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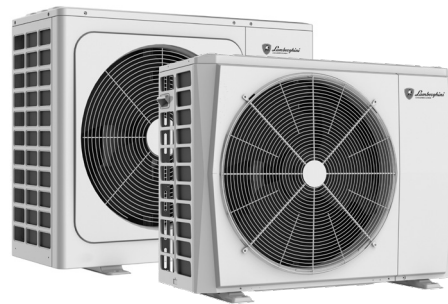
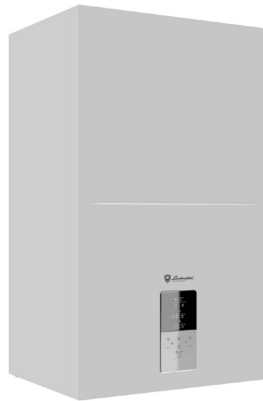
AZIENDA CERTIFICATA ISO 9001

IDOLA S 3.2 HYBRID 28C

POMPE DI CALORE IBRIDE REVERSIBILI ARIA-ACQUA
PER INSTALLAZIONE SPLITTATA CON PRODUZIONE SANITARIA ISTANTANEA
AIR-WATER REVERSIBLE HYBRID HEAT PUMPS FOR SPLIT INSTALLATION
WITH INSTANT SANITARY PRODUCTION



Cod. 3QE47410 - Rev. 00 - 11/2021



IDOLA S 3.2 HYBRID 28C

IT

BOLLETTINO TECNICO

EN

TECHNICAL DATA MANUAL

Dati ERP / ERP data

Modello		4	6	8	10	UM
Classe di efficienza in riscaldamento	bassa temperatura (acqua prodotta 35°C)	187	191	200	201	ηs (%)
		← A+++				class
	media temperatura (acqua prodotta 55°C)	128	137	131	136	ηs (%)
		← A++				class
SEER	acqua prodotta 7°C	4,99	5,34	5,83	5,98	W/W
	acqua prodotta 18°C	7,77	8,21	8,95	8,78	W/W

NOTA: Classe di efficienza calcolata secondo regolamento europeo 811/2013. I valori si riferiscono ad unità prive di eventuali opzioni o accessori.

NOTA: Declared according to **European regulation 811/2013**. The values are referred to units without options and accessories.

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DATI ERP PER RISCALDAMENTO AMBIENTE / ERP DATA FOR SPACE HEATING

For low - temperature application (35°C)												
Mod	Average				Colder				Warmer			
	Energy efficiency class	Indoor unit sound power	Outdoor unit sound power	Prated	Seasonal energy efficiency	Annual energy consumption	Prated	Seasonal energy efficiency	Annual energy consumption	Prated	Seasonal energy efficiency	Annual energy consumption
IDOLA S 3.2 HYBRID 28C 4	A+++	39	55	6	187	2404	5	156	2834	5	258	1095
IDOLA S 3.2 HYBRID 28C 6	A+++	39	57	7	191	2906	6	162	3364	6	262	1197
IDOLA S 3.2 HYBRID 28C 8	A+++	39	59	8	200	3307	7	166	4080	8	281	1423
IDOLA S 3.2 HYBRID 28C 10	A+++	39	60	9	201	3708	8	166	4533	8	281	1588

For medium - temperature application (55°C)												
Mod	Average				Colder				Warmer			
	Energy efficiency class	Indoor unit sound power	Outdoor unit sound power	Prated	Seasonal energy efficiency	Annual energy consumption	Prated	Seasonal energy efficiency	Annual energy consumption	Prated	Seasonal energy efficiency	Annual energy consumption
IDOLA S 3.2 HYBRID 28C 4	A++	39	56	4	128	2766	3	104	3110	5	164	1549
IDOLA S 3.2 HYBRID 28C 6	A++	39	58	6	137	3378	4	113	3634	5	165	1601
IDOLA S 3.2 HYBRID 28C 8	A++	39	59	7	131	4085	6	113	4911	8	176	2254
IDOLA S 3.2 HYBRID 28C 10	A++	39	60	8	136	4571	7	118	5480	8	184	2308

SCHEDA PRODOTTO CALDAIA / GAS BOILER PRODUCT FICHE

Condensing boiler: YES			
Low-temperature boiler (**): YES			
B1 Boiler: NO			
Combination heater: YES			
Cogeneration space heater: NO			
Item	Symbol	Unit	Value
Seasonal space heating energy efficiency class (from A+++ to D)			
Seasonal space heating energy efficiency class (from A+++ to D)			A
Rated heat output	Pn	kW	24
Seasonal space heating energy efficiency	η_s	%	94
Useful heat output			
Useful heat output at rated heat output and high-temperature regime (*)	P4	kW	24,0
Useful heat output at 30% of rated heat output and low-temperature regime (**)	P1	kW	4,5
Useful efficiency			
Useful efficiency at rated heat output and high-temperature regime (*)	η_4	%	88,3
Useful efficiency at 30% of rated heat output and low-temperature regime (**)	η_1	%	98,8
Auxiliary electricity consumption			
At full load	elmax	kW	0,028
At part load	elmin	kW	0,011
In standby mode	PSB	kW	0,003
Other items			
Standby heat loss	Pstby	kW	0,042
Ignition burner power consumption	Pign	kW	0,000
Annual energy consumption	QHE	GJ	44
Sound power level	LWA	dB	48
Emissions of nitrogen oxides	NOx	mg/kWh	39
For combination heaters			
Declared load profile			XL
Water heating energy efficiency class (from A+ to F)			A
Daily electricity consumption	Qelec	kWh	0,148
Annual electricity consumption	AEC	kWh	32
Water heating energy efficiency	η_{wh}	%	87
Daily fuel consumption	Qfuel	kWh	20,220
Annual fuel consumption	AFC	GJ	17

(*) High-temperature regime means 60°C return temperature at heater inlet and 80°C feed temperature at heater outlet.

(**) Low temperature means for condensing boilers 30°C, for low-temperature boilers 37°C and for other heaters 50°C return temperature (at heater inlet).

FOGLIO DATI TECNICI ERP PER RISCALDAMENTO AMBIENTE / ERP TECHNICAL DATA SHEET FOR SPACE HEATING

IDOLA S 3.2 HYBRID 28C 4 - Modo riscaldamento - Clima medio - Bassa temperatura (35°C) / Heating mode - Average climate - Low temperature (35°C)

