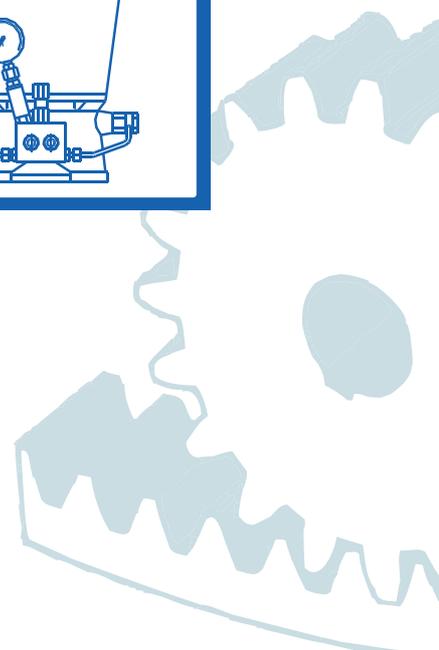
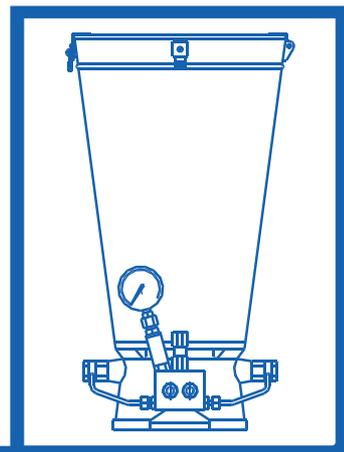


# CENTRAL LUBRICATION PUMP PD 40 Type

Central lubrication pump PD 40



Central lubrication pump PD 40



## Application

The pump is used for periodical plastic grease or oil feeding to machine friction nodes through two-way feeders (dosing distributors). It is recommended for use in high-load machines and devices with up to 50 lubrication points, located short distances from each other and requiring intensive lubrication (e.g. machines and devices in ironworks, steelworks, non-ferrous metal smelters, mining industry, building material plants, on ships etc.).

The pumps in overflow valve execution (PD 40A-10-...or PD 40B-10-...), working with an electromagnetic distributor located in the lubricating system outside the pump are recommended to serve machines and devices set in a line and a long distance from each other. Pumps in the hydraulic distributor execution (PD 40A-30-... or PD 40B- 30-...) are recommended to serve machines and devices not located in a line and at short distances from each other. The pumps of PD 40-10 execution may also be used in other systems, e.g. progressive ones.

## Construction

The pump consists of the following assemblies:

- lubricator tank with a feed mechanism
- power unit comprising an engine, two gears: a roll and a worm one, as well as a connecting rod assembly with a crosshead all assembled in a common body,
- two forcing units comprising bodies, pistons coupled with slides of the connecting rod assembly with a crosshead and return valves,
- an overflow valve located at the outlet of the pump or hydraulic control distributor comprising a body, slides and an overflow valve.

## Operation

The pump is powered by an electric motor. The engine shaft rotation is transmitted through reduction gears to the connecting rod assembly with a crosshead and grease feeding device. The feeding device drift fender separates the lubricant from the tank face, while the feeding screw kneads it initially and passes to the sucking area of the forcing units. Pistons of the forcing units, with a reciprocating movement induced by the connecting rod assembly with a crosshead, force the lubricant through from the tank to the distributor. Depending on the position of control elements in the distributor, the lubricant is directed to one of the two main lubrications conduit lines and then to the dosing distributors. After the grease is fed to the reception points by the feeders and the lubricant pressure increases up to the preset value, the distributor is activated and directs the forced grease to the other line. At the moment the distributor is activated, the pump engine stops and starts again only after the preset time-lag passes, automatically or manually (if the lubrication system is not equipped with a control device). The pump may also remain operating the moment the distributor is activated, without stopping the engine.

The lubricant pressure in the main conduit lines at which the direction of forcing switches is preset, in the case of the system with an electromagnetic distributor – with pressure relays or electro-contact manometers located at the ends of the main lubrication conduit line and in the case of the system with a hydraulic distributor – with an overflow valve located in the distributor. The pump tank is filled with lubricant through the loading coupling by the filling pump of PZ 31 or PZ 40 type.

