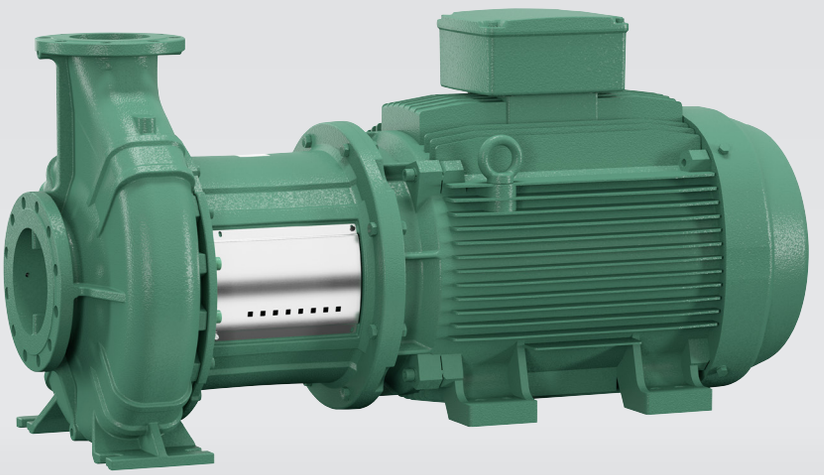
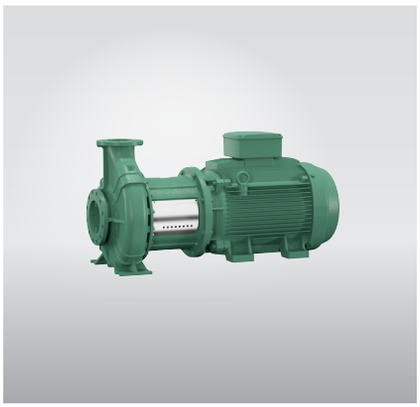
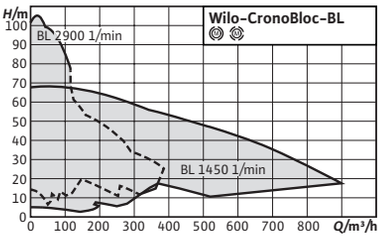
Pioneering for You

Range leaflet – Edition 09/2016 – 50 Hz

Wilo-CronoBloc-BL







Accessories
Brackets for installation on a base
PTC thermistor sensor, PTC resistor tripping relay
Special motors
Special mechanical seals
SC-HVAC, CC-HVAC control systems and switchgears

Series extension

ErP READY – APPLIES TO EUROPEAN DIRECTIVE FOR ENERGY RELATED PRODUCTS

Wilo-CronoBloc-BL

Design
Glanded pump in block design with flange connection

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

Type key

Example	**BL 40/160-4/2**
BL	Monobloc pump
40	Nominal diameter DN of the pipe connection (pressure port)
160	Nominal impeller diameter
4	Rated motor power P_2 in kW
2	number of poles

Special features/product advantages
- → Reduced life cycle costs thanks to optimized efficiency
- → High corrosion protection through cataphoretic coating of the cast iron components
- → Standard condensate drainage holes in the motor housings
- → High worldwide obtainability of standard motors (according to Wilo specifications) and mechanical seals
- → Meets user requirements due to performance and main dimensions in accordance with EN 733 (DIN for norm pumps)

Technical data (series)	
Minimum Efficiency Index (MEI)	≥ 0.4
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}	13 bar (up to +140 °C) / 16 bar (up to +120 °C)
Special version for operating pressure p_{max}	25 bar

• = appropriate, – = not appropriate

Technical data (series)	
Temperature range at max. ambient temperature +40 °C	-20...+140 °C (depending on the fluid)
Ambient temperature	-15°C ... 40°C
Installation in closed buildings	•
Outdoor installation	Special version at additional charge
Electrical connection	
Mains connection	3~400 V, 50 Hz (others on request)
Motor/electronics	
Integrated full motor protection	Special version with PTC thermistor sensor (KLF) at additional charge

