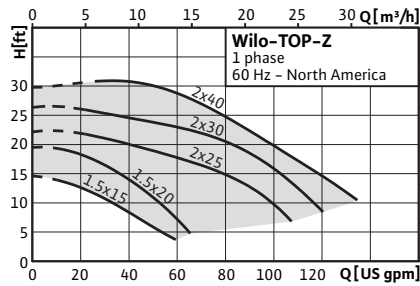


Standard Circulating Pumps

Product review

Range: Wilo-TOP-Z



> Single-head pumps:

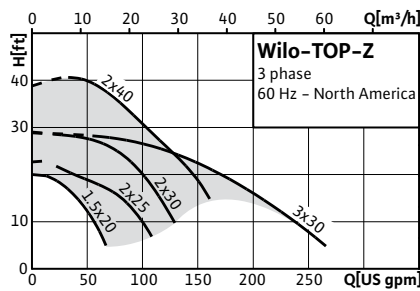
- Seal-less circulator with flanged connection. Two speed, manually adjustable to match flow requirements

> Applications:

- Domestic hot water circulation systems, and related "open" systems (e.g. cooling water circulation)

> Special features/product advantages:

- Pre-selectable speed adjustment
- Wet rotor, NSF approved type



Standard Circulating Pumps

Product review



Function, equipment Wilo-TOP-Z

	Wilo-TOP-Z...					
	1.5x15	1.5x20	2x25	2x30	2x40	3x30
Operating modes						
Pre-selectable speed stages for optimum load adjustment	•	•	•	•	•	•
Manual functions						
Number of speeds	2	2	2	2	2	2
Signal and display functions						
Thermal overload sensor (NC contact)	•	•	•	•	•	•
Power on light	•	•	•	•	•	•
Reverse rotation light	–	• (only with 3~ pumps)	• (only with 3~ pumps)	• (only with 3~ pumps)	• (only with 3~ pumps)	•
Equipment/Scope of delivery						
Pump	•	•	•	•	•	•
Flange gaskets	•	•	•	•	•	•
Power cable connection from either side of terminal box	•	•	•	•	•	•
Cast aluminum terminal box with threaded NPT electrical opens on both sides	•	•	•	•	•	–
Cable entry gaskets	•	•	•	•	•	–
Installation and operating instructions	•	•	•	•	•	•

• = available, – = not available

Standard Circulating Pumps

Product review

Technical data Wilo-TOP-Z

		Wilo-TOP-Z...					
		1.5x15	1.5x20	2x25	2x30	2x40	3x30
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 for secondary and service water systems		•	•	•	•	•	•
Performance							
Max. delivery head [ft]	1~	14.4	19.7	22.3	26.2	29.9	–
	3~	–	19.7	23.0	28.9	38.7	28.9
Max. delivery head [m]	1~	4.4	6.0	6.8	8.0	9.1	–
	3~	–	6.0	7.0	8.8	11.8	8.8
Max. volume rate of flow [USGPM]	1~	59.4	66.0	107.4	120.2	134.3	–
	3~	–	66.9	107.4	129.4	160.7	265.5
Max. volume rate of flow [m ³ /h]	1~	13.5	15.0	24.4	27.3	30.5	–
	3~	–	15.2	24.4	29.4	36.5	60.3
Acceptable field of application							
Temperature range for application in heating and cooling installations (closed circulating systems)		14 °F (-10 °C) up to 176 °F (+80 °C)					
Temperature range for open circulating systems		14 °F (-10 °C) up to 140 °F (+60 °C)					
Temperature range for use in drinking-water circulation systems		32 °F (0 °C) up to 176 °F (+80 °C)					
Max. permitted hardness in drinking-water circulation systems [gr/US gal]		18.8	18.8	18.8	18.8	18.8	18.8
Ambient temperature range		32 °F (0 °C) up to 104 °F (+40 °C)					
Max. working pressure p _{max}		145 psi (10 bar)	145 psi (10 bar)	145 psi (10 bar)	145 psi (10 bar)	145 psi (10 bar)	145 psi (10 bar)
Pipe connections							
Nominal connection diameter [in]		1.5	1.5	2	2	2	3
Non ANSI flange (oval, rotated 90°)		–	–	–	–	–	–
Non ANSI flange (oval)		•	•	–	–	–	–
Non ANSI flange (round)		–	–	•	•	•	–
125 # raised face ANSI flange		–	–	–	–	–	•

