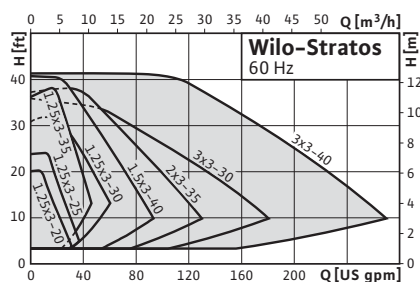


Circulating Pumps

Product review

Range: Wilo-Stratos



> Single head pumps:

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

> Applications:

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

> Special features/product advantages:

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

> Description/construction

- Wet rotor circulator with EC motor and integrated automatic capacity adjustment
- Red button technology for very easy operation
- 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
- Impeller with three-dimensional curved blades and rotor can using carbon fibre compound material

Circulating Pumps

Product review



Wilo-Stratos...								
	1.25x3-20	1.25x3-25	1.25x3-30	1.25x3-35	1.5x3-40	2x3-35	3x3-30	3x3-40
Operating modes (pre-selectable control modes)								
Manual control mode (n=constant)					•			
Δp -c for constant differential pressure					•			
Δp -v for variable differential pressure					•			
Δp -T for temperature-prompted differential pressure					•			
Manual functions								
Setting the operating mode					•			
Setting the differential-pressure set-point					•			
Setting to "Autopilot" (automatic setback mode)					•			
Setting the pump to ON/OFF					•			
Setting the speed (manual setting mode)					•			
Automatic functions								
Stepless power adjustment depending on the operating mode					•			
"Autopilot" automatic setback mode					•			
Deblocking function					•			
Soft start					•			
Full motor protection with integrated trip electronics					•			
External control functions								
Control input "Analogue In 0-10 V" (remote speed adjustment)					•			Possible with Stratos IF-Modules (accessory)
Control input "Analogue In 0-10 V" (remote setpoint adjustment)					•			Possible with Stratos IF-Modules (accessory)
Signal and display functions								
Collective fault signal (potential-free NC contact)					•			
Fault lamp					•			
LC display for showing pump data and fault codes					•			

• = available, — = not available

Circulating Pumps

Product review

	Wilo-Stratos...							
	1.25x3-20	1.25x3-25	1.25x3-30	1.25x3-35	1.5x3-40	2x3-35	3x3-30	3x3-40
Data exchange								
Infra-red interface for wireless data exchange with IR-Module/IR-Monitor					•			
Serial digital LON interface for connection to a LONWorks network					•			
Possible with Stratos IF-Modules (accessory)								
Dual pump management (2 x single-head pump)								
Main/standby operation (automatic fault-actuated switchover/time-sensitive pump alteration)					•			
Various combinations with Stratos IF-Modules (accessory) possible								
Parallel operation (efficiency-optimised peak-load cut-in and out)					•			
Various combinations with Stratos IF-Modules (accessory) possible								
Scope of delivery								
Pump					•			
Flange gaskets					•			
Installation and operating instructions (full manual and one page "quick start" manual)					•			

• = available, — = not available

Circulating Pumps

Product review



Function, equipment Wilo-Stratos

	Wilo-Stratos...							
	1.25x3-20	1.25x3-25	1.25x3-30	1.25x3-35	1.5x3-40	2x3-35	3x3-30	3x3-40
Approved fluids (other fluids on request)								
Heating water	•	•	•	•	•	•	•	•
Water/glycol mixtures (max. 1:1; mixtures with more than 20 % glycol require reassessment of the hydraulic criteria)	•	•	•	•	•	•	•	•
Domestic hot water	–	–	–	–	–	–	–	–
Performance								
Max. delivery head [ft]	20	23	20	36	39	36	36	43
Max. delivery head [m]	6	7	9	11	12	11	11	13
Max. volume rate of flow [USGPM]	31.0	35.2	57.2	44.0	92.5	127.7	180.5	268.6
Max. volume rate of flow [m³/h]	7	8	13	10	21	29	41	61
Acceptable field of application								
Temperature range for application in heating and cooling installations	14 °F (–10 °C) up to 230 °F (+110 °C)							
Temperature range for open circulating system [°F]	–	–	–	–	–	–	–	–
Temperature range in domestic hot water system [°F]	–	–	–	–	–	–	–	–
Ambient temperature range	104 °F (+40 °C)							
Max. working pressure $p_{\max}$ [psi]	145	145	145	145	145	145	145	145
Pipe connections								
Nominal connection diameter – DS [in]	1.25	1.25	1.25	1.25	1.5	2.0	3.0	3.0
Non ANSI flange (oval, rotated 90°)	•	•	•	•	–	–	–	–
Non ANSI flange (oval)	–	–	–	–	•	–	–	–
Non ANSI flange (round)	–	–	–	–	–	•	–	–
ANSI flange	–	–	–	–	–	–	•	•
Electrical connections								
Power supply 1~ [V]	230	230	230	230	230	230	230	230
Power supply 3~ [V]	230	230	230	230	230	230	230	230
Frequency [Hz]	60	60	60	60	60	60	60	60
Motor/Electronics								
Power electronics	Frequency converter							
Degree of protection	Enclosure 2							
Insulation class	H	H	H	H	H	H	H	H