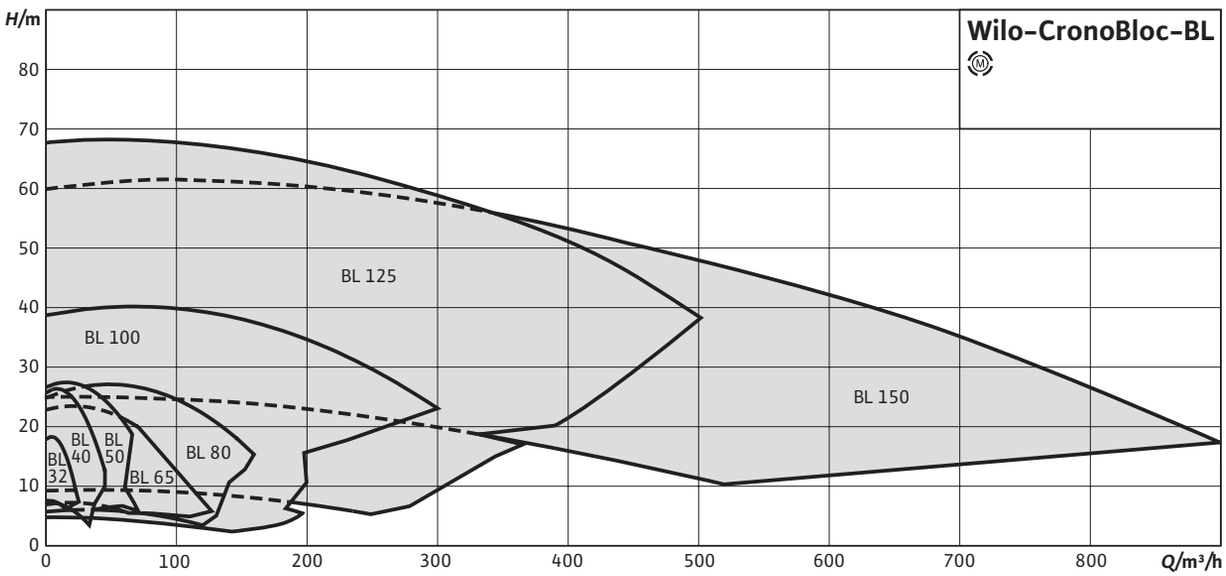
• = appropriate, – = not appropriate

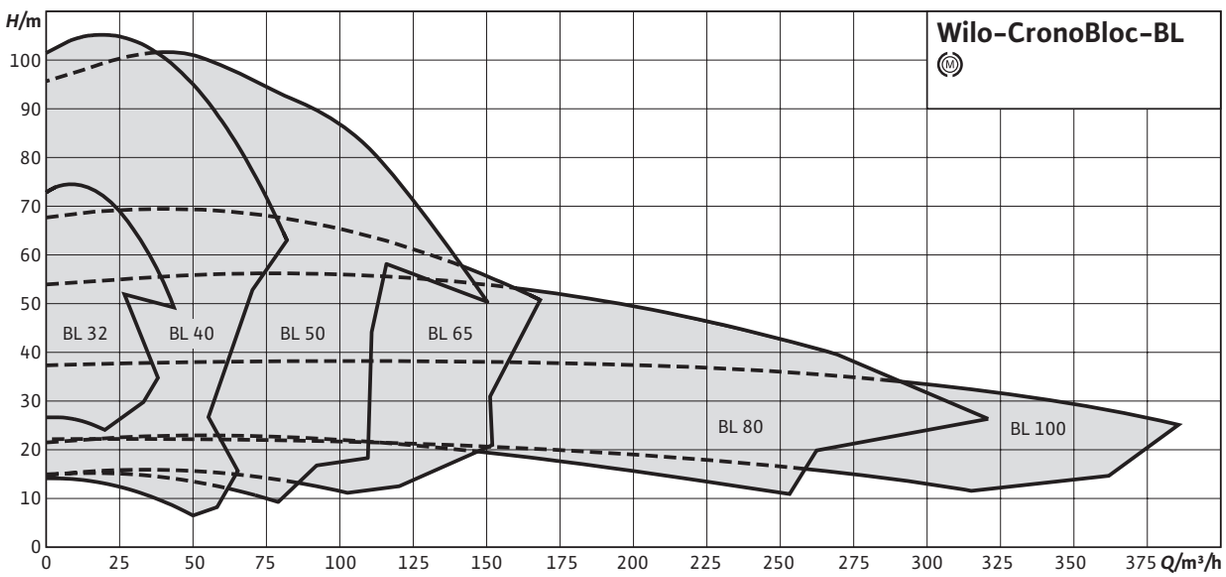
Technical data (series)	
Protection class	IP 55
Insulation class	F
Installation options	
Pipe installation (≤ 15 kW motor power)	•
Support-bracket mounting	•

