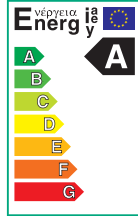


# Heating, air-conditioning, cooling

## High-efficiency pumps (single pumps)

### Series description Wilo-Stratos



#### Design

Glandless circulation pump with screwed connection or flange connection, EC motor with automatic power adjustment.

#### Application

Hot-water heating systems of all kinds, air-conditioning systems, closed cooling circuits, industrial circulation systems.

#### Type key

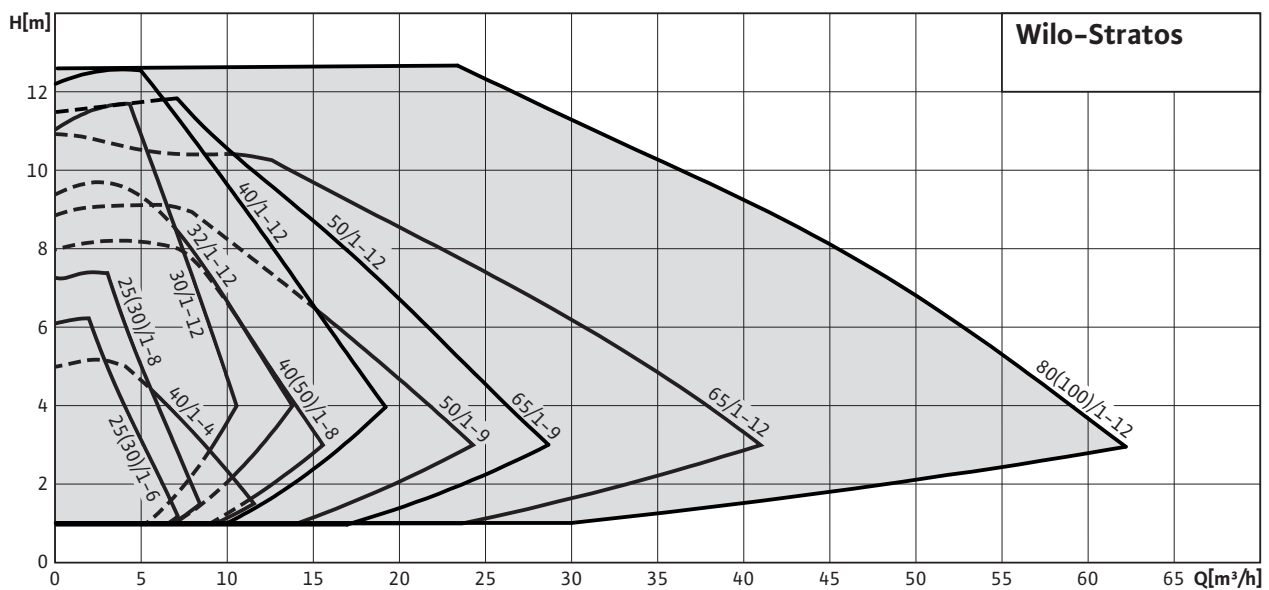
Example: **Wilo Stratos 30/1-12**  
**Stratos** High-efficiency pump (screw-end or flange-end pump), electronically controlled  
**30/** Nominal connection diameter  
**1-12** Nominal delivery head range [m]

#### Options

- Special versions for operating pressure PN 16 (at additional charge)

#### Special features/product benefits

- Energy efficiency class A
- Maximum efficiency due to ECM technology
- Up to 80% electricity savings compared to uncontrolled circulation pumps
- Optimum handling due to front operation and front access to the terminal room, variable installation positions, position-independent display, combination flanges PN 6/PN 10 (for DN 32 to DN 65)
- Standard thermal insulation for heating applications
- Pump housing with cataphoretic (KTL) coating for the prevention of corrosion by condensation formation
- Can be used in cooling/air-conditioning systems without ambient temperature limits
- System extension due to retrofit communication modules LON, CAN, PLR, etc.
- Remote control via infrared interface (IR-Module/IR-Monitor)



### Series description Wilo-Stratos

#### Equipment/function

##### Operating modes

- Manual control mode ( $n=\text{constant}$ )
- $\Delta p-c$  for constant differential pressure
- $\Delta p-v$  for variable differential pressure
- $\Delta p-T$  for temperature-controlled differential pressure (programmable via IR-Module, IR-Monitor, LON or CAN)

##### Manual functions

- Operating mode setting
- Differential-pressure setpoint setting
- "Autopilot" (automatic setback operation) setting
- Pump ON/OFF setting
- Speed setting (manual control mode)

##### Automatic functions

- Infinitely variable power adjustment according to the operating mode
- "Autopilot" automatic setback operation
- Deblocking function
- Soft start
- Full motor protection with integrated trip electronics

##### External control functions

- "Overriding Off" control input (possible with Stratos IF-Modules)
- "Overriding Min" control input (possible with Stratos IF-Modules)
- "Analogue In 0 - 10 V" control input (remote speed adjustment) (possible with Stratos IF-Modules)
- "Analogue In 0 - 10 V" control input (remote setpoint adjustment) (possible with Stratos IF-Modules)

##### Signal and display functions

- Collective fault signal (potential-free NC contact)
- Individual run signal (potential-free NO contact) (possible with Stratos IF-Modules)
- Fault signal light
- LC display for indication of pump data and fault codes

##### Data exchange

- Infrared interface for wireless data exchange with IR-Module/IR-Monitor (see IR-Module/IR-Monitor function table)
- Serial digital PLR interface for connection to BA via Wilo interface converter or company-specific coupling module (possible with Stratos IF-Modules)
- Serial digital LON interface for connection to a LONWORKS network (possible with Stratos IF-Modules)
- Serial digital CAN interface for connection to a CAN bus system (possible with Stratos IF-Modules)

##### Dual pump management (double pump or 2 x single pump)

- Main/standby mode (automatic fault-actuated switchover/time-dependent pump cycling): Various combinations possible with Stratos IF-Modules (accessory)
- Parallel operation (efficiency-optimised peak-load cut-in and out): Various combinations possible with Stratos IF-Modules (accessory)

##### Equipment

- Wrench attachment point on pump body (for threaded pipe union pumps with  $P2 < 100 \text{ W}$ )
- Plug-in position for optional extension with Wilo-IF-Modules

##### Scope of delivery

- Pump
- Including seals for threaded connection
- Including installation and operating instructions
- Including washers for flange screws (for nominal connection diameters DN 32 - DN 65)

##### Accessories

- Screwed connections with screw thread
- Pump cold water insulation Wilo-ClimaForm
- IR-Module
- IR-Monitor
- IF-Modules Stratos: PLR, LON, CAN, Ext. Off, Ext. Min., SBM, Ext. Off/SBM
- Analogue interface converter AnaCon
- Digital interface converter DigiCon/DigiCon-A

