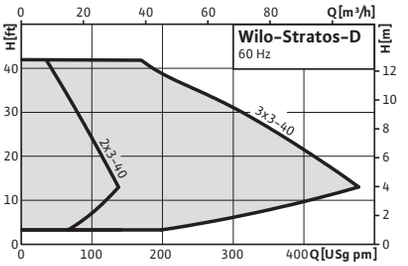
Heating, air-conditioning, cooling

High-efficiency pumps (single pumps)

Series overview

Series: Wilo-Stratos-D



> Design

In line, flanged wet rotor double circulator with EC motor and automatic capacity adjustment

> Application

Hot-water heating systems, air conditioning, closed cooling circuits, industrial circulation systems

> Special features/product benefits

- Energy efficiency class A
- Up to 80% power saving compared with constant speed circulating pumps
- Maximum efficiency thanks to ECM technology

> Description/design

- Wet rotor circulator with EC motor and integrated automatic capacity adjustment
- Red button technology for very easy operation
- Optimum handling due to front operation and front access to the terminal room
- Graphic pump display with rotatable display adjustable from US units(default) to metric
- Pump communication with IF (interface) module that can be easily retrofitted: ideal external operation
- Motor protection with electronic overload protection (min/max voltage, max temp, dry run, overload)
- Interface connection for extending built in functions, for building automation (BA) systems and external control
- Integrable dual pump management due to retrofit Stratos IF-Modules:
  - Main/standby mode with fault-dependent switchover
  - Efficiency-optimized peak-load operation
- Impeller with three-dimensional curved blades and rotor can using carbon fibre compound material
- Pump housing with cataphoretic (KTL) coating for the prevention of corrosion by condensation formation

Equipment/function

	Wilo-Stratos-D
Operating modes	
Manual control mode (n=constant)	•
Δp-c for constant differential pressure	•
Δp-v for variable differential pressure	•
Δp-T for temperature-controlled differential pressure	•
Manual functions	
Operating mode setting	•
Differential-pressure setpoint setting	•
Setting automatic setback operation	•
Pump ON/OFF setting	•
Speed setting (manual control mode)	•
Automatic functions	
Infinitely variable power adjustment depending on the operating mode	•
Automatic setback operation	•
Deblocking function	•
Soft start	•
Full motor protection with integrated trip electronics	•
External control functions	
"Analogue In 0 ... 10 V" control input (remote speed adjustment)	•
"Analogue In 0 ... 10 V" control input (remote adjustment setpoint)	• Possible with Stratos IF-Modules (accessories)
Signal and display functions	
Collective fault signal (potential-free NC contact)	•
Fault signal light	•
LCD screen for the display 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 LON interface for connection to a LONWORKS network	• Possible with Stratos IF-Modules (accessories)
Dual pump management (double pump or 2 x single pump)	
Main/standby mode (automatic fault-actuated switchover/time-dependent pump cycling)	•
Parallel operation (efficiency-optimised peak load cut-in and out)	•
Equipment/scope of delivery	
Including seals for threaded connection (loose)	–
Including installation and operating instructions	•

