

**HDI**

MADE IN THE U.S.A. BY  
INTERLUBE SYSTEMS LTD  
PLYMOUTH PL0 8LH

SUITABLE FOR USE  
WITH S1, S2, S3, S4 &  
S4.0 OILS - NOT  
GRADES 2 GREASE  
MINIMUM LEVEL

# HDI Range Electric Lubrication Pumps

*Timken ILS Ltd - Heavy Duty Industrial Lubrication Systems*



# The HDI Family

Electric Centralized lubrication Pumps with 3, 6, 9 & 15kg Perspex Reservoirs



\* HDI 3 Litre moulded style reservoir

## Type HDI Electric Pumps (Suitable for Grease or Oil)

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.

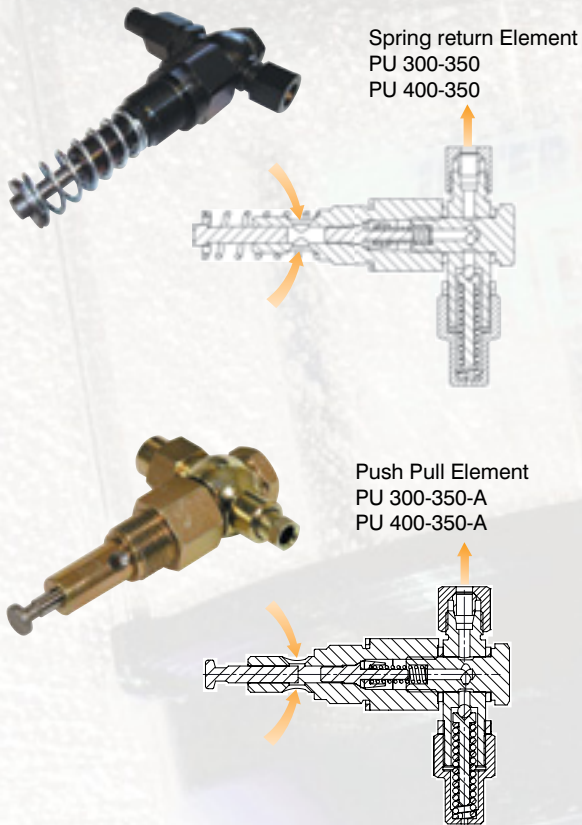
All HDI models can be controlled by an in-built PCB or the pump can be supplied without controls so that the pump can be controlled externally by a separate controller or the machines own PLC.



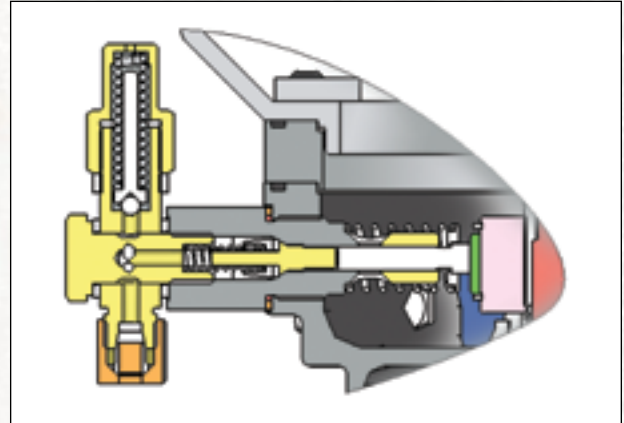
# HDI Pump Outputs

All HDI Pumps are supplied with one pump element as standard.  
Up to three pump elements can be fitted into one HDI pump

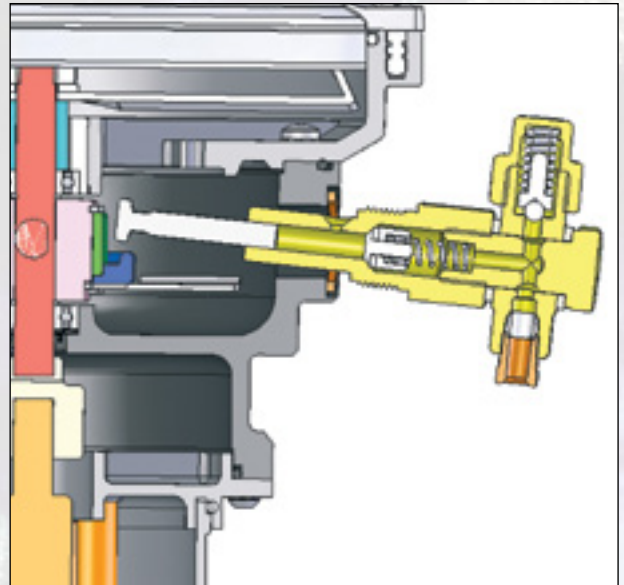
## Pump Elements



## Spring Return Version



## Push Pull Version



## 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 19/23revs/min					
Part No	Max output/min pressure (BAR/PSI)	Output/min Volume (cc)	Volume (cu in)	Pump Element Outlet Size	Relief Valve Setting 350 BAR 5145 PSI
PU 300-350	300 (4410)	3.2	(0.20)	6mm O.D	
PU 300-350-A	300 (4410)	3.2-1.4	(0.20-0.08)	6mm O.D	
PU 400-350	300 (4410)	3.2	(0.20)	6mm O,D	
PU 400-350-A	300 (4410)	3.2- 1.4	(0.20-0.08)	6mm O.D	
Operation conditions +40°C to - 30°C					

