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Yonos PARA ST **/7.0 PWM2
Datasheet

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# Yonos PARA ST **/7.0 PWM 2

Field of application

 Solar thermal

| Yonos PARA ST 15/7.0 PWM2 130 12	
Yonos PARA	**High Efficiency pump for solar thermal application**
ST	Inline cast iron pump housing dedicated for solar thermal application
15	Threaded connection DN 15 (25, 30 : also available)
7.0	7.0 = delivery head in [m] at Q = 0 m³/h
PWM2	Externally controlled by PWM2 signal
130	Pump housing length 130 mm (180 mm: also available)
12	Control box orientation 12 o'clock (3, 6, 9 o'clock: also available)

Hydraulic operational area

External control via PWM

Wilo-Yonos PARA ST
15/7.0, 25/7.0, 30/7.0
1~230 V – Rp½, Rp 1, Rp 1¼
n=1/min/ % PWM 1 / % PWM 2
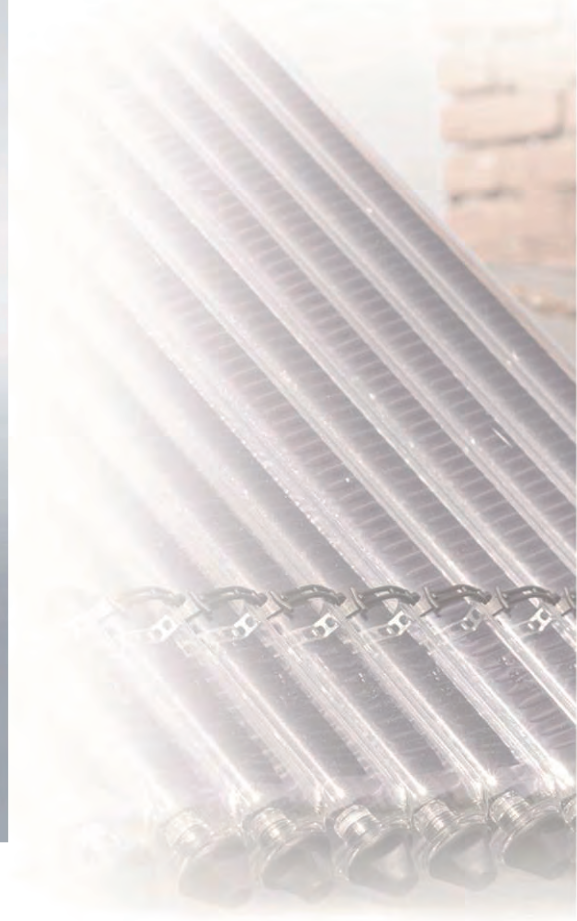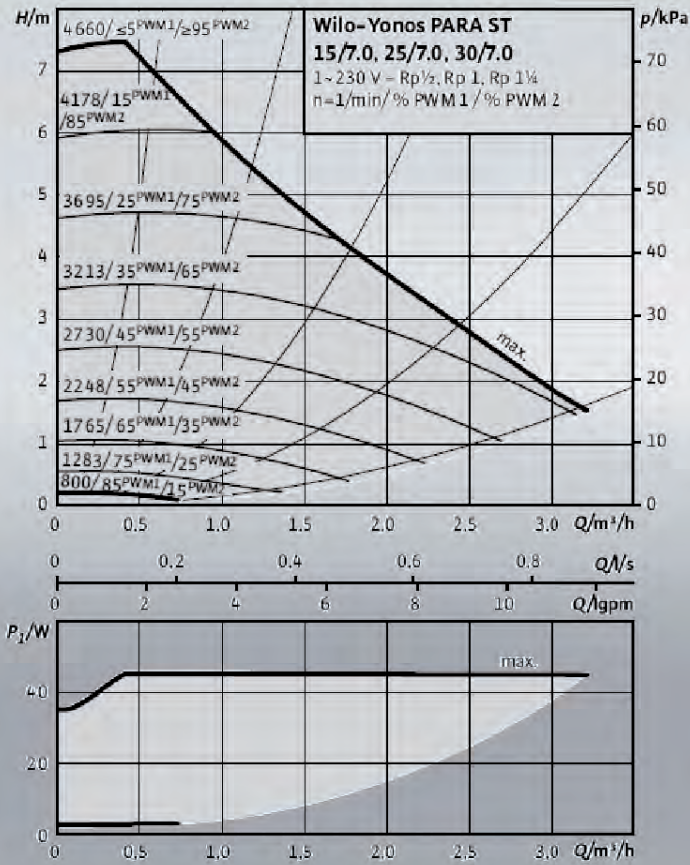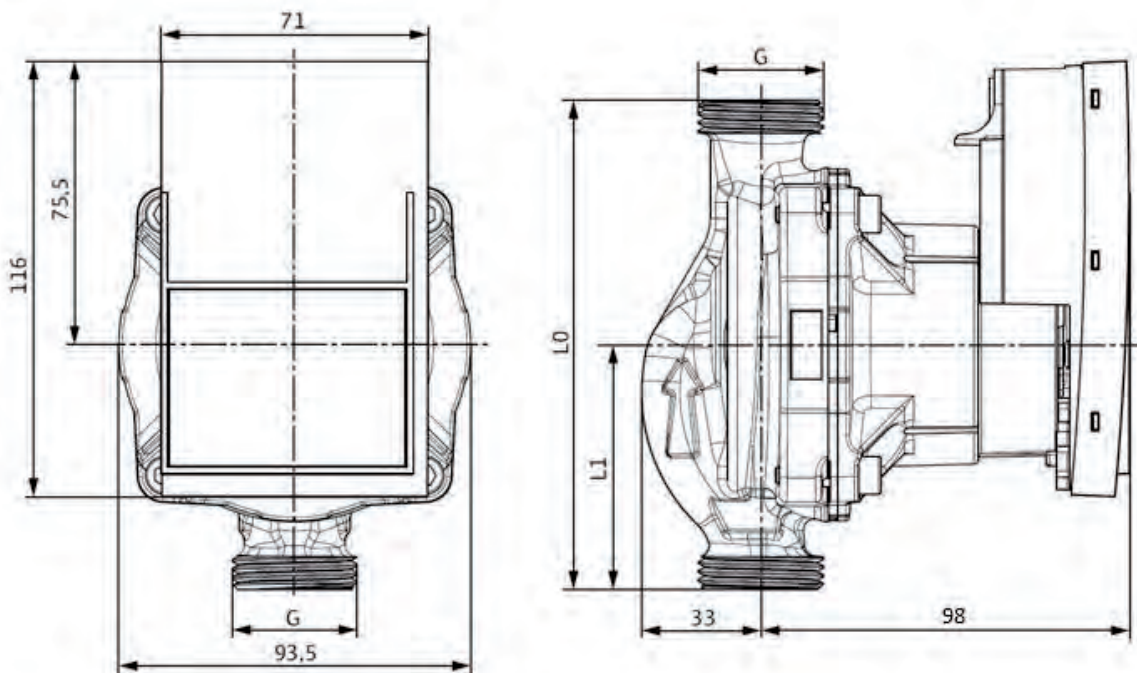
Dimensions