Technical data sheet for hybrid heat pump											
Model(s):		IDOLA S 3.2 HYBRID 28C 4									
Heat source (air, water, brine, direct expansion)									air		
Heat sink (water, brine)									water		
Tipo di combustibile fossile (liquido / gas)									gas		
Low temperature heat pump:									no		
Heat pump combination heater:									no		
Parameters are declared for low-temperature application (35°C).											
Parameters are declared for average climate conditions.											
Item	Symbol	Value	Unit	Item	Symbol	Value	Unit	Item	Symbol	Value	Unit
Rated heat output ⁽³⁾ at T _{designh} = -10 (-11) °C	Prated = Pdesignh	5,52	kW	Seasonal space heating energy efficiency	η _s	187	%	Emissions of nitrogen oxides	NO _x	-	mg/kWh
Consumo di energia annuale	Q _{HE}	2404	kWh	Declared coefficient of performance for heating							
Declared capacity for heating				Declared capacity for heating							
T _i = -7 °C	P _{dh}	4,88	kW	T _j = -7 °C	COP _d	3,19	-				
T _i = + 2 °C	P _{dh}	3,06	kW	T _j = + 2 °C	COP _d	4,78	-				
T _i = + 7 °C	P _{dh}	1,93	kW	T _j = + 7 °C	COP _d	6,13	-				
T _i = +12°C	P _{dh}	1,48	kW	T _j = +12°C	COP _d	7,50	-				
T _j = T _{HP,off}	P _{dh}	4,48	kW	T _j = T _{HP,off}	COP _d	3,54	-				
T _j = T _{fb,off}	P _{dh}	4,48	kW	T _j = T _{fb,off}	COP _d	3,54	-				
For air-to-water heat pumps: T _i = - 15 °C (if TOL < - 20 °C)	P _{dh}	-	kW	For air-to-water HP : Operation limit temperature (maximum -7°C)	COP _d	-	-				
Switch temperature heat pump off	T _{hp,off}	-7	°C	Switch temperature boiler off	T _{fb,off}	-7	°C				
Degradation coefficient ⁽⁴⁾	C _{dh}	0,9	—								
Heat pump: power input in modes other than active				Boiler							
Off mode	P _{OFF}	0,014	kW	Useful heat output at rated heat output and high temperature regime (3)	P ₄	24,0	kW				
Thermostat-off mode	P _{TO}	0,024	kW	Useful heat output at 30% of rated heat output and high tempera- ture regime (3)	P ₁	8,1	kW				
Standby mode	P _{SB}	0,014	kW	Useful efficiency at rated heat output and high temperature regime (3)	η ₄	88,30	%				
Crankcase heater mode	P _{CK}	0	kW	Useful efficiency at 30% of rated heat output and high tempera- ture regime (3)	η ₁	98,80	%				
Other items				Power input of electrical auxiliaries at full load							
Capacity control of heat pump	fisso/variabile	Variable		Power input of electrical auxiliaries at part load							
For air-to-water HP: Rated air flow rate	Q _{airsource}	2770	m ³ /h	Power input of electrical auxiliaries in stand-by mode							
Sound power level, indoors	L _{WA}	39	dB(A)	Stand-by losses							
Sound power level, outdoors	L _{WA}	55	dB(A)	Power input of ignition burner fossil fuel							
Contact details	Ferrolis.p.a. via Ritonda 78A - S.Bonifacio (VR) - Italy										

(3) For heat pumps and heat pump combination heaters, the nominal heat output (Prated) is equal to the design load for heating (Pdesignh), and the nominal heat output of the boiler (Psup) is equal to the additional capacity for heating (sup (Tj)).

(4) If Cdh is not determined by measurements the default value of Cdh is = 0.9

FOGLIO DATI TECNICI ERP PER RISCALDAMENTO AMBIENTE / ERP TECHNICAL DATA SHEET FOR SPACE HEATING

IDOLA S 3.2 HYBRID 28C 4 - Modo riscaldamento - Clima più freddo - Bassa temperatura (35°C) / Heating mode - Colder climate - Low temperature (35°C)

Technical data sheet for hybrid heat pump

Model(s):	IDOLA S 3.2 HYBRID 28C 4		
Heat source (air, water, brine, direct expansion)	air		
Heat sink (water, brine)	water		
Tipo di combustibile fossile (liquido / gas)	gas		
Low temperature heat pump:	no		
Heat pump combination heater:	no		
Parameters are declared for low-temperature application (35°C).			
Parameters are declared for colder climate conditions.			
Item	Symbol	Value	Unit
Rated heat output ⁽³⁾ at T _{designh} = -10 (-11) °C	Prated = Pdesignh	4,56	kW
Consumo di energia annuale	Q _{HE}	2834	kWh
Declared capacity for heating			
T _i = -7 °C	P _{dh}	2,76	kW
T _i = + 2 °C	P _{dh}	1,77	kW
T _i = + 7 °C	P _{dh}	1,17	kW
T _i = +12°C	P _{dh}	1,43	kW
T _j = T _{HP,off}	P _{dh}	2,54	kW
T _j = T _{fb,off}	P _{dh}	2,54	kW
For air-to-water heat pumps: T _i = - 15 °C (if TOL < - 20 °C)	P _{dh}	3,724	kW
Switch temperature heat pump off	T _{hp,off}	-15	°C
Degradation coefficient ⁽⁴⁾	C _{dh}	0,90	—
Heat pump: power input in modes other than active			
Off mode	P _{OFF}	0,014	kW
Thermostat-off mode	P _{TO}	0,024	kW
Standby mode	P _{SB}	0,014	kW
Crankcase heater mode	P _{CK}	0	kW
Other items			
Capacity control of heat pump	fisso/variabile	Variable	
For air-to-water HP: Rated air flow rate	Q _{airsource}	2770	m ³ /h
Sound power level, indoors	L _{WA}	-	dB(A)
Sound power level, outdoors	L _{WA}	-	dB(A)
Contact details	Ferrolis.p.a. via Ritonda 78A - S.Bonifacio (VR) - Italy		

Item	Symbol	Value	Unit
Seasonal space heating energy efficiency	η _s	156	%
Emissions of nitrogen oxides	NO _x	-	mg/kWh
Declared coefficient of performance for heating			
T _j = -7 °C	COP _d	3,49	-
T _j = + 2 °C	COP _d	4,95	-
T _j = + 7 °C	COP _d	5,53	-
T _j = +12°C	COP _d	6,40	-
T _j = T _{HP,off}	COP _d	3,81	-
T _j = T _{fb,off}	COP _d	3,81	-
For air-to-water HP : Operation limit temperature (maximum -7°C)	COP _d	-	-
Switch temperature boiler off	T _{fb,off}	-15	°C

Boiler			
Useful heat output at rated heat output and high temperature regime (3)	P ₄	24,0	kW
Useful heat output at 30% of rated heat output and high temperature regime (3)	P ₁	8,1	kW
Useful efficiency at rated heat output and high temperature regime (3)	η ₄	88,30	%
Useful efficiency at 30% of rated heat output and high temperature regime (3)	η ₁	98,80	%
Power input of electrical auxiliaries at full load	elmax	0,028	kW
Power input of electrical auxiliaries at part load	elmin	0,011	kW
Power input of electrical auxiliaries in stand-by mode	P _{SB}	0,004	kW
Stand-by losses	P _{stby}	0,042	kW
Power input of ignition burner fossil fuel	P _{ign}	0,000	kW

(3) For heat pumps and heat pump combination heaters, the nominal heat output (Prated) is equal to the design load for heating (Pdesignh), and the nominal heat output of the boiler (Psup) is equal to the additional capacity for heating (sup (Tj)).

(4) If Cdh is not determined by measurements the default value of Cdh is = 0.9

FOGLIO DATI TECNICI ERP PER RISCALDAMENTO AMBIENTE / ERP TECHNICAL DATA SHEET FOR SPACE HEATING

IDOLA S 3.2 HYBRID 28C 4 - Modo riscaldamento - Clima più caldo - Bassa temperatura (35°C) / Heating mode - Warmer climate - Low temperature (35°C)