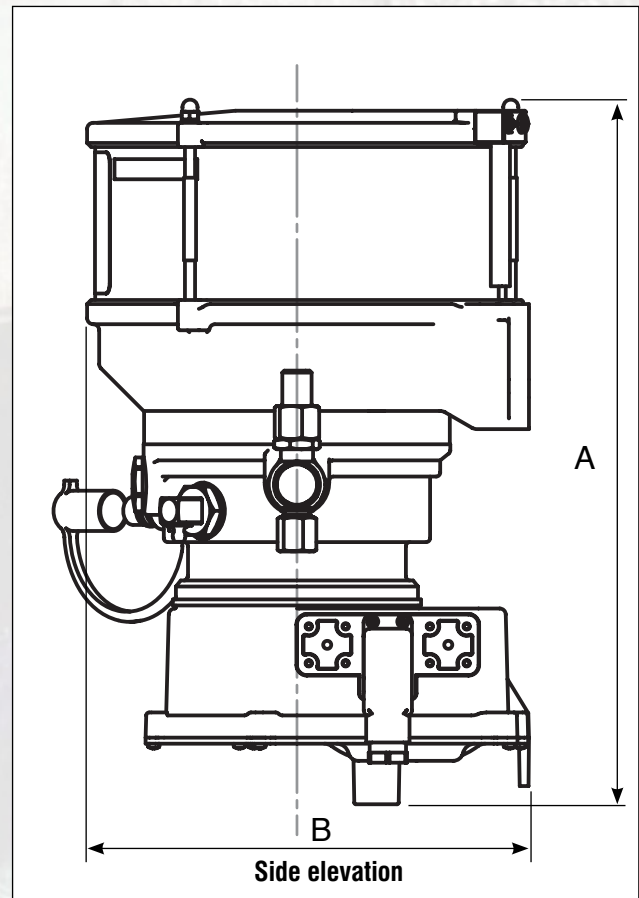
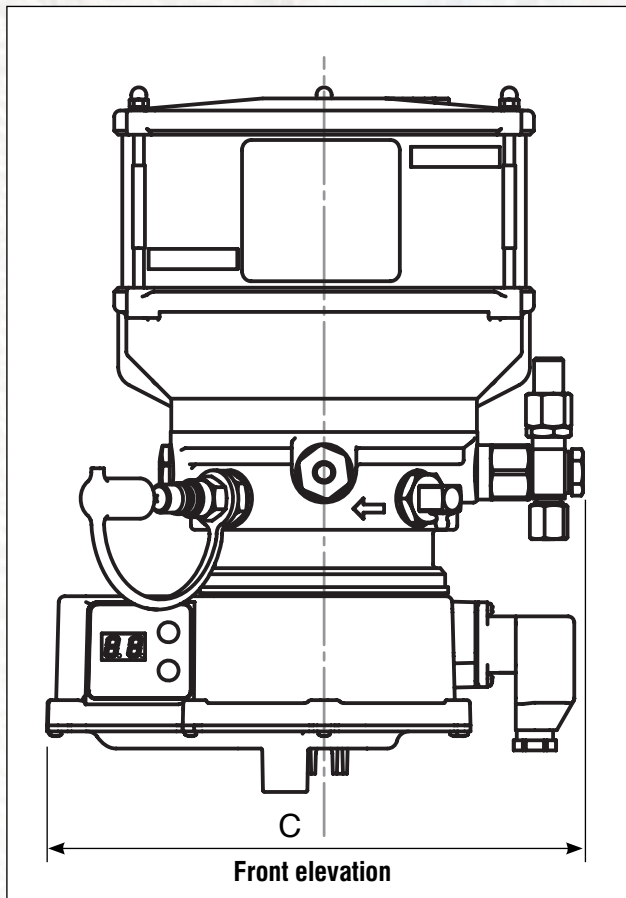
The grease output figures were based on NLGI 2 Grease at ambient conditions, the output volume may vary depending on lubricant specification and temperature.