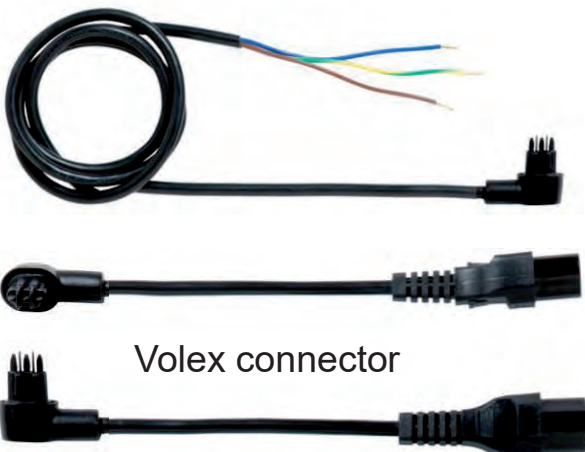| Thread	Overall length (mm)	Dimensions (mm)
	l0	L1
G1"	130	65
G1"½	130	65
G1"½	180	90
G2"	180	90

Electrical connections

Integrated Molex 3-way connector

Overmoulded connector

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Overmoulded power cables

Molex connector

Volex connector

WS8 connector

Standard signal cables

Approved fluids (other fluids on request)	Heating water (in accordance with VDI 2035) Water-glycol mixtures (max. 1:1; above 20% admixture, the pumping data must be checked)

Power

Energy Efficiency Index (EEI)	≤ 0,20
Max. delivery head	7,3 m
Max. volume flow	3.3 m³/h

Permitted field of application

Temperature range for applications in HVAC systems at max. ambient temperature. Limit values for continuous operation at maximum rated power	Of 55°C = 0 to 110°C Of 62°C = 0 to 90°C Of 66°C = 0 to 80°C Of 71°C = 0 to 70°C
Maximum static pressure	PN 10

Electrical connection

Mains connection	1~230 V +10%/-15%, 50/60 Hz (IEC 60038 standard voltage)