• = appropriate, – = not appropriate

Technical data (series)	
Materials	
Pump housing	EN-GJL-250
Lantern	EN-GJL-250
Impeller	EN-GJL-200
Pump shaft	1.4122
Mechanical seal	AQEGG
Other mechanical seals	On request

• = appropriate, – = not appropriate





Scope of delivery
- → Pump
- → Installation and operating instructions

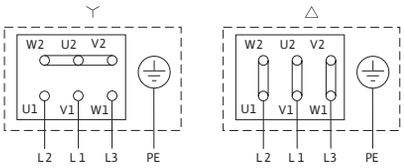
Options
- → ...-L1 variant with bronze impeller (at additional charge)
- → ...-L4 variant with stainless steel impeller (at additional charge)
- → ...-H1 variant with housing made of spheroidal cast iron (at additional charge)
- → Other voltages and frequencies as well as ATEX approval on request

Accessories
- → Bases (pump housing and motor) for installation on a base
- → PTC thermistor sensor, PTC thermistor tripping relay
- → Special motors
- → Special mechanical seals
- → SC-HVAC, CC-HVAC control systems and switchgears

Note
Motors with efficiency class IE3 for motors ≥ 0.75 kW

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**
- → Pumps with power consumption > 150 kW or a volume flow Q_{BEP} < 6 m^3/h are not subject to the Ecodesign Directive for water pumps. Therefore, no MEI value is shown.

Terminal diagram



Δ: Connection diagram delta connection
Y: Connection diagram star connection

Motor protection switch required on-site. Check the direction of rotation! To change the direction of rotation, exchange any two phases.

$P_2 \leq 3$ kW	3~400 V Y
	3~230 V Δ
$P_2 \geq 4$ kW	3~690 V Y
	3~400 V Δ

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

Dimensions, weights (4-pole)

Wilo-CronoBloc-BL...	Dimensions															Weight approx.
	a	*b1*	*b2*	*b3*	*Ø g*	*H1*	*H2*	*H3*	*l*	*l1*	*N3*	*N4*	*p1*	*q*	*x*	*m*
	mm															kg
100/145-1,5/4	125	167	206	144	193	200	280	189	147	497	130	210	–	144	140	85
100/150-2,2/4	125	167	206	150	217	200	280	189	147	541	130	210	–	150	140	95
100/160-3/4	125	167	206	150	217	200	280	189	147	558	130	210	–	150	140	103
100/170-4/4	125	167	206	156	232	200	280	189	147	568	130	210	–	156	140	110
100/180-4/4	125	176	211	–	232	200	280	196	156	571	180	260	168	–	120	110

Flange dimensions (suction side)

Wilo-CronoBloc-BL...	Nominal diameter	Pump flange dimensions			
	DN1	*Ø D*	*Ø d*	*Ø k*	*n x d_L*
			mm		pcs. x mm
100...	125	250	184	210	8 x 19