# Heating, air-conditioning, cooling

## High-efficiency pumps (single pumps)

### Technical data Wilo-Stratos

	Wilo-Stratos ...								
	25/1-6	25/1-8	30/1-6	30/1-8	30/1-12	32/1-12	40/1-4	40/1-8	40/1-12
<b>Approved fluids (other fluids on request)</b>									
Heating water (in accordance with VDI 2035)	•	•	•	•	•	•	•	•	•
Water-glycol mixtures (max. 1:1; above 20% admixture, the pumping data must be checked)	•	•	•	•	•	•	•	•	•
Potable water and water for food-processing companies in accordance with TrinkwV 2001 (drinking water ordinance)	-	-	-	-	-	-	-	-	-
<b>Output</b>									
Delivery head max. [m]	6	7	6	7	11	9	5	8	12
Max. volume flow [m <sup>3</sup> /h]	7	8	7	8	13	17	11	18	23
<b>Permitted field of application</b>									
Temperature range for applications in heating/ventilation/air-conditioning systems at max. ambient temperature of +25 °C [°C]	-								
Temperature range for applications in heating, ventilation & air-conditioning systems at max. ambient temperature of +40 °C	-10 up to +110								
Temperature range for applications in secondary hot water circulation systems at max. ambient temperature of +40 °C [°C]	-								
Temperature range for applications in secondary hot water circulation systems at ambient temperature of +40 °C in short-term operation 2 h [°C]	-	-	-	-	-	-	-	-	-
Maximum permissible total hardness in secondary hot water circulation systems [°d]	-	-	-	-	-	-	-	-	-
Standard version for operating pressure, p <sub>max</sub>	10	10	10	10	10	6/10	6/10	6/10	6/10
Special version for operating pressure, p <sub>max</sub>	16	16	16	16	16	16	16	16	16
<b>Pipe connections</b>									
Screwed connection Rp	1	1	1¼	1¼	1¼	-	-	-	-
Nominal flange diameter DN	-	-	-	-	-	32	40	40	40
Flange for counter flange PN 6, standard version	-	-	-	-	-	-	-	-	-
Flange for counter flange PN 16, special version	-	-	-	-	-	•	•	•	•
Combination flange PN 6/10 for counter flanges PN 6 and PN 16, standard version	-	-	-	-	-	•	•	•	•
Support-bracket mounting (with horizontal shaft only), standard version	-	-	-	-	-	-	-	-	-
Support-bracket mounting (with horizontal shaft only), special version	-	-	-	-	-	-	-	-	-
<b>Electrical connection</b>									
Mains connection 1 ~ [V], standard version	230	230	230	230	230	230	230	230	230
Mains connection 3 ~ [V], standard version	230	230	230	230	230	230	230	230	230
Mains connection 3 ~ [V], with optional switching plug	-	-	-	-	-	-	-	-	-
Mains frequency	50/60	50/60	50/60	50/60	50/60	50/60	50/60	50/60	50/60

### Technical data Wilo-Stratos

	Wilo-Stratos ...								
	25/1-6	25/1-8	30/1-6	30/1-8	30/1-12	32/1-12	40/1-4	40/1-8	40/1-12
<b>Motor/electronics</b>									
Electromagnetic compatibility	EN 61800-3								
Emitted interference	EN 61000-6-3								
Interference resistance	EN 61000-6-2								
Power electronics	Frequency converter								
Protection class	IP 44	IP 44	IP 44	IP 44	IP 44	IP 44	IP 44	IP 44	IP 44
Insulation class	F	F	F	F	F	F	F	F	F
<b>Materials</b>									
Pump housing	Grey cast iron (EN-GJL-200)					Grey cast iron (EN-GJL-250)			
Impeller	Plastic (PPS - 40% GF)								
Pump shaft	Stainless steel (X46Cr13)								
Bearing	Carbon, metal impregnated								
<b>Minimum suction head at suction port [m] for preventing cavitation at water pumping temperature</b>									
Minimum suction head at 50°C	3	3	3	3	3	3	3	3	5
Minimum suction head at 95°C	10	10	10	10	10	10	10	10	12
Minimum suction head at 110°C	16	16	16	16	16	16	16	16	18

• = available, - = not available

# Heating, air-conditioning, cooling

## High-efficiency pumps (single pumps)

### Technical data Wilo-Stratos

	Wilo-Stratos ...						
	50/1-8	50/1-9	50/1-12	65/1-9	65/1-12	80/1-12	100/1-12
<b>Approved fluids (other fluids on request)</b>							
Heating water (in accordance with VDI 2035)	•	•	•	•	•	•	•
Water-glycol mixtures (max. 1:1; above 20% admixture, the pumping data must be checked)	•	•	•	•	•	•	•
Potable water and water for food-processing companies in accordance with TrinkwV 2001 (drinking water ordinance)	–	–	–	–	–	–	–
<b>Output</b>							
Delivery head max. [m]	8	9	11	11	10	13	13
Max. volume flow [m <sup>3</sup> /h]	18	29	29	29	47	67	67
<b>Permitted field of application</b>							
Temperature range for applications in heating/ventilation/air-conditioning systems at max. ambient temperature of +25 °C [°C]	–						
Temperature range for applications in heating, ventilation & air-conditioning systems at max. ambient temperature of +40 °C	–10 up to +110						
Temperature range for applications in secondary hot water circulation systems at max. ambient temperature of +40 °C [°C]	–						
Temperature range for applications in secondary hot water circulation systems at ambient temperature of +40 °C in short-term operation 2 h [°C]	–	–	–	–	–	–	–
Maximum permissible total hardness in secondary hot water circulation systems [°d]	–	–	–	–	–	–	–
Standard version for operating pressure, p <sub>max</sub>	6/10	6/10	6/10	6/10	6/10	6	6
Special version for operating pressure, p <sub>max</sub>	16	16	16	16	16	10/16	10/16
<b>Pipe connections</b>							
Screwed connection Rp	–	–	–	–	–	–	–
Nominal flange diameter DN	50	50	50	65	65	80	100
Flange for counter flange PN 6, standard version	–	–	–	–	–	•	•
Flange for counter flange PN 16, special version	•	•	•	•	•	•	•
Combination flange PN 6/10 for counter flanges PN 6 and PN 16, standard version	•	•	•	•	•	–	–
Support-bracket mounting (with horizontal shaft only), standard version	–	–	–	–	–	–	–
Support-bracket mounting (with horizontal shaft only), special version	–	–	–	–	–	–	–
<b>Electrical connection</b>							
Mains connection 1 ~ [V], standard version	230	230	230	230	230	230	230
Mains connection 3 ~ [V], standard version	230	230	230	230	230	230	230
Mains connection 3 ~ [V], with optional switching plug	–	–	–	–	–	–	–
Mains frequency	50/60	50/60	50/60	50/60	50/60	50/60	50/60

