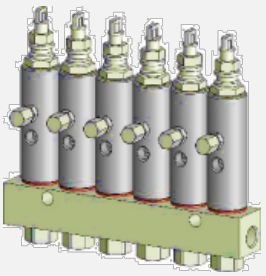
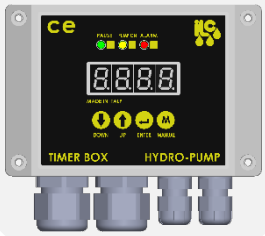
LUBRICATION
SYSTEMS

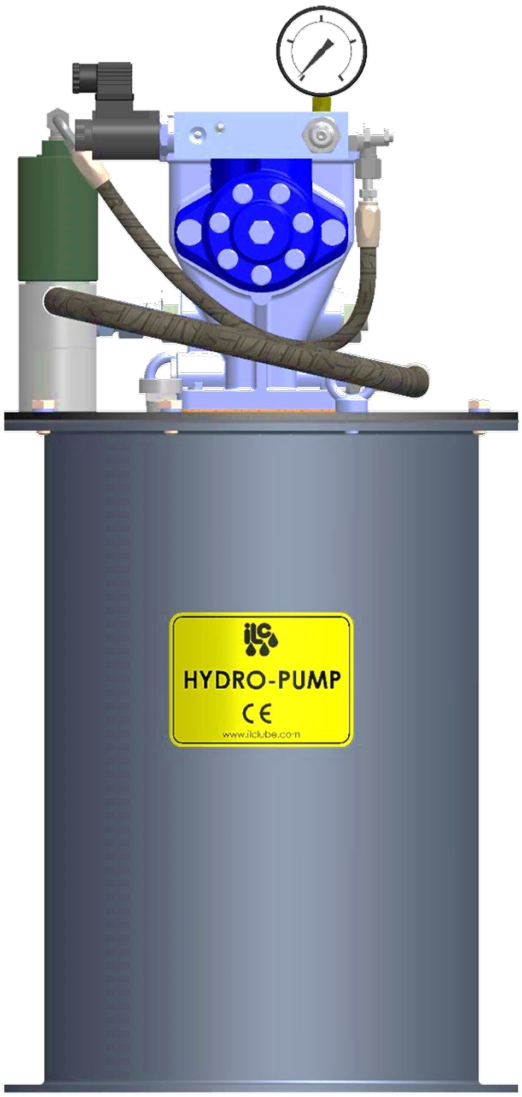


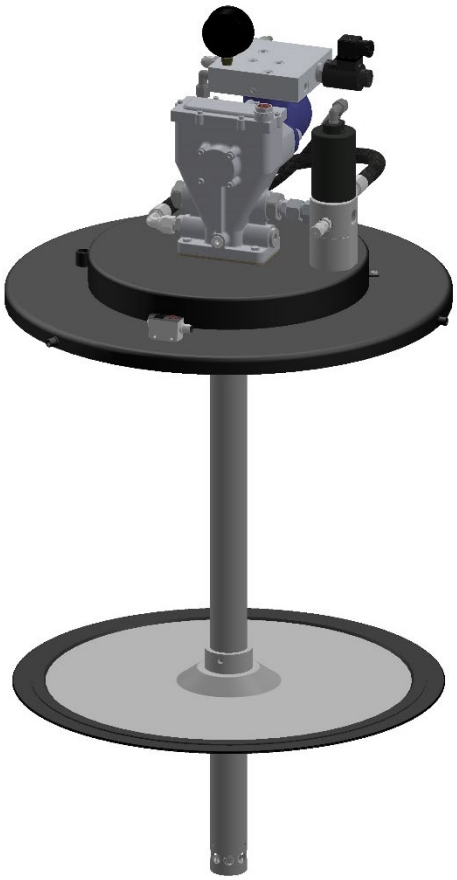
HYDRO-PUMP

Hydraulic-Grease Lubrication Pump

For stationary and mobile applications
in difficult environments







Designed to work the full day in extreme condition

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LUBRICATION SYSTEMS

HYDRO-PUMP®

Hydraulic-Grease Lubrication Pump

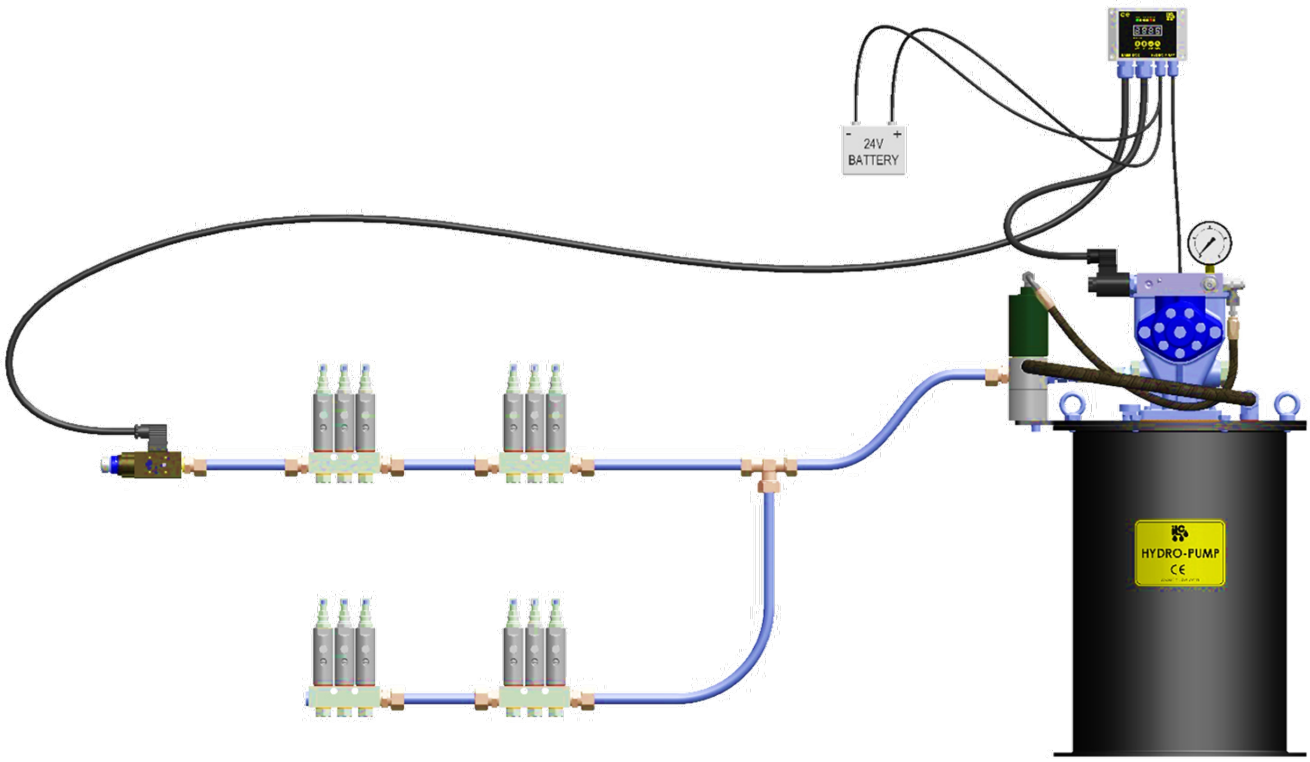
APPLICATIONS

- ***Cement plant***
- ***Jaw and gyratory crushers***
- ***Mineral sizers***

- ***Ship loaders - slew bearings***
- ***Front-end loaders - 12 cu. yd. or higher***
- ***Mining trucks - 100 ton capacity or higher***

- ***Shovel fronts***
- ***Drag lines***
- ***Bucket wheel excavators***

TYPICAL LAYOUT



THE HYDRAULIC UNITS FOR GREASE LUBRICATION SYSTEMS

High-performance **HYDRO-PUMP** rotary driven is a fully hydraulic operated adjustable grease pump with the output adjustable from 120 to 400 cc/1'. Grease output is proportional to the hydraulic input flow. The pump is primarily designed for centralized lubrication systems such as the single line, progressive and dualine systems. A 24 V DC solenoid valve is also incorporated.
The pump is driven by the hydraulic motor. Rotary motion is converted to reciprocating motion through an eccentric mechanism. The reciprocating action causes the pump cylinder to move up and down. The unit is a positive displacement double-acting pump, as grease output occurs during both the up and down stroke.

FEATURES AND BENEFITS

- simplifies pump installation, operation and service