Technical data sheet for hybrid heat pump

Model(s):		IDOLA S 3.2 HYBRID 28C 4					
Heat source (air, water, brine, direct expansion)							air
Heat sink (water, brine)							water
Tipo di combustibile fossile (liquido / gas)							gas
Low temperature heat pump:							no
Heat pump combination heater:							no
Parameters are declared for low-temperature application (35°C).							
Parameters are declared for warmer climate conditions.							
Item	Symbol	Value	Unit	Item	Symbol	Value	Unit
Rated heat output ⁽³⁾ at T _{designh} = -10 (-11) °C	Prated = P _{designh}	5,35	kW	Seasonal space heating energy efficiency	η_s	258	%
Consumo di energia annuale	Q _{HE}	1095	kWh	Emissions of nitrogen oxides	NO _x	-	mg/kWh
Declared capacity for heating				Declared coefficient of performance for heating			
T _i = - 7 °C	P _{dh}	-	kW	T _j = - 7 °C	COP _d	-	-
T _i = + 2 °C	P _{dh}	5,35	kW	T _j = + 2 °C	COP _d	3,95	-
T _i = + 7 °C	P _{dh}	3,56	kW	T _j = + 7 °C	COP _d	5,92	-
T _i = +12°C	P _{dh}	1,64	kW	T _j = +12°C	COP _d	7,91	-
T _j = T _{HP,off}	P _{dh}	5,35	kW	T _j = T _{HP,off}	COP _d	3,95	-
T _j = T _{fb,off}	P _{dh}	5,35	kW	T _j = T _{fb,off}	COP _d	3,95	-
For air-to-water heat pumps: T _i = - 15 °C (if TOL < - 20 °C)	P _{dh}	-	kW	For air-to-water HP : Operation limit temperature (maximum -7°C)	COP _d	-	-
Switch temperature heat pump off	T _{hp,off}	2	°C	Switch temperature boiler off	T _{fb,off}	2	°C
Degradation coefficient ⁽⁴⁾	C _{dh}	0,90	—				
Heat pump: power input in modes other than active				Boiler			
Off mode	P _{OFF}	0,014	kW	Useful heat output at rated heat output and high temperature regime (3)	P ₄	24,0	kW
Thermostat-off mode	P _{TO}	0,024	kW	Useful heat output at 30% of rated heat output and high tempera- ture regime (3)	P ₁	8,1	kW
Standby mode	P _{SB}	0,014	kW	Useful efficiency at rated heat output and high temperature regime (3)	η_4	88,30	%
Crankcase heater mode	P _{CK}	0	kW	Useful efficiency at 30% of rated heat output and high tempera- ture regime (3)	η_1	98,80	%
Other items				Power input of electrical auxiliaries at full load	el _{max}	0,028	kW
Capacity control of heat pump	fisso/varia- bile	Variable		Power input of electrical auxiliaries at part load	el _{min}	0,011	kW
For air-to-water HP: Rated air flow rate	Q _{airsource}	2770	m ³ /h	Power input of electrical auxiliaries in stand-by mode	P _{SB}	0,004	kW
Sound power level, indoors	L _{WA}	-	dB(A)	Stand-by losses	P _{stby}	0,042	kW
Sound power level, outdoors	L _{WA}	-	dB(A)	Power input of ignition burner fossil fuel	P _{ign}	0,000	kW
Contact details	Ferrolis s.p.a. via Ritonda 78A - S.Bonifacio (VR) - Italy						

(3) For heat pumps and heat pump combination heaters, the nominal heat output (Prated) is equal to the design load for heating (Pdesignh), and the nominal heat output of the boiler (Psup) is equal to the additional capacity for heating (sup (Tj)).

(4) If Cdh is not determined by measurements the default value of Cdh is = 0.9

FOGLIO DATI TECNICI ERP PER RISCALDAMENTO AMBIENTE / ERP TECHNICAL DATA SHEET FOR SPACE HEATING

IDOLA S 3.2 HYBRID 28C 4 - Modo riscaldamento - Clima medio - Media temperatura (55°C) / Heating mode - Average climate - Medium temperature (55°C)

Technical data sheet for hybrid heat pump

Model(s):	IDOLA S 3.2 HYBRID 28C 4		
Heat source (air, water, brine, direct expansion)	air		
Heat sink (water, brine)	water		
Tipo di combustibile fossile (liquido / gas)	gas		
Low temperature heat pump:	no		
Heat pump combination heater:	no		
Parameters are declared for medium-temperature application (55°C).			
Parameters are declared for average climate conditions.			
Item	Symbol	Value	Unit
Rated heat output ⁽³⁾ at T _{designh} = -10 (-11) °C	Prated = P _{designh}	4,40	kW
Consumo di energia annuale	Q _{HE}	2766	kWh
Declared capacity for heating			
T _i = - 7 °C	P _{dh}	3,89	kW
T _i = + 2 °C	P _{dh}	2,38	kW
T _i = + 7 °C	P _{dh}	2,95	kW
T _i = +12°C	P _{dh}	1,32	kW
T _j = T _{HP,off}	P _{dh}	3,56	kW
T _j = T _{fb,off}	P _{dh}	3,56	kW
For air-to-water heat pumps: T _j = - 15 °C (if TOL < - 20 °C)	P _{dh}	-	kW
Switch temperature heat pump off	T _{hp,off}	-7	°C
Degradation coefficient ⁽⁴⁾	C _{dh}	0,90	—
Heat pump: power input in modes other than active			
Off mode	P _{OFF}	0,014	kW
Thermostat-off mode	P _{TO}	0,024	kW
Standby mode	P _{SB}	0,014	kW
Crankcase heater mode	P _{CK}	0	kW
Other items			
Capacity control of heat pump	fisso/variabile	Variable	
For air-to-water HP: Rated air flow rate	Q _{airsource}	2770	m ³ /h
Sound power level, indoors	L _{WA}	39	dB(A)
Sound power level, outdoors	L _{WA}	56	dB(A)
Contact details	Ferrolì s.p.a. via Ritonda 78A - S.Bonifacio (VR) - Italy		

Item	Symbol	Value	Unit
Seasonal space heating energy efficiency	η _s	128	%
Emissions of nitrogen oxides	NO _x	-	mg/kWh
Declared coefficient of performance for heating			
T _j = - 7 °C	COP _d	2,17	-
T _j = + 2 °C	COP _d	3,30	-
T _j = + 7 °C	COP _d	4,03	-
T _j = +12°C	COP _d	5,17	-
T _j = T _{HP,off}	COP _d	2,42	-
T _j = T _{fb,off}	COP _d	2,42	-
For air-to-water HP : Operation limit temperature (maximum -7°C)	COP _d	-	-
Switch temperature boiler off	T _{fb,off}	-7	°C

Boiler			
Useful heat output at rated heat output and high temperature regime (3)	P ₄	24,0	kW
Useful heat output at 30% of rated heat output and high temperature regime (3)	P ₁	8,1	kW
Useful efficiency at rated heat output and high temperature regime (3)	η ₄	88,30	%
Useful efficiency at 30% of rated heat output and high temperature regime (3)	η ₁	98,80	%
Power input of electrical auxiliaries at full load	el _{max}	0,028	kW
Power input of electrical auxiliaries at part load	el _{min}	0,011	kW
Power input of electrical auxiliaries in stand-by mode	P _{SB}	0,004	kW
Stand-by losses	P _{stby}	0,042	kW
Power input of ignition burner fossil fuel	P _{ign}	0,000	kW

(3) For heat pumps and heat pump combination heaters, the nominal heat output (Prated) is equal to the design load for heating (Pdesignh), and the nominal heat output of the boiler (Psup) is equal to the additional capacity for heating (sup (Tj)).

(4) If Cdh is not determined by measurements the default value of Cdh is = 0.9

FOGLIO DATI TECNICI ERP PER RISCALDAMENTO AMBIENTE / ERP TECHNICAL DATA SHEET FOR SPACE HEATING

IDOLA S 3.2 HYBRID 28C 4 - Modo riscaldamento - Clima più freddo - Media temperatura (55°C) / Heating mode - Colder climate - Medium temperature (55°C)