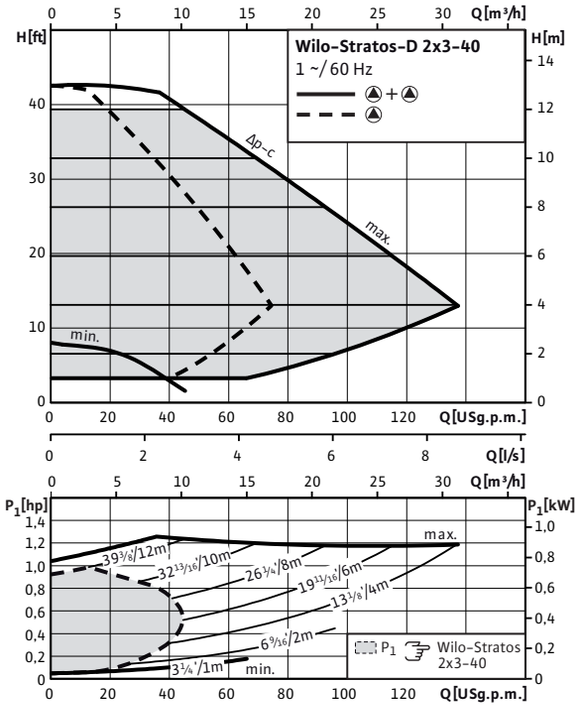
Technical data Wilo-Stratos-D

	Wilo-Stratos-D...	
	2x3-40	**3x3-40**
Approved fluids (other fluids on request)		
Heating water	•	•
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)	–	–
Power		
Max. delivery head H_{max}	43 ft	43 ft
Max. delivery head H_{max}	13 m	13 m
Max. volume flow Q_{max}	136.5 US GPM	479.9 US GPM
Max. volume flow Q_{max}	31 m^3/h	109 m^3/h
Permitted field of application		
Temperature range for applications in HVAC systems at max. ambient temperature of +40 °C	14 up to +230 °F (-10 up to +110 °C)	
Max. ambient temperature *T*	104 °F (40 °C)	
Standard version for operating pressure p_{max}	–	
Special version for operating pressure, p_{max}	–	
Pipe connections		
Nominal flange diameter *DN*	2.00 In.	3.00 In.
non ANSI flange (oval, rotated 90°)	–	–
non ANSI flange (oval)	–	–
non ANSI flange (round)	•	–
ANSI flange	–	•
Electrical connection		
Mains connection 1~, standard version *U*	230 V	230 V
Mains connection 3~, standard version *U*	230 V	230 V
Mains frequency *f*	60 Hz	50/60 Hz
Motor/electronics		
Speed control	Frequency converter	
Degree of protection	Enclosure 2/CSA	
Insulation class	F	
Materials		
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	
Minimum suction head at suction port for preventing cavitation at water pumping temperature		
Minimum suction head at 50°C *H*	7.1 psi	10.0 psi
Minimum suction head at 95°C *H*	17.1 psi	21.3 psi
Minimum suction head at 110°C *H*	25.6 psi	32.7 psi

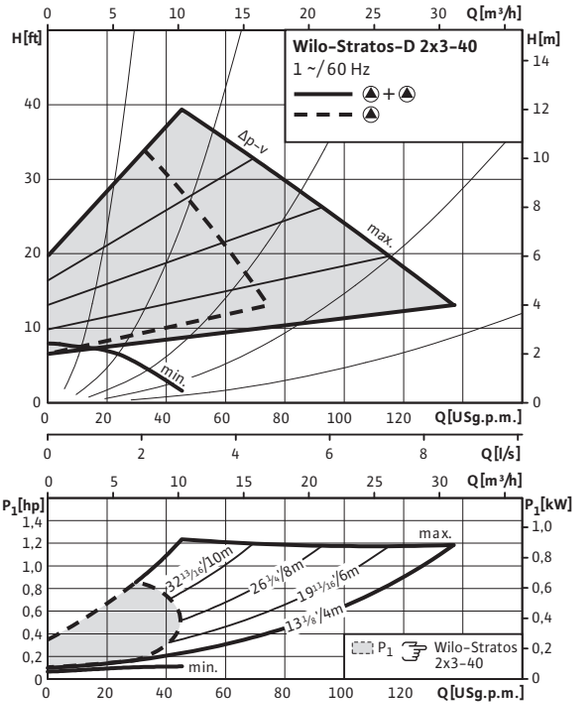
Pump curves Wilo-Stratos-D

Wilo-Stratos-D 2x3-40

Δp-c (constant)