- Pump and reservoir combination models with level-sensor
- Premium choice pump for single-line parallel lubrication systems
- Pump and accessory options for use with drum custom installations
- High efficiency motor design
- modules ready-to-work with both injector and divider va systems
- Self-lubricating for long life and reliable operation
- Achieve full pressure performance by safely tapping low pressure hydraulics

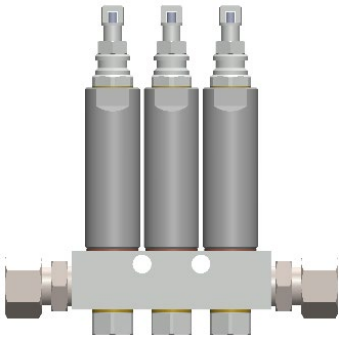
SUPERIOR SYSTEM PERFORMANCE

Heavy-duty construction and mining equipment rely on fresh lubricant to flush contaminants from critical pivot points. An automatic lubrication system from ILC provides constant lube replenishment, preventing expensive component failures. Divider valves and/or injectors accurately distribute lubricant to lube points and are designed to accept a variety of system accessories which include electronic controllers, pressure switches and level indicators. Integrated low-level sensor alerts when lubricant is low, but not empty to avoid unplanned downtime Works with oil up to NLGI #2 grease in off-road mobile environments

SYSTEM OPERATION

SINGLE LINE SYSTEM

at the expiry of the pause time established, the control electronics sends a signal to the solenoid valve and the hydraulic flow feeds the pump. The lubricant is dosed through the injectors. At the end points, when all have delivered the flow rate, the pressure arises in the circuit until the intervention of the pressure switch sends signal to the electronic board deactivating the solenoid valve. The vent valve open and the metering units reset and will be ready for a new stroke.