Technical data sheet for hybrid heat pump

Model(s):		IDOLA S 3.2 HYBRID 28C 4					
Heat source (air, water, brine, direct expansion)							air
Heat sink (water, brine)							water
Tipo di combustibile fossile (liquido / gas)							gas
Low temperature heat pump:							no
Heat pump combination heater:							no
Parameters are declared for medium-temperature application (55°C).							
Parameters are declared for colder climate conditions.							
Item	Symbol	Value	Unit	Item	Symbol	Value	Unit
Rated heat output ⁽³⁾ at T _{designh} = -10 (-11) °C	Prated = P _{designh}	3,37	kW	Seasonal space heating energy efficiency	η _s	104	%
Consumo di energia annuale	Q _{HE}	3110	kWh	Emissions of nitrogen oxides	NO _x	-	mg/kWh
Declared capacity for heating				Declared coefficient of performance for heating			
T _i = - 7 °C	P _{dh}	2,14	kW	T _j = - 7 °C	COP _d	2,32	-
T _i = + 2 °C	P _{dh}	1,28	kW	T _j = + 2 °C	COP _d	2,99	-
T _i = + 7 °C	P _{dh}	1,01	kW	T _j = + 7 °C	COP _d	3,76	-
T _i = +12°C	P _{dh}	1,36	kW	T _j = +12°C	COP _d	4,89	-
T _j = T _{HP,off}	P _{dh}	1,95	kW	T _j = T _{HP,off}	COP _d	2,47	-
T _j = T _{fb,off}	P _{dh}	1,95	kW	T _j = T _{fb,off}	COP _d	2,47	-
For air-to-water heat pumps: T _i = - 15 °C (if TOL < - 20 °C)	P _{dh}	2,748	kW	For air-to-water HP : Operation limit temperature (maximum -7°C)	COP _d	-	-
Switch temperature heat pump off	T _{hp,off}	-15	°C	Switch temperature boiler off	T _{fb,off}	-15	°C
Degradation coefficient ⁽⁴⁾	C _{dh}	0,9	—				
Heat pump: power input in modes other than active				Boiler			
Off mode	P _{OFF}	0,014	kW	Useful heat output at rated heat output and high temperature regime (3)	P ₄	24,0	kW
Thermostat-off mode	P _{TO}	0,024	kW	Useful heat output at 30% of rated heat output and high tempera- ture regime (3)	P ₁	8,1	kW
Standby mode	P _{SB}	0,014	kW	Useful efficiency at rated heat output and high temperature regime (3)	η ₄	88,30	%
Crankcase heater mode	P _{CK}	0	kW	Useful efficiency at 30% of rated heat output and high tempera- ture regime (3)	η ₁	98,80	%
Other items				Power input of electrical auxiliaries at full load	el _{max}	0,028	kW
Capacity control of heat pump	fisso/varia- bile	Variable		Power input of electrical auxiliaries at part load	el _{min}	0,011	kW
For air-to-water HP: Rated air flow rate	Q _{airsource}	2770	m ³ /h	Power input of electrical auxiliaries in stand-by mode	P _{SB}	0,004	kW
Sound power level, indoors	L _{WA}	-	dB(A)	Stand-by losses	P _{stby}	0,042	kW
Sound power level, outdoors	L _{WA}	-	dB(A)	Power input of ignition burner fossil fuel	P _{ign}	0,000	kW
Contact details	Ferrolis.p.a. via Ritonda 78A - S.Bonifacio (VR) - Italy						

(3) For heat pumps and heat pump combination heaters, the nominal heat output (Prated) is equal to the design load for heating (Pdesignh), and the nominal heat output of the boiler (Psup) is equal to the additional capacity for heating (sup (Tj)).

(4) If Cdh is not determined by measurements the default value of Cdh is = 0.9

FOGLIO DATI TECNICI ERP PER RISCALDAMENTO AMBIENTE / ERP TECHNICAL DATA SHEET FOR SPACE HEATING

IDOLA S 3.2 HYBRID 28C 4 - Modo riscaldamento - Clima più caldo - Media temperatura (55°C) / Heating mode - Warmer climate - Medium temperature (55°C)

Technical data sheet for hybrid heat pump

Model(s):		IDOLA S 3.2 HYBRID 28C 4	
Heat source (air, water, brine, direct expansion)			air
Heat sink (water, brine)			water
Tipo di combustibile fossile (liquido / gas)			gas
Low temperature heat pump:			no
Heat pump combination heater:			no
Parameters are declared for medium-temperature application (55°C).			
Parameters are declared for warmer climate conditions.			
Item	Symbol	Value	Unit
Rated heat output ⁽³⁾ at T _{designh} = -10 (-11) °C	Prated = Pdesigh	4,84	kW
Consumo di energia annuale	Q _{HE}	1549	kWh
Declared capacity for heating			
T _i = -7 °C	P _{dh}	-	kW
T _i = +2 °C	P _{dh}	4,84	kW
T _i = +7 °C	P _{dh}	3,23	kW
T _i = +12°C	P _{dh}	1,47	kW
T _j = T _{HP,off}	P _{dh}	4,84	kW
T _j = T _{fb,off}	P _{dh}	4,84	kW
For air-to-water heat pumps: T _i = -15 °C (if TOL < -20 °C)	P _{dh}	-	kW
Switch temperature heat pump off	T _{hp,off}	2	°C
Degradation coefficient ⁽⁴⁾	C _{dh}	0,9	—
Heat pump: power input in modes other than active			
Off mode	P _{OFF}	0,014	kW
Thermostat-off mode	P _{TO}	0,024	kW
Standby mode	P _{SB}	0,014	kW
Crankcase heater mode	P _{CK}	0	kW
Other items			
Capacity control of heat pump	fisso/variabile	Variable	
For air-to-water HP: Rated air flow rate	Q _{airsource}	2770	m ³ /h
Sound power level, indoors	L _{WA}	-	dB(A)
Sound power level, outdoors	L _{WA}	-	dB(A)
Contact details	Ferrolis.p.a. via Ritonda 78A - S.Bonifacio (VR) - Italy		

Item	Symbol	Value	Unit
Seasonal space heating energy efficiency	η _s	164	%
Emissions of nitrogen oxides	NO _x	-	mg/kWh
Declared coefficient of performance for heating			
T _j = -7 °C	COP _d	-	-
T _j = +2 °C	COP _d	2,52	-
T _j = +7 °C	COP _d	3,68	-
T _j = +12°C	COP _d	5,15	-
T _j = T _{HP,off}	COP _d	2,52	-
T _j = T _{fb,off}	COP _d	2,52	-
For air-to-water HP : Operation limit temperature (maximum -7°C)	COP _d	-	-
Switch temperature boiler off	T _{fb,off}	2	°C

Boiler			
Useful heat output at rated heat output and high temperature regime (3)	P ₄	24,0	kW
Useful heat output at 30% of rated heat output and high temperature regime (3)	P ₁	8,1	kW
Useful efficiency at rated heat output and high temperature regime (3)	η ₄	88,30	%
Useful efficiency at 30% of rated heat output and high temperature regime (3)	η ₁	98,80	%
Power input of electrical auxiliaries at full load	elmax	0,028	kW
Power input of electrical auxiliaries at part load	elmin	0,011	kW
Power input of electrical auxiliaries in stand-by mode	P _{SB}	0,004	kW
Stand-by losses	P _{stby}	0,042	kW
Power input of ignition burner fossil fuel	P _{ign}	0,000	kW

(3) For heat pumps and heat pump combination heaters, the nominal heat output (Prated) is equal to the design load for heating (Pdesigh), and the nominal heat output of the boiler (Psup) is equal to the additional capacity for heating (sup (Tj)).