• = available, – = not available

Circulating Pumps

Product review

Technical data Wilo-Stratos

	Wilo-Stratos...							
	1.25x3-20	1.25x3-25	1.25x3-30	1.25x3-35	1.5x3-40	2x3-35	3x3-30	3x3-40
Materials								
Pump housing	Cataphoretic coated cast iron (EN-GJL 250)							
Impeller	Engineered composite PPS						Engineered composite PP	
Shaft	Stainless steel (X46 Cr13)							
Bearing	Metal impregnated carbon							
Minimal static inlet pressure at pump suction port [psi] to avoid cavitation at fluid temperatures								
122 °F (50 °C)	4.4	4.4	4.4	4.4	7.3	7.3	10.2	10.2
203 °F (95 °C)	14.5	14.5	14.5	14.5	17.4	17.4	21.8	21.8
230 °F (110 °C)	23.2	23.2	23.2	23.2	26.1	26.1	33.4	33.4

• = available, — = not available

Circulating Pumps

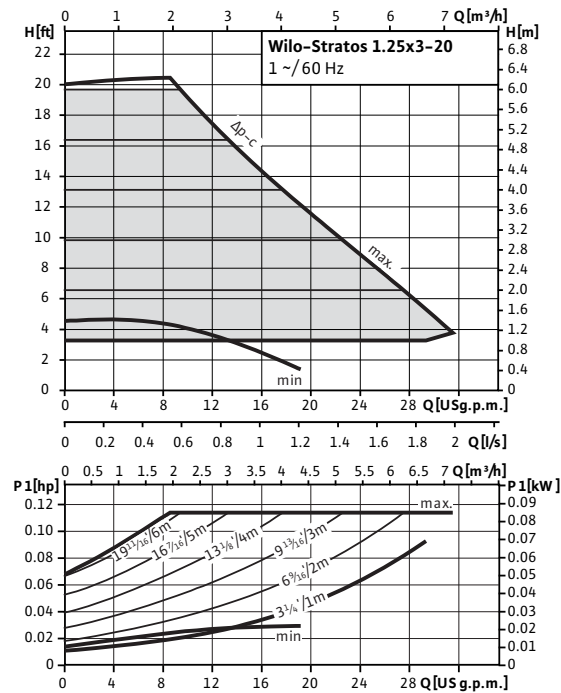
Wilo-Stratos



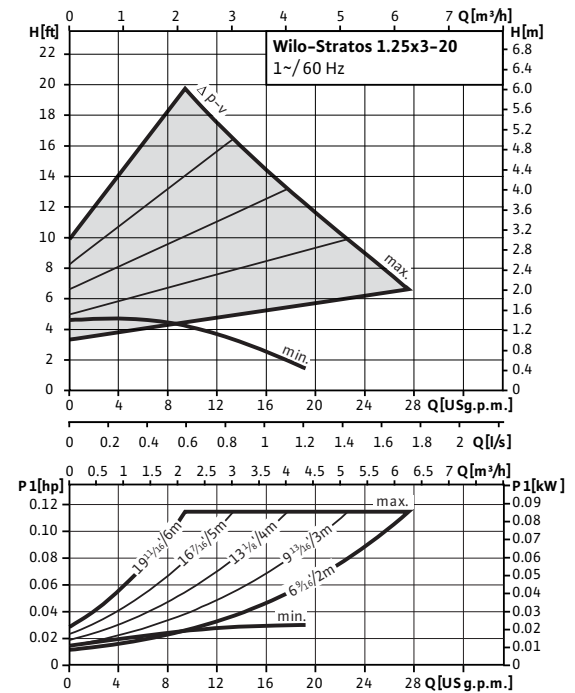
Pump curves Wilo-Stratos

Wilo-Stratos 1.25x3-20

Δp -c (constant)