PROGRESSIVE SYSTEM

at the expiry of the pause time established, the control electronics sends a signal to the solenoid valve and the hydraulic flow feeds the pump. The lubricant is dosed through the distributors at the end points, when all have delivered the flow the cycle control sends a signal to the electronic board and deactivates the solenoid valve.

DUAL LINE SYSTEM

at the expiry of the pause time established, the control electronics sends a signal to the solenoid valve and the hydraulic flow feeds the pump. The lubricant is delivered in the first line up to the inversion signal and then delivered in the second line. When both lines have reached the pressure established, the pressure switch sends a signal to the electronic board and deactivates the solenoid valve.

FEATURES

Technical data

Function principle	hydraulically operated piston pump	*Operating temperature*	From –30 °C to + 65 °C
Metering quantity	adjustable 120 to 400 cc / 1'	*Reservoir kg or*	27 – 41
Transmission ratio with manifold	10:1 at 20 to 25 bar inlet pressure and flow 11:1 at 26 to 32 bar inlet pressure and flow	*Designed for*	180kg std drum
operating pressure	Max 250 bar [3500 psi]	*Material*	steel, aluminum casting
Relief valve	Setting at 275 bar±10%	*Connection outlet*	3/8 BSP Female
Lubricant	grease NLGI from 0 to 2	*Mounting position*	vertical
Outlets	1	*Dimensions:*	See last page

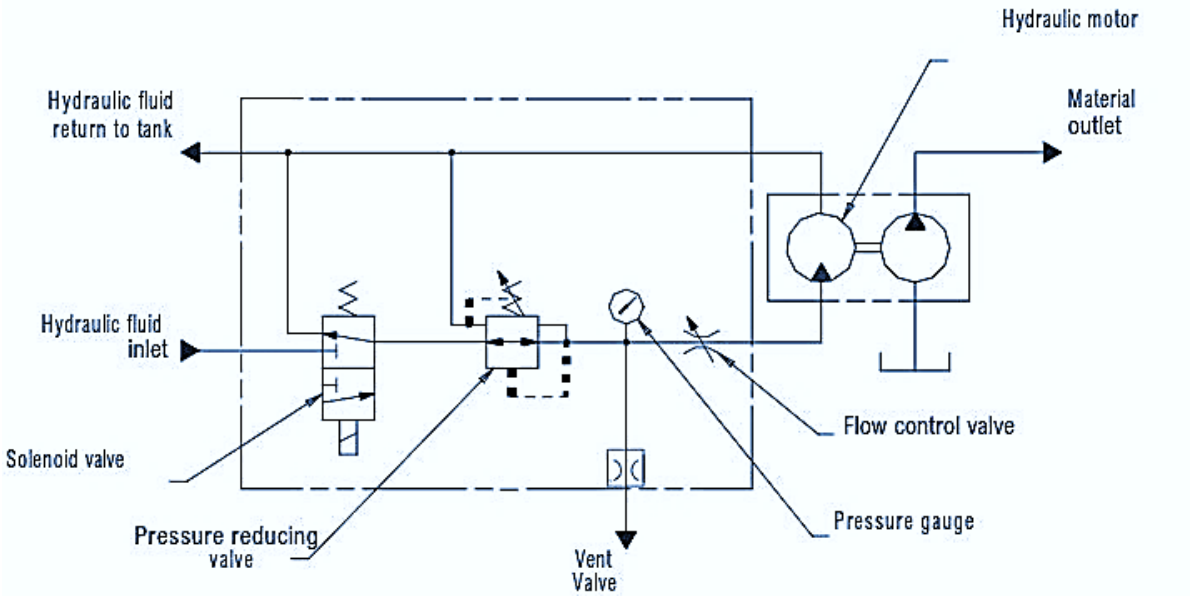
Hydraulic drive data

Supply inlet pressure	Max 200 bar [3000 psi]	Hydraulic fluid temperature	Max +93 ° [200 °F]
Operating inlet pressure	From 20 to 32 bar [300-420 psi]	Hydraulic inlet port	¼" BSP
Hydraulic inlet flow	Max 28 l/1' [7 gal/1']	Hydraulic return port	¼" BSP

Electrical data

Low and high level switch	Laser sensor 2 signal	Solenoid valve coil	24 V DC
Protection	IP-67	power	27Watt
Connection	connector M12x1	Connection	

HYDRAULIC DIAGRAM



MAIN COMPONENTS

Injector Modules
Pressure Relief Valve
capable of venting injector based systems allowing the CX – CL and CM injector to reset
These modules arrive fully assembled

Relief valve
built in to vent valve to ensure safe relief of system pressure
the injector module is supplied complete with flex port fitting

Safety valve
Preserve pumps and injectors system pressure

Manifold pump drive control
Hydraulic motor and pump together are a fully hydraulic grease pump. An integrated pump control manifold is incorporated with the motor

Hydraulic oil supply inlet pressure must not exceed 32 Bar. The hydraulic motor operates at this pressure to drive the grease pump.