(4) If Cdh is not determined by measurements the default value of Cdh is = 0.9

FOGLIO DATI TECNICI ERP PER RISCALDAMENTO AMBIENTE / ERP TECHNICAL DATA SHEET FOR SPACE HEATING
IDOLA S 3.2 HYBRID 28C 6 - Modo riscaldamento - Clima medio - Bassa temperatura (35°C) / Heating mode - Average climate - Low temperature (35°C)
Technical data sheet for hybrid heat pump

Model(s):	IDOLA S 3.2 HYBRID 28C 6		
Heat source (air, water, brine, direct expansion)	air		
Heat sink (water, brine)	water		
Tipo di combustibile fossile (liquido / gas)	gas		
Low temperature heat pump:	no		
Heat pump combination heater:	no		
Parameters are declared for low-temperature application (35°C).			
Parameters are declared for average climate conditions.			
Item	Symbol	Value	Unit
Rated heat output ⁽³⁾ at T _{designh} = -10 (-11) °C	Prated = P _{designh}	6,82	kW
Consumo di energia annuale	Q _{HE}	2906	kWh
Declared capacity for heating			
T _i = -7 °C	P _{dh}	6,03	kW
T _i = +2 °C	P _{dh}	3,88	kW
T _i = +7 °C	P _{dh}	2,40	kW
T _i = +12 °C	P _{dh}	1,39	kW
T _j = T _{HP,off}	P _{dh}	5,55	kW
T _j = T _{fb,off}	P _{dh}	5,55	kW
For air-to-water heat pumps: T _j = -15 °C (if TOL < -20 °C)	P _{dh}	-	kW
Switch temperature heat pump off	T _{hd,off}	-7	°C
Degradation coefficient ⁽⁴⁾	C _{dh}	0,9	—
Heat pump: power input in modes other than active			
Off mode	P _{OFF}	0,014	kW
Thermostat-off mode	P _{TO}	0,024	kW
Standby mode	P _{SB}	0,014	kW
Crankcase heater mode	P _{CK}	0	kW
Other items			
Capacity control of heat pump	fisso/variabile	Variable 0	
For air-to-water HP: Rated air flow rate	Q _{airsource}	2770	m ³ /h
Sound power level, indoors	L _{WA}	39	dB(A)
Sound power level, outdoors	L _{WA}	57	dB(A)
Contact details	Ferrolis s.p.a. via Ritonda 78A - S.Bonifacio (VR) - Italy		

Item	Symbol	Value	Unit
Seasonal space heating energy efficiency	η _s	191	%
Emissions of nitrogen oxides	NO _x	-	mg/kWh
Declared coefficient of performance for heating			
T _j = -7 °C	COP _d	3,09	—
T _j = +2 °C	COP _d	4,85	—
T _j = +7 °C	COP _d	6,63	—
T _j = +12 °C	COP _d	7,58	—
T _j = T _{HP,off}	COP _d	3,48	—
T _j = T _{fb,off}	COP _d	3,48	—
For air-to-water HP : Operation limit temperature (maximum -7°C)	COP _d	-	—
Switch temperature boiler off	T _{fb,off}	-7	°C

Boiler			
Useful heat output at rated heat output and high temperature regime (3)	P ₄	24,0	kW
Useful heat output at 30% of rated heat output and high temperature regime (3)	P ₁	8,1	kW
Useful efficiency at rated heat output and high temperature regime (3)	η ₄	88,30	%
Useful efficiency at 30% of rated heat output and high temperature regime (3)	η ₁	98,80	%
Power input of electrical auxiliaries at full load	el _{max}	0,028	kW
Power input of electrical auxiliaries at part load	el _{min}	0,011	kW
Power input of electrical auxiliaries in stand-by mode	P _{SB}	0,004	kW
Stand-by losses	P _{stby}	0,042	kW
Power input of ignition burner fossil fuel	P _{ign}	0,000	kW

(3) For heat pumps and heat pump combination heaters, the nominal heat output (Prated) is equal to the design load for heating (Pdesignh), and the nominal heat output of the boiler (Psup) is equal to the additional capacity for heating (sup (Tj)).

(4) If Cdh is not determined by measurements the default value of Cdh is = 0.9

FOGLIO DATI TECNICI ERP PER RISCALDAMENTO AMBIENTE / ERP TECHNICAL DATA SHEET FOR SPACE HEATING

IDOLA S 3.2 HYBRID 28C 6 - Modo riscaldamento - Clima più freddo - Bassa temperatura (35°C) / Heating mode - Colder climate - Low temperature (35°C)

Technical data sheet for hybrid heat pump

Model(s):	IDOLA S 3.2 HYBRID 28C 6						
Hear source (air, water, brine, direct expansion)	air						
Heat sink (water, brine)	water						
Tipo di combustibile fossile (liquido / gas)	gas						
Low temperature heat pump:	no						
Heat pump combination heater:	no						
Parameters are declared for low-temperature application (35°C).							
Parameters are declared for colder climate conditions.							
Item	Symbol	Value	Unit	Item	Symbol	Value	Unit
Rated heat output ⁽³⁾ at T _{designh} = -10 (-11) °C	Prated = P _{designh}	5,63	kW	Seasonal space heating energy efficiency	η _s	162	%
Consumo di energia annuale	Q _{HE}	3364	kWh	Emissions of nitrogen oxides	NO _x	-	mg/kWh
Declared capacity for heating				Declared coefficient of performance for heating			
T _i = - 7 °C	P _{dh}	3,42	kW	T _j = - 7 °C	COP _d	3,59	-
T _i = + 2 °C	P _{dh}	2,06	kW	T _j = + 2 °C	COP _d	5,21	-
T _i = + 7 °C	P _{dh}	1,47	kW	T _j = + 7 °C	COP _d	6,24	-
T _i = +12°C	P _{dh}	1,44	kW	T _j = +12°C	COP _d	6,71	-
T _j = T _{HP,off}	P _{dh}	3,12	kW	T _j = T _{HP,off}	COP _d	3,95	-
T _j = T _{fb,off}	P _{dh}	3,12	kW	T _j = T _{fb,off}	COP _d	3,95	-
For air-to-water heat pumps: T _j = - 15 °C (if TOL < - 20 °C)	P _{dh}	4,596	kW	For air-to-water HP : Operation limit temperature (maximum -7°C)	COP _d	-	-
Switch temperature heat pump off	T _{hd,off}	-15	°C	Switch temperature boiler off	T _{fb,off}	-15	°C
Degradation coefficient ⁽⁴⁾	C _{dh}	0,9	—				
Heat pump: power input in modes other than active				Boiler			
Off mode	P _{OFF}	0,014	kW	Useful heat output at rated heat output and high temperature regime (3)	P ₄	24,0	kW
Thermostat-off mode	P _{TO}	0,024	kW	Useful heat output at 30% of rated heat output and high tempera- ture regime (3)	P ₁	8,1	kW
Standby mode	P _{SB}	0,014	kW	Useful efficiency at rated heat output and high temperature regime (3)	η ₄	88,30	%
Crankcase heater mode	P _{CK}	0	kW	Useful efficiency at 30% of rated heat output and high tempera- ture regime (3)	η ₁	98,80	%
Other items				Power input of electrical auxiliaries at full load	el _{max}	0,028	kW
Capacity control of heat pump	fisso/varia- bile	Variable 0		Power input of electrical auxiliaries at part load	el _{min}	0,011	kW
For air-to-water HP: Rated air flow rate	Q _{airsource}	2770	m ³ /h	Power input of electrical auxiliaries in stand-by mode	P _{SB}	0,004	kW
Sound power level, indoors	L _{WA}	-	dB(A)	Stand-by losses	P _{stby}	0,042	kW
Sound power level, outdoors	L _{WA}	-	dB(A)	Power input of ignition burner fossil fuel	P _{ign}	0,000	kW
Contact details	Ferrolis s.p.a. via Ritonda 78A - S.Bonifacio (VR) - Italy						

(3) For heat pumps and heat pump combination heaters, the nominal heat output (Prated) is equal to the design load for heating (Pdesignh), and the nominal heat output of the boiler (Psup) is equal to the additional capacity for heating (sup (Tj)).