• = available, – = not available

Standard Circulating Pumps

Product review



Technical data Wilo-TOP-Z

	Wilo-TOP-Z...					
	1.5x15	1.5x20	2x25	2x30	2x40	3x30
Electrical connections						
Power supply 1~ [V]	115	115	115	115	–	–
	230	230	230	230	230	–
Power supply 3~ [V]	–	208-230	208-230	208-230	208-230	208-230
	–	–	460	460	460	460
	–	–	575	575	575	575
Frequency [Hz]	60	60	60	60	60	60
Motor/Electronics						
Degree of protection	Enclosure 2					
Insulation class	H	H	H	H	H	H
Materials						
Pump housing	Lead free "eco-bronze"					
Impeller	Plastics (PPE)	Plastics (PPS-40% GF)	Plastics (PPS-40% GF)	Plastics (PPS-40% GF)	Plastics (PPS-40% GF)	Plastics (PPE)
Shaft	Stainless steel (X39 CrMo17-1)					
Bearing	Carbon (synthetic resin impregnated)					
Minimal static inlet pressure at pump suction port [psi] to avoid cavitation at fluid temperatures						
104 °F (40 °C)	7.1	7.1	11.4	11.4	11.4	11.4
176 °F (80 °C)	11.4	11.4	14.2	14.2	14.2	14.2

• = available, – = not available

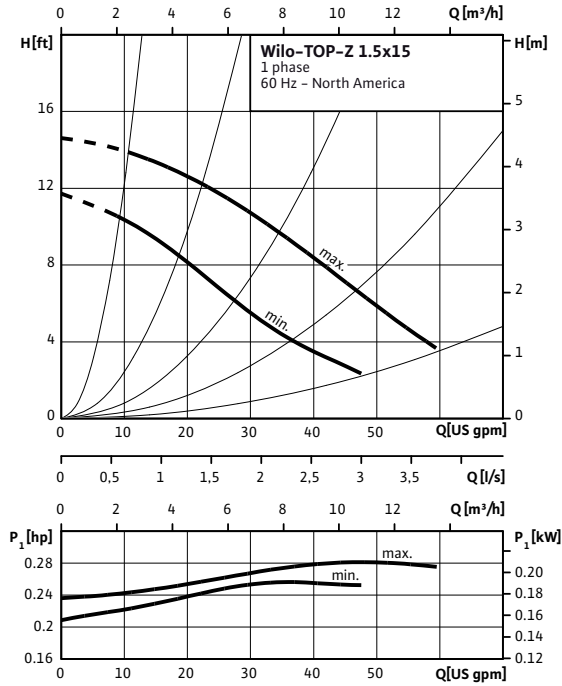
Standard Circulating Pumps

Wilco-TOP-Z

Pump curves

Wilco-TOP-Z 1.5x15

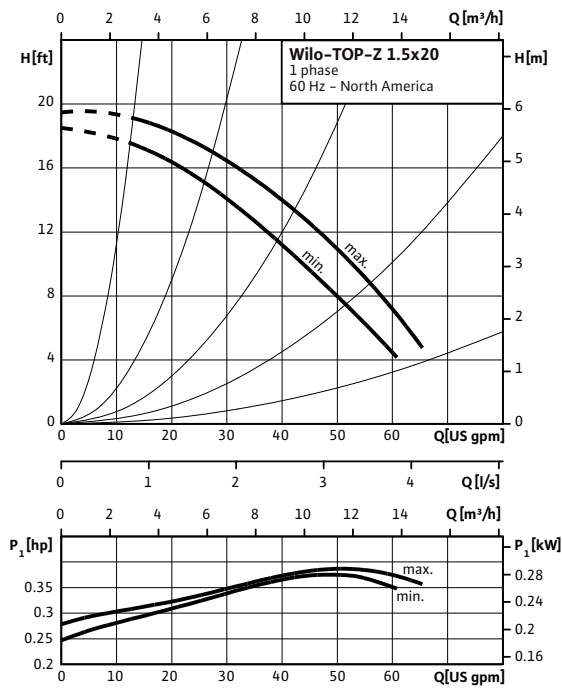
1~ (single phase motor)