Motor/electronics

Low voltage directive	2006/95/EC Conform
Electromagnetic compatibility	EN 61800-3
Emitted interference	EN 61000-6-4 EN 61000-6-3
Interference resistance	EN 61000-6-1 EN 61000-6-2
Protection class	IPx4D
Insulation class	F
RoHS / REACH	Not submitted

Minimum suction head at suction port to avoid cavitation at water pumping temperature

Minimum suction head at 50/95/110°C	0.5 / 4.5 / 11 m

Motor data

Yonos PARA	Speed	Power consumption 1-230 V	Current at 1-230 V	Motor protection
	n	P1	I	-
	rpm	W	A	-
ST **/7.0 PWM2	800 / 4660	3-45	0.03-0.44	Integrated

Materials

| Yonos PARA	Pump housing	Impeller	Pump shaft	Bearing
ST **/7.0 PWM2	Cast iron with cataphoresis treatment	PP composite with GF 40%	Stainless steel	Carbon, metal impregnated

External control via a PWM system

The actual/setpoint level assessment required for control is referred to a remote controller. The remote controller sends a PWM signal as an actuating variable to the Wilo-Yonos PARA. The PWM signal generator gives a periodic order of pulses to the pump (the duty cycle), according to DIN IEC 60469-1. The actuating variable is determined by the ratio between pulse duration and the pulse period. The duty cycle is defined as a ratio without dimension, with a value of 0 … 1 or 0 … 100 %. This is explained in the following with ideal pulses which form a rectangular wave.

$t_1/T = 0,25 = 25\%$
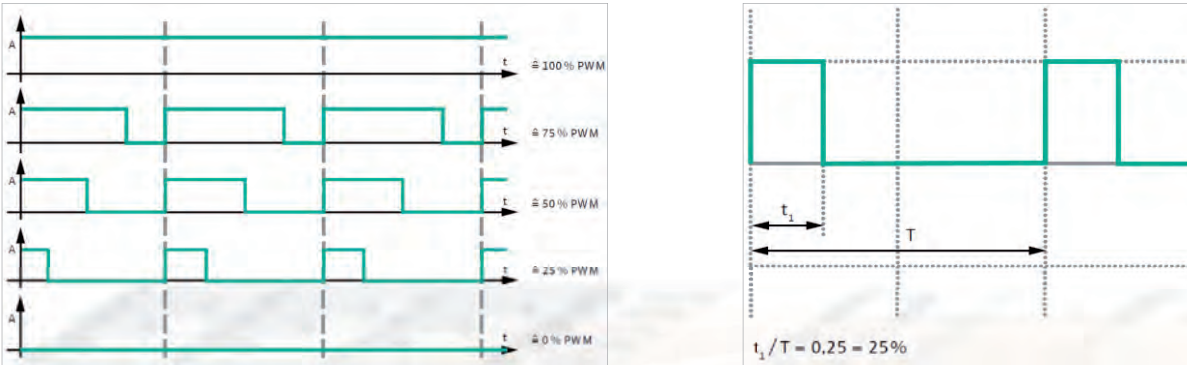
PWM signal logic 2 (solar)
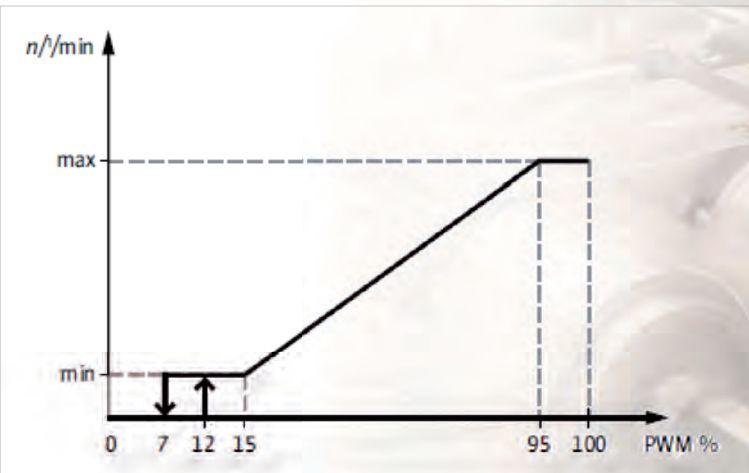
PWM Input signal (%)

< 7	Pump stops (standby)
7-15	Pump runs at minimum speed (operation)
12-15	Pump runs at minimum speed (start-up)
15-95	Pump speed increases linearly from minimum to maximum
> 95	Pump runs at maximum speed
Signal frequency:	100 Hz-5000 Hz (1000 Hz nominal)
Signal amplitude:	Minimum 3.6V at 3 mA Up to 24V for 7.5 mA absorbed by the pump interface
Signal polarity:	none

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