

# Internal Gear Pump

## Type EIPS 2 - 16 144 / EIPS 2 - 16 644

### Replacement Pump for Unimog and MB-Truck



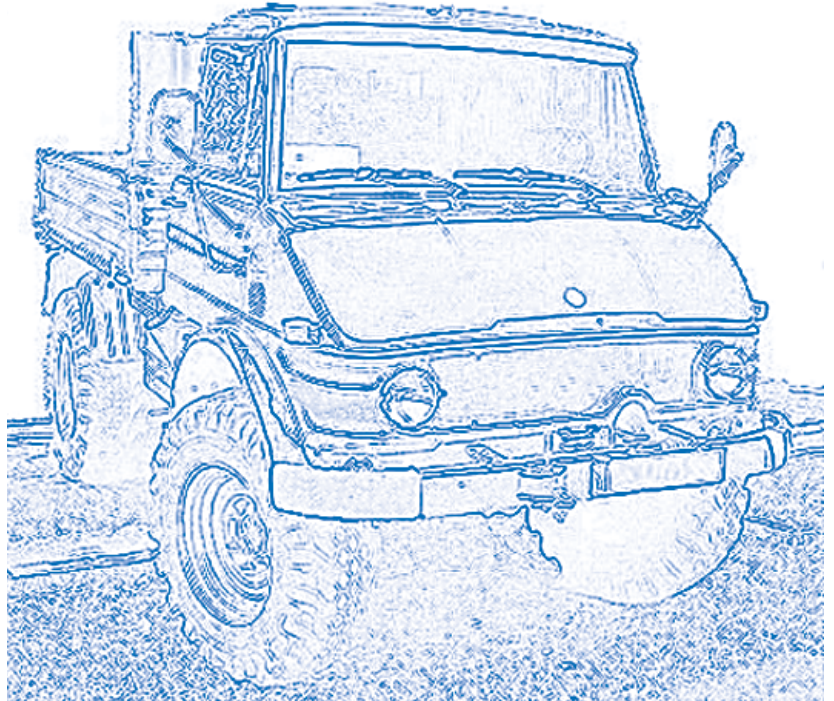
# EIPS 2

## Features

The original ECKERLE Internal Gear Pump, Type EIPS 2-16 144 is the exchangeable internal gear pump for use in the Unimog and in the MB Truck.

The permissible permanent pressure provides with 230 bar more pressure than the original pumps. This means further power reserves for your vehicle.

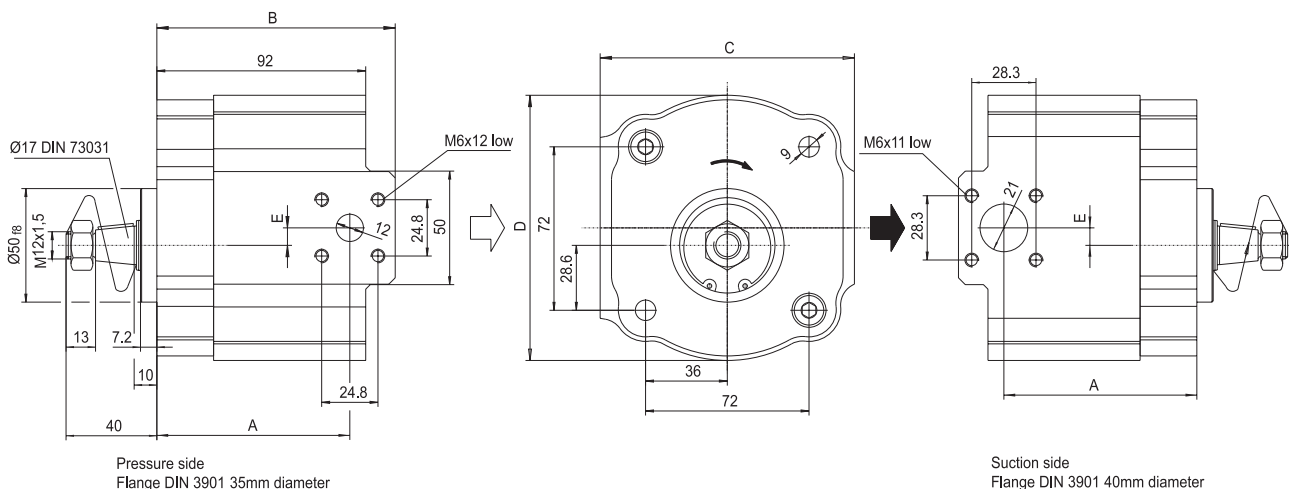
The ECKERLE EIPS 2-16 144 pump is only available as 16 cm<sup>3</sup>/U. The replacement of the 13 cm<sup>3</sup>/U pumps with the 16 cm<sup>3</sup>/U pump is generally unproblematic. The counterclockwise rotating pump has the item reference number . . . .644.