Note: The solid line of the following hydraulic curves indicates the permitted range of performance

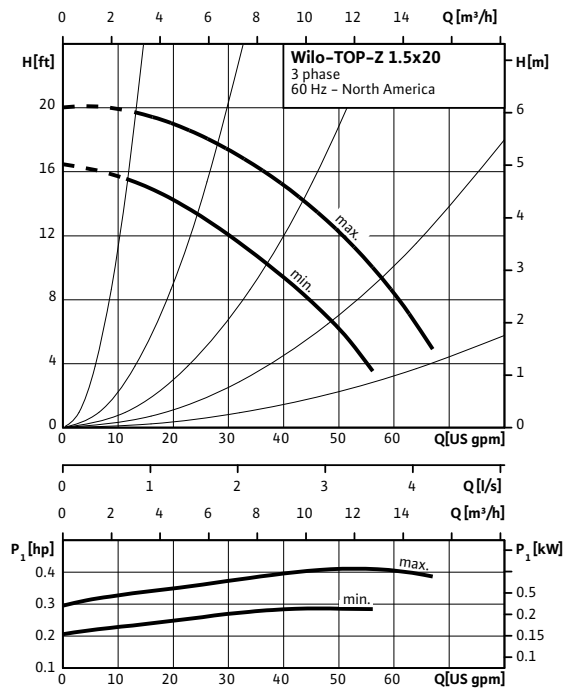
Wilco-TOP-Z 1.5x20

1~ (single phase motor)



Wilco-TOP-Z 1.5x20

3~ (three phase motor)



Standard Circulating Pumps

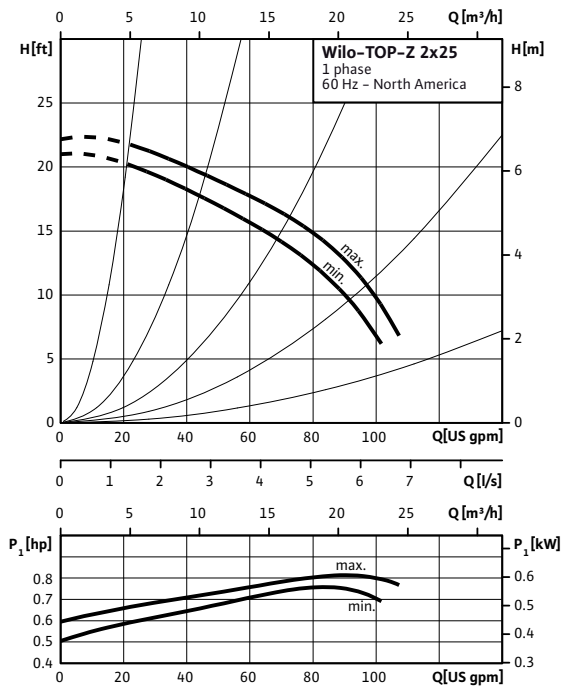
Wilo-TOP-Z



Pump curves

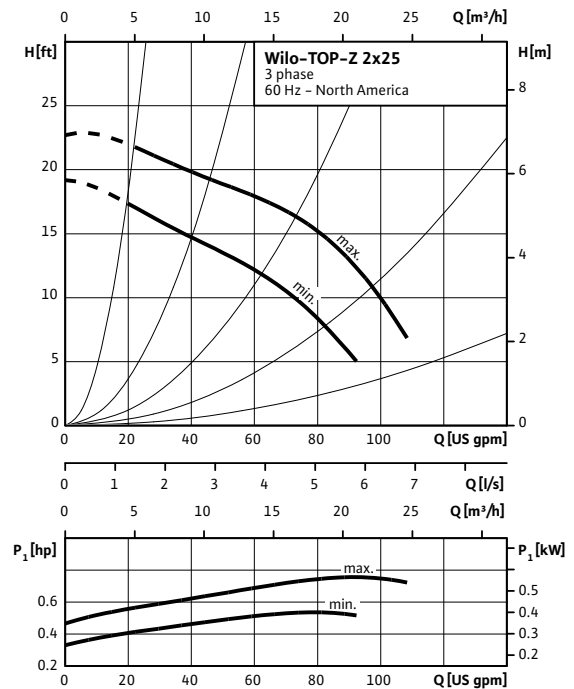
Wilo-TOP-Z 2x25

1~ (single phase motor)