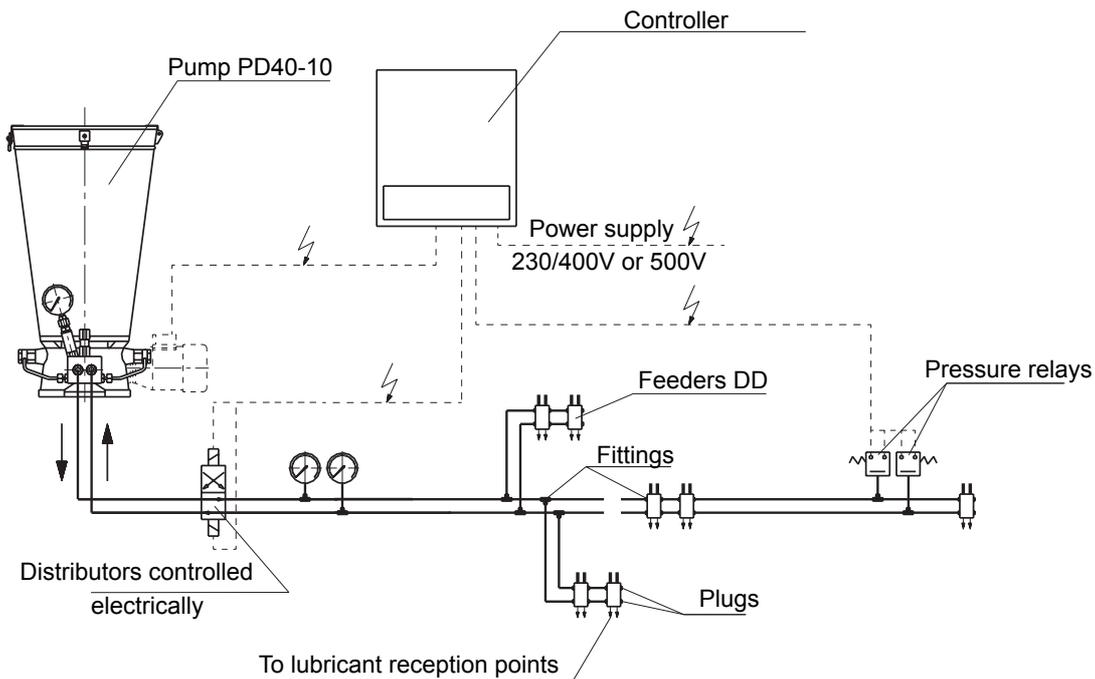


Fig. 1 Construction diagram of the central lubrication system with a PD 40-10 pump

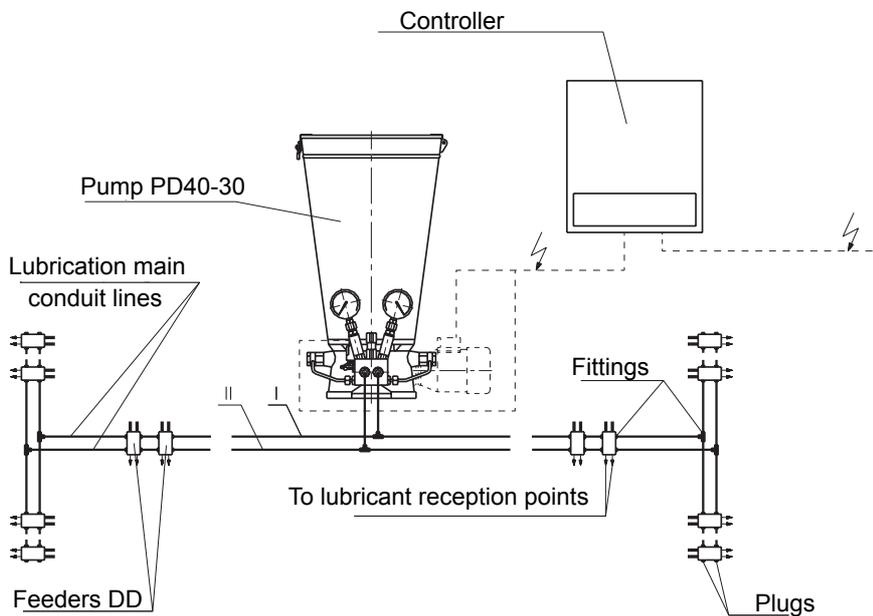
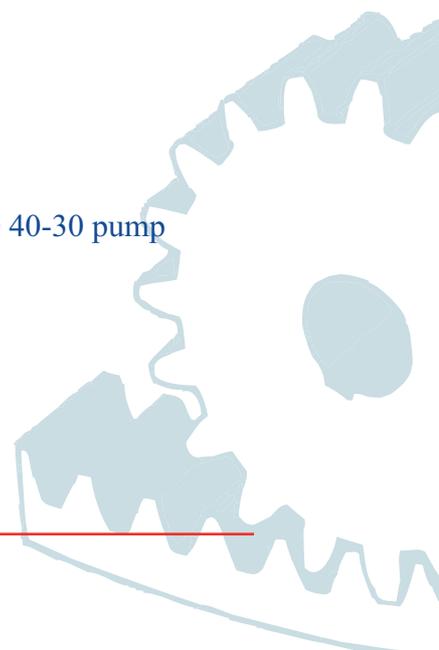


Fig. 2 Construction diagram of the central lubrication system with a PD 40-30 pump