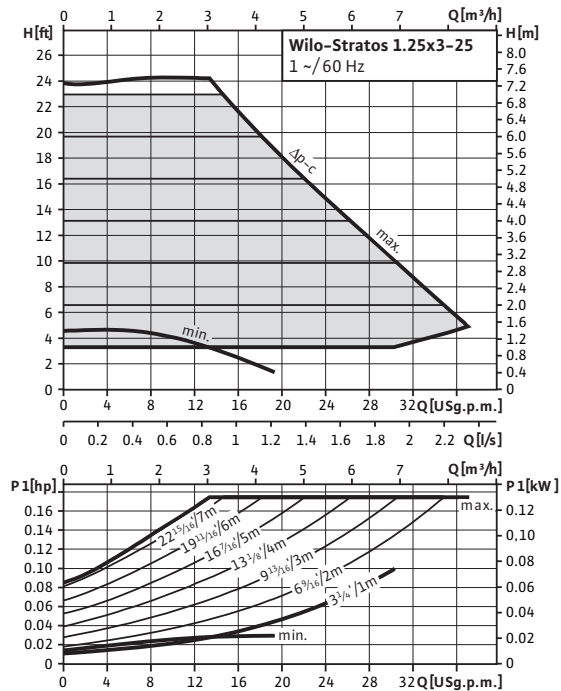


Δp -v (variable)

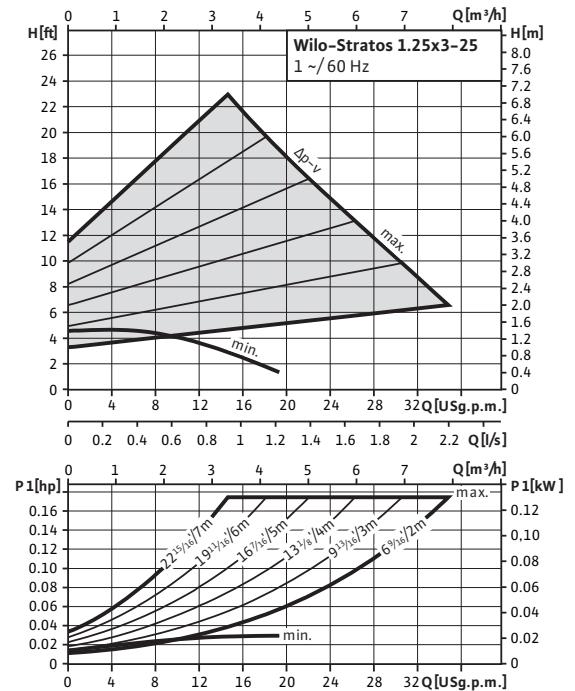


Wilo-Stratos 1.25x3-25

Δp -c (constant)



Δp -v (variable)



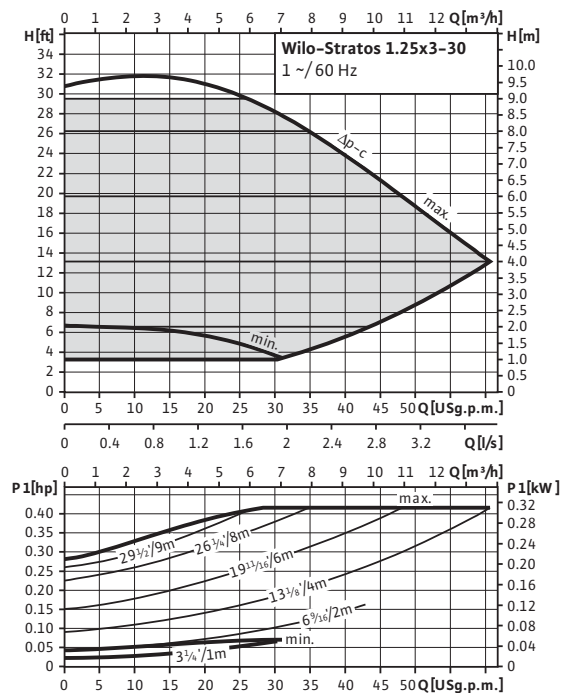
Circulating Pumps

Wilo-Stratos

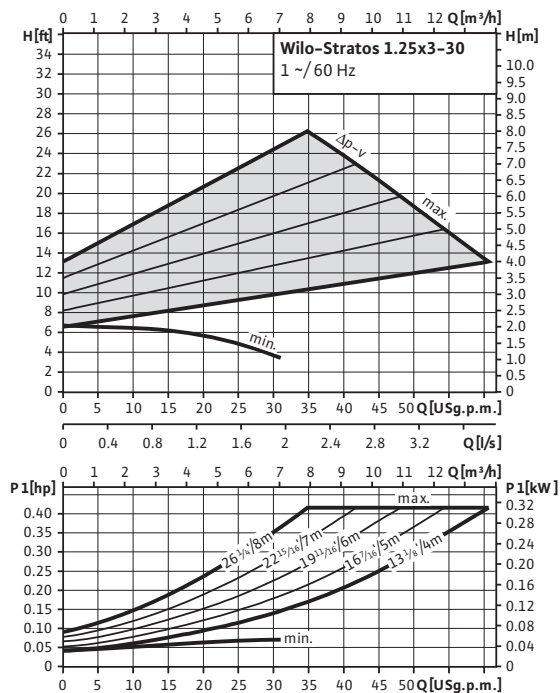
Pump curves Wilo-Stratos

Wilo-Stratos 1.25x3-30

Δp -c (constant)