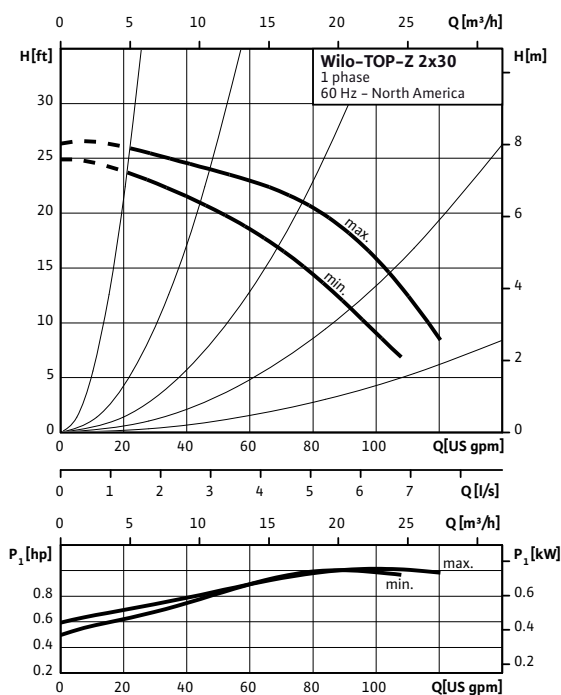
Wilo-TOP-Z 2x25

3~ (three phase motor)



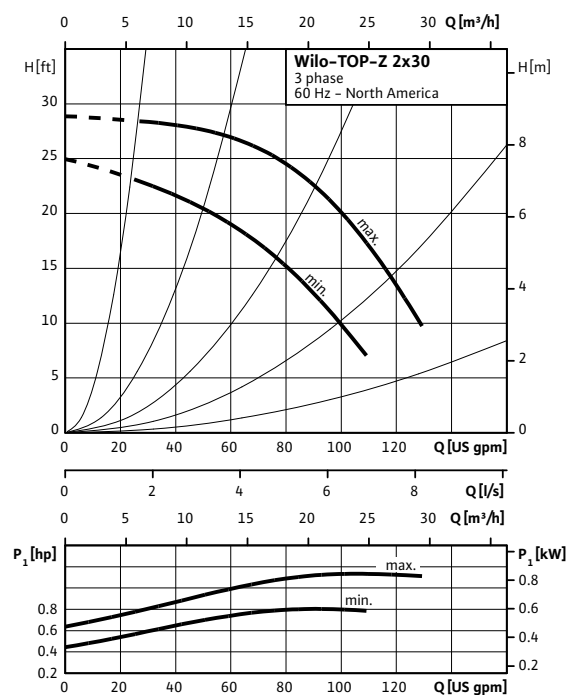
Wilo-TOP-Z 2x30

1~ (single phase motor)



Wilo-TOP-Z 2x30

3~ (three phase motor)