Solenoid valve when energized, allows oil to flow to the hydraulic motor circuit

Pressure control valve, reduces the hydraulic supply pressure from the truck steering. Hydraulic pressure is reduced to an operating pressure

Flow control valve mounted on the manifold, controls the amount of oil flow to the hydraulic

Pump Housing

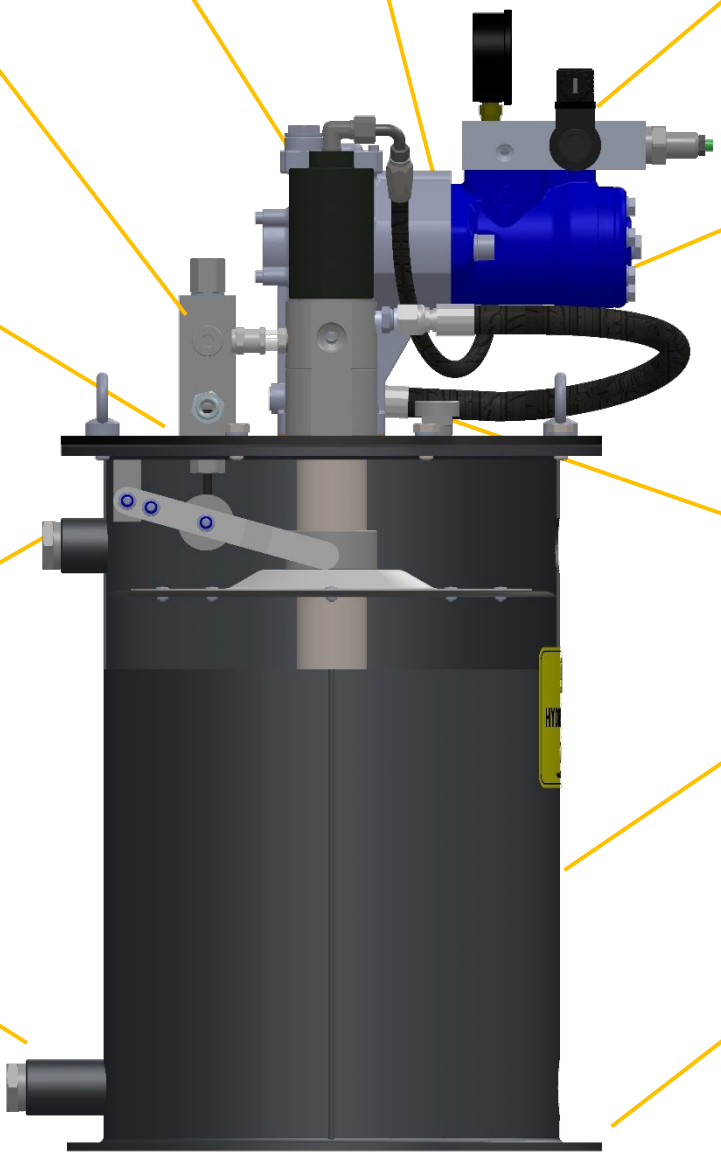
pump body in die-cast aluminum sealed to keep contaminants out for longer

Overflow grese system
the OVERFLOW system requires the presence of follower plate and cover

Hydraulic Motor

Orbital hydraulic motor driven directly by the line flow.the increase or reduction of the flow varies the flow rate of the pump

Low level switch
the model with electrical low-max level requires the presence of follower plate



Breather valve
prevents pressure build up or vacuum – essential for proper follower plate function. One way valve so no risk of contamination

Vent Port

puts the grease at the foot of the pump and allowing for smooth follower plate action

Resevoir

is made of thick 12 gauge steel . Rubber seal keep out contamination

Fill port

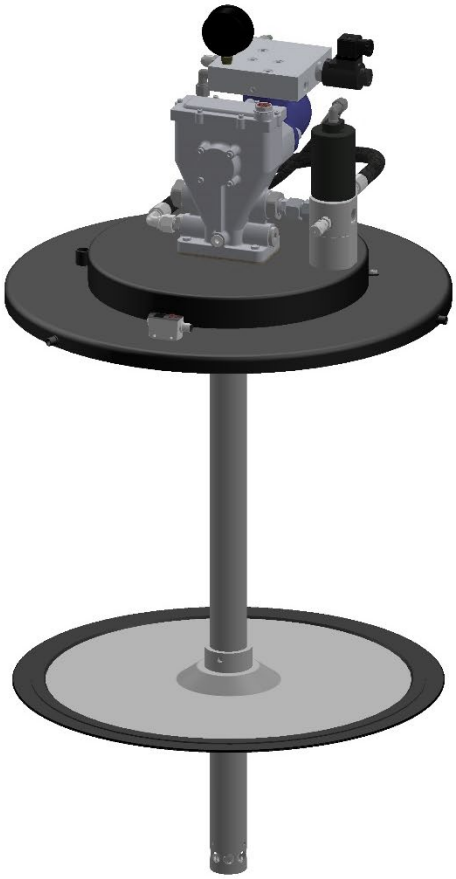
puts the grease at the foot of the pump and allowing for smooth follower plate action