## Technical Data

Spec. volume V <sub>th</sub> [cm <sup>3</sup> /U]	16	Max. Media temperature [°C]	120
Permanent operating pressure [bar]	230	Min. Media temperature [°C]	-40
Peak operating pressure [bar] max. 10sec 15% ED	275	Max. Ambient temperature [°C]	80
Rated rpm 1/min	600-3600	Min. Ambient temperature [°C]	-40
Operating viscosity [mm <sup>2</sup> /s]	10-300	Start viscosity [mm <sup>2</sup> /s]	2.000
Operating temperature [°C]	-20+100	Mass approx. [kg]	4,5
Operating media corresponding to DIN 51 524 part 1/2	HL-HLP	Pollution grade according to NAS 1638 class:	9

## Dimensions of clockwise rotating Pump EIPS2-1 6 144



# Comparison of Dimensions/ Installation Instructions



# EIPPS 2

## Comparison of the Dimensions

Counterclockwise rotating	clockwise rotating		A	B	C	D	E
EIPPS 2-16 644	EIPPS 2-16 144	Eckerle from 2001	85	105	112	117	7,7
1PF2GF3-1X/016LC20MP	1PF2GF3-1X/016RC20MP	Rexroth (1993 - 1994)	85	105	112	110	7,4
IPF 3-16 644	IPF 3-16 144	Eckerle (1985 - 1993)	85	105	110	110	7,4
IPSF 3-16 644	IPSF 3-16 144	Eckerle/Wabco 1980 - 1985	85	105	116	111	7,4
IPM 3-16 645	IPM 3-16 145	Wabco	83,5	103,5	114	116	7,4

Replacement pump 1 PF2GF2-2X on request from year of manufacturing 1994 on

## Installation Instructions

### Oil purity

The essential factor for a trouble free operation of hydraulic equipment is the purity of the oil!

For the ECKERLE internal gear pump the pollution class 9 according to NAS 1638 is permissible!

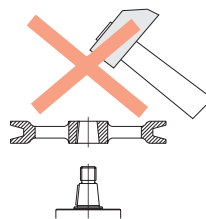
In order to guarantee a trouble free operation also the tank should be cleaned together with the replacement of the pump and the filter be changed. Also a regularly oil change should be performed.

### Vacuum Filter

If your equipment is provided with a vacuum filter in no case a vacuum filter with smaller screen aperture may be used. Danger of cavitation!

### Pump Drive

Never use extensive force or pressure on for connecting clutches or pulleys! The pump must be installed on the drive shaft without axial load.



### First Time Operation

The first time operation of the pump shall be made by a hydraulic expert.

Remove all plastic plugs. The pump may only be started after it has been filled with oil on the suction side.

If the pump does not immediately deliver oil the flow check valve in the pressure line must be checked. Bleed the pressure line upstream of the flow check valve.

### Belt Tension

Please observe the following information of the permissible belt tension according to the maintenance instructions for your vehicle.

The shaft bearing of the pump may be damaged at overload.

## Dimensions of counterclockwise rotating Pump EIPPS2-1 6 644