# HDI Dimensions

## Pump Dimensions

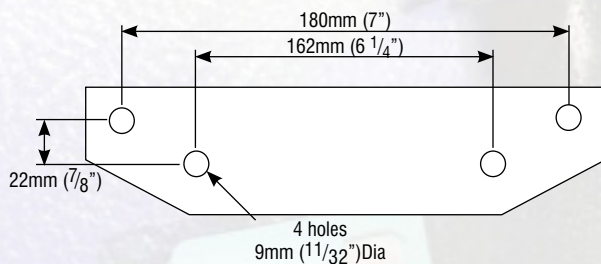
Reservoir Size	A		B		C	
3 Ltr Moulded	340mm	13 <sup>1</sup> / <sub>2</sub> "	260mm	10"	270mm	10 <sup>1</sup> / <sub>2</sub> "
3 Ltr Standard	300mm	12"	260mm	10"	270mm	10 <sup>1</sup> / <sub>2</sub> "
6 Ltr Standard	400mm	16"	260mm	10"	270mm	10 <sup>1</sup> / <sub>2</sub> "
9 Ltr Standard	490mm	19 <sup>1</sup> / <sub>2</sub> "	260mm	10"	270mm	10 <sup>1</sup> / <sub>2</sub> "
15 Ltr Standard	700mm	27 <sup>1</sup> / <sub>2</sub> "	260mm	10"	270mm	10 <sup>1</sup> / <sub>2</sub> "

Diagram shows a standard HDI pump

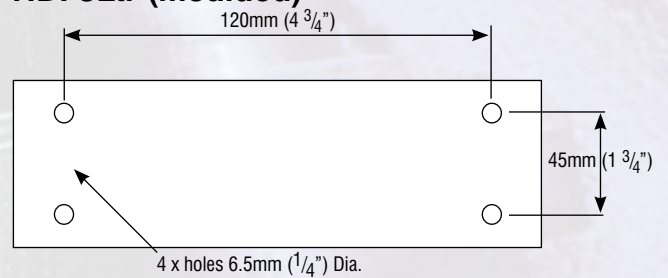


## Mounting Positions of the HDI Pump

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



### HDI 3Ltr (moulded)





# HDI filling methods

## HDI Dual Fill



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

Part No.	Description
HDI - 57549-1	Quick fill gun
HDI - 36763-1	Straight adapter for the pump
HDI - 36763-2	90° adapter



HDI-36763-1



HDI-36763-2



## 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.



Part No	Description
IL-108501	European Pump (12.5-18 KG), cover 265mm to 310mm
IL-108502	USA Pump (35lb) cover 285mm to 330mm
IL-417001	Grease follower plate 260mm to 298mm
IL-417003	Grease follower plate 300mm to 340mm

# HDI Electrical Data



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

EMC Compliant

Transient protection to ISO 7637

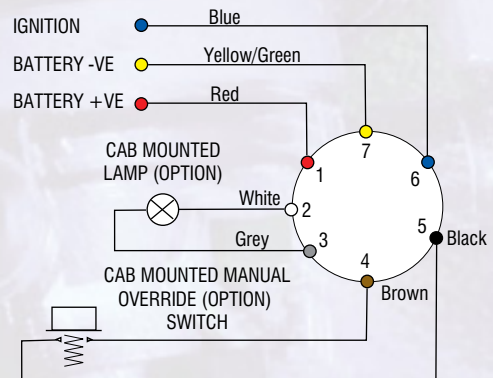
Operating conditions +40C to -30C

Use 5 Amp slow blow inline fuse for all pumps

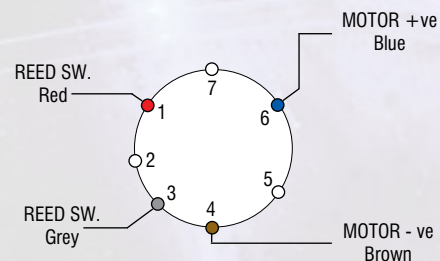


figure 1

### Wiring diagram for HDI with controller



### Wiring diagram for HDI without controller



All HDI models can be supplied with or without in built 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 Control and Alarm Functions

## HDI With Controller



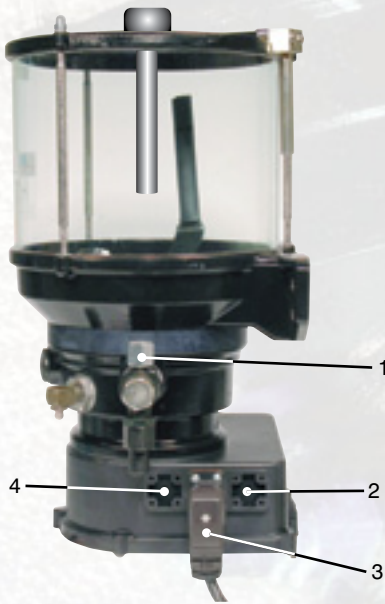
## HDI Fully programmable controller

- 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

Minimum Pause time	1 minute
Maximum Pause time	99 hours
Minimum Run time	1 minute
Maximum Run time	99 minute

