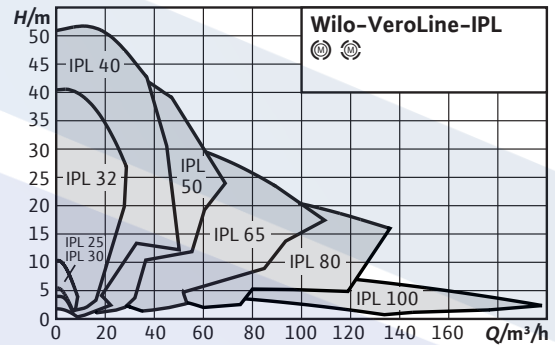


Series description: Wilo-VeroLine-IPL



Design

Glanded pump in in-line design with threaded connection or flange connection

Application

For pumping heating water (in accordance with VDI 2035), water-glycol mixtures and cooling and cold water without abrasive substances in heating, cold water and cooling water systems

Type key

| Example | IPL 40/1604/2 |
|------------|--|
| IPL | In-line pump |
| 40 | Nominal diameter DN of the pipe connection |
| 160 | Nominal impeller diameter |
| 4 | Nominal motor power P_2 in kW |
| 2 | Number of poles |

Special features/product advantages

- High-efficiency motors as standard; from 0.75 kW nominal motor power: motors with IE2 technology
- High corrosion protection thanks to cataphoretic coating
- Standard condensate drainage holes in the motor housings and lanterns
- Series version: Motor with one-piece shaft
- Version N: Standard motor B5 or V1 with stainless steel plug shaft
- Bidirectional mechanical seal with forced flushing
- Easy to install due to feet with threaded holes on pump housing

Technical data

- Permissible temperature range -20 °C to $+120\text{ °C}$
- Mains connection 3~400 V, 50 Hz (others on request)
- Protection class IP 55
- Nominal diameter Rp 1 to DN 100
- Max. operating pressure 10 bar (special version: 16 bar)

Description/design

Single-stage, low-pressure centrifugal pump in in-line design with

- Mechanical seal
- Flange connection with pressure measuring connection $R\frac{1}{8}$
- Motor with one-piece shaft

Materials

- Pump housing and lantern: EN-GJL-250
- Impeller: PPO fibreglass-reinforced ENGJL200 (depending on pump type)
- Shaft: 1.4021
- Mechanical seal: AQEGG; other mechanical seals on request

Scope of delivery

- Pump
- Installation and operating instructions

Options

- Available in following designs as standard
- with 2-pole motors 3~400 V ($n = 2900\text{ rpm}$)
 - with 4-pole motors 3~400 V ($n = 1450\text{ rpm}$)

Accessories

- Brackets for installation on a base
- PTC thermistor sensors, PTC resistor tripping relays, special motors
- Special mechanical seals
- Control systems CR, CRn, CC-HVAC, VR-HVAC and switchgears

General notes – ErP (ecological design-) directive

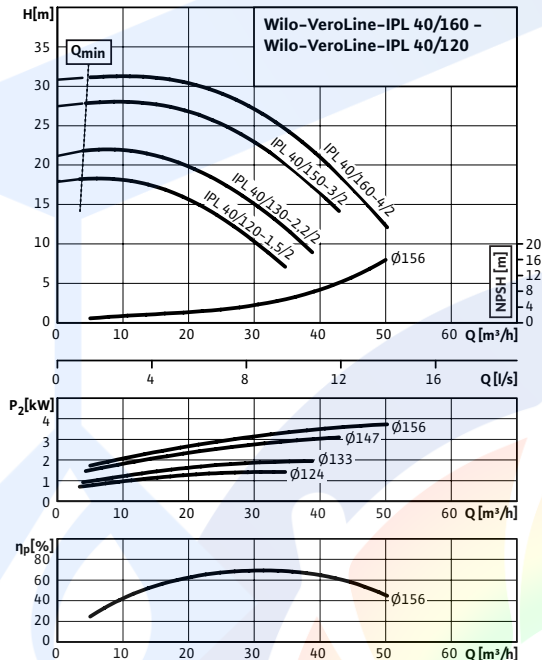
- The benchmark for most efficient water pumps is $MEI \geq 0.70$
- The efficiency of a pump with a trimmed impeller is usually lower than that of a pump with the full impeller diameter. The trimming of the impeller will adapt the pump to a fixed duty point, leading to reduced energy consumption. The minimum efficiency index (MEI) is based on the full impeller diameter.
- The operation of this water pump with variable duty points may be more efficient and economic when controlled, for example, by the use of a variable speed drive that matches the pump duty to the system.
- Information on benchmark efficiency is available at www.europump.org/efficiencycharts

