate in the most arduous industrial environments. Two versions available, for 000 grade fluid grease & NLGI grade 2 grease

Grease Low Level Sensor Kits

The Grease low level kit comprises of a low level sensor to suit the reservoir size, pump connector and connector with internal loom to connect onto the standard HDI 12/24v DC PCB.

10-40V DC
Maximum current 100mA
PNP Output
Normally open (reservoir empty)
Protection to IP67
Sensing distance 20mm max
withdrawing sensor from grease
ferrous sensing distance 15mm max

<table>
<thead>
<tr>
<th>Part No.</th>
<th>Low Level Reservoir Kit for:</th>
</tr>
</thead>
<tbody>
<tr>
<td>HDI SP9/3P</td>
<td>3 Ltr Moulded Reservoir</td>
</tr>
<tr>
<td>HDI SP9/3</td>
<td>3 Ltr Standard Reservoir</td>
</tr>
<tr>
<td>HDI SP9/6</td>
<td>6 Ltr Standard Reservoir</td>
</tr>
<tr>
<td>HDI SP9/9</td>
<td>9 Ltr Standard Reservoir</td>
</tr>
<tr>
<td>HDI SP9/15</td>
<td>15 Ltr Standard Reservoir</td>
</tr>
</tbody>
</table>
The HDI Pump can be supplied with or without an internal controller (PCB).

**The pump without** control facility is fitted with an internal reed switch; this can be used to monitor the pumps internal cam rotation.

**The pump with** control facility has an in-built alarm function, which can be connected to an external alarm relay as an option. In general the HDI is connected to progressive divider valves as illustrated in Fig (2). The progressive divider valves are designed to feed a positive set amount of grease to each connected point in turn, without missing a point out. The primary divider valve is fitted with a proximity flow indicator switch, which will signal positive flow back to the HDI PCB. Should the pump operate and the PCB not receive a flow signal the pump would alarm. This alarm signal could be connected to an external remote audio or visual alarm on the machine or alternatively connected to the machines PLC. The PLC could be programmed to stop the machine from operating should the lubrication system fail to operate correctly.

**Grease Flow Monitor**

**Remote Alarm Functions**

**Wiring for Alarm SW**
HDI Installations

Specialist Plant in the Steel Industry

HDI on the most demanding plant in the most arduous conditions

Mobile Plant

- Quality
- Reliable
- Robust
- Fully Programmable

Loading Shovels, Dump Trucks and Excavators
HDI Installations

Agricultural

HDI - Reliability All Year Round

Sprayers, Cultivators, Harvesters & Corn Crackers

Chassis Applications

- Low Cost
- Durable
- 5 x Reservoir Sizes
- Compact
- Transient Protection to ISO 7637/-Road Vehicles
HDI for Heavy Industry

Industrial Applications

- System Fault Detection
- Remote Monitored Systems

HDI reliability for remote installations

Can Filler and Seamer Lubrication Systems

Crushers

Steel Mill
By-Pass Filtration Systems
For Hydraulic Systems and Engines

Significantly extending oil life

By-Pass Filtration Systems
For Hydraulic Systems and Engines

ROTA
LUBE
Ultimate Chain Lubricator

Standard Rotalube Applicators (Simplex)
The revolutionary RotaLube chain lubricator is a unique and precise method of applying lubrication oil onto industrial chains.

Atpresentthemostcommonsystems usedtolubricatechainsare:


ABC
RL- 08B1 1/2" British Standard 26.9 48.8 89.2
RL- 10B1 5/8" British Standard 28.3 51.5 91.4
RL- 12B1 3/4" British Standard 29.5 54.0 91.6
RL- 16B1 1" British Standard 35.9 66.8 98.1
RL-ASA40-1 1/2" American Standard 27.2 49.3 89.2
RL-ASA50-1 5/8" American Standard 29.0 53.0 91.4
RL-ASA60-1 3/4" American Standard 31.4 57.7 91.6
RL-ASA80-1 1" American Standard 34.6 64.2 98.1

Static Brush Application. This method demands constant maintenance. Application brushes clog up and bristles wear and are vulnerable to potential damage, soonafter installation.

Spit/Spray System. Currently the most commonly installed lubrication system for chains on large installations. It is very expensive to install.

Overlubrication can cause the chain rollers to slide and this causes flatspots, hence the rollers will not roll. Underlubrication will cause the chain to wear and breakdown. There is also a danger of inaccurate lubrication, when, after time the chain expands, which moves the pitch of the pins; yet the static lubrication point of the spray nozzles does not compensate for this. Nozzles also get damaged and knocked out of position, so even if the system is operating, the oil is not penetrating the pins exactly where required.

The RotaLube chain lubricator answers all the problems outlined above. It is a controlled applicator that does not suffer from excessive wear. It will not ‘clog up’ and maintains accurate lubrication whatever the condition of the chain and pins.

Bespokelargersizeapplicatorsareavailableonrequest

1/8 BSP INLET

MOUNTING DIMENSION

2 HOLE M8x1.25 Px15,0 DEEP
1/8BSP x10,0 DEEP 30,0

A, B, C Dimensions mm