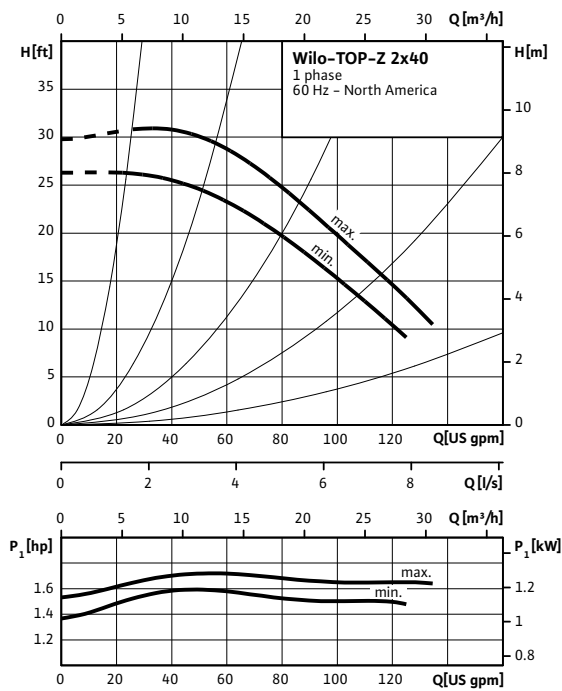
Standard Circulating Pumps

Wilco-TOP-Z

Pump curves

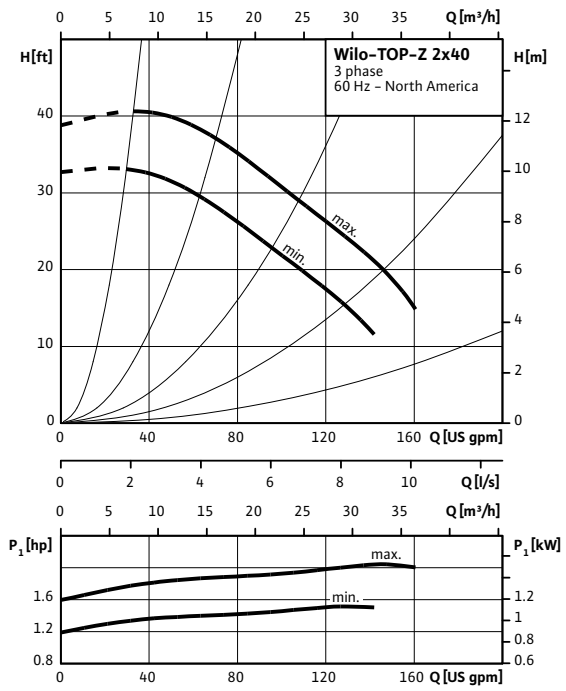
Wilco-TOP-Z 2x40

1~ (single phase motor)



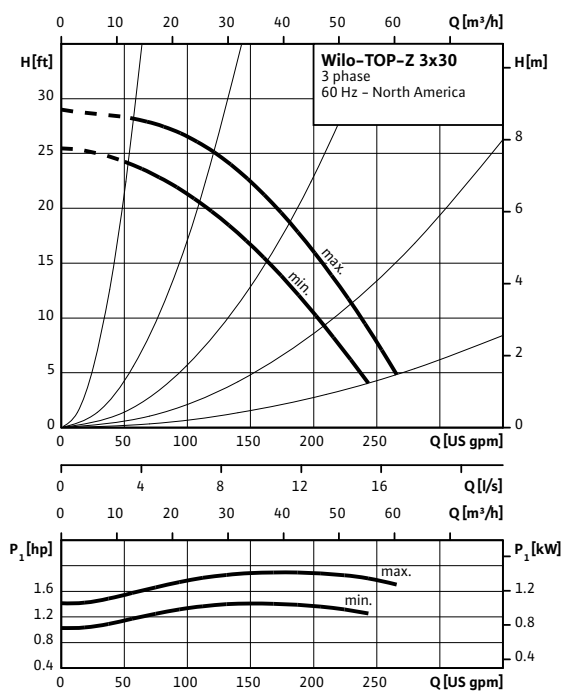
Wilco-TOP-Z 2x40

3~ (three phase motor)



Wilco-TOP-Z 3x30

3~ (three phase motor)