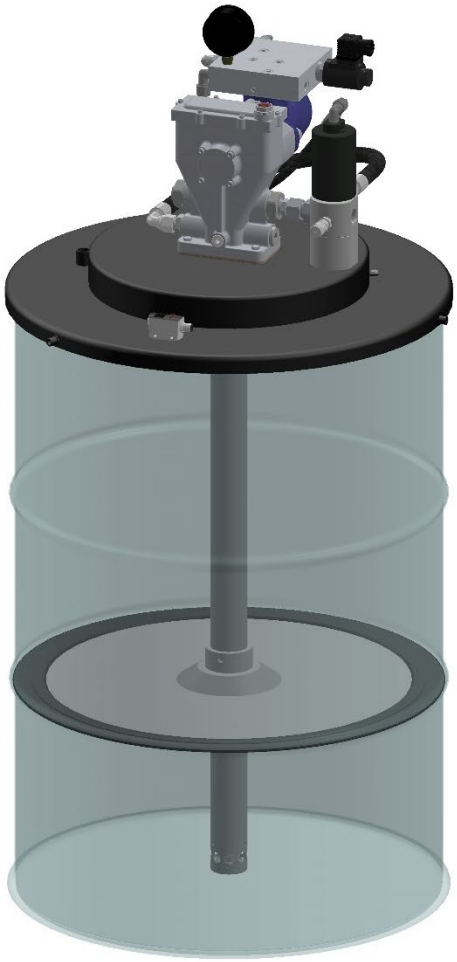
Fixing plate

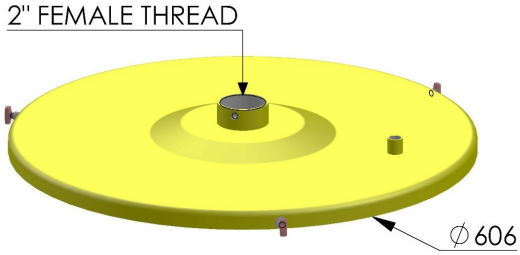
Flange for ground fixing

HYDRO PUMP FOR 180KG DRUM

The ELECTRA pump is designed for installation in standard 180/220kg grease drums with 2 "F connection cover
To simplify assembly - if the complete supply of the drum cover is not required - we have provided an adapter plate that allows the use of any cover.







COVER 600MM
STANDARD 2"F ADAPTOR

the assembly of the pump does not require any drilling or mechanical processing of the drum cover. Only if the electrical level is required is it necessary to drill a hole to allow the reading of the movement of the follower plate

OVERFILL GREASE PREVENTION SYSTEM

The ILC mechanical grease overflow prevention system is designed to improve worker safety by helping to prevent spills that can cause slip-and-falls, fire hazards or other concerns. Compatible with any HYDRO/ELECTRA grease reservoir, this product is easy to install, simple to operate and reduces the manpower needed for reservoir filling, freeing personnel for other tasks.

It features heavy-duty, all-steel construction with anti-corrosion plating to withstand harsh environments. Because it operates mechanically, the system requires no electricity to function.

The high-pressure mechanical grease overflow prevention system shut-off valves are available in ½-inch NPT. The system can be operated with or without our grease LASER LEVEL SENSOR, which enables it to be connected to a grease level gauge at the fill station or in the cab.

ILC mechanical grease overflow prevention system advantages:

•Improves worker safety by preventing spills

•Helps avoid cleanups and potential fines

•Easy to install; simple to operate

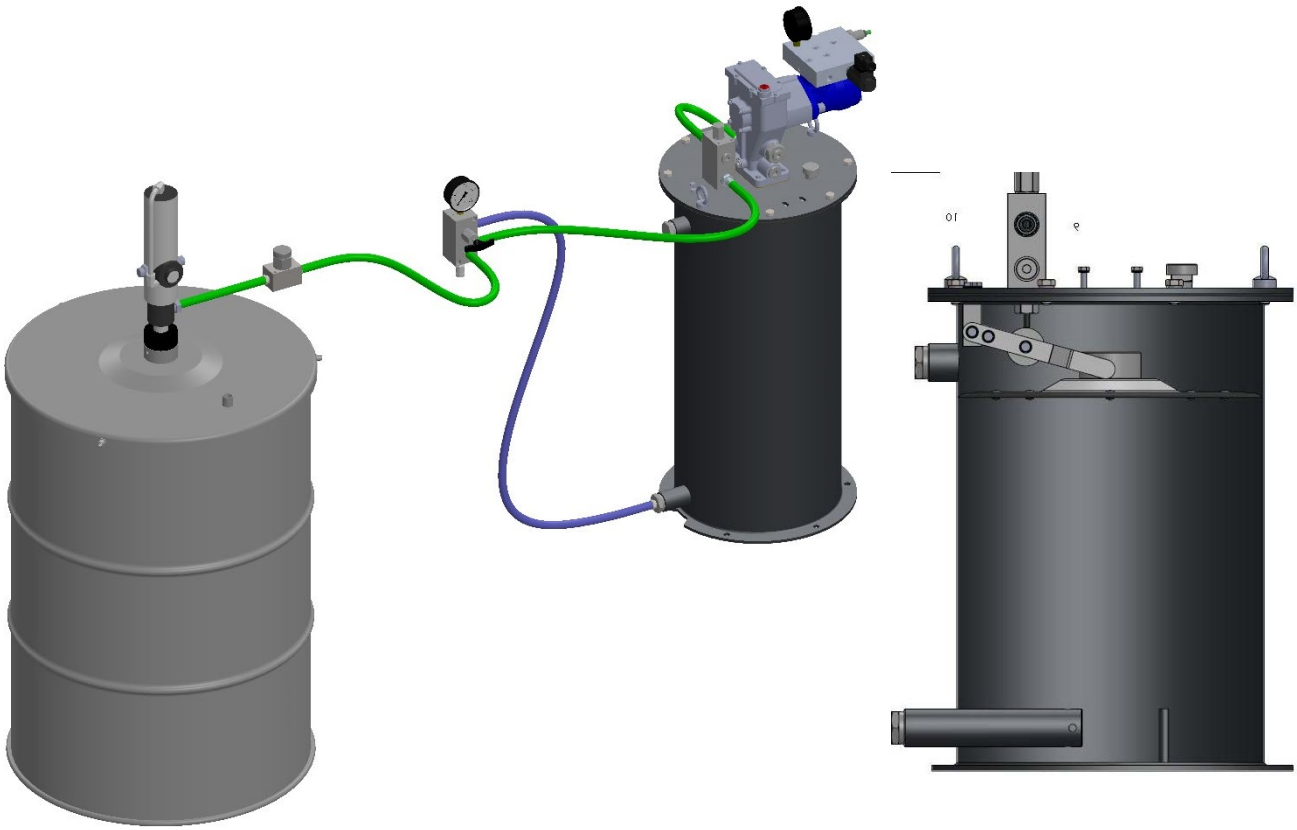
•Mechanical operation; requires no electricity to function