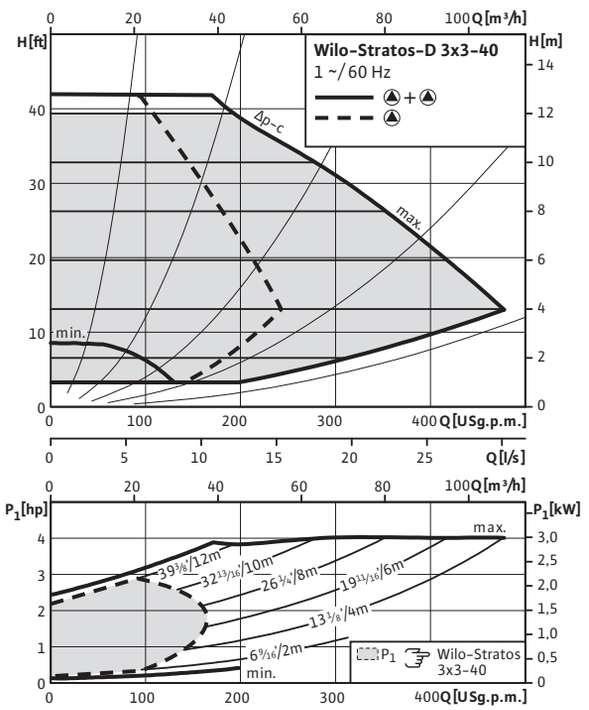


Δp-v (variable)

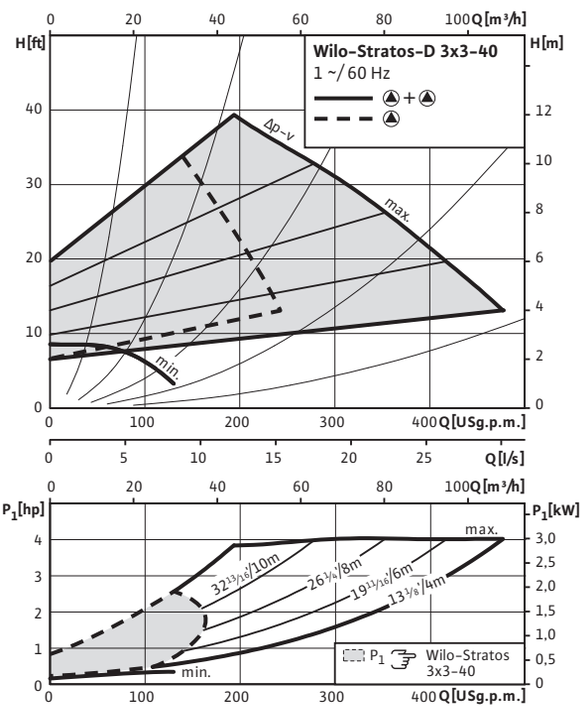


Wilo-Stratos-D 3x3-40

Δp-c (constant)



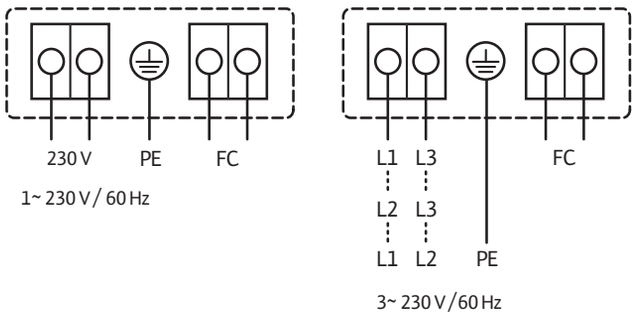
Δp-v (variable)



Terminal diagram, motor data Wilo-Stratos-D

Terminal diagram

FC: Collective fault signal (NC contact rating 1 A, 250 V~)