(4) If Cdh is not determined by measurements the default value of Cdh is = 0.9

FOGLIO DATI TECNICI ERP PER RISCALDAMENTO AMBIENTE / ERP TECHNICAL DATA SHEET FOR SPACE HEATING

IDOLA S 3.2 HYBRID 28C 6 - Modo riscaldamento - Clima più caldo - Bassa temperatura (35°C) / Heating mode - Warmer climate - Low temperature (35°C)

Technical data sheet for hybrid heat pump

Model(s):		IDOLA S 3.2 HYBRID 28C 6					
Heat source (air, water, brine, direct expansion)				air			
Heat sink (water, brine)				water			
Tipo di combustibile fossile (liquido / gas)				gas			
Low temperature heat pump:				no			
Heat pump combination heater:				no			
Parameters are declared for low-temperature application (35°C).							
Parameters are declared for warmer climate conditions.							
Item	Symbol	Value	Unit				
Rated heat output ⁽³⁾ at T _{designh} = -10 (-11) °C	Prated = P _{designh}	5,94	kW	Seasonal space heating energy efficiency			
Consumo di energia annuale	Q _{HE}	1197	kWh	Emissions of nitrogen oxides			
Declared capacity for heating				Declared coefficient of performance for heating			
T _i = - 7 °C	P _{dh}	-	kW	T _j = - 7 °C	COP _d	-	-
T _i = + 2 °C	P _{dh}	5,94	kW	T _j = + 2 °C	COP _d	3,91	-
T _i = + 7 °C	P _{dh}	3,99	kW	T _j = + 7 °C	COP _d	5,89	-
T _i = +12°C	P _{dh}	1,80	kW	T _j = +12°C	COP _d	8,21	-
T _j = T _{HP,off}	P _{dh}	5,94	kW	T _j = T _{HP,off}	COP _d	3,91	-
T _j = T _{fb,off}	P _{dh}	5,94	kW	T _j = T _{fb,off}	COP _d	3,91	-
For air-to-water heat pumps: T _i = - 15 °C (if TOL < - 20 °C)	P _{dh}	-	kW	For air-to-water HP : Operation limit temperature (maximum -7°C)	COP _d	-	-
Switch temperature heat pump off	T _{hp,off}	2	°C	Switch temperature boiler off	T _{fb,off}	2	°C
Degradation coefficient ⁽⁴⁾	C _{dh}	0,9	—				
Heat pump: power input in modes other than active				Boiler			
Off mode	P _{OFF}	0,014	kW	Useful heat output at rated heat output and high temperature regime (3)	P ₄	24,0	kW
Thermostat-off mode	P _{TO}	0,024	kW	Useful heat output at 30% of rated heat output and high temperature regime (3)	P ₁	8,1	kW
Standby mode	P _{SB}	0,014	kW	Useful efficiency at rated heat output and high temperature regime (3)	η ₄	88,30	%
Crankcase heater mode	P _{CK}	0	kW	Useful efficiency at 30% of rated heat output and high temperature regime (3)	η ₁	98,80	%
Other items				Power input of electrical auxiliaries at full load	el _{max}	0,028	kW
Capacity control of heat pump	fisso/variabile	Variable 0		Power input of electrical auxiliaries at part load	el _{min}	0,011	kW
For air-to-water HP: Rated air flow rate	Q _{airsource}	2770	m ³ /h	Power input of electrical auxiliaries in stand-by mode	P _{SB}	0,004	kW
Sound power level, indoors	L _{WA}	-	dB(A)	Stand-by losses	P _{stby}	0,042	kW
Sound power level, outdoors	L _{WA}	-	dB(A)	Power input of ignition burner fossil fuel	P _{ign}	0,000	kW
Contact details	Ferrolis.p.a. via Ritonda 78A - S.Bonifacio (VR) - Italy						

(3) For heat pumps and heat pump combination heaters, the nominal heat output (Prated) is equal to the design load for heating (P_{designh}), and the nominal heat output of the boiler (P_{sup}) is equal to the additional capacity for heating (sup (T_j)).

(4) If C_{dh} is not determined by measurements the default value of C_{dh} is = 0.9

FOGLIO DATI TECNICI ERP PER RISCALDAMENTO AMBIENTE / ERP TECHNICAL DATA SHEET FOR SPACE HEATING

IDOLA S 3.2 HYBRID 28C 6 - Modo riscaldamento - Clima medio - Media temperatura (55°C) / Heating mode - Average climate - Medium temperature (55°C)

Technical data sheet for hybrid heat pump

Model(s):	IDOLA S 3.2 HYBRID 28C 6						
Heat source (air, water, brine, direct expansion)							air
Heat sink (water, brine)							water
Tipo di combustibile fossile (liquido / gas)							gas
Low temperature heat pump:							no
Heat pump combination heater:							no
Parameters are declared for medium-temperature application (55°C).							
Parameters are declared for average climate conditions.							
Item	Symbol	Value	Unit	Item	Symbol	Value	Unit
Rated heat output ⁽³⁾ at T _{designh} = -10 (-11) °C	Prated = P _{designh}	5,70	kW	Seasonal space heating energy efficiency	η_s	137	%
Consumo di energia annuale	Q _{HE}	3378	kWh	Emissions of nitrogen oxides	NO _x	-	mg/kWh
Declared capacity for heating				Declared coefficient of performance for heating			
T _i = - 7 °C	P _{dh}	5,05	kW	T _j = - 7 °C	COP _d	2,17	-
T _i = + 2 °C	P _{dh}	3,12	kW	T _j = + 2 °C	COP _d	3,51	-
T _i = + 7 °C	P _{dh}	2,09	kW	T _j = + 7 °C	COP _d	4,54	-
T _i = +12°C	P _{dh}	1,28	kW	T _j = +12°C	COP _d	5,35	-
T _j = T _{HP,off}	P _{dh}	4,62	kW	T _j = T _{HP,off}	COP _d	2,47	-
T _j = T _{fb,off}	P _{dh}	4,62	kW	T _j = T _{fb,off}	COP _d	2,47	-
For air-to-water heat pumps: T _i = - 15 °C (if TOL < - 20 °C)	P _{dh}	-	kW	For air-to-water HP : Operation limit temperature (maximum -7°C)	COP _d	-	-
Switch temperature heat pump off	T _{hp,off}	-7	°C	Switch temperature boiler off	T _{fb,off}	-7	°C
Degradation coefficient ⁽⁴⁾	C _{dh}	0,9	—				
Heat pump: power input in modes other than active				Boiler			
Off mode	P _{OFF}	0,014	kW	Useful heat output at rated heat output and high temperature regime (3)	P ₄	24,0	kW
Thermostat-off mode	P _{TO}	0,024	kW	Useful heat output at 30% of rated heat output and high temperature regime (3)	P ₁	8,1	kW
Standby mode	P _{SB}	0,014	kW	Useful efficiency at rated heat output and high temperature regime (3)	η_4	88,30	%
Crankcase heater mode	P _{CK}	0	kW	Useful efficiency at 30% of rated heat output and high temperature regime (3)	η_1	98,80	%
Other items				Power input of electrical auxiliaries at full load	el _{max}	0,028	kW
Capacity control of heat pump	fisso/variabile	Variable 0		Power input of electrical auxiliaries at part load	el _{min}	0,011	kW
For air-to-water HP: Rated air flow rate	Q _{airsource}	2770	m ³ /h	Power input of electrical auxiliaries in stand-by mode	P _{SB}	0,004	kW
Sound power level, indoors	L _{WA}	39	dB(A)	Stand-by losses	P _{stby}	0,042	kW
Sound power level, outdoors	L _{WA}	58	dB(A)	Power input of ignition burner fossil fuel	P _{ign}	0,000	kW
Contact details	Ferrolis.p.a. via Ritonda 78A - S.Bonifacio (VR) - Italy						

(3) For heat pumps and heat pump combination heaters, the nominal heat output (Prated) is equal to the design load for heating (Pdesignh), and the nominal heat output of the boiler (Psup) is equal to the additional capacity for heating (sup (Tj)).