### Technical data Wilo-Stratos

	Wilo-Stratos ...						
	50/1-8	50/1-9	50/1-12	65/1-9	65/1-12	80/1-12	100/1-12
<b>Motor/electronics</b>							
Electromagnetic compatibility	EN 61800-3						
Emitted interference	EN 61000-6-3						
Interference resistance	EN 61000-6-2						
Power electronics	Frequency converter						
Protection class	IP 44	IP 44	IP 44	IP 44	IP 44	IP 44	IP 44
Insulation class	F	F	F	F	F	F	F
<b>Materials</b>							
Pump housing	Grey cast iron (EN-GJL-250)						
Impeller	Plastic (PPS - 40% GF)			Plastic (PP - 50% GF)			
Pump shaft	Stainless steel (X46Cr13)						
Bearing	Carbon, metal impregnated						
<b>Minimum suction head at suction port [m] for preventing cavitation at water pumping temperature</b>							
Minimum suction head at 50°C	3	5	5	5	7	7	7
Minimum suction head at 95°C	10	12	12	12	15	15	15
Minimum suction head at 110°C	16	18	18	18	23	23	23

• = available, - = not available

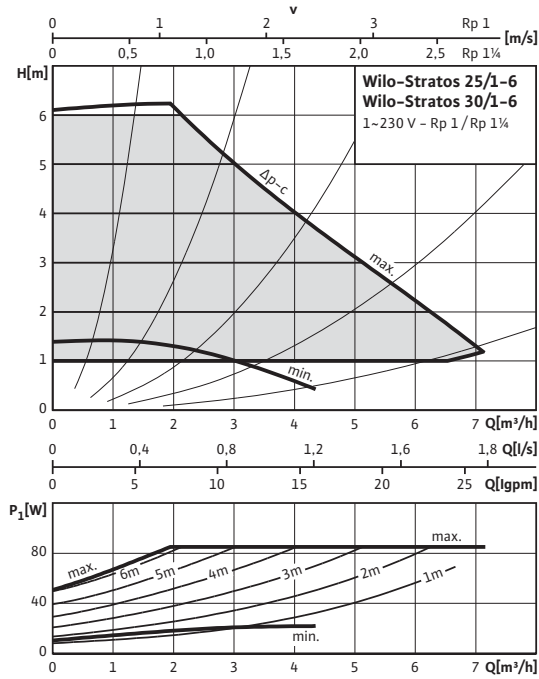
# Heating, air-conditioning, cooling

## High-efficiency pumps (single pumps)

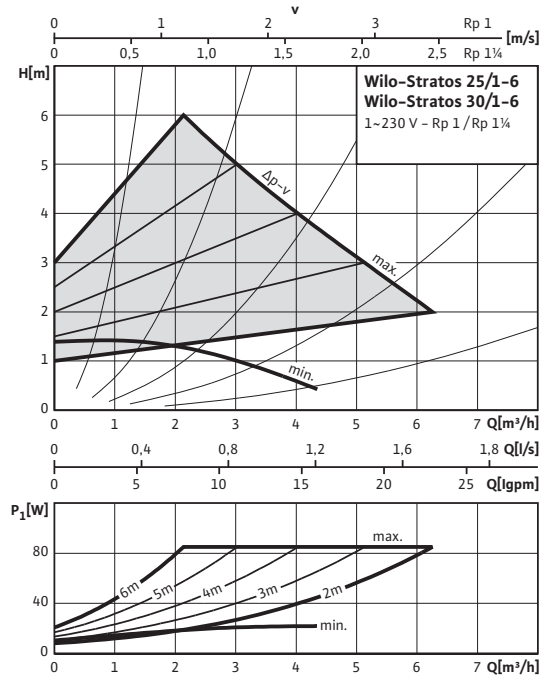
### Pump curves Wilo-Stratos

#### Wilo-Stratos 25/1-6 - 30/1-6

$\Delta p$ -c (constant)

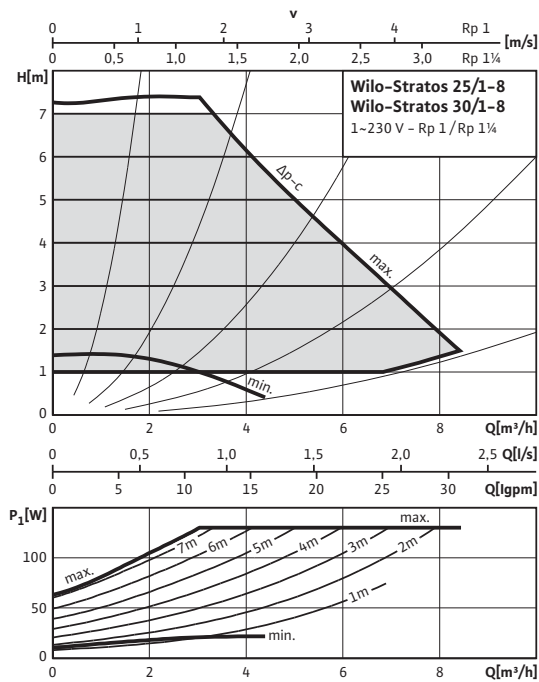


$\Delta p$ -v (variable)

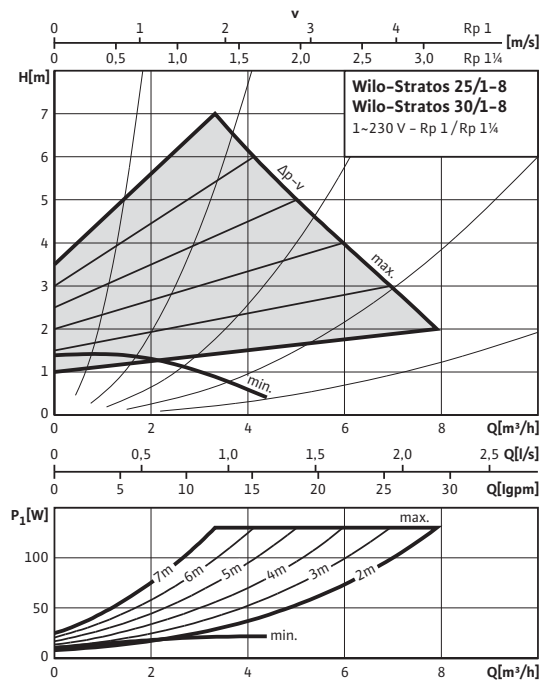


#### Wilo-Stratos 25/1-8 - 30/1-8

$\Delta p$ -c (constant)



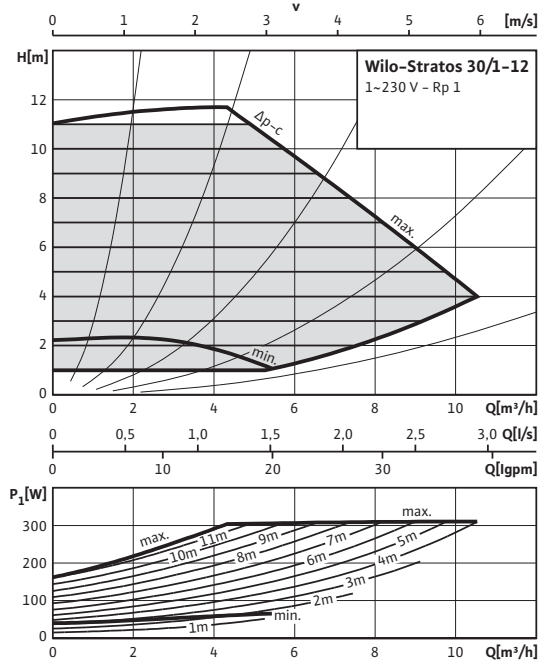
$\Delta p$ -v (variable)



