



POLYTROPIC

• POOL HEATING SOLUTIONS •



MASTER INVERTER

The intelligent swimming pool heat pump !

POLYCONNECT₂₀
• INSIDE •



MASTER INVERTER
XS, S and S+

MASTER INVERTER
M and XM

MASTER INVERTER
L+

MASTER INVERTER
XL TRI



Technical specifications

1-PHASE MODELS	MASTER-INVERTER XS	MASTER-INVERTER S	MASTER-INVERTER S+	MASTER-INVERTER M	MASTER-INVERTER XM	MASTER-INVERTER L+
SCOP acc. to EN 17645	7,5	8,9	8,3	7,3	7,0	7,0
Classification acc. to EN 17645	A	A	A	A	A	A
Recommended pool size*	15-45 m³	45-55 m³	55-70 m³	70-85 m³	85-105 m³	105-150 m³
Air 26°C / Water 26°C / Humidity 80%						
Energy Output BOOST mode	9,3 kW	10,6 kW	13,1 kW	16,1 kW	20,4 kW	28,2 kW
COP BOOST Mode	5,5	7,3	6,3	5,9	5,7	5,6
Energy Output SMART mode	9,3 ~ 4,8 kW	10,6 ~ 5,8 kW	13,1 ~ 7,2 kW	16,1 ~ 8,9 kW	20,4 ~ 11,1 kW	28,2 ~ 15,3 kW
COP SMART Mode	10,8 ~ 5,5	11,1 ~ 7,3	11,2 ~ 6,3	10,8 ~ 5,9	10,1 ~ 5,7	10,1 ~ 5,6
Energy Output ECO-Silence mode	4,8 kW	5,8 kW	7,2 kW	8,9 kW	11,1 kW	15,3 kW
COP ECO-Silence Mode	10,8	11,1	11,2	10,8	10,1	10,1
Air 15°C / Water 26°C / Humidity 70**						
Energy Output BOOST mode	6,6 kW	7,8 kW	9,8 kW	12,5 kW	14,6 kW	22,9 kW
COP BOOST Mode	5,2	5,6	5,0	4,8	4,7	4,7
Energy Output SMART mode	6,6 ~ 3,7 kW	7,8 ~ 4,3 kW	9,8 ~ 5,4 kW	12,5 ~ 6,4 kW	14,6 ~ 8,3 kW	22,9 ~ 12,2 kW
COP SMART Mode	6,4 ~ 5,2	7,1 ~ 5,6	7,1 ~ 5,0	6,4 ~ 4,8	6,3 ~ 4,7	6,8 ~ 4,7
Energy Output ECO-Silence mode	3,7 kW	4,3 kW	5,4 kW	6,4 kW	8,3 kW	12,2 kW
COP ECO-Silence Mode	6,4	7,1	7,1	6,4	6,3	6,8
Air 7°C / Water 26°C / Humidity 90%						
Energy Output BOOST mode	4,9 kW	6,8 kW	7,9 kW	10,2 kW	11,7 kW	18,1 kW
COP BOOST Mode	3,7	5,1	4,6	4,2	4,0	4,1
Air -7°C / Water 26°C / Humidity 0%						
Energy Output BOOST mode	3,4 kW	4,7 kW	5,5 kW	6,1 kW	8,3 kW	12,0 kW
COP BOOST Mode	2,8	4,0	3,6	3,0	3,0	2,8
Noise level min-max (at 10m) CTTM certified acc. to EN ISO 3741 : 2010 ***	20 ~ 28 dB(A)	28 ~ 30 dB(A)	26 ~ 32 dB(A)	28 ~ 34 dB(A)	28 ~ 34 dB(A)	31 ~ 41 dB(A)
Noise level min-max (at 10m) acc. to EN ISO 3744 : 2010	21 ~ 25 dB(A)	23 ~ 26 dB(A)	23 ~ 28 dB(A)	25 ~ 30 dB(A)	25 ~ 30 dB(A)	26 ~ 32 dB(A)
Temperature working range	-15°C -> 43°C					
Installation						
Hydraulic connections	1,5" / 50 mm					
Power	220-240 V / 1~+N / 50 Hz					
Circuit breaker and cable size (for 20 m)	C 10 A (3G 2,5 mm²)	C 10 A (3G 2,5 mm²)	C 16 A (3G 2,5 mm²)	C 20 A (3G 4 mm²)	C 20 A (3G 4 mm²)	C 40 A (3G 10 mm²)
Power Input Max (air 26°C)	1,8 kW	2,0 kW	2,4 kW	3,4 kW	4,1 kW	6,0 kW
Minimum water flow	3 m³/h	3 m³/h	4 m³/h	5 m³/h	6 m³/h	10 m³/h
Dimensions in mm (L x l x h)	980 x 411 x 609			1080 x 474 x 715		1178 x 518 x 872
Weight net (gross)	46 kg (58 kg)	48 kg (59 kg)		62 kg (72 kg)	63 kg (80 kg)	94 kg (111 kg)

* May to September with cover.