Pump flange dimensions - according to EN 1092-2 PN 16; n = number of drilled holes

Flange dimensions (discharge side)

Wilo-CronoBloc-BL...	Nominal diameter	Pump flange dimensions			
	DN2	*Ø D*	*Ø d*	*Ø k*	*n x d_L*
			mm		pcs. x mm
100...	100	220	156	180	8 x 19

Pump flange dimensions - according to EN 1092-2 PN 16; n = number of drilled holes

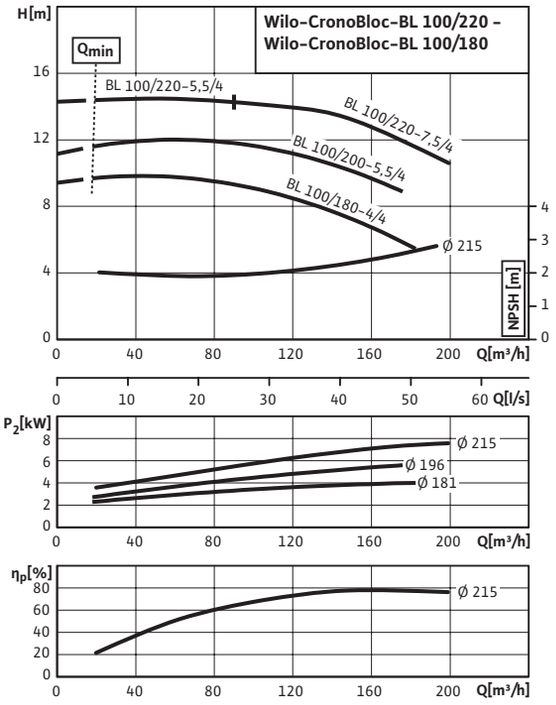
Motor data (4-pole), minimum efficiency index, article numbers

Wilo-CronoBloc-BL...	Motor efficiency level	Rated power	Rated current (approx.)	Power factor	Rated speed	Motor efficiency	Art no.
		P_2	*I_N 3~400 V*	*cos φ*	*n*	*$\eta_{m\,50\%}/\eta_{m\,75\%}/\eta_{m\,100\%}$*	
		kW	A		rpm	%	
100/145-1,5/4	IE3	1.50	3.60	0.71	1450	81.3/83.4/84.6	2121105
100/150-2,2/4	IE3	2.20	4.90	0.78	1450	82.0/84.4/85.0	2121106
100/160-3/4	IE3	3.00	6.50	0.76	1450	85.9/87.9/87.7	2121107
100/170-4/4	IE3	4.00	8.20	0.79	1450	85.8/87.6/88.0	2121108
100/180-4/4	IE3	4.00	8.20	0.79	1450	85.8/87.6/88.0	2121109

Observe motor name plate data

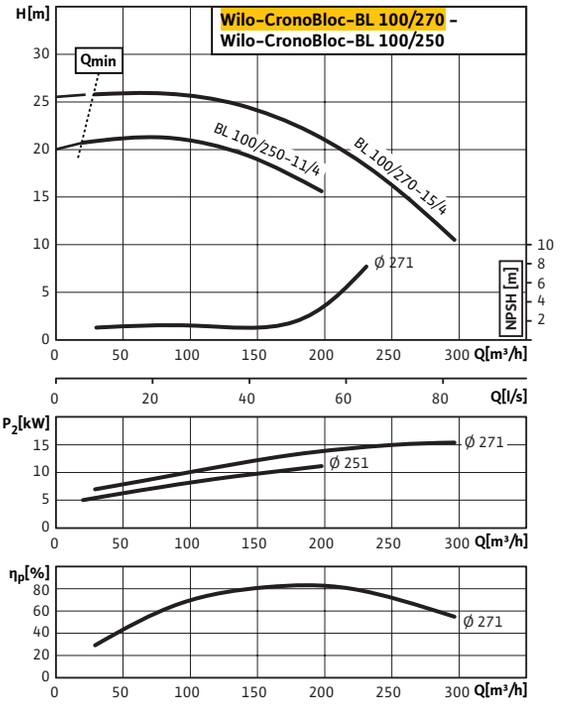
Pump curves

CronoBloc-BL 100/180-4/4 – 100/220-7,5/4 (4-pole, 50 Hz)