## Low level



1. Pump elements (see page 2)
2. Low level connection (not supplied as standard)
3. Power cable (30ft) and 7 pin connector supplied as standard with all models (see fig 1 on page 5)
4. End of line or primary flow proximity sensor alarm connection (not supplied as standard)

Part No.	Low Level Reservoir Kit for:
HDI SP9/3P	3 Ltr Moulded Reservoir
HDI SP9/3	3 Ltr Standard Reservoir
HDI SP9/6	6 Ltr Standard Reservoir
HDI SP9/9	9 Ltr Standard Reservoir
HDI SP9/15	15 Ltr Standard Reservoir

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

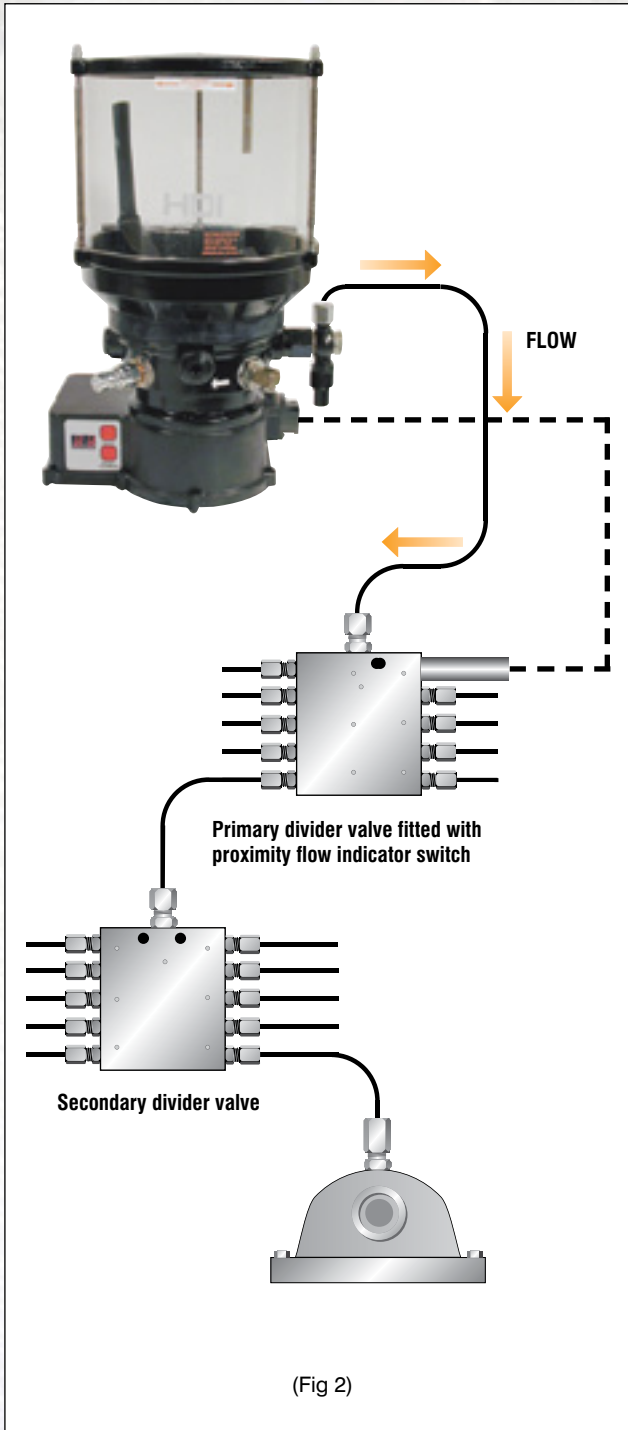
withdrawing sensor from grease

ferrous sensing distance 15mm max



# Alarm Functions

## Grease Flow Monitor



## Remote Alarm Functions

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.

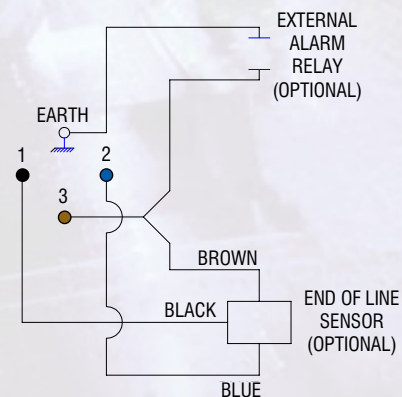
**The pump with** control facility has an in-built alarm function, which can be connected to an external alarm relay as an option.

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.

## 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



- High 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



HDI reliability for remote installations

## Industrial Applications



- System Fault Detection
- Remote Monitored Systems



Can Filler and Seamer Lubrication Systems



Crushers

Steel Mill

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