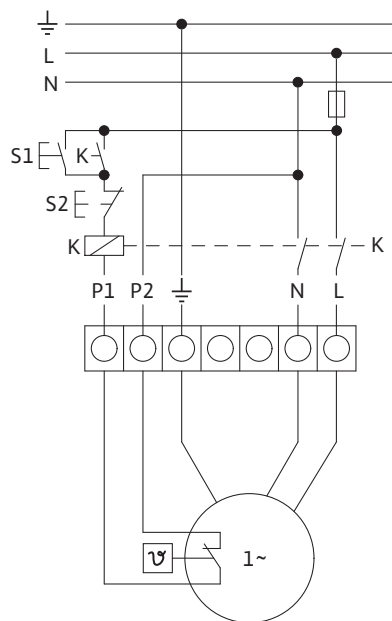
Standard Circulating Pumps

Wilo-TOP-Z



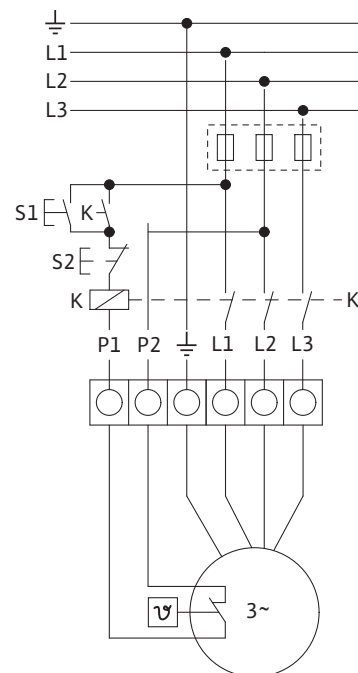
Wiring diagrams

Wiring diagram A - single phase motor
2-pole, 1~115/230 V, 60 Hz



Note: The pump must be connected to the electrical supply via an external contactor to provide thermal overload protection.

Wiring diagram B - three phase motor
2-pole, 3~208-230/460/575 V, 60 Hz



Note: The pump must be connected to the electrical supply via an external contactor to provide thermal overload protection.

Standard Circulating Pumps

Wilco-TOP-Z

Motor data

Motor Data – single phase motor

Wilco-TOP-Z...	Rated Power		Speed	Power consumption	Current		Capacitor		Screwed cable gland	Wiring diagram	
	P ₂ (at high speed)		n	P ₁	1~115 V	1~230 V	1~115 V	1~230 V	–	–	
	[hp]	[W]	[rpm]	[W]	I		–		[in]	–	
					[A]		[μF/VDB]				
1.5x15	1/8	90	3150	210	1.9	1.0	20/250	5/450	2 x 1/2"	2 x 1/4"	A
			2850	190	1.8	0.9					
1.5x20	1/4	180	3350	295	2.8	1.4	24/250	6/450	2 x 1/2"	2 x 1/4"	A
			3050	280	2.7	1.3					
2x25	5/8	450	3450	620	5.9	3.0	56/250	14/450	2 x 1/2"	2 x 1/4"	A
			3200	570	5.7	2.4					
2x30	5/8	450	3300	760	7.5	3.8	56/250	14/450	2 x 1/2"	2 x 1/4"	A
			3150	740	7.2	3.6					
2x40	1	1100	3300	1290	–	6.0	–	30/450	2 x 1/2"	2 x 1/4"	A
			2950	1190	–	5.7					

Motor Data – three phase motor

Wilco-TOP-Z...	Rated Power		Speed	Power consumption	Current			Screwed cable gland	Wiring diagram	
	P ₂ (at high speed)		n	P ₁	3~208-230 V	3~460 V	3~575 V	–	–	
	[hp]	[W]	[rpm]	[W]	I			[in]	–	
					[A]					
1.5x20	1/4	180	3320	310	1.2	–	–	2 x 1/2"	2 x 1/4"	B
			2800	220	0.7	–	–			
2x25	5/8	450	3300	570	2.0	1.0	0.8	2 x 1/2"	2 x 1/4"	B
			2780	400	1.2	0.6	0.5			
2x30	5/8	450	3290	850	2.8	1.4	1.1	2 x 1/2"	2 x 1/4"	B
			2760	610	1.8	0.9	0.7			
2x40	1 1/2	1100	3380	1530	5.2	2.6	2.0	2 x 1/2"	2 x 1/4"	B
			2980	1130	3.3	1.6	1.3			
3x30	1 1/2	1100	3420	1430	5.0	2.5	2.0	2 x 1/2"	2 x 1/4"	B
			3080	1060	3.2	1.5	1.2			