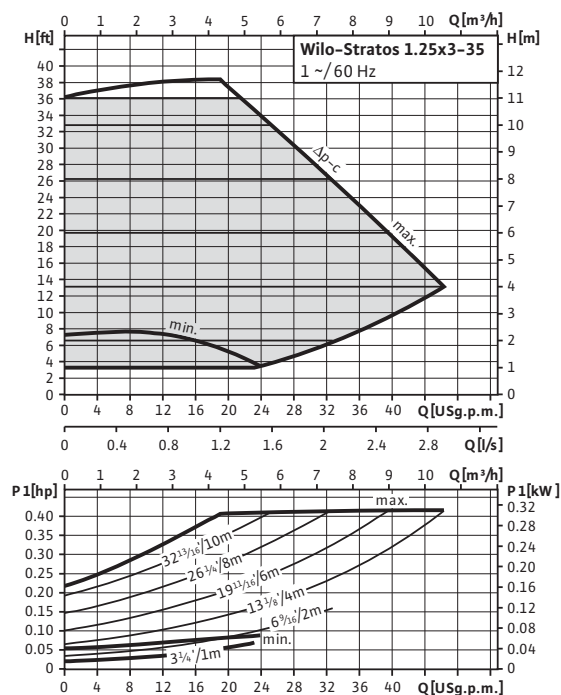


Δp -v (variable)

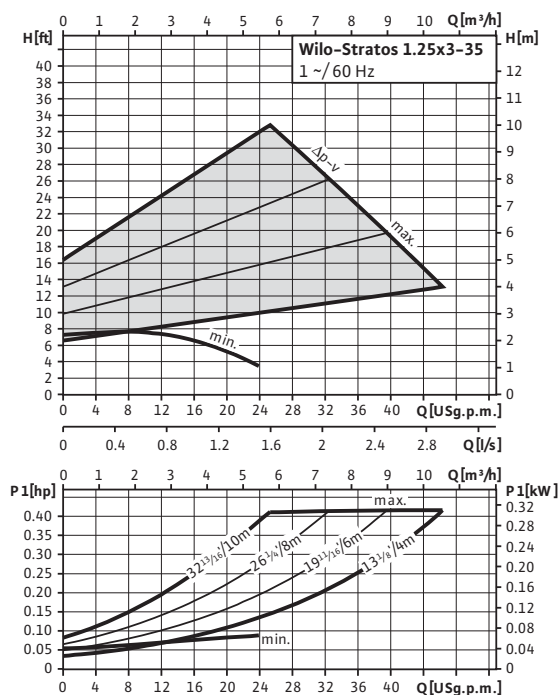


Wilo-Stratos 1.25x3-35

Δp -c (constant)



Δp -v (variable)



