

Pioneering for You

wilo

HVAC OEM Competence Centre



Yonos PARA ST 15/13 PWM 2 Datasheet



ErP
READY

APPLIES TO
EUROPEAN
DIRECTIVE
FOR ENERGY
RELATED
PRODUCTS

Yonos PARA ST 15/13 PWM2



Field of application



Solar thermal

Yonos PARA ST 15/13 PWM2 130 12

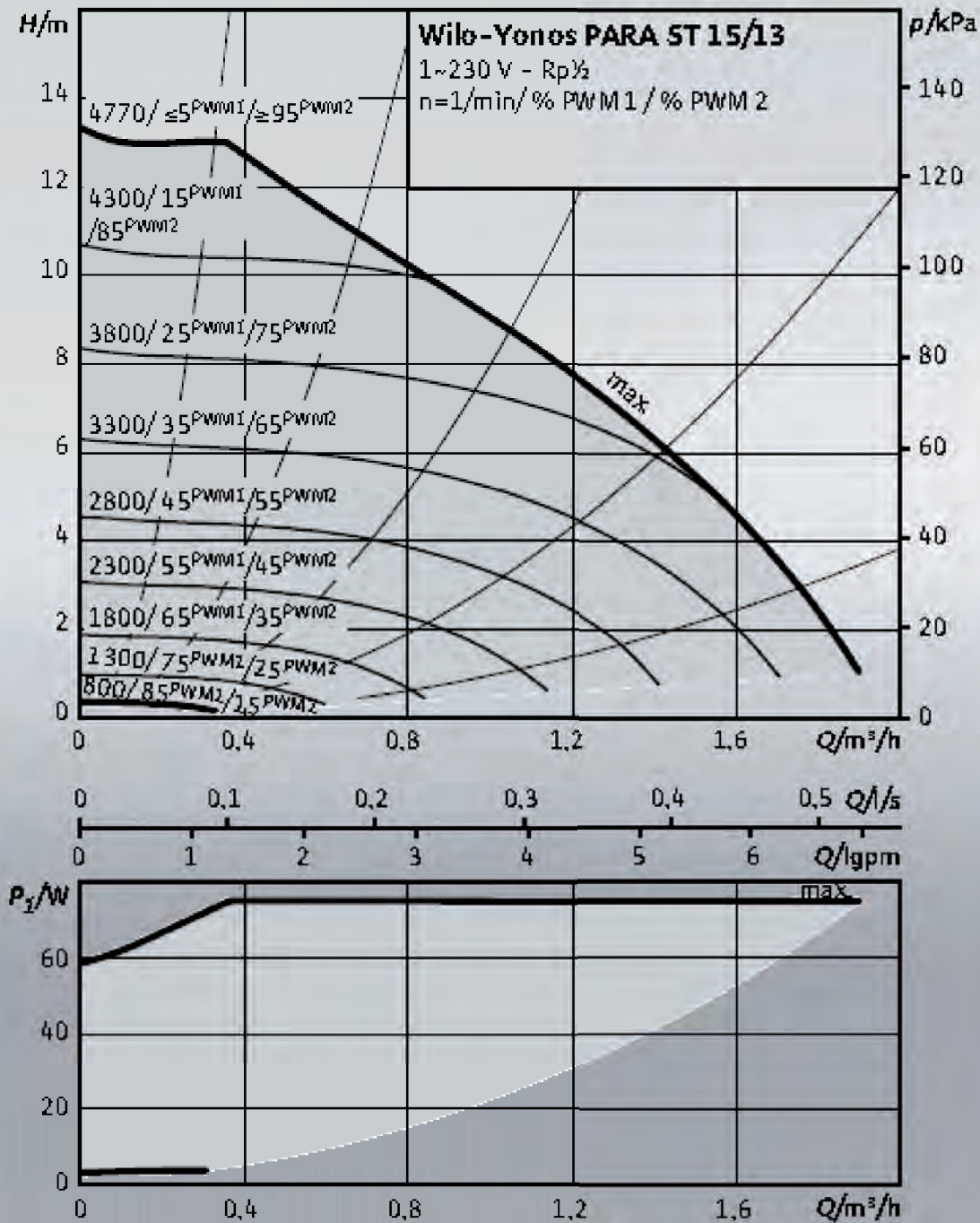
Yonos PARA

High Efficiency pump for solar thermal application

ST	Inline cast iron pump housing dedicated for solar thermal application
15	Threaded connection DN 15
13	13 = delivery head in [m] at $Q = 0 \text{ m}^3/\text{h}$
PWM2	Externally controlled by PWM2 signal
130	Pump housing length 130 mm
12	Control box orientation 12 o'clock (3, 6, 9 o'clock: also available)