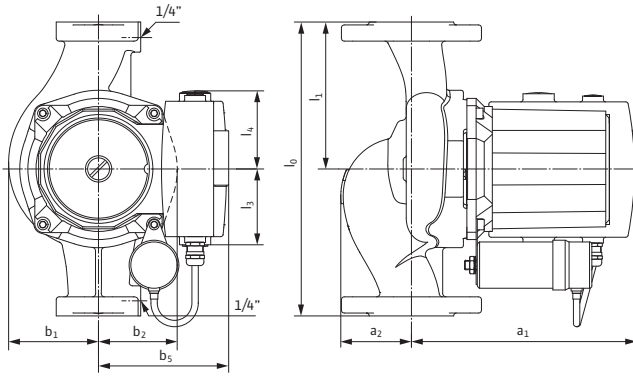
Standard Circulating Pumps

Wilo-TOP-Z

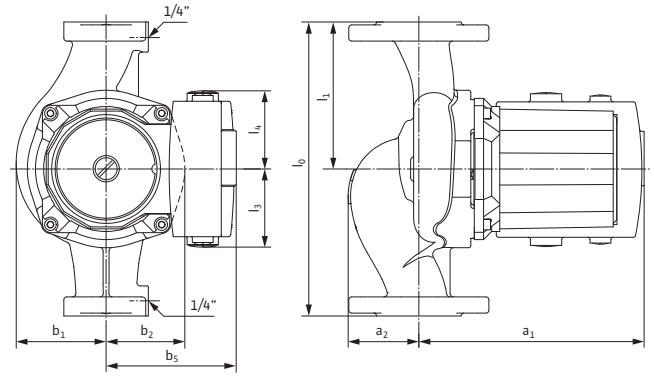


Dimensions, weights

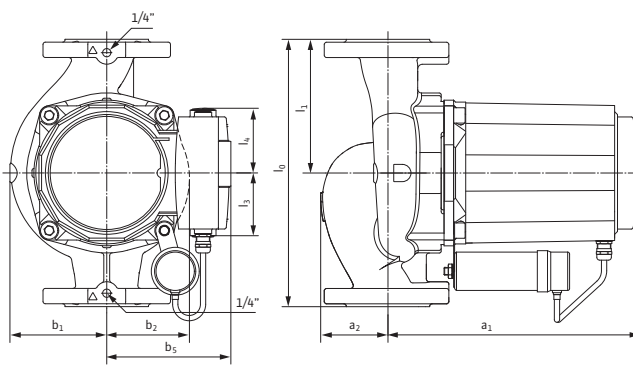
Drawing no.: 1



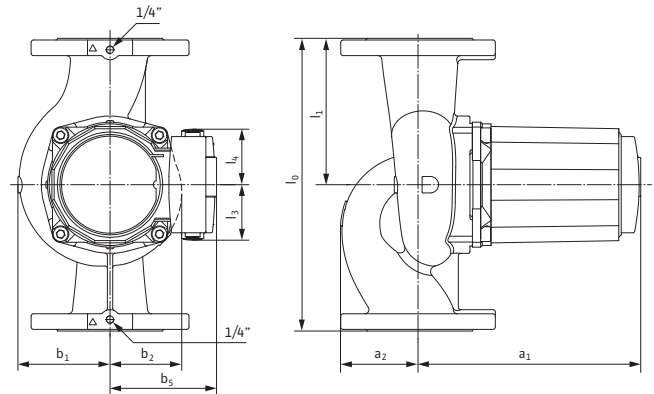
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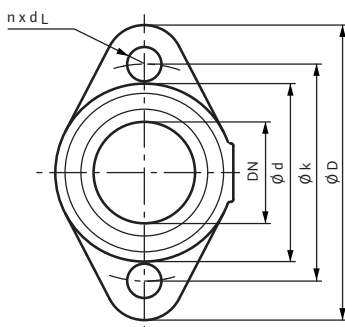
Drawing no.: 3