Circulating Pumps

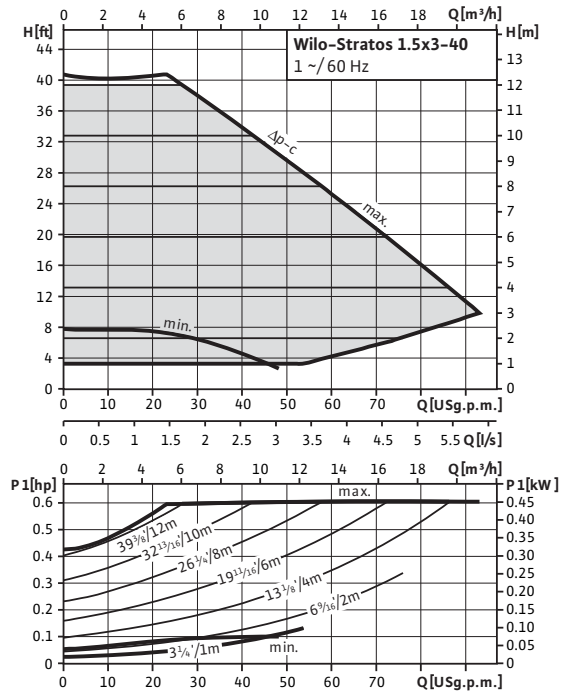
Wilo-Stratos



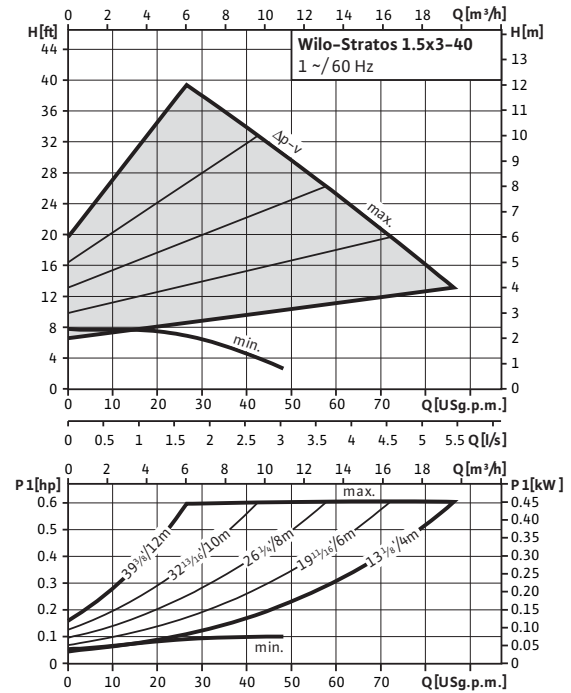
Pump curves Wilo-Stratos

Wilo-Stratos 1.5x3-40

Δp -c (constant)

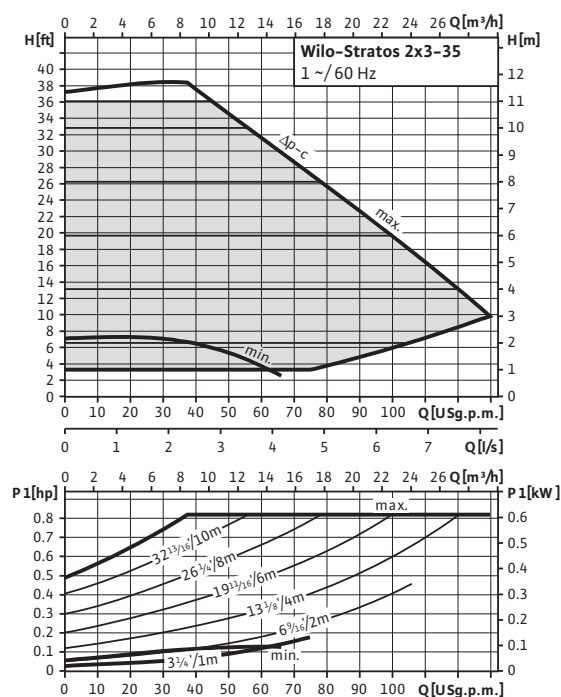


Δp -v (variable)

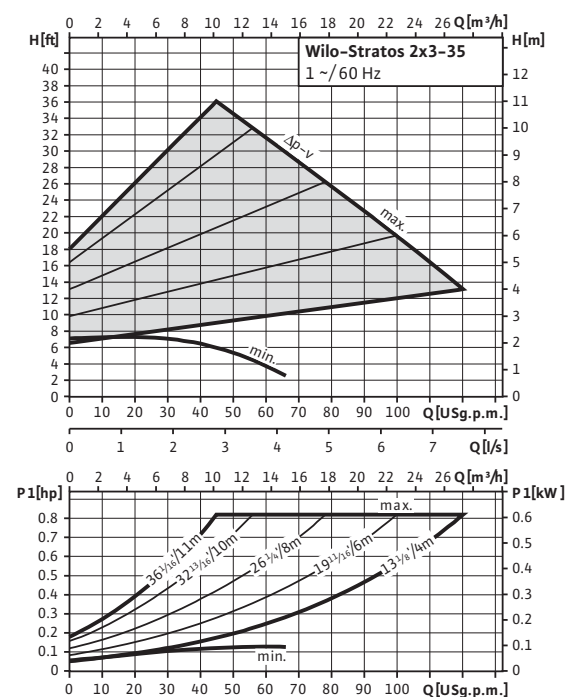


Wilo-Stratos 2x3-35

Δp -c (constant)



Δp -v (variable)



