Yonos PARA ST **/7.5 PWM 2





Field of application



Solar thermal

Yonos PARA ST 15/7.5 PWM2 130 12 **Yonos PARA** High Efficiency pump for solar thermal application Inline cast iron pump housing dedicated for solar thermal ST application 15 Threaded connection DN 15 (25, 30 : also available) 7.5 7.5 = delivery head in [m] at $Q = 0 \text{ m}^3/\text{h}$ PWM2 Externally controlled by PWM2 signal Pump housing length 130 mm (110, 180 mm: also available) 130 12 Control box orientation 12 o'clock (3, 6, 9 o'clock: also available)

Hydraulic operational area









Thread	Overall length (mm)	Dimensions (mm)	
	10	L1	
G1"	110	55	
G1"	130	65	
G1"½	130	65	
G1"½	180	90	
G2"	180	90	

Electrical connections

Integrated Molex 3-way connector



Overmoulded connector



Overmoulded power cables





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)	≤ 0,21
Max. delivery head	7,6 m
Max. volume flow	4.0 m ³ /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 $55^{\circ}C = 0$ to $110^{\circ}C$ Of $62^{\circ}C = 0$ to $90^{\circ}C$ Of $66^{\circ}C = 0$ to $80^{\circ}C$ Of $71^{\circ}C = 0$ to $70^{\circ}C$
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	n 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 **/7.5 PWM2	800 / 4770	4-75	0.04-0.60	Integrated

Materials

Yonos PARA	Pump housing	Impeller	Pump shaft	Bearing
ST **/7.5 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.





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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