Hydraulic operational area

External control via PWM



Electrical connections

Integrated Molex 3-way connector

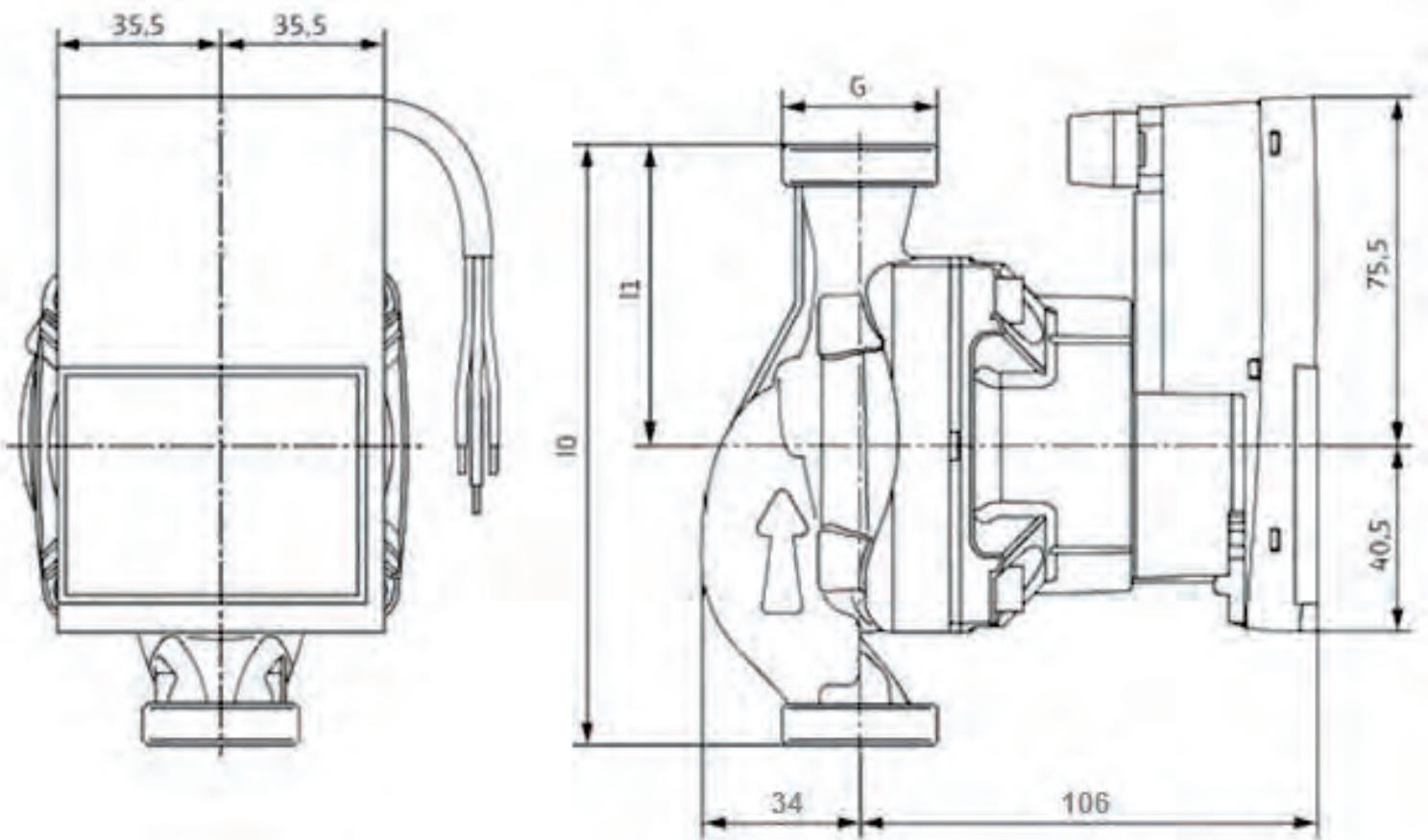


wilo

Optional PWM signal cables



Dimensions



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)	≤ 0,23
Max. delivery head (+/-10%)	13 m
Max. volume flow	1,9 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°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 / VDE	Not submitted , VDE in progress

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 15/13 PWM2	800 / 4770	4-75	0.04-0.66	Integrated