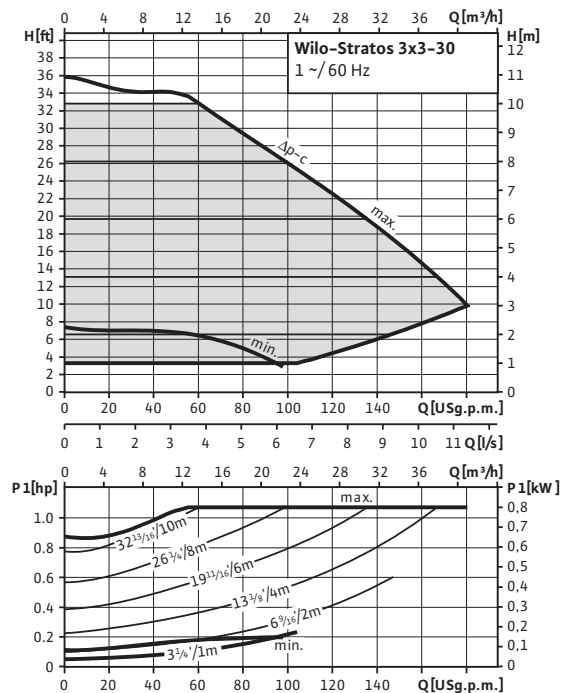
Circulating Pumps

Wilo-Stratos

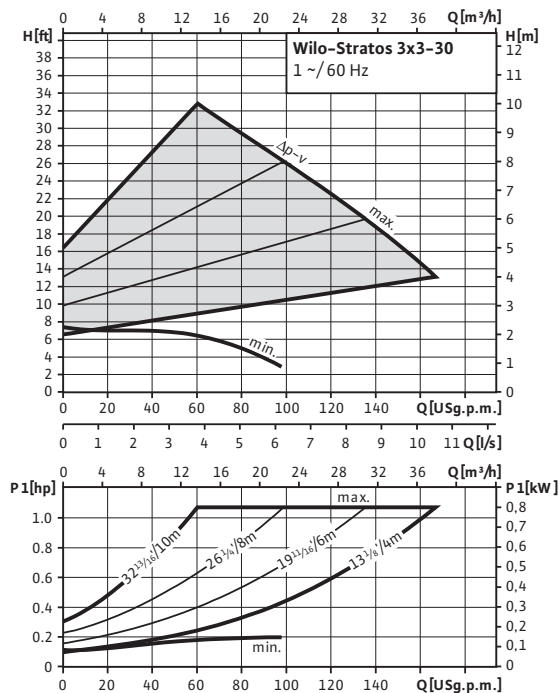
Pump curves Wilo-Stratos

Wilo-Stratos 3x3-30

Δp -c (constant)

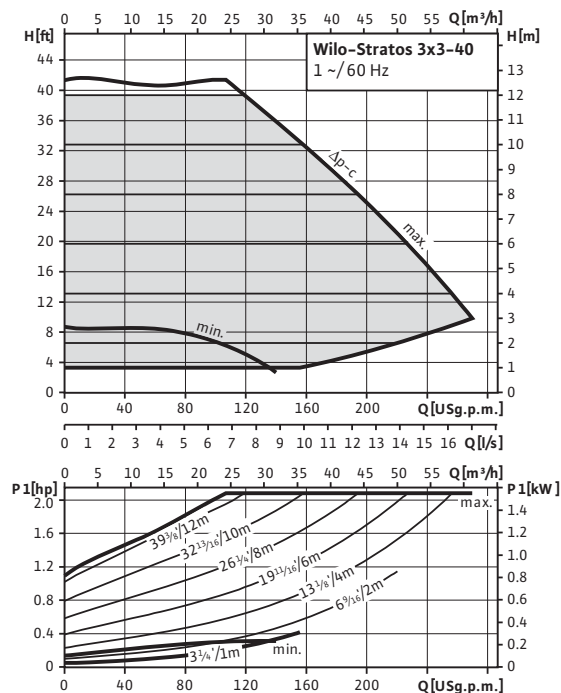


Δp -v (variable)

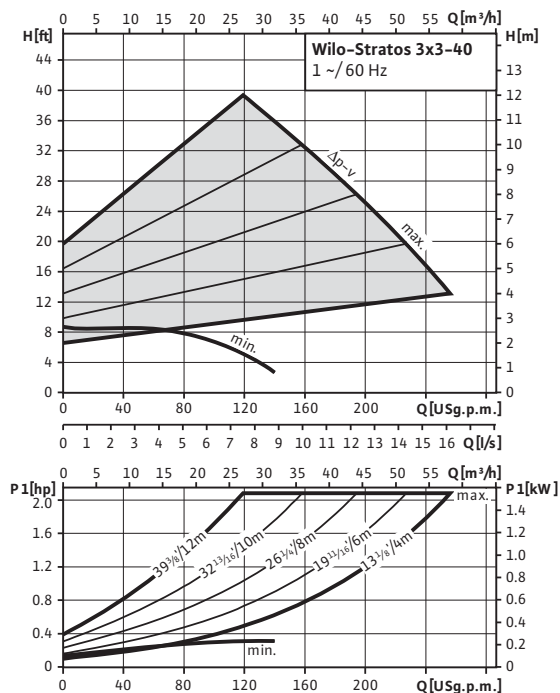


Wilo-Stratos 3x3-40

Δp -c (constant)



Δp -v (variable)