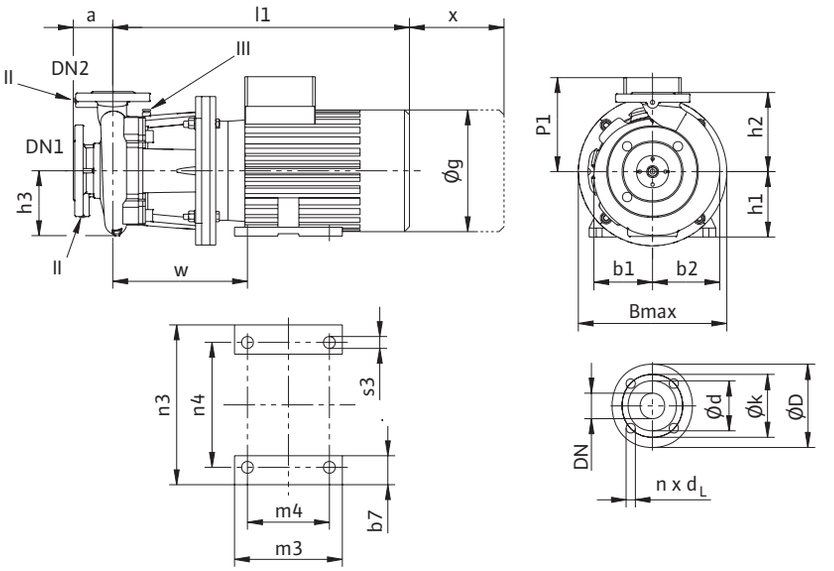


Pump curves

CronoBloc-BL 100/250-11/4 – 100/270-15/4 (4-pole, 50 Hz)



Dimension drawing



Dimensions, weights (4-pole)

Wilo-Crono-Bloc-BL...	Dimensions																		Weight approx.
	a	B_{max}	*b1*	*b2*	*b7*	Ø *g*	*H1*	*H2*	*H3*	*l1*	*M3*	*M4*	*N3*	*N4*	*p1*	*s3*	*w*	*x*	*m*
	mm																		kg
100/200-5,5/4	125	387	176	211	53	279	132	280	196	647	180	140	256	216	188	12	331	120	150
100/220-5,5/4	125	387	176	211	53	279	132	280	196	647	180	140	256	216	188	12	331	120	150
100/220-7,5/4	125	387	176	211	53	312	132	280	196	698	218	178	256	216	250	12	331	120	159
100/250-11/4	140	432	200	232	60	312	160	280	219	745	256	210	300	254	250	15	383	130	205
100/270-15/4	140	432	200	232	60	312	160	280	219	792	300	254	300	254	250	15	383	130	228

Flange dimensions (suction side)

Wilo-CronoBloc-BL...	Nominal diameter	Pump flange dimensions			
	DN1	Ø *D*	Ø *d*	Ø *k*	*n* x d_L
			mm		pcs. x mm
100...	125	250	184	210	8 x 19

Pump flange dimensions - according to EN 1092-2 PN 16; n = number of drilled holes

Flange dimensions (discharge side)

Wilo-CronoBloc-BL...	Nominal diameter	Pump flange dimensions			
	DN2	Ø *D*	Ø *d*	Ø *k*	*n* x d_L
			mm		pcs. x mm
100...	100	220	156	180	8 x 19

Pump flange dimensions - according to EN 1092-2 PN 16; n = number of drilled holes