** Tests carried out at an air temperature of 15°C, with a water inlet at 26°C and a water outlet at 28°C to define the water flow rate, heating capacity and consumption, in accordance with FPP recommendations.

*** Noise levels in BOOST and ECO mode at 10 m, certified by the independent laboratory Centre de Transfert de Technologie du Mans, in accordance with EN ISO 3741: 2010

3-PHASE MODELS	MASTER-INVERTER M TRI	MASTER-INVERTER XM TRI	MASTER-INVERTER L+ TRI	MASTER-INVERTER XL TRI
SCOP acc. to EN 17645	7,3	7,0	7,0	9,1
Classification acc. to EN 17645	A	A	A	A
Recommended pool size*	70-85 m³	85-105 m³	105-160 m³	160-190 m³
Air 26°C / Water 26°C / Humidity 80%				
Energy Output BOOST mode	16,1 kW	20,4 kW	28,2 kW	35,6 kW
COP BOOST Mode	5,9	5,7	5,6	6,0
Energy Output SMART mode	16,1 ~ 8,9 kW	20,4 ~ 11,1 kW	28,2 ~ 15,3 kW	35,6 ~ 25,6 kW
COP SMART Mode	10,8 ~ 5,9	10,1 ~ 5,7	10,1 ~ 5,6	13,0 ~ 5,6
Energy Output ECO-Silence mode	8,9 kW	11,1 kW	15,3 kW	25,6 kW
COP ECO-Silence Mode	10,8	10,1	10,1	13,0
Air 15°C / Water 26°C / Humidity 70%**				
Energy Output BOOST mode	12,5 kW	14,6 kW	22,9 kW	28,0 kW
COP BOOST Mode	4,8	4,7	4,7	4,9
Energy Output SMART mode	12,5 ~ 6,4 kW	14,6 ~ 8,3 kW	22,9 ~ 12,2 kW	28 ~ 19,4 kW
COP SMART Mode	6,4 ~ 4,8	6,3 ~ 4,7	6,8 ~ 4,2	6,7 ~ 4,7
Energy Output ECO-Silence mode	6,4 kW	8,3 kW	12,2 kW	19,4 kW
COP ECO-Silence Mode	6,4	6,3	6,8	6,7
Air 7°C / Water 26°C / Humidity 90%				
Energy Output BOOST mode	10,2 kW	11,7 kW	18,1 kW	23,3 kW
COP BOOST Mode	4,2	4,0	4,1	4,3
Air -7°C / Water 26°C / Humidity 0%				
Energy Output BOOST mode	6,1 kW	8,3 kW	12,0 kW	14,7 kW
COP BOOST Mode	3,0	3,0	2,8	2,9
Noise level min-max (at 10m) CTTM certified acc. to EN ISO 3741 : 2010 ***	28 ~ 34 dB(A)	28 ~ 34 dB(A)	31 ~ 41 dB(A)	35 ~ 44 dB(A)
Noise level min-max (at 10m) acc. to EN ISO 3744 : 2010	25 ~ 30 dB(A)	25 ~ 30 dB(A)	26 ~ 32 dB(A)	32 ~ 38 dB(A)
Temperature working range	-15° C -> +43° C			
Installation				
Hydraulic connections	1,5'' / 50 mm			
Power	400 V / 3~+N / 50 Hz			
Circuit breaker and cable size (for 20 m)	3P + N C 16 (5G 2,5 mm²)	3P + N C 16 (5G 2,5 mm²)	3P + N C 20 (5G 2,5 mm²)	3P + N C 20 (5G 2,5 mm²)
Power Input Max (air 26°C)	3,4 kW	4,1 kW	6,0 kW	6,9 kW
Minimum water flow	5 m³/h	6 m³/h	10 m³/h	12 m³/h
Dimensions in mm (L x l x h)	1080 x 474 x 715		1178 x 518 x 872	1166 x 521 x 1171
Weight net (gross)	62 kg (72 kg)	63 kg (80 kg)	94 kg (111 kg)	123 kg (143 kg)

* May to September with cover.

** Tests carried out at an air temperature of 15°C, with a water inlet at 26°C and a water outlet at 28°C to define the water flow rate, heating capacity and consumption, in accordance with FPP recommendations.

*** Noise levels in BOOST and ECO mode at 10 m, certified by the independent laboratory Centre de Transfert de Technologie du Mans, in accordance with EN ISO 3741: 2010, except XL models.



Control your heating in silence with this Full Inverter technology heat pump

Thanks to its **exclusive intelligent control system**, the **Master-Inverter reversible heat pump** regulates its output according to the water temperature, but also according to the ambient temperature, to always ensure the **right bathing temperature, the best COP* and the lowest noise level!**



MASTER INVERTER XL Tri



We ask the machine for maximum power to heat up quickly.



The power and sound level adjust automatically according to the temperature outside and in your pool.