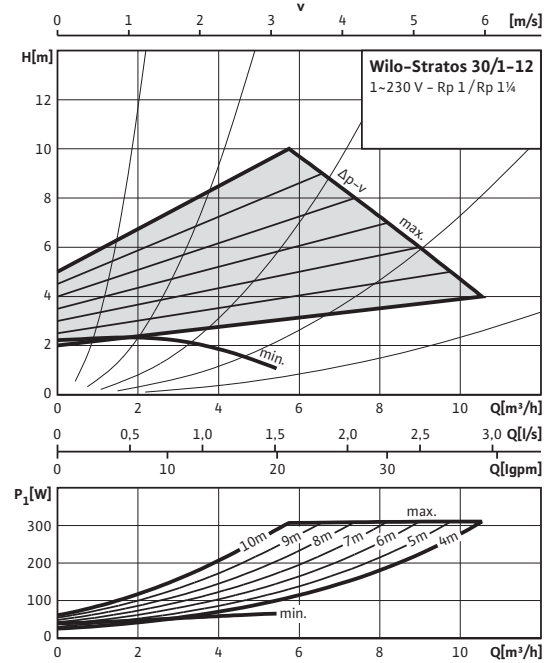
### Pump curves Wilo-Stratos

#### Wilo-Stratos 30/1-12

$\Delta p$ -c (constant)

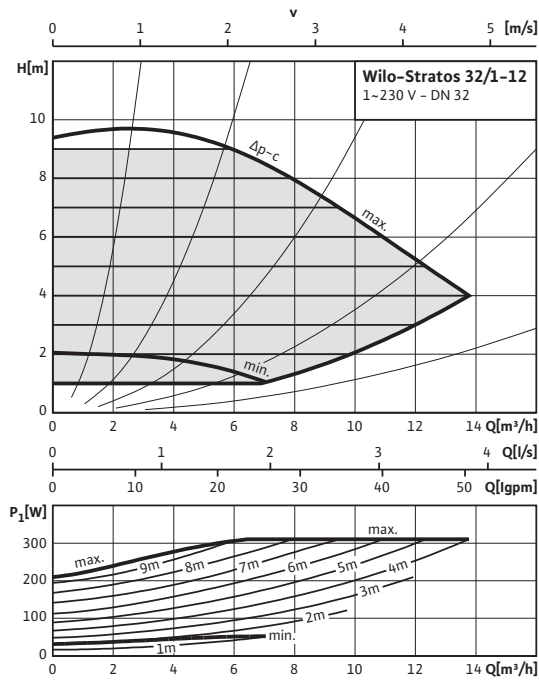


$\Delta p$ -v (variable)

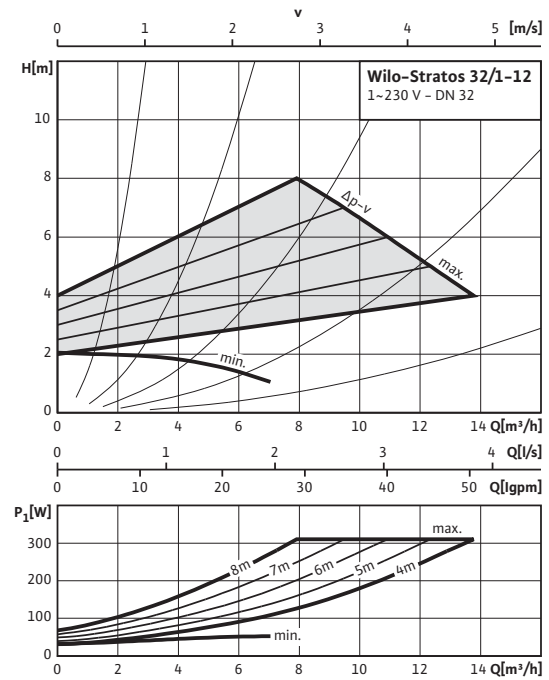


#### Wilo-Stratos 32/1-12

$\Delta p$ -c (constant)



$\Delta p$ -v (variable)



Heating, air-conditioning, cooling



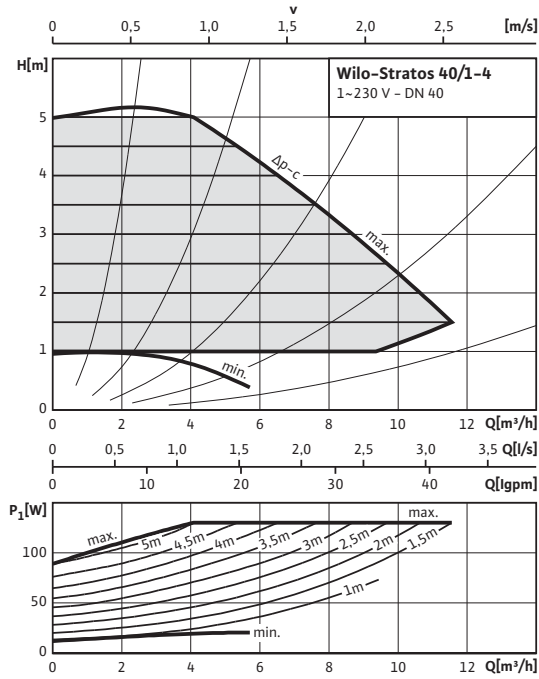
# Heating, air-conditioning, cooling

## High-efficiency pumps (single pumps)

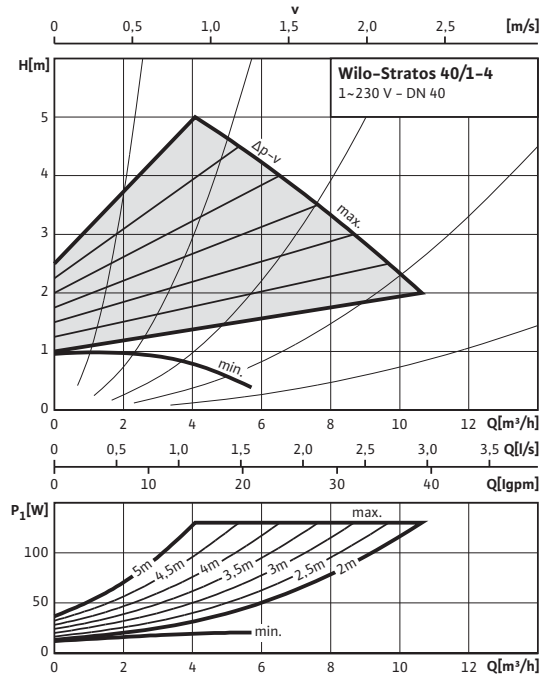
### Pump curves Wilo-Stratos

#### Wilo-Stratos 40/1-4

$\Delta p$ -c (constant)