•Operating pressures up to 400 bar

•Operating temperature range of -40 to +70 °C

•Supply line relief can vent grease externally to catch container

The mechanical grease overflow prevention system is suitable for mining, aggregate and industrial applications, as well as for use on off-road construction equipment. Optional components are available for customized installation.



ORDERING CODE CONFIGURATOR

A	B	C	D	E	F
86	27	1	2	X	1	X

A

Pump complete of hydraulic manifold

Size	Key code
27 kg	27
41 kg	41
180KG	18

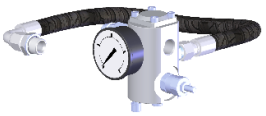
B

Injector module relief valve

Key code	
YES	1
NO	X

Only safety valve

Key code	
YES	2



C

Reservoir and cover

Key code	
ONLY COVER	**1**
COMPL. RESERVOIRE	**2**
NO	**X**

THE RESERVOIR VERSION IS NOT AVAILABLE FOR THE 180KG MODEL

E

Electrical level

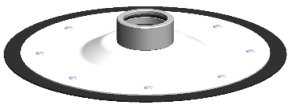
Key code	
YES	1
NO	X

the model with electrical low-max level requires the presence of follower plate

D

Follower plate

key code	
YES	1
NO	X

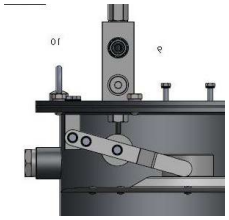


F

OVER FLOW SYSTEM

Key code	
YES	1
NO	X

the OVERFLOW system requires the presence of follower plate and cover



COMPONENTS ORDER CODE

Pump

SIZE	ORDER CODE	DRIVE MANIFOLD
27 kg	86.27.X.X.X.X	Yes
41 kg	86.41.X.X.X.X	Yes
180kg	86.18.X.X.X.X	Yes
27 kg	A72.079504	No
41 kg	A72.079505	No
180kg	A72.079515	No

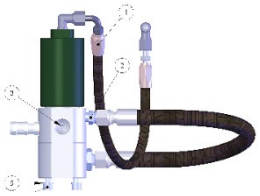
The pump is supplied with fixed screw and flat seal

Reservoirs and cover

SIZE	ORDER CODE
COVER	
27 or 41 kg	A72.079514
180kg	A72.079516
COMPLETE RESERVOIR	
27kg	A72.079506
41kg	A72.079507

The cover is supplied with screw – air drain flat seal and bold pattern.The reservoir code is supplied complete
The electrical level and follower plate must be ordered separately

Injector Module - A70.093786

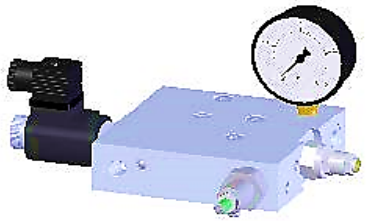


the injector module is necessary to supply single-line systems with CX or CL-CM dosers
The module is supplied complete with flex tubes for pump and reservoir return port

safety module - a70.093820

the relief module is necessary in systems with progressive or dual line metering vaves

Manifold hydraulic drive control A70.093772



The manifold is supplied complete with oil, pressure and flow control valves flex - Pressure gauge Screw and o.ring

Grease filter

Code	Mesh	Port	Cartridge
07.261.2	150	3/8”	07.262.4
07.261.3	300	3/8”	07.262.5
07.261.4	150	1/2”	07.262.4
07.261.5	300	1/2”	07.262.5

line filters are important to protect the system from any impurities introduced into the tank and pumping element in the main line

Laser low- and high-level sensor – A91.111548

Laser level switch works in conjunction with the follower plate to provide a signal of low and high lubricant level to the controller.