The maximum power delivered by the machine is limited to ensure the lowest noise level and the highest COP at all times.



As soon as photovoltaic panels are detected on the installation, the heat pump automatically adapts its power consumption to the energy produced in real time.

Example: simplified operation of the Master-Inverter heat pump in SMART mode

	Power	COP	Noise level
Cold air and cold water	high	standard	standard
Cold air and warm water	average	average	low
Warm air and warm water	minimum	maximum	minimum

Selection table

SELECTION TABLE

Maximum water volume, for water at 26°C, **from 15 May to 15 September***, water level 1.50 m

*Cover or roller shutter **MANDATORY**

	1-phase models						3-phase models			
	XS	S	S+	M	XM	L+	M	XM	L+	XL
Hot zone	45 m ³	55 m ³	70 m ³	85 m ³	105 m ³	160 m ³	85 m ³	105 m ³	160 m ³	190 m ³
Moderate zone	40 m ³	50 m ³	65 m ³	80 m ³	100 m ³	145 m ³	80 m ³	100 m ³	145 m ³	175 m ³
Cold zone	35 m ³	45 m ³	55 m ³	70 m ³	85 m ³	130 m ³	70 m ³	85 m ³	130 m ³	160 m ³

CAUTION: This table does not replace a thermal study and is given for information only. For all-season operation, please contact your Polytronic representative.

Equipment benefits

- **SIMPLE, INTUITIVE OPERATION**

Colour TFT touchscreen.
3 operating modes: Heating, Cooling and Automatic (heating or cooling to maintain set temperature).
- **OPTIMAL PERFORMANCES**

Optimal Twist : Titanium exchanger in a PVC housing, efficient and corrosion resistant.
- **2D Technology** : inverter compressor, higher COP thanks to the Hz by Hz variable speed motor.
- **DC Brushless** : variable speed fan motor ensures optimal performances.
- **INTELLIGENT OPERATING MODE**

PolySmart Control : The heat pump regulates its own power to adapt to the needs of your pool, depending on the water temperature and the ambient temperature.
- **LOW NOISE LEVELS**

Standard sound insulation and variable compressor and fan speeds ensure extremely low noise levels.
- 
- **CONNECTED SOLUTION**

PolyConnect inside : wifi module and 4G key included for remote control via smartphone and permanent supervision by the Technicenter.
- **RECYCLED MATERIAL**

Casing made from 70% recycled material and UV treated.
(except XL Tri model in galvanised steel)
- **EXCLUSIVE «LOW TEMPERATURE» SYSTEM**
 - Reverse-cycle defrosting,
 - Preheating of the compressor housing,
 - Antifreeze system for the evaporators condensation,
 - Automatic piloting of the 'low temperature' system.

ACCESSORIES INCLUDED: winter cover, 50 mm hydraulic connection kit, 4 «Silent block» anti-vibration pads, condensate drainage kit.



PolySmart Control : major assets

EXCLUSIVE REGULATION AND SAVINGS

- **Optimise the power required to maintain the temperature** of your pool, by cross-referencing ambient temperature and water temperature data.
- **Anticipation of the pool's energy requirements** thanks to advanced dual input regulation.
- **Much higher COP** on average over the season + **low noise level**.
- Inverter compressor with «oversized» heat exchangers = **higher COP**.
- Brushless fan (variable speed) = **lower noise level**.
- Combination of Inverter compressor and Brushless fan = **power regulated** according to pool requirements.

HIGHER COP =  LOWER electricity bill



LOWER noise levels =  BETTER user comfort



Color TFT touch screen

A HIGHLY RESPONSIVE DIGITAL TOUCHSCREEN FOR EXCELLENT VISIBILITY

- Large, high-definition capacitive TFT touchscreen for excellent readability (W 72 x H 68 mm, 4» diagonal).
- Protected by a layer of **thermally toughened glass** to ensure **durability**.
- The **opaque protective door** protects the display from weather conditions, dust, scratches and UV rays.

AN INTUITIVE, MULTILINGUAL CONTROL INTERFACE

Clear operation and easy navigation, responsive to the touch of a finger...

ZOOM ON

Screen protection case

- > Waterproof plastic casing with rubber seals and sturdier opaque protective door
- > Easy 180° door opening
- > Closes with a simple push
- > Reinforced plastic hinge, not subject to rest or breakage



Alarm display, diagnosis and solution



History of the last 50 events



Lockable TFT screen to prevent tampering



Warranties



The MASTER-INVERTER range come with a 5-year guarantee: **3 years** (parts, labour and travel on refrigeration problems) + **a 2-year extended guarantee** (parts only). But also **15 years against corrosion of the titanium exchanger**, and **7 years on the compressor** (after expert appraisal).



POLYCONNECT_{2.0}



CONNECTED SOLUTION

Easily connect the heat pump by scanning the QR code, **control it** via the free app and **benefit from secure remote supervision** for preventive maintenance and remote diagnosis by Polytronic technicians.



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