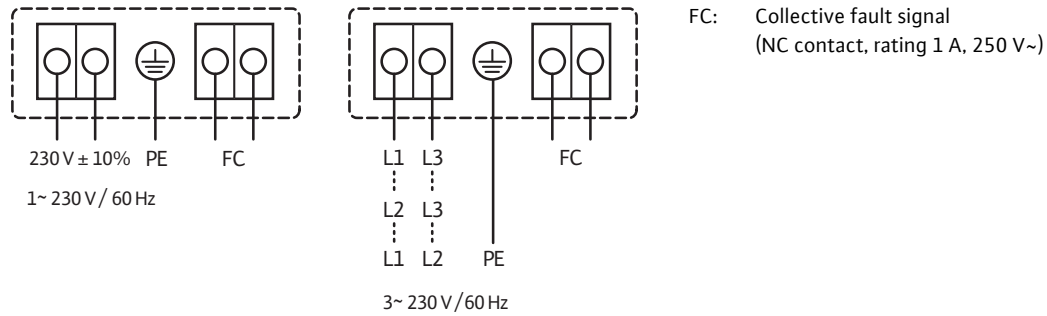
Circulating Pumps

Wilo-Stratos



Wiring diagrams, motor data

Wiring diagramm



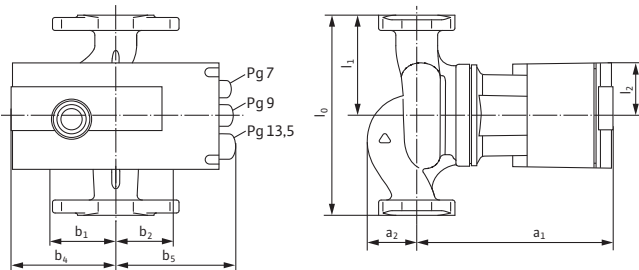
Motor data									
Wilo-Stratos...	Rated Power		Speed	Power consumption		Current 1~230 V	Current 3~230 V	Motor protection	Screwed cable gland
	P ₂		n	P ₁		I		–	–
	[hp]	[W]	[rpm]	[hp]	[W]	[A]		–	[in]
1.25x3-20	0.087	65	1400 – 3400	0.01 – 0.11	9 – 85	0.13 – 0.78	0.13 – 0.78	integrated	1x½ / 1x¼
1.25x3-25	0.134	100	1400 – 3700	0.01 – 0.17	9 – 130	0.13 – 1.20	0.13 – 1.20		1x½ / 1x¼
1.25x3-30	0.268	200	1600 – 4800	0.02 – 0.42	16 – 310	0.16 – 1.37	0.16 – 1.37		1x½ / 1x¼
1.25x3-35	0.268	200	1600 – 4800	0.02 – 0.42	16 – 310	0.16 – 1.37	0.16 – 1.37		1x½ / 1x¼
1.5x3-40	0.469	350	1400 – 4600	0.03 – 0.60	21 – 450	0.16 – 2.01	0.16 – 2.01		1x½ / 1x¼
2x3-35	0.671	500	1400 – 4600	0.03 – 0.83	21 – 620	0.16 – 2.70	0.16 – 2.70		1x½ / 1x¼
3x3-30	0.872	650	950 – 3300	0.05 – 1.07	38 – 800	0.28 – 3.50	0.28 – 3.50		1x½ / 1x¼
3x3-40	1.743	1300	900 – 3300	0.05 – 2.08	40 – 1550	0.30 – 6.80	0.30 – 6.80		1x½ / 1x¼