Follower Plate

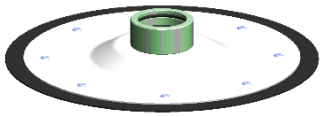


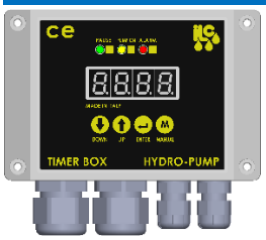
Plate slides down the collar as grease is used to make sure the maximum possible amount of grease is used before refilling. Can be used in the 27 - 41 and 180 KG reservoir.

CODE FOR 27/41kg **A70.093768** CODE FOR 180kg **31.600.4**

Pressure switch – 49.066.7

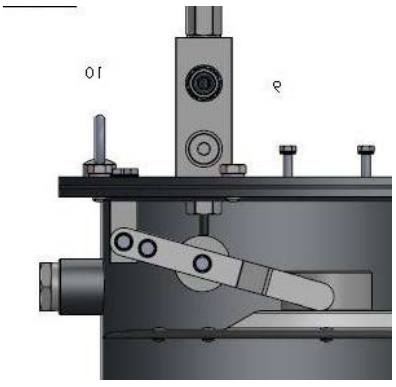
Pressure Switch working in conjunction with the Controller. It monitors the grease pressure and signals to the controller when the desired pressure has been reached. Knob allows for setting pressure level between 40 and 400 bar. Can be mounted at the end of the line

Controller - 86.BCT.24.DC



Operate the pump on a simple on and off time **or** Operate the pump in conjunction with press switch to ensure proper pressure level has been reached before pump is turned off. If proper pressure is not reached in a programmed amount of time, pump is turned off, Alarm Light is a and Error Code is displayed on LED Display.

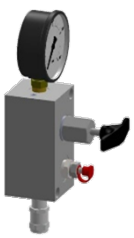
OVER-FLOW GREASE SYSTEM



The ILC mechanical grease overflow prevention system is designed to improve worker safety by helping to prevent spills that can cause slip-and-falls, fire hazards or other concerns. Compatible with any HYDRO/ELECTRA grease reservoir, this product is easy to install, simple to operate and reduces the manpower needed for reservoir filling, freeing personnel for other tasks.

It features heavy-duty, all-steel construction with anti-corrosion plating to withstand harsh environments. Because it operates mechanically, the system requires no electricity to function.

CODE A70.093821

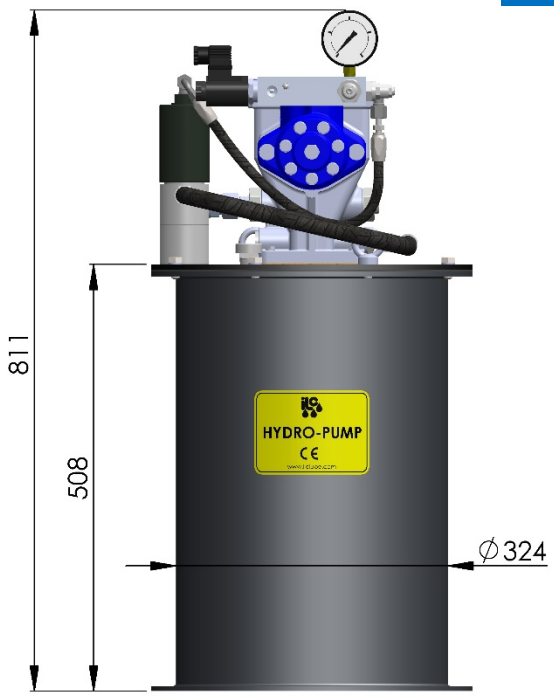


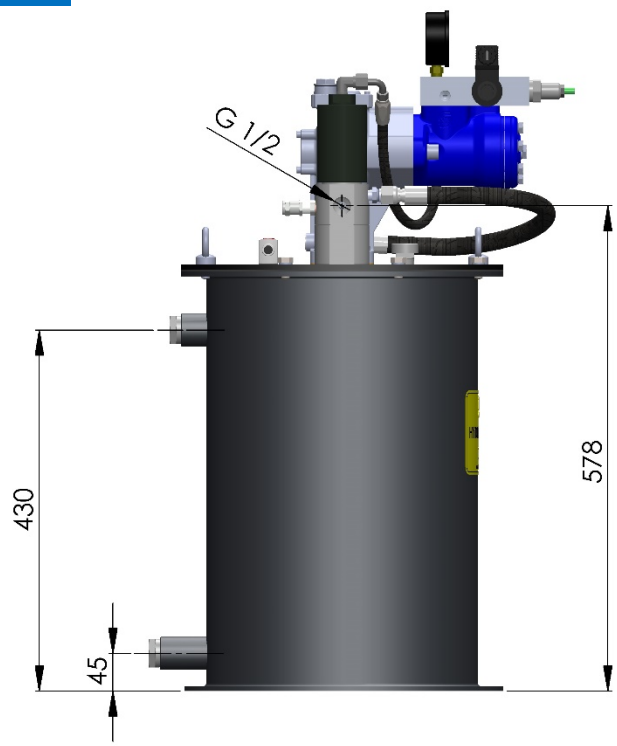
It is important that the filling flow is safe and that once the maximum level is reached, the pressure can be released into the delivery pipe to be disconnected. the ILC release block includes these functions and a pressure gauge to display the pressure