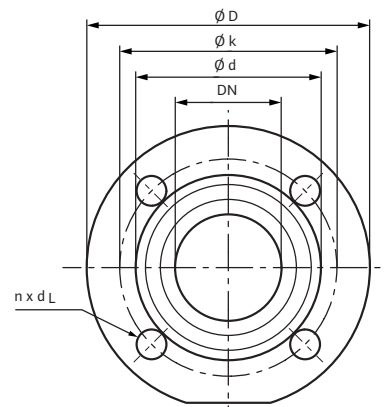
Drawing no.: 4



Drawing no.: 5



Drawing no.: 6



Standard Circulating Pumps

Wilo-TOP-Z

Dimensions, weights

Dimensions, weights

Wilo-TOP-Z...	Flange diameter		Pump dimensions											
	DN		l ₀		a ₁		a ₂		b ₁		b ₂		b ₅	
	[in]	[mm]	[in]	[mm]	[in]	[mm]	[in]	[mm]	[in]	[mm]	[in]	[mm]	[in]	[mm]
1.5x15	1.5	40	8 ^{1/2}	216	7 ^{11/16}	195	2 ^{1/16}	53	3 ^{1/4}	82	2 ^{5/16}	58	4 ^{7/16}	113
1.5x20	1.5	40	10	254	7 ^{11/16}	195	2 ^{3/8}	61	3 ^{1/16}	78	2 ^{11/16}	68	4 ^{7/16}	113
2x25	2.0	50	11	279	9 ^{9/16}	243	2 ^{1/2}	64	3 ^{9/16}	91	3	76	4 ^{3/4}	120
2x30	2.0	50	11	279	9 ^{9/16}	243	2 ^{1/2}	64	3 ^{9/16}	91	3	76	4 ^{3/4}	120
2x40	2.0	50	13 ^{1/2}	343	11 ^{7/16}	290	3 ^{7/16}	88	4 ^{1/8}	105	3 ^{9/16}	90	5 ^{1/8}	130
3x30	3.0	80	14	356	10 ^{1/4}	261	3 ^{3/4}	95	4 ^{7/16}	112	3 ^{7/16}	88	5 ^{1/8}	130

Dimensions, weights (continuation)

Wilo-TOP-Z...	Pump dimensions						Weight approx. net				Drawing No.	
	l ₁		l ₃		l ₄		1~		3~		1~	3~
	[in]	[mm]	[in]	[mm]	[in]	[mm]	[lbs]	[kg]	[lbs]	[kg]	-	-
1.5x15	4 ^{1/4}	108.0	2 ^{3/4}	70	2 ^{3/4}	70	15.2	6.9	-	-	1	-
1.5x20	5	127.0	2 ^{3/4}	70	2 ^{3/4}	70	22.3	10.1	22.0	10.0	1	2
2x25	5 ^{1/2}	139.5	2 ^{3/4}	70	2 ^{3/4}	70	36.8	16.7	34.8	15.8	3	4
2x30	5 ^{1/2}	139.5	2 ^{3/4}	70	2 ^{3/4}	70	36.8	16.7	36.2	16.4	3	4
2x40	6 ^{3/4}	171.5	2 ^{3/4}	70	2 ^{3/4}	70	55.1	25.0	54.5	24.7	3	4
3x30	7	178.0	2 ^{3/4}	70	2 ^{3/4}	70	-	-	70.8	32.1	-	4

Flange dimensions

Wilo-TOP-Z...	Flange	Nominal diameter		Flange dimension pump								Drawing No.
		DN		ø D		ø d ₂		ø k		n x d _L		
		[in]	[mm]	in	[mm]	[in]	[mm]	[in]	[mm]	[units x in]	[units x mm]	
1.5x15 1.5x20	Non ANSI (oval)	1.5	40	4 ^{3/4}	121	2 ^{7/8}	73	3 ^{1/2}	89	2 x ø 1/2	2 x ø 14	5
2x25 2x30 2x40	Non ANSI (round)	2.0	50	5 ^{1/4}	133	3 ^{7/16}	87	4	102	4 x ø 1/2	4 x ø 14	6
3x30	125 # raised face ANSI flange	3.0	80	7 ^{9/16}	192	5 ^{1/16}	128	6	152	4 x ø 3/4	4 x ø 19	6