Circulating Pumps

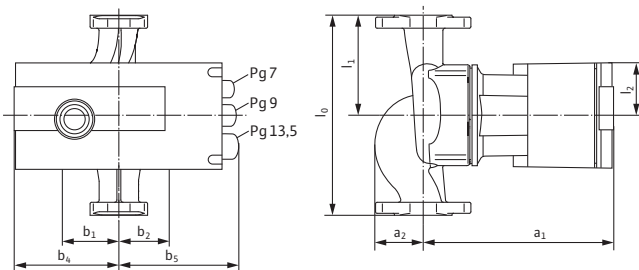
Wilo-Stratos

Dimensions, weights

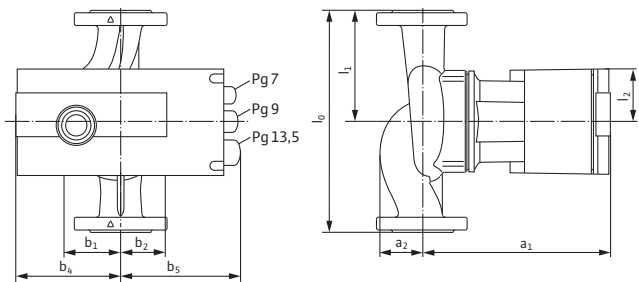
Drawing no.: 1



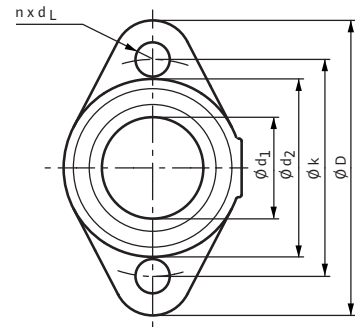
Drawing no.: 2



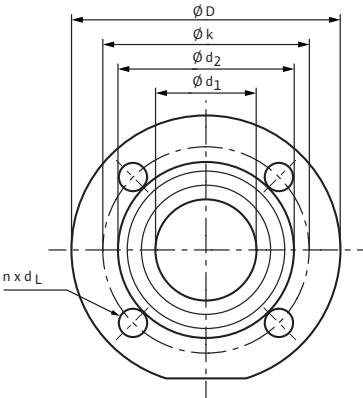
Drawing no.: 3



Drawing no.: 4



Drawing no.: 5



Circulating Pumps

Wilo-Stratos



Dimensions, weights

Dimensions, weights

Wilo-Stratos...	Flange diameter		Pump dimensions									
	DN		l ₀		l ₁		l ₂		a ₁		a ₂	
	[in]	[mm]	[in]	[mm]	[in]	[mm]	[in]	[mm]	[in]	[mm]	[in]	[mm]
1.25x3-20	1.25	32	6 1/2	165	3 1/4	82.5	1 7/8	49	7 1/8	182	1 11/16	43
1.25x3-25	1.25	32	6 1/2	165	3 1/4	82.5	1 7/8	49	7 1/8	182	1 11/16	43
1.25x3-30	1.25	32	8 1/2	216	4 1/4	108	2 3/16	55	8	204	1 7/8	48
1.25x3-35	1.25	32	8 1/2	216	4 1/4	108	2 3/16	55	7 7/8	201	1 15/16	50
1.5x3-40	1.50	40	10	254	5	127	2 9/16	66	9 15/16	252	2 7/16	62
2x3-35	2.00	50	11	279	5 1/2	139.5	2 9/16	66	10 1/16	256	2 3/8	62
3x3-30	3.00	80	14	356	7	178	3 1/16	78	12 13/16	325	3 3/8	87
3x3-40	3.00	80	14	356	7	178	3 1/16	78	12 15/16	329	3 9/16	90

Dimensions, weights (continuation)

Wilo-Stratos...	Pump dimensions								Weight approx. net		Drawing No.
	b ₁		b ₂		b ₄		b ₅		-		-
	[in]	[mm]	[in]	[mm]	[in]	[mm]	[in]	[mm]	[lbs]	[kg]	-
1.25x3-20	2 1/8	54	1 7/8	47.5	3 9/16	90	4 1/2	114	9.3	4.2	1
1.25x3-25	2 1/8	54	1 7/8	47.5	3 9/16	90	4 1/2	114	9.3	4.2	1
1.25x3-30	2 1/2	63	2 3/16	55	4 3/16	106	4 3/4	120	19.8	9.0	1
1.25x3-35	2 3/8	61	2 3/16	55	4 3/16	106	4 3/4	120	19.8	9.0	1
1.5x3-40	2 13/16	72	2 9/16	65.5	4 11/16	119	5 3/8	136	30.9	14.0	2
2x3-35	3 3/16	81.5	2 9/16	65.5	4 11/16	119	5 3/8	136	37.2	15.5	3
3x3-30	4	101	3 1/4	82	6 1/8	155	6 7/16	164	41.9	19.0	3
3x3-40	4 7/16	113	3 9/16	90	6 1/8	155	6 7/16	164	68.3	31.0	3

Flange dimensions

Wilo-Stratos...	Flange	Nominal diameter		Flange dimension pump										Drawing No.
		DN		Ø D		Ø d ₁		Ø d ₂		Ø k		n x d _L		-
		[in]	[mm]	in	[mm]	[mmin]	[mm]	[in]	[mm]	[in]	[mm]	[units x in]	[units x mm]	-
1.25x3-20 1.25x3-25 1.25x3-30 1.25x3-35	Non ANSI (oval 90° rotated)	1.25	32	4 ³ / ₄	121	1 ³ / ₈	35	2 ⁷ / ₈	73	3 ¹ / ₂	89	2 x ø ¹ / ₂	2 x ø 14	4
1.5x3-40	Non ANSI (oval)	1.5	40	4 ³ / ₄	121	1 ⁵ / ₈	41	2 ⁷ / ₈	73	3 ¹ / ₂	89	2 x ø ¹ / ₂	2 x ø 14	4
2x3-35	Non ANSI (round)	2.0	50	5 ¹ / ₄	133	2 ¹ / ₁₆	53	3 ⁷ / ₁₆	87	4	102	4 x ø ¹ / ₂	4 x ø 14	5
3x3-30 3x3-40	ANSI R.F. Class 125 ASTMA 126	3.0	80	7 ⁹ / ₁₆	192	3 ¹ / ₄	82	5 ¹ / ₁₆	128	6	152	4 x ø ³ / ₄	4 x ø 19	5