CODE 14.687.4

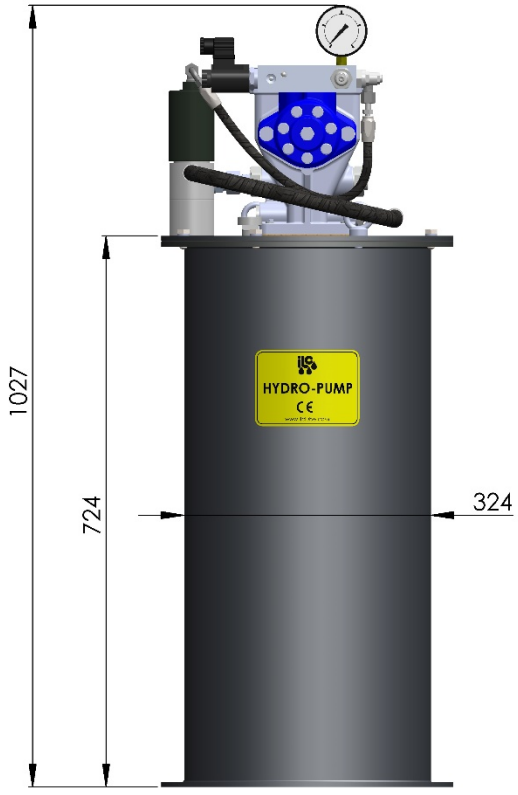
DIMENSIONS

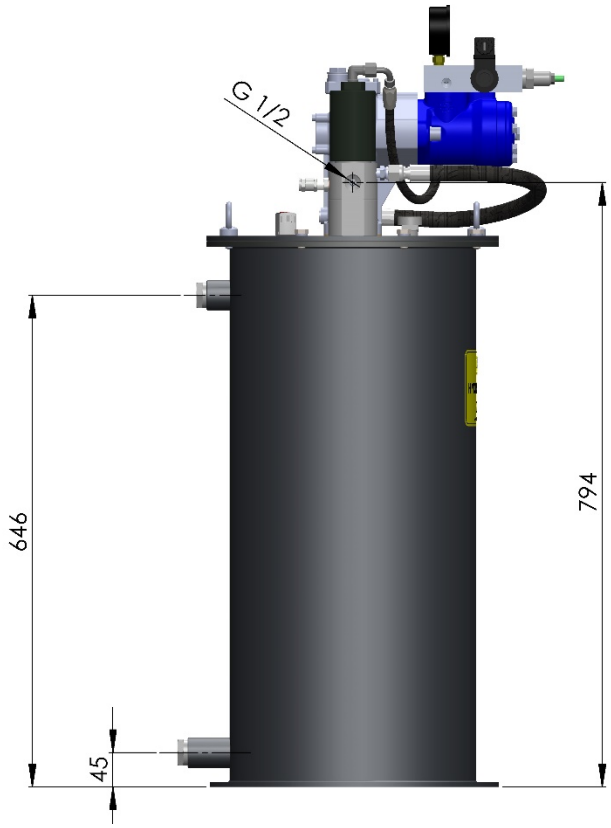
27KG PUMP



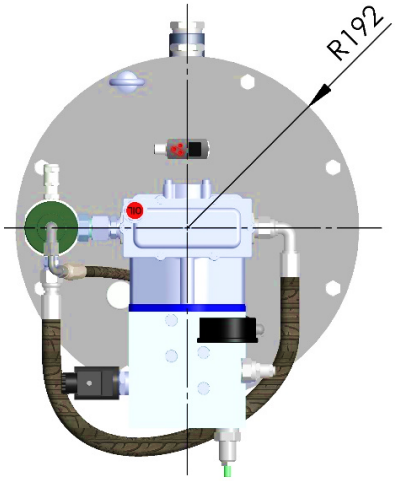


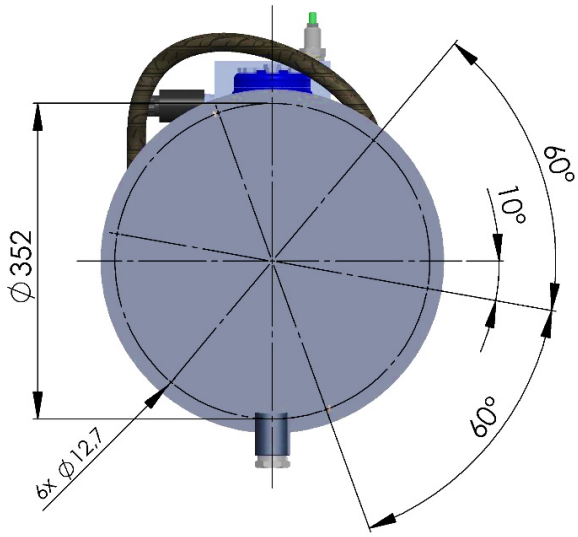
41KG PUMP





fixing plate dimensions





they do not change on size 27 and 41kg

Dimensions for std 180kg drum