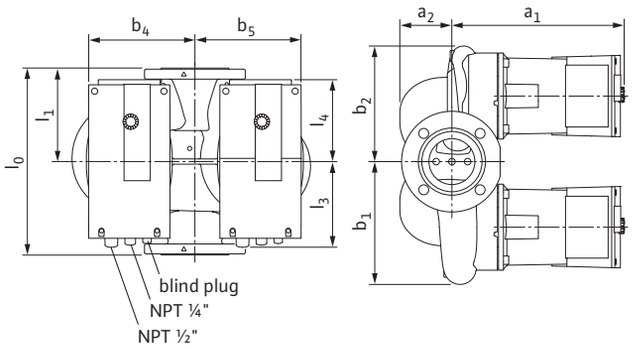


Motor data

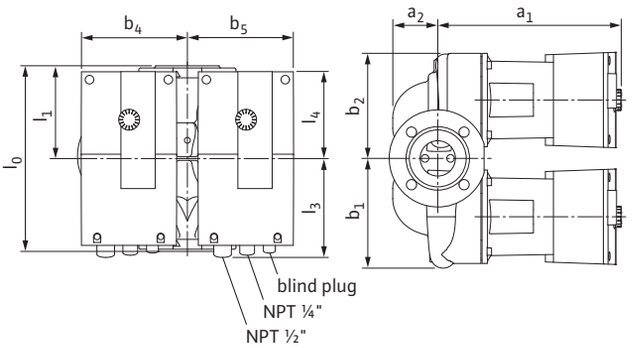
Wilo-Stratos-D...	Nominal motor power		Speed	Power consumption 1~230 V		Current at 1~230V	Current at 3~230V	Motor protection	Threaded cable connection
	P_2		n	P_1		I			PG
	hp	W	rpm	hp	W	A			
2x3-40	0.469	350	1400 – 4600	0.03 – 0.63	25 – 470	0.20 – 2.05	0.20 – 2.05	integrated	1xNPT 1/4"/ 1xNPT 1/2"
3x3-40	1.743	1300	900 – 3300	0.05 – 2.08	40 – 1550	0.32 – 6.80	0.32 – 6.80	integrated	1xNPT 1/4"/ 1xNPT 1/2"

Dimensions, weights Wilo-Stratos-D

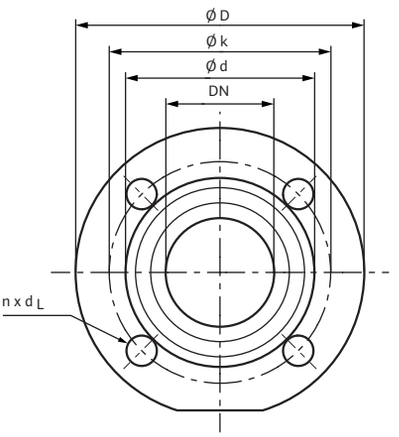
Dimension drawing 1



Dimension drawing 2



Dimension drawing flange



Dimensions, weights

Wilo-Stratos-D...	Nominal flange diameter		Overall length		Dimensions									
	DN		l_0		l_1		l_3		l_4		a_1		a_2	
	In.		In.	mm	In.	mm	In.	mm	In.	mm	In.	mm	In.	mm
2x3-40	2	50	10	254	5	127	$6^{9}/_{16}$	166	$4^{3}/_{4}$	120	$9^{15}/_{16}$	252	$2^{7}/_{16}$	62
3x3-40	3	80	14	356	7	178	$7^{5}/_{8}$	193	$6^{1}/_{8}$	156	$12^{15}/_{16}$	329	$3^{15}/_{16}$	100

Dimensions, weights Wilo-Stratos-D

Dimensions, weights

Wilo-Stratos-D...	Dimensions								Weight approx.		Dimension drawing
	b_1		b_2		b_4		b_5		m		
	In.	mm	In.	mm	In.	mm	In.	mm	lbs	kg	
2x3-40	$5^{15}/_{16}$	151	$5^{11}/_{16}$	144	$5^{11}/_{16}$	145	$5^{11}/_{16}$	145	41.9	19.0	1
3x3-40	$9^{1}/_{4}$	235	$8^{11}/_{16}$	221	8	203	8	203	41.9	19.0	2

Flange dimensions

Wilo-Stratos-D...	Flange	Nominal flange diameter		Pump flange dimensions							
		DN		$Ø\,D$		$Ø\,d$		$Ø\,k$		$n\,x\,Ø\,d_L$	
		In.		In.	mm	In.	mm	In.	mm	pcs. x In.	pcs. x mm
2x3-40	Non ANSI flange (round)	2	50	$5^{1}/_{4}$	133	$3^{7}/_{16}$	87	4	102	4 x $^{9}/_{16}$	4 x 14
3x3-40	ANSI flange	3	80	$7^{9}/_{16}$	192	$5^{1}/_{16}$	128	6	152	4 x $^{3}/_{4}$	4 x 19