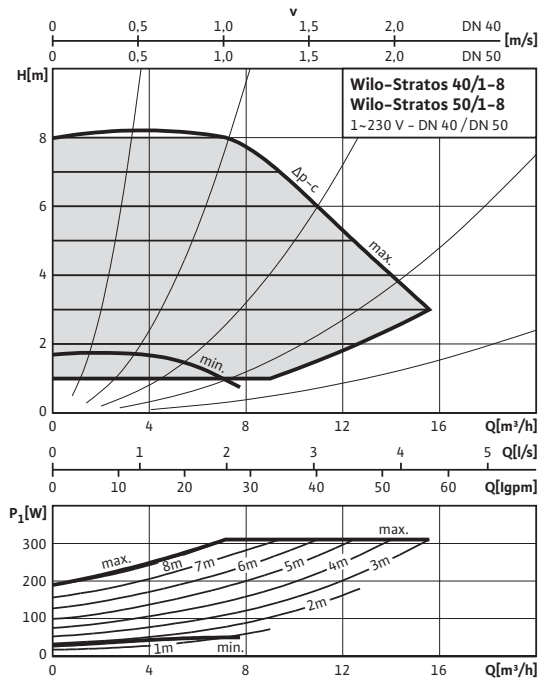


$\Delta p$ -v (variable)

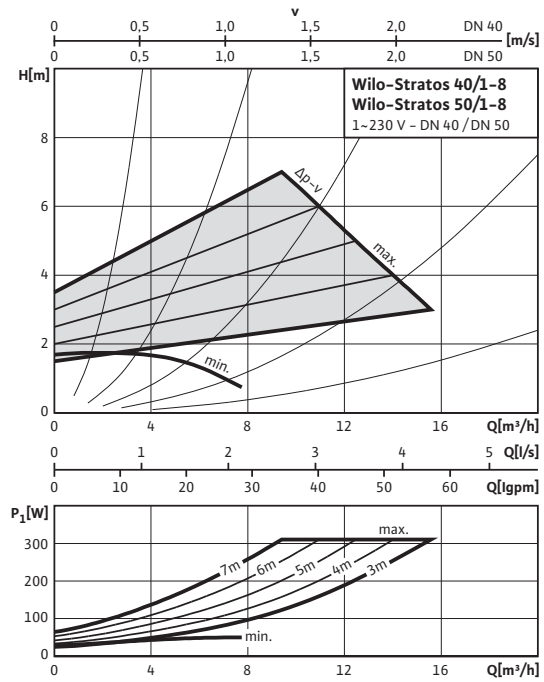


#### Wilo-Stratos 40/1-8, 50/1-8

$\Delta p$ -c (constant)



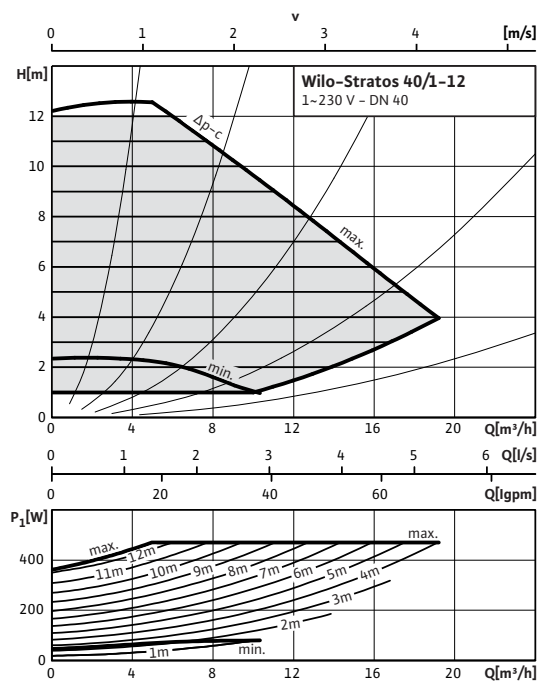
$\Delta p$ -v (variable)



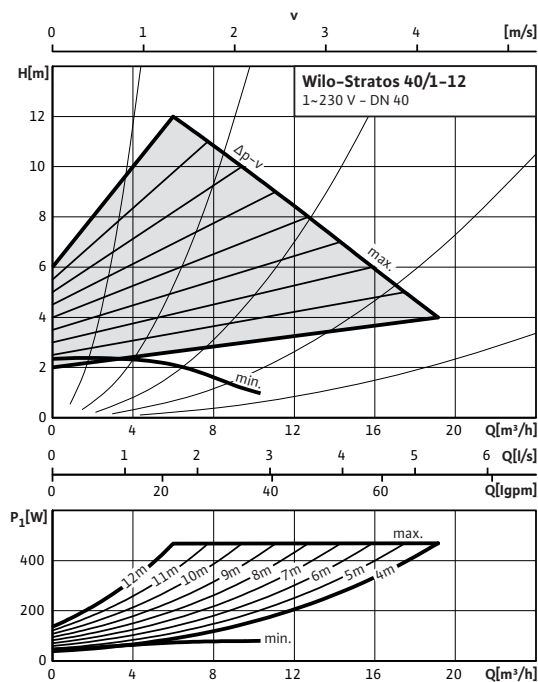
### Pump curves Wilo-Stratos

#### Wilo-Stratos 40/1-12

$\Delta p-c$  (constant)

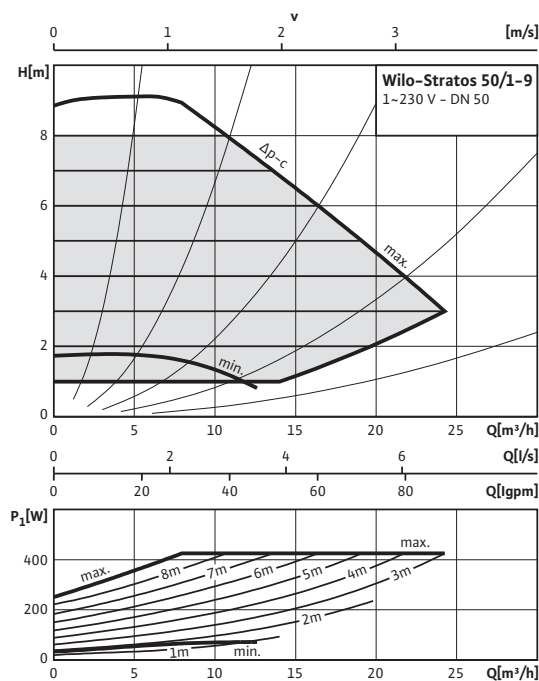


$\Delta p-v$  (variable)