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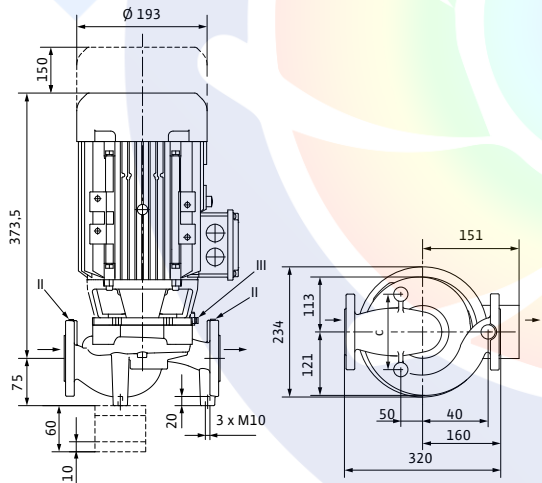
Data sheet: Wilo-VeroLine-IPL 40/130-2.2/2

Pump curves

2-pole, 50 Hz



Dimension drawing



Approved fluids (other fluids on request)

| | |
|--|--------------------------------------|
| Heating water (in accordance with VDI 2035) | • |
| Water-glycol mixtures (for 20-40 vol.% glycol and fluid temperature ≤ 40 °C) | • |
| Cooling and cold water | • |
| Heat transfer oil | Special version at additional charge |

Permitted field of application

| | | |
|--|-----------|---------------|
| Standard version for operating pressure | p_{max} | 10 bar |
| Temperature range at max. ambient temperature +40 °C | | -20...+120 °C |
| Max. ambient temperature | | 40 °C |
| Installation in closed buildings | | • |

Pipe connections

| | | |
|--|--|--------------------------|
| Nominal flange diameter | | DN 40 |
| Flanges (according to EN 1092-2) | | PN 10 (PN 16 on request) |
| Flange with pressure-measurement connections | | R 1/8 |

Materials

| | | |
|-----------------|--|------------|
| Pump housing | | EN-GJL-250 |
| Lantern | | EN-GJL-250 |
| Impeller | | PPO-GF30 |
| Pump shaft | | 1.4021 |
| Mechanical seal | | AQEGG |

Electrical connection

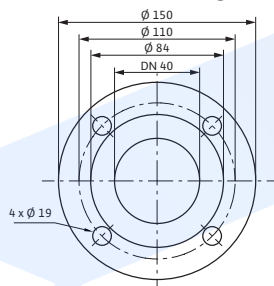
| | | |
|------------------|-----|----------------|
| Mains connection | | 3~400 V, 50 Hz |
| Nominal speed | n | 2900 rpm |

Motor/electronics

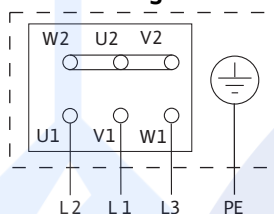
| | | |
|----------------------------------|----------|---|
| Minimum Efficiency Index (MEI) | | ≥ 0.1 |
| Integrated full motor protection | | Special version with PTC thermistor sensor (KLF) at additional charge |
| Protection class | | IP 55 |
| Insulation class | | F |
| Nominal current (approx.) | I_N | 3~40 4.520 A 0 V |
| Efficiency | η_M | 0.832 |

Data sheet: Wilo-VeroLine-IPL 40/130-2.2/2

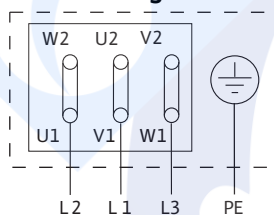
Dimension drawing, flange



Terminal diagram Star switching Y



Terminal diagram Delta switching Δ



Motor protection switch required onsite. Check the direction of rotation! To change the direction of rotation, swap any two phases.

| | |
|-------------------------|-----------|
| $P_2 \leq 3 \text{ kW}$ | 3~400 V Y |
| | 3~230 V Δ |
| $P_2 \geq 4 \text{ kW}$ | 3~690 V Y |
| | 3~400 V Δ |

After removing the bridges, a Y-Δ start is possible.

| | | |
|---------------------|--|------------------|
| Power factor | $\cos \varphi$ | 0.82 |
| Motor efficiency | η_m 50% m 75% m 100% | 81.2/82.6/83.2 % |
| Nominal motor power | P_2 | 2.20 kW |

Installation options

Pipe installation ($\leq 15 \text{ kW}$ motor power)

Information for order placements

| | | |
|----------------|-----|---------------------------|
| Weight approx. | m | 31.50 kg |
| Make | | Wilo |
| Type | | VeroLine-IPL 40/130-2.2/2 |
| Art no. | | 2089587 |

Observe motor name plate data



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تولید بوستر پمپ آتش نشانی

در کلاس‌های S3 - S2 - S1
مورد تایید سازمان آتش نشانی تهران



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تهویه و تخلیه دود
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