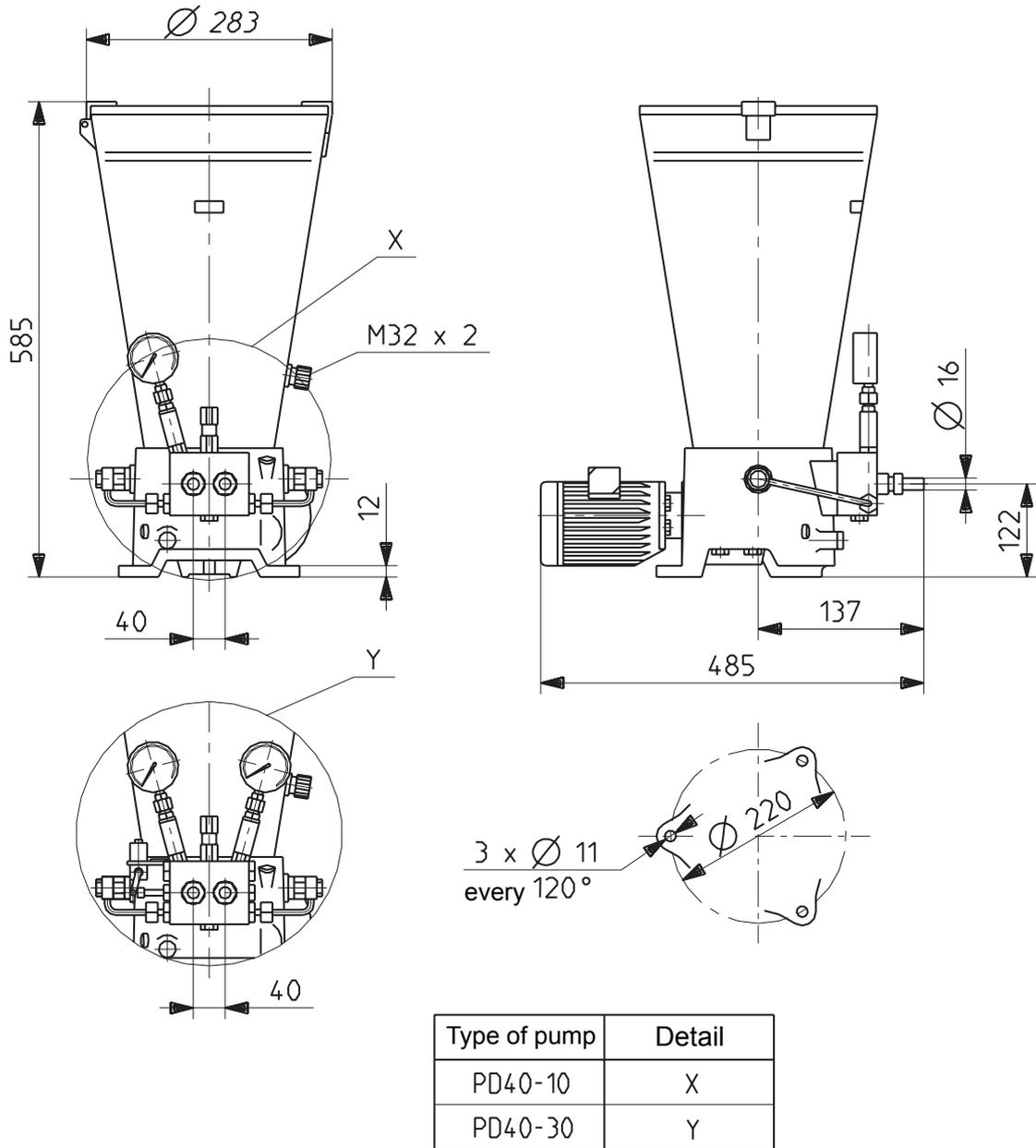
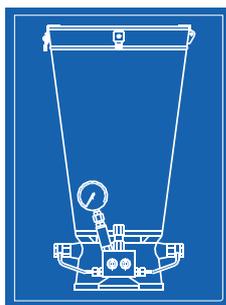


Fig. 3 Overall and linkage dimensions of the pump

## Technical details



Delivery	60 cm <sup>3</sup> /min or 30 cm <sup>3</sup> /min
Nominal pressure	20 MPa
Power demand	0,38 kW
Rated voltage at 50 Hz	230/400 V lub 500 V
Lubricants forced	plastic grease of the consistence class ≤ 2 acc. to PN/72 C-04095 (NLGI) or lubricating oils of ≥ 30 cSt./50°C viscosity
Ambient temperature	-10 ... 60°C
Tank capacity	15 dm <sup>3</sup>
Weight	27 kg

## Execution

The pump is made in the construction varieties listed in the table; they differ in the type of control distributor used in the oiling system, type of the lubricant forced, as well as their engines' nominal voltage.

Pump execution	Type of distributor	Lubricant	Rated voltage [V]
PD 40A-10-1	pump with overflow valve	oils	230/400
PD 40A-10-2			3x500
PD 40B-10-1		plastic grease	230/400
PD 40B-10-2			3x500
PD 40A-30-1	pump with hydraulic distributor	oils	230/400
PD 40A-30-2			3x500
PD 40B-30-1		plastic grease	230/400
PD 40B-30-2			3x500

## Placing orders

The order should include name and execution of the pump.

Manufacturer and Distributor  
 Zakłady Automatyki „Polna” S.A.  
 37-700 Przemyśl, 23 Obozowa St.  
 telephone: +48 16-678-66-01  
 fax.: +48 16-678-65-24, +48 16-678-37-10  
[www.polna.com.pl](http://www.polna.com.pl)  
 e-mail: [marketing@polna.com.pl](mailto:marketing@polna.com.pl)