(4) If Cdh is not determined by measurements the default value of Cdh is = 0.9

FOGLIO DATI TECNICI ERP PER RISCALDAMENTO AMBIENTE / ERP TECHNICAL DATA SHEET FOR SPACE HEATING

IDOLA S 3.2 HYBRID 28C 6 - Modo riscaldamento - Clima più freddo - Media temperatura (55°C) / Heating mode - Colder climate - Medium temperature (55°C)

Technical data sheet for hybrid heat pump

Model(s):		IDOLA S 3.2 HYBRID 28C 6					
Heat source (air, water, brine, direct expansion)							air
Heat sink (water, brine)							water
Tipo di combustibile fossile (liquido / gas)							gas
Low temperature heat pump:							no
Heat pump combination heater:							no
Parameters are declared for medium-temperature application (55°C).							
Parameters are declared for colder climate conditions.							
Item	Symbol	Value	Unit	Item	Symbol	Value	Unit
Rated heat output ⁽³⁾ at T _{designh} = -10 (-11) °C	Prated = P _{designh}	4,26	kW	Seasonal space heating energy efficiency	η_s	113	%
Consumo di energia annuale	Q _{HE}	3634	kWh	Emissions of nitrogen oxides	NO _x	-	mg/kWh
Declared capacity for heating				Declared coefficient of performance for heating			
T _i = - 7 °C	P _{dh}	2,70	kW	T _j = - 7 °C	COP _d	2,46	-
T _i = + 2 °C	P _{dh}	1,61	kW	T _j = + 2 °C	COP _d	3,36	-
T _i = + 7 °C	P _{dh}	1,02	kW	T _j = + 7 °C	COP _d	3,94	-
T _i = +12°C	P _{dh}	1,37	kW	T _j = +12°C	COP _d	5,27	-
T _j = T _{HP,off}	P _{dh}	2,46	kW	T _j = T _{HP,off}	COP _d	2,66	-
T _j = T _{fb,off}	P _{dh}	2,46	kW	T _j = T _{fb,off}	COP _d	2,66	-
For air-to-water heat pumps: T _i = - 15 °C (if TOL < - 20 °C)	P _{dh}	3,475	kW	For air-to-water HP : Operation limit temperature (maximum -7°C)	COP _d	-	-
Switch temperature heat pump off	T _{hp,off}	-15	°C	Switch temperature boiler off	T _{fb,off}	-15	°C
Degradation coefficient ⁽⁴⁾	C _{dh}	0,90	-				
Heat pump: power input in modes other than active				Boiler			
Off mode	P _{OFF}	0,014	kW	Useful heat output at rated heat output and high temperature regime (3)	P ₄	24,0	kW
Thermostat-off mode	P _{TO}	0,024	kW	Useful heat output at 30% of rated heat output and high tempera- ture regime (3)	P ₁	8,1	kW
Standby mode	P _{SB}	0,014	kW	Useful efficiency at rated heat output and high temperature regime (3)	η_4	88,30	%
Crankcase heater mode	P _{CK}	0	kW	Useful efficiency at 30% of rated heat output and high tempera- ture regime (3)	η_1	98,80	%
Other items				Power input of electrical auxiliaries at full load	elmax	0,028	kW
Capacity control of heat pump	fisso/varia- bile	Variable 0		Power input of electrical auxiliaries at part load	elmin	0,011	kW
For air-to-water HP: Rated air flow rate	Q _{airsource}	2770	m ³ /h	Power input of electrical auxiliaries in stand-by mode	P _{SB}	0,004	kW
Sound power level, indoors	L _{WA}	-	dB(A)	Stand-by losses	P _{stby}	0,042	kW
Sound power level, outdoors	L _{WA}	-	dB(A)	Power input of ignition burner fossil fuel	P _{ign}	0,000	kW
Contact details	Ferrolis.p.a. via Ritonda 78A - S.Bonifacio (VR) - Italy						

(3) For heat pumps and heat pump combination heaters, the nominal heat output (Prated) is equal to the design load for heating (P_{designh}), and the nominal heat output of the boiler (P_{sup}) is equal to the additional capacity for heating (sup (T_j)).

(4) If C_{dh} is not determined by measurements the default value of C_{dh} is = 0.9

FOGLIO DATI TECNICI ERP PER RISCALDAMENTO AMBIENTE / ERP TECHNICAL DATA SHEET FOR SPACE HEATING

IDOLA S 3.2 HYBRID 28C 6 - Modo riscaldamento - Clima più caldo - Media temperatura (55°C) / Heating mode - Warmer climate - Medium temperature (55°C)

Technical data sheet for hybrid heat pump

Model(s):	IDOLA S 3.2 HYBRID 28C 6		
Heat source (air, water, brine, direct expansion)			air
Heat sink (water, brine)			water
Tipo di combustibile fossile (liquido / gas)			gas
Low temperature heat pump:			no
Heat pump combination heater:			no
Parameters are declared for medium-temperature application (55°C).			
Parameters are declared for warmer climate conditions.			
Item	Symbol	Value	Unit
Rated heat output ⁽³⁾ at T _{designh} = -10 (-11) °C	Prated = P _{designh}	5,03	kW
Consumo di energia annuale	Q _{HE}	1601	kWh
Declared capacity for heating			
T _i = - 7 °C	P _{dh}	-	kW
T _i = + 2 °C	P _{dh}	5,03	kW
T _i = + 7 °C	P _{dh}	3,31	kW
T _i = +12°C	P _{dh}	1,60	kW
T _j = T _{HP,off}	P _{dh}	5,03	kW
T _j = T _{fb,off}	P _{dh}	5,03	kW
For air-to-water heat pumps: T _i = - 15 °C (if TOL < - 20 °C)	P _{dh}	-	kW
Switch temperature heat pump off	T _{hp,off}	2	°C
Degradation coefficient ⁽⁴⁾	C _{dh}	0,90	—
Heat pump: power input in modes other than active			
Off mode	P _{OFF}	0,014	kW
Thermostat-off mode	P _{TO}	0,024	kW
Standby mode	P _{SB}	0,014	kW
Crankcase heater mode	P _{CK}	0	kW
Other items			
Capacity control of heat pump	fisso/variabile	Variable 0	
For air-to-water HP: Rated air flow rate	Q _{airsource}	2770	m ³ /h
Sound power level, indoors	L _{WA}	-	dB(A)
Sound power level, outdoors	L _{WA}	-	dB(A)
Contact details	Ferrolis.p.a. via Ritonda 78A - S.Bonifacio (VR) - Italy		

Item	Symbol	Value	Unit
Seasonal space heating energy efficiency	η _s	165	%
Emissions of nitrogen oxides	NO _x	-	mg/kWh
Declared coefficient of performance for heating			
T _j = - 7 °C	COP _d	-	-
T _j = + 2 °C	COP _d	2,48	-
T _j = + 7 °C	COP _d	3,67	-
T _j = +12°C	COP _d	5,24	-
T _j = T _{HP,off}	COP _d	2,48	-
T _j = T _{fb,off}	COP _d	2,48	-
For air-to-water HP : Operation limit temperature (maximum -7°C)	COP _d	-	-
Switch temperature boiler off	T _{fb,off}	2	°C

Boiler			
Item	Symbol	Value	Unit
Useful heat output at rated heat output and high temperature regime (3)	P ₄	24,0	kW
Useful heat output at 30% of rated heat output and high temperature regime (3)	P ₁	8,1	kW
Useful efficiency at rated heat output and high temperature regime (3)	η ₄	88,30	%
Useful efficiency at 30% of rated heat output and high temperature regime (3)	η ₁	98,80	%
Power input of electrical auxiliaries at full load	elmax	0,028	kW
Power input of electrical auxiliaries at part load	elmin	0,011	kW
Power input of electrical auxiliaries in stand-by mode	P _{SB}	0,004	kW
Stand-by losses	P _{stby}	0,042	kW
Power input of ignition burner fossil fuel	P _{ign}	0,000	kW

(3) For heat pumps and heat pump combination heaters, the nominal heat output (Prated) is equal to the design load for heating (Pdesignh), and the nominal heat output of the boiler (Psup) is equal to the additional capacity for heating (sup (Tj)).

