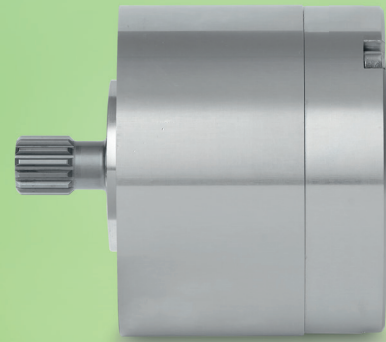


EIPQ0  
EIPQ1  
EIPQ2  
EIPQ3  
EIPQ5

Reversing pumps



4-quadrant technology for highest efficiency

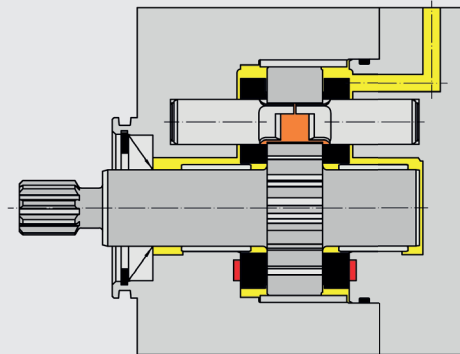
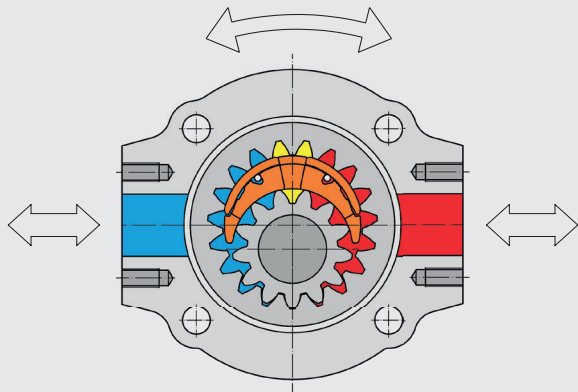
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HYDRAULIC DIVISION

# Internal gear pump

## Typ EIPQ for 4-quadrant operation

EIPQ



### Description

Eckerle internal gear pumps are gap-compensated and have been used in speed-controlled drives for decades. Due to the very good efficiency at low speeds and low viscosity and temperature dependence results in very good controllability over the entire operating range.

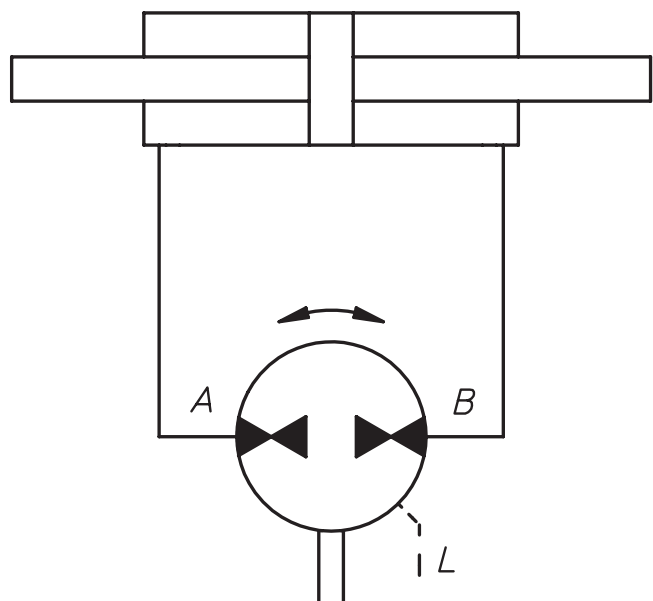
Due to their symmetrical design, the pumps of the EIPQ type can operate in both directions of rotation as a pump or as a motor. In addition, the inlet side can also be pressurized in pump mode. This results in very high potentials for energy savings.

### Applications

- Bending machines
- Construction machinery
- Elevators
- Landing gear controls
- Industrial trucks
- Plastic injection machines
- Steering systems
- Presses

Since the different systems have very different requirements, the design of the EIPQ is adapted to the individual application. The basic design of the pump remains the same.

**Which task can we solve for you?**



# Internal gear pump

## Typ EIPQ for 4-quadrant operation

EIPQ

### Advantages

- 4-quadrant operation
- High efficiency due to gap compensation
- Energy recovery
- Easy to integrate due to compact design
- Low noise operation
- Excellent controllability
- Long lifetime
- Highly dynamic due to low mass inertia
- Simultaneous pressurization at both port connections possible

### Technical Data:

Series	EIPQ0		EIPQ1				EIPQ2					EIPQ3			EIPQ5	
Rated Size [NG]	060	100	016	020	025	032	005	006	008	011	013	016	020	025	032	040
Spec. volume V <sub>th</sub> [cm <sup>3</sup> /rev]	0,6	1,0	1,6	2,0	2,6	3,2	5,4	6,4	7,8	10,8	13,3	15,8	20,0	24,5	32,7	40,2
Outer dimension in diameter without connections approx [mm]	40		66				100					120			150	
Continuous operating pressure [bar]**	250															
Peak operating pressure [bar] Max. 10 sec 15% duty cycle	280															
Cut-in pressure peak 100 ms [bar]**	300															
Nominal speed [min <sup>-1</sup> ] self-sucking in open circle	100 – 3.000															
Max. speed [min <sup>-1</sup> ] self-sucking in open circle	3.600															
Nominal speed [min <sup>-1</sup> ] in closed circle with system pressure	100 – 5.000 (depending on system pressure)															
Max. speed [min <sup>-1</sup> ] in closed circle with system pressure	6.000 (depending on system pressure)															
Operating viscosity [mm <sup>2</sup> /s]	10 – 300															
Starting viscosity [mm <sup>2</sup> /s]	2.000															
Operating medium	HL - HLP DIN 51 524 Teil 1/2															
Operating temperature [°C]	-20 bis +100															
Max. medium temperature [C°]	120															
Min. medium temperature [C°]	-40															
Max. ambient temperature [°C]	80															
Min. ambient temperature [°C]	-40															
Max. system pressure in closed circle [bar]	10															
Min. admission pressure [bar]	0,8 bar absolute (start 0,6)															
Degree of filtration	Class 20/18/15 due to ISO 4406															
Life expectancy	not less than 1 x 10 <sup>6</sup> load cycles against peak operating pressure															

The technical data are for guidance only.

\* For permissible pressures at speeds from 100 to 1,800 rpm. Please consult us for higher speeds.



**For further information please visit:  
eckerle.com**

All indicated data serve alone the product description and are not as characteristics in the legal sense to be understood. Subject to alterations.

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