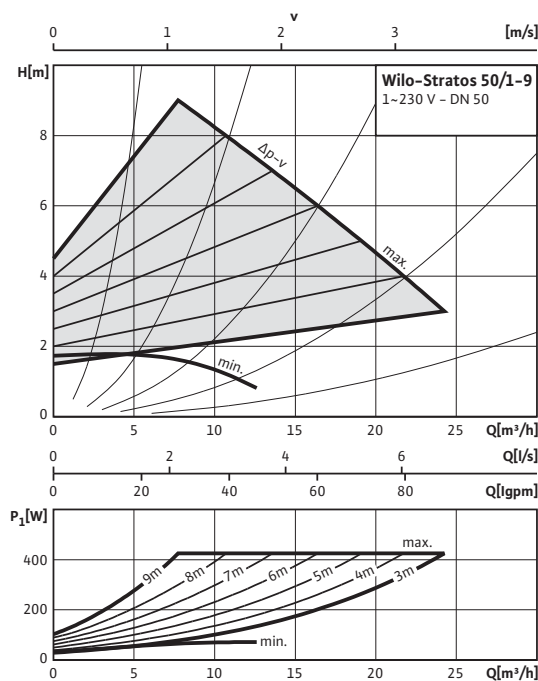


#### Wilo-Stratos 50/1-9

$\Delta p-c$  (constant)



$\Delta p-v$  (variable)



Heating, air-conditioning, cooling

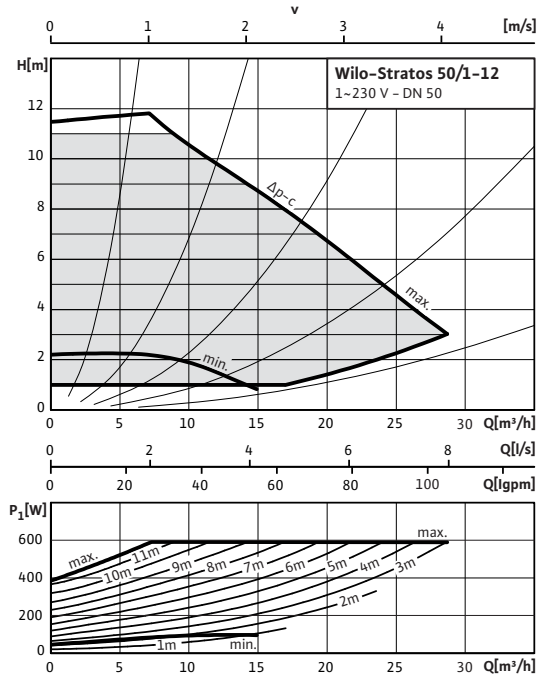
# Heating, air-conditioning, cooling

## High-efficiency pumps (single pumps)

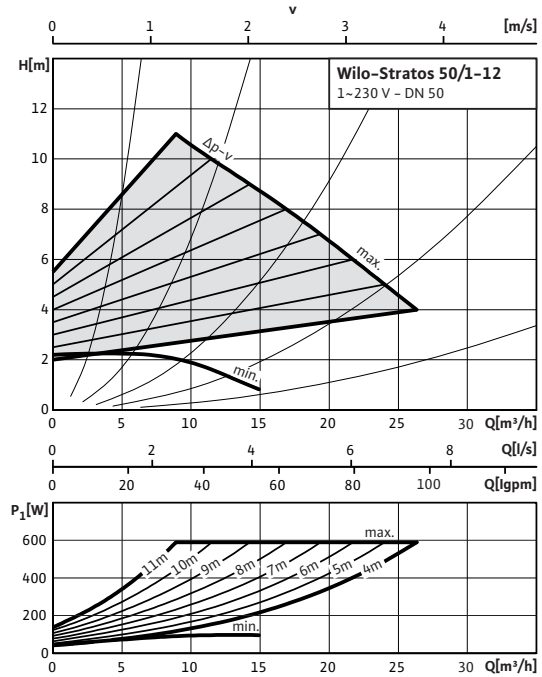
### Pump curves Wilo-Stratos

#### Wilo-Stratos 50/1-12

$\Delta p$ -c (constant)

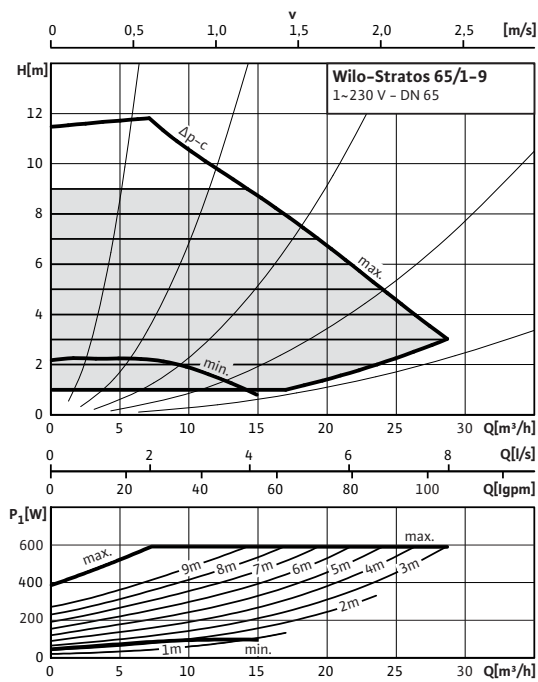


$\Delta p$ -v (variable)

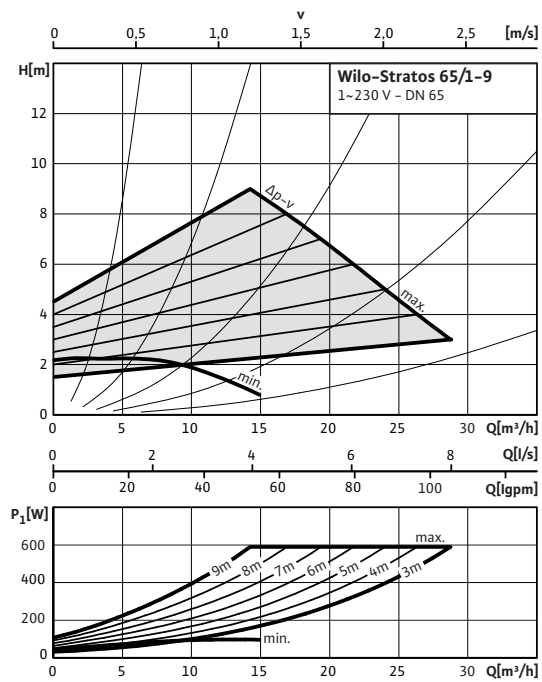


#### Wilo-Stratos 65/1-9

$\Delta p$ -c (constant)