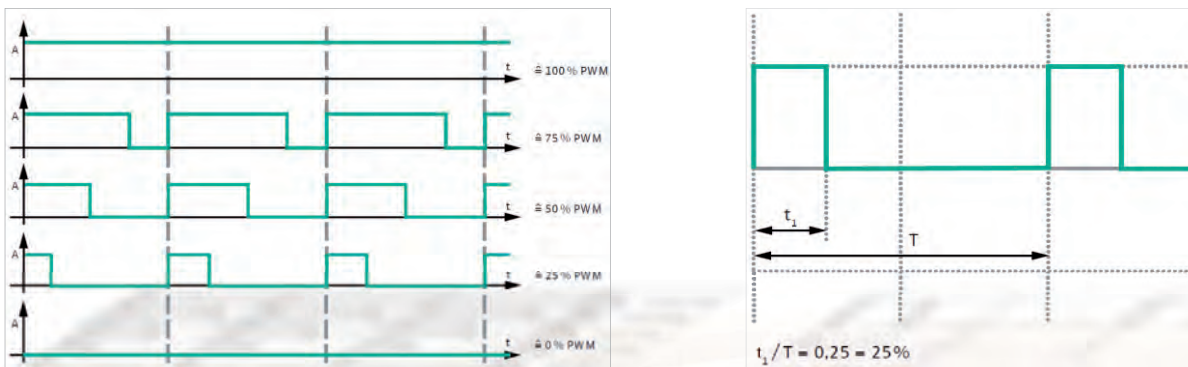
Materials

Yonos PARA	Pump housing	Impeller	Pump shaft	Bearing
ST 15/13 PWM2	Cast iron with cataphoresis treatment	PPE + PS composite with GF 30%	Stainless steel	Carbon, metal impregnated

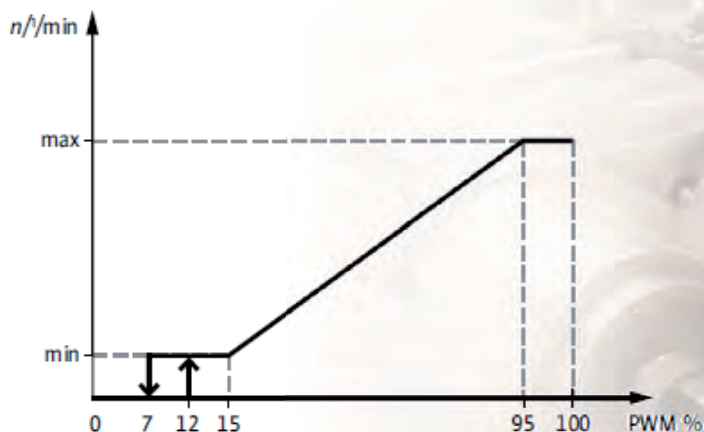


External control via a PWM system

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

wilo

WILO
HVAC OEM Competence Centre

50 av. Casella
18700 - Aubigny sur Nère
France
T +33 2 48 81 62 62
info@wilointec.com
www.wilointec.com

Pioneering for You