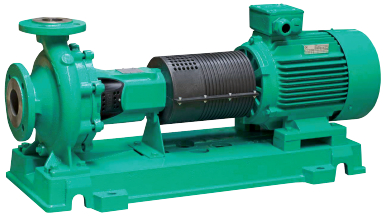
Series description: Wilo-CronoNorm-NL



Design
Single-stage low-pressure centrifugal pump with axial suction point, according to EN 733 and ISO 5199, mounted on a baseplate.

Application
- Pumping clean or slightly contaminated water (max. 20 ppm) without solid matter for circulation, transfer and pressure boosting purposes
- Pumping heating water in accordance with VDI 2035, water/glycol mixtures, cooling/cold water and industrial water.
- Applications in municipal water supply, irrigation, building services, general industry, power stations, etc.

Type key

Example	**NL 40/200B-11/2**
NL	Standard pump with axial suction
40	DN for the pressure flange
200B	Nominal diameter of impeller
11	Nominal motor power in kW
2	2-pole motor

Special features/product advantages
- Burgmann mechanical seal with conical sealing chamber
- Brand shaft protection
- SPM connections for vibration and temperature sensors
- Shaft deflection according to DIN ISO 5199
- Permanently lubricated, generously dimensioned ball bearings (2Z version)

Scope of delivery
- Pump with free shaft end or
- Pump on baseplate with coupling and coupling protection, without motor or
- Completely mounted pump on baseplate with electric motor
- Housing: ENGJL 250 grey cast iron; Impeller: ENGJL 250 cast iron or CC480KGS bronze; Mechanical seal;standard coupling or spacer coupling
- Installation and operating instructions

Materials
- Pump housing
  - Grey cast iron spiral with anti-rotation ribs.
  - With axially aligned suction piece and radial pressure ports and cast assembly feet.
  - Dimensions and hydraulics are in accordance with DIN EN 733
  - Flange PN 16 in accordance with DIN 2533 (DN 200 PN 10/DIN 2532)
- Standard mechanical shaft seal AQ1EGG for water up to 140°C
- Stuffing box for water up to 110°C

Description/design
- Single-stage low-pressure centrifugal pump as baseplate pump with axial suction piece with flanged bearing bracket and axis mounting for flexibly coupled drives.
- Spacer coupling (sleeve coupling) available as an option; they make it possible to leave the motor in position when removing the rotor unit
- Shaft deflection meets the requirements of ISO 5199

Commissioning
- If pumps with 2900 rpm are installed inside residential buildings, then corresponding noise reducing measures are to be implemented.
- Pump curves and specific motor powers depend on the respective fluid being pumped. Pump curves and power vary considerably when fluids are conveyed that differ from water in thickness and/or viscosity. **For this, please observe the table "Recommended limit values for dimensioning".**
  The recommended limit values for dimensioning are calculated as follows:
  $Q_{optimum}$ (volume flow at which the pump reaches its best efficiency), to be read from the individual pump curve; factors Q_{min} and Q_{max}, to be taken from the table "Recommended limit values for dimensioning".

  $Q_{min\ dimensioning} = Q_{min} \times Q_{optimum}$
  $Q_{max\ dimensioning} = Q_{max} \times Q_{optimum}$
  Example: Size NL 32-125
  $Q_{min} = 0.3 \times 8 = 2.4\ m^3/h$
  $Q_{max} = 1.2 \times 8 = 9.6\ m^3/h$
- Load-sensitive pump output
  All Wilo standard pumps are equipped with IEC standard motors. The Wilo control devices are suitable for automatic load-sensitive speed control of pumps that are driven by any standard motors of conventional manufacture.
- Main/standby mode

Accessories
Automatic speed control:
for automatic, infinitely variable pump power control. for additional information, see "Switchgears and control devices" section.

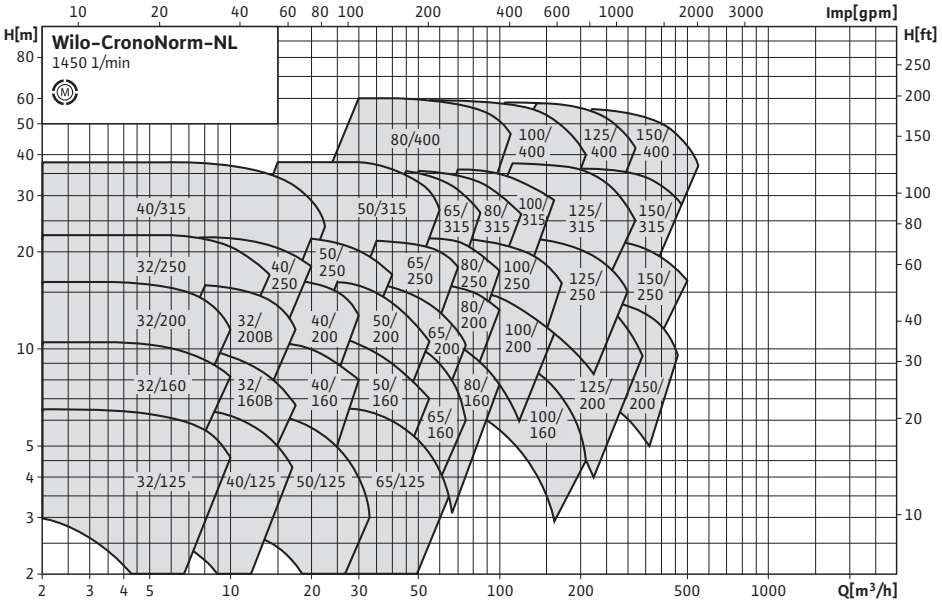
Series description: Wilo-CronoNorm-NL

General notes – ErP (ecological design-) directive

- The benchmark for most efficient water pumps is MEI ≥ 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

Duty chart: Wilo-CronoNorm-NL

Wilo-CronoNorm NL (4-pole)



Technical data: Wilo-CronoNorm-NL

Approved fluids (other fluids on request)		
Heating water (in accordance with VDI 2035)		•
Cooling and cold water		•
Water-glycol mixtures (for 20-40 vol.% glycol and fluid temperature ≤ 40 °C)		•
Heat transfer oil		Special version at additional charge
Permitted field of application		
Standard version for operating pressure	p_{max}	16 bar
Temperature range at max. ambient temperature +40 °C		-20 to +120°C (fluids with mechanical shaft seal)
Installation in closed buildings		•
Outdoor installation		Special version at additional charge
Pipe connections		
Nominal connection diameters DN		32 - 150
Materials		
Pump housing		EN-GJL-250
Impeller		EN-GJL-250
Impeller (special version)		Bronze CuSn8
Pump shaft		X30Cr13
Mechanical seal		AQ1EGG
Motor/electronics		
Protection class		IP 55
Insulation class		F
Speed control		Wilo control devices, external frequency converter (at additional charge)
Motor winding up to 3 kW		230 V Δ/400 V Y, 50 Hz
Motor winding from 4 kW		400 V Δ/690 V Y, 50 Hz

• = available, = not available