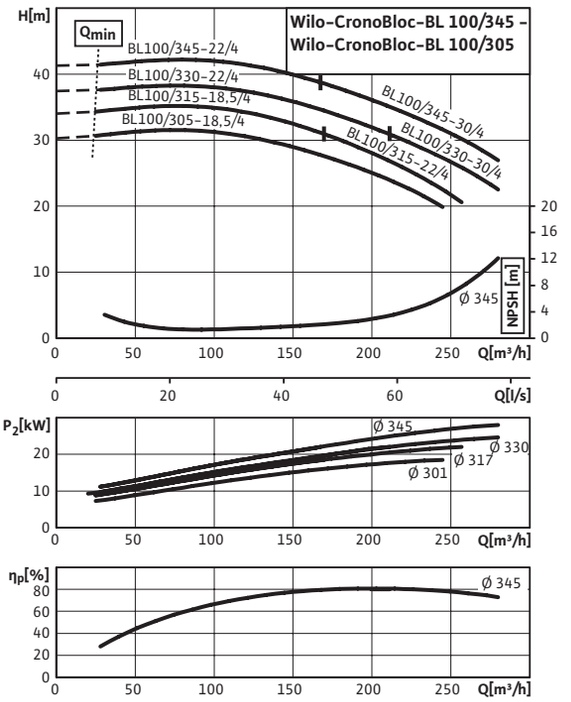
Motor data (4-pole), minimum efficiency index, article numbers

Wilo-CronoBloc-BL...	Motor efficiency level	Rated power	Rated current (approx.)	Power factor	Rated speed	Motor efficiency	Art no.
		P_2	I_N 3~400 V	cos φ	*n*	$\eta_{m\,50\%}/\eta_{m\,75\%}/\eta_{m\,100\%}$	
		kW	A		rpm	%	
100/200-5,5/4	IE3	5.50	11.10	0.79	1450	86.8/89.0/89.5	2121110
100/220-5,5/4	IE3	5.50	11.10	0.79	1450	86.8/89.0/89.5	2121111
100/220-7,5/4	IE3	7.50	14.90	0.81	1450	87.4/89.3/90.4	2121112
100/250-11/4	IE3	11.00	22.00	0.80	1450	90.1/91.6/91.4	2121113
100/270-15/4	IE3	15.00	29.80	0.81	1450	90.7/91.7/92.1	2121114

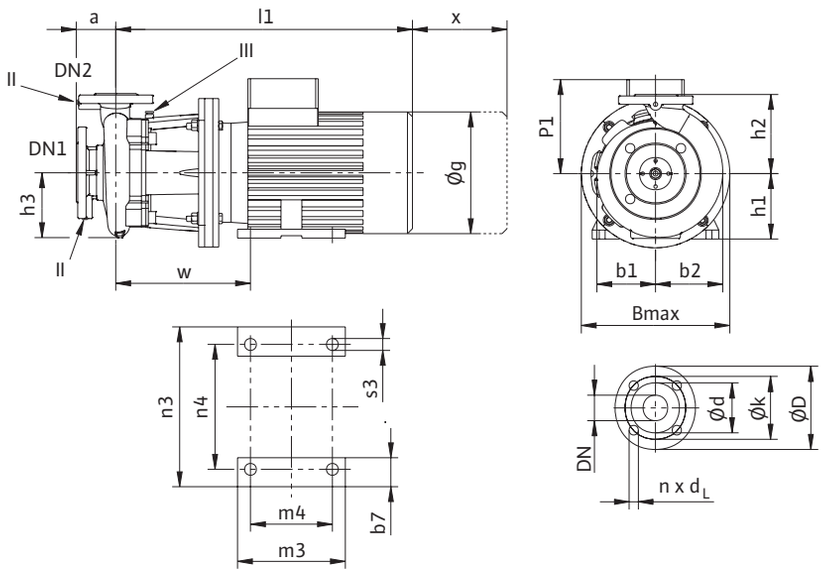
Observe motor name plate data

Pump curves

CronoBloc-BL 100/305-18,5/4 – 100/345-30/4 (4-pole, 50 Hz)



Dimension drawing



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