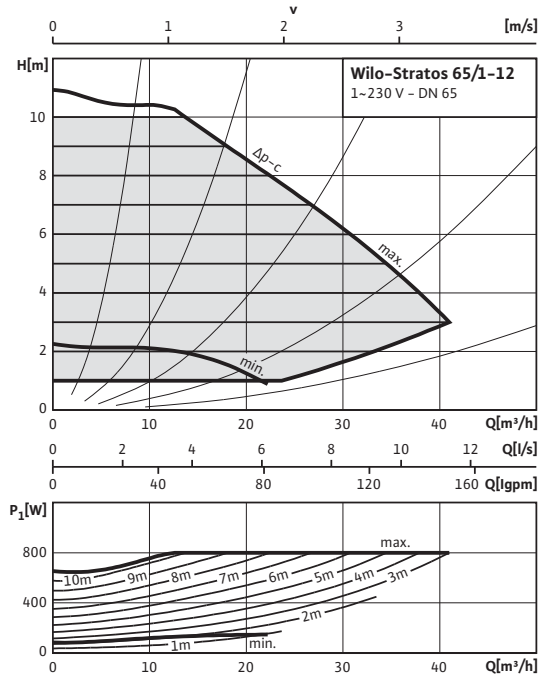
$\Delta p$ -v (variable)



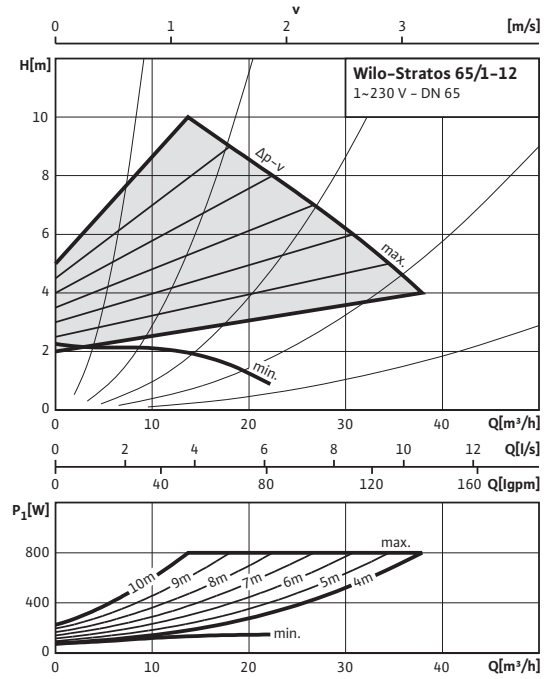
### Pump curves Wilo-Stratos

#### Wilo-Stratos 65/1-12

$\Delta p-c$  (constant)

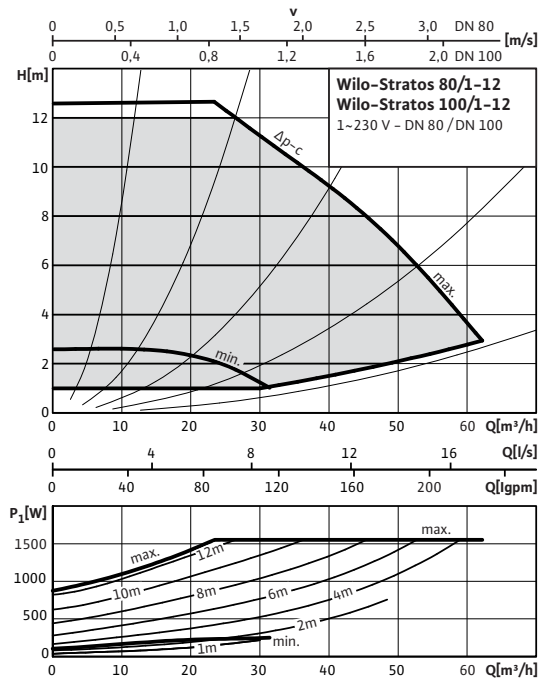


$\Delta p-v$  (variable)

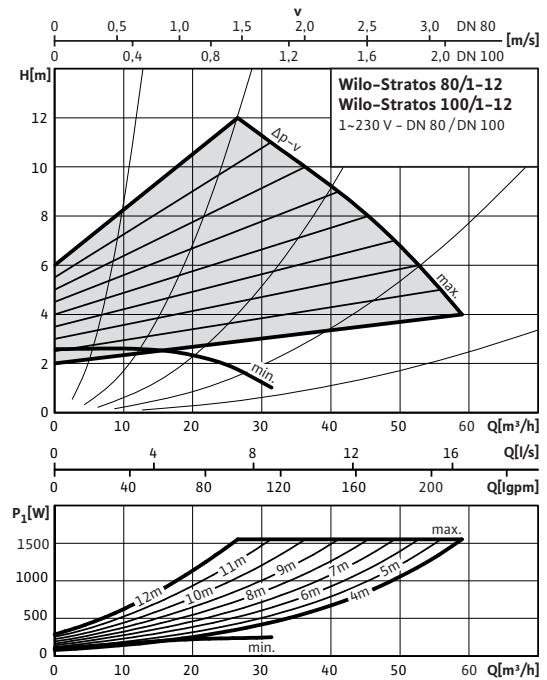


#### Wilo-Stratos 80/1-12, 100/1-12

$\Delta p-c$  (constant)



$\Delta p-v$  (variable)

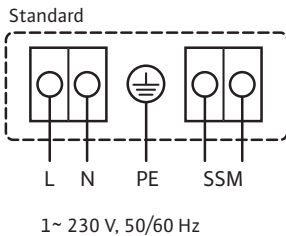


# Heating, air-conditioning, cooling

## High-efficiency pumps (single pumps)

### Terminal diagram, motor data Wilo-Stratos

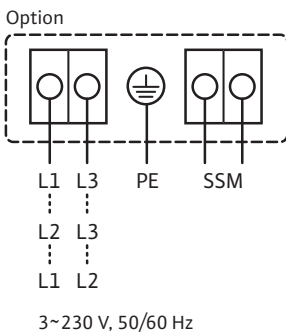
#### Terminal diagram



SSM: Collective fault signal  
(NC contact according to VDI 3814, load capacity 1 A, 250 V ~)  
Function see Chapter: "Wilo TOP-Control pump management systems, Planning guide"

Option: Stratos IF-Modules see Chapter: "Pump management Wilo TOP-Control"

#### Terminal diagram



SSM: Collective fault signal  
(NC contact according to VDI 3814, load capacity 1 A, 250 V ~)  
Function see Chapter: "Wilo TOP-Control pump management systems, Planning guide"

Option: Stratos IF-Modules see Chapter: "Wilo TOP-Control pump management"

Motor data								
Wilo-Stratos ...	Nominal motor power	Speed	Power consumption	Current at 1~230V	Current at 3~230V	Current at 3~400V	Motor protection	Threaded cable connection
	$P_2$	$n$	$P_1$	$I$			-	PG
	[W]	[rpm]	[W]	[A]			-	[PG]
25/1-6	65	1400 - 3400	9 - 85	0.13 - 0.78	0.13 - 0.78	-	integrated	1x7/1x9/ 1x13.5
25/1-8	100	1400 - 3700	9 - 130	0.13 - 1.20	0.13 - 1.20	-	integrated	1x7/1x9/ 1x13.5
30/1-6	65	1400 - 3400	9 - 85	0.13 - 0.78	0.13 - 0.78	-	integrated	1x7/1x9/ 1x13.5
30/1-8	100	1400 - 3700	9 - 130	0.13 - 1.20	0.13 - 1.20	-	integrated	1x7/1x9/ 1x13.5
30/1-12	200	1600 - 4800	16 - 310	0.16 - 1.37	0.16 - 1.37	-	integrated	1x7/1x9/ 1x13.5

# Heating, air-conditioning, cooling

High-efficiency pumps (single pumps)



## Terminal diagram, motor data Wilo-Stratos

Motor data								
Wilo-Stratos ...	Nominal motor power	Speed	Power consumption	Current at 1~230V	Current at 3~230V	Current at 3~400V	Motor protection	Threaded cable connection
	P <sub>2</sub>	n	P <sub>1</sub>	I			–	PG
	[W]	[rpm]	[W]	[A]			–	[PG]
32/1-12	200	1600 - 4800	16 - 310	0.16 - 1.37	0.16 - 1.37	-	integrated	1x7/1x9/ 1x13.5
40/1-4	100	1600 - 3700	14 - 130	0.16 - 1.20	0.16 - 1.20	-	integrated	1x7/1x9/ 1x13.5
40/1-8	200	1800 - 4800	18 - 310	0.17 - 1.37	0.17 - 1.37	-	integrated	1x7/1x9/ 1x13.5
40/1-12	350	1400 - 4600	25 - 470	0.20 - 2.05	0.20 - 2.05	-	integrated	1x7/1x9/ 1x13.5
50/1-8	200	1800 - 4800	18 - 310	0.17 - 1.37	0.17 - 1.37	-	integrated	1x7/1x9/ 1x13.5
50/1-9	350	1400 - 4100	25 - 430	0.20 - 1.88	0.20 - 1.88	-	integrated	1x7/1x9/ 1x13.5
50/1-12	500	1400 - 4600	25 - 590	0.20 - 2.60	0.20 - 2.60	-	integrated	1x7/1x9/ 1x13.5
65/1-9	500	1400 - 4600	25 - 590	0.20 - 2.60	0.20 - 2.60	-	integrated	1x7/1x9/ 1x13.5
65/1-12	650	950 - 3300	38 - 800	0.30 - 3.50	0.30 - 3.50	-	integrated	1x7/1x9/ 1x13.5
80/1-12	1300	900 - 3300	40 - 1550	0.32 - 6.80	0.32 - 6.80	-	integrated	1x7/1x9/ 1x13.5
100/1-12	1300	900 - 3300	40 - 1550	0.32 - 6.80	0.32 - 6.80	-	integrated	1x7/1x9/ 1x13.5

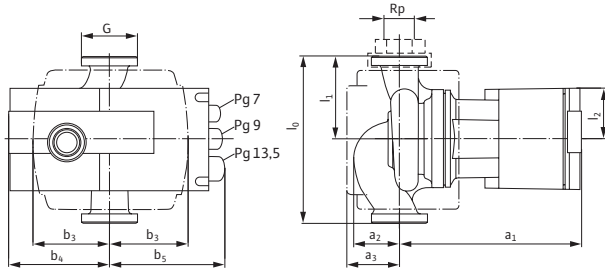
Heating, air-conditioning, cooling

# Heating, air-conditioning, cooling

## High-efficiency pumps (single pumps)

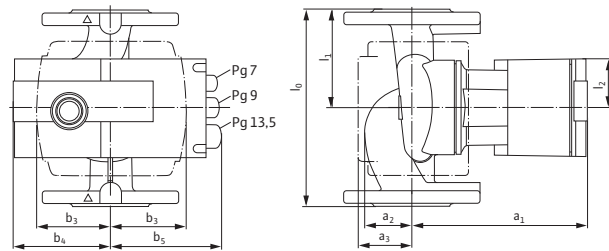
### Dimensions, weights Wilo-Stratos

Dimension drawing A



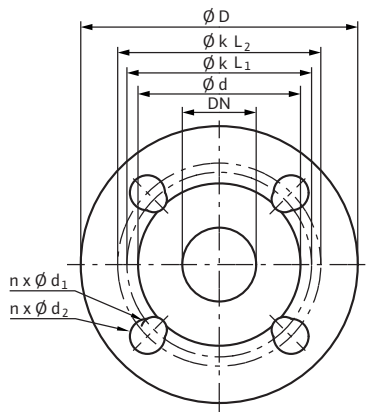
Permitted installation positions, see Planning guide  
**Important:** With vertical module configuration, the threaded cable connection projects above the pump connection (total dimension: dimension  $b_5$  + max. 9 mm)!

Dimension drawing B

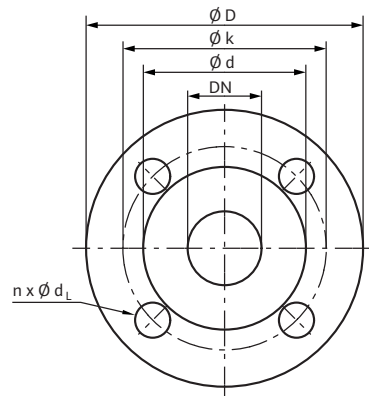


Permitted installation positions, see Planning guide  
**Important:** With vertical module configuration, the threaded cable connection projects above the pump connection (total dimension: dimension  $b_5$  + max. 9 mm)!

Dimension drawing Flange A



Dimension drawing Flange B



### Dimensions, weights

Wilo-Stratos ...	Rated pressure	Nominal flange diameter	Pipe connection	Thread	Dimensions									Weight approx.	Dimension drawing
	PN	DN	Rp	G	l <sub>0</sub>	l <sub>1</sub>	l <sub>2</sub>	a <sub>1</sub>	a <sub>2</sub>	a <sub>3</sub>	b <sub>3</sub>	b <sub>4</sub>	b <sub>5</sub>	M	-
	[bar]	-	-	-	[mm]									[kg]	-
25/1-6	10	-	1	1½	180	90	49	182	43	56	76	89	114	4.1	A
25/1-8	10	-	1	1½	180	90	49	182	43	56	76	89	114	4.1	A
30/1-6	10	-	1¼	2	180	90	49	182	43	56	76	89	114	4.2	A
30/1-8	10	-	1¼	2	180	90	49	182	43	56	76	89	114	4.2	A
30/1-12	10	-	1¼	2	180	90	55	201	50	56	82	106	120	5.5	A
32/1-12	6/10	32	-	-	220	110	55	204	48	65	82	106	120	9.0	B
40/1-4	6/10	40	-	-	220	110	49	177	57	70	79	89	114	8.3	B
40/1-8	6/10	40	-	-	220	110	55	203	53	63	82	106	120	9.2	B
40/1-12	6/10	40	-	-	250	125	66	252	62	84	96	120	136	14.0	B