(4) If Cdh is not determined by measurements the default value of Cdh is = 0.9

FOGLIO DATI TECNICI ERP PER RISCALDAMENTO AMBIENTE / ERP TECHNICAL DATA SHEET FOR SPACE HEATING

IDOLA S 3.2 HYBRID 28C 8 - Modo riscaldamento - Clima medio - Bassa temperatura (35°C) / Heating mode - Average climate - Low temperature (35°C)

Technical data sheet for hybrid heat pump

Model(s):		IDOLA S 3.2 HYBRID 28C 8							
Heat source (air, water, brine, direct expansion)								air	
Heat sink (water, brine)								water	
Tipo di combustibile fossile (liquido / gas)								gas	
Low temperature heat pump:								no	
Heat pump combination heater:								no	
Parameters are declared for low-temperature application (35°C).									
Parameters are declared for average climate conditions.									
Item	Symbol	Value	Unit	Item	Symbol	Value	Unit		
Rated heat output ⁽³⁾ at Tdesignh = -10 (-11) °C	Prated = Pdesignh	8,12	kW	Seasonal space heating energy efficiency	η_s	200	%		
Consumo di energia annuale	Q_{HE}	3307	kWh	Emissions of nitrogen oxides	NO_x	-	mg/kWh		
Declared capacity for heating				Declared coefficient of performance for heating					
$T_i = -7\text{ °C}$	Pdh	7,19	kW	$T_j = -7\text{ °C}$	COPd	3,35	-		
$T_i = +2\text{ °C}$	Pdh	4,65	kW	$T_j = +2\text{ °C}$	COPd	5,09	-		
$T_i = +7\text{ °C}$	Pdh	2,90	kW	$T_j = +7\text{ °C}$	COPd	6,81	-		
$T_i = +12\text{ °C}$	Pdh	1,63	kW	$T_j = +12\text{ °C}$	COPd	8,10	-		
$T_j = T_{HP,off}$	Pdh	6,62	kW	$T_j = T_{HP,off}$	COPd	3,73	-		
$T_j = T_{fb,off}$	Pdh	6,62	kW	$T_j = T_{fb,off}$	COPd	3,73	-		
For air-to-water heat pumps: $T_i = -15\text{ °C}$ (if TOL < -20 °C)	Pdh	-	kW	For air-to-water HP : Operation limit temperature (maximum -7°C)	COPd	-	-		
Switch temperature heat pump off	$T_{hp,off}$	-7	°C	Switch temperature boiler off	$T_{fb,off}$	-7	°C		
Degradation coefficient ⁽⁴⁾	Cdh	0,9	—						
Heat pump: power input in modes other than active				Boiler					
Off mode	P_{OFF}	0,014	kW	Useful heat output at rated heat output and high temperature regime (3)	P_4	24,0	kW		
Thermostat-off mode	P_{TO}	0,024	kW	Useful heat output at 30% of rated heat output and high temperature regime (3)	P_1	8,1	kW		
Standby mode	P_{SB}	0,014	kW	Useful efficiency at rated heat output and high temperature regime (3)	η_4	88,30	%		
Crankcase heater mode	P_{CK}	0	kW	Useful efficiency at 30% of rated heat output and high temperature regime (3)	η_1	98,80	%		
Other items				Power input of electrical auxiliaries at full load	elmax	0,028	kW		
Capacity control of heat pump	fisso/variabile	Variable		Power input of electrical auxiliaries at part load	elmin	0,011	kW		
For air-to-water HP: Rated air flow rate	$Q_{airsource}$	4030	m ³ /h	Power input of electrical auxiliaries in stand-by mode	P_{SB}	0,004	kW		
Sound power level, indoors	L_{WA}	39	dB(A)	Stand-by losses	P_{stby}	0,042	kW		
Sound power level, outdoors	L_{WA}	59	dB(A)	Power input of ignition burner fossil fuel	P_{ign}	0,000	kW		
Contact details	Ferrolis.p.a. via Ritonda 78A - S.Bonifacio (VR) - Italy								

(3) For heat pumps and heat pump combination heaters, the nominal heat output (Prated) is equal to the design load for heating (Pdesignh), and the nominal heat output of the boiler (Psup) is equal to the additional capacity for heating (sup (Tj)).

(4) If Cdh is not determined by measurements the default value of Cdh is = 0.9

FOGLIO DATI TECNICI ERP PER RISCALDAMENTO AMBIENTE / ERP TECHNICAL DATA SHEET FOR SPACE HEATING

IDOLA S 3.2 HYBRID 28C 8 - Modo riscaldamento - Clima più freddo - Bassa temperatura (35°C) / Heating mode - Colder climate - Low temperature (35°C)

Technical data sheet for hybrid heat pump

Model(s):	IDOLA S 3.2 HYBRID 28C 8		
Heat source (air, water, brine, direct expansion)	air		
Heat sink (water, brine)	water		
Tipo di combustibile fossile (liquido / gas)	gas		
Low temperature heat pump:	no		
Heat pump combination heater:	no		
Parameters are declared for low-temperature application (35°C).			
Parameters are declared for colder climate conditions.			
Item	Symbol	Value	Unit
Rated heat output ⁽³⁾ at T _{designh} = -10 (-11) °C	Prated = P _{designh}	6,98	kW
Consumo di energia annuale	Q _{HE}	4080	kWh
Declared capacity for heating			
T _i = - 7 °C	P _{dh}	4,46	kW
T _i = + 2 °C	P _{dh}	2,70	kW
T _i = + 7 °C	P _{dh}	1,66	kW
T _i = +12°C	P _{dh}	1,66	kW
T _j = T _{HP,off}	P _{dh}	4,07	kW
T _j = T _{fb,off}	P _{dh}	4,07	kW
For air-to-water heat pumps: T _i = - 15 °C (if TOL < - 20 °C)	P _{dh}	5,691	kW
Switch temperature heat pump off	T _{hp,off}	-15	°C
Degradation coefficient ⁽⁴⁾	C _{dh}	0,9	—
Heat pump: power input in modes other than active			
Off mode	P _{OFF}	0,014	kW
Thermostat-off mode	P _{TO}	0,024	kW
Standby mode	P _{SB}	0,014	kW
Crankcase heater mode	P _{CK}	0	kW
Other items			
Capacity control of heat pump	fisso/variabile	Variable	
For air-to-water HP: Rated air flow rate	Q _{airsource}	4030	m ³ /h
Sound power level, indoors	L _{WA}	-	dB(A)
Sound power level, outdoors	L _{WA}	-	dB(A)
Contact details	Ferrolis.p.a. via Ritonda 78A - S.Bonifacio (VR) - Italy		

Item	Symbol	Value	Unit
Seasonal space heating energy efficiency	η _s	166	%
Emissions of nitrogen oxides	NO _x	-	mg/kWh
Declared coefficient of performance for heating			
T _j = - 7 °C	COP _d	3,66	-
T _j = + 2 °C	COP _d	5,21	-
T _j = + 7 °C	COP _d	6,54	-
T _j = +12°C	COP _d	7,07	-
T _j = T _{HP,off}	COP _d	4,00	-
T _j = T _{fb,off}	COP _d	4,00	-
For air-to-water HP : Operation limit temperature (maximum -7°C)	COP _d	-	-
Switch temperature boiler off	T _{fb,off}	-15	°C

Boiler			
Useful heat output at rated heat output and high temperature regime (3)	P ₄	24,0	kW
Useful heat output at 30% of rated heat output and high temperature regime (3)	P ₁	8,1	kW
Useful efficiency at rated heat output and high temperature regime (3)	η ₄	88,30	%
Useful efficiency at 30% of rated heat output and high temperature regime (3)	η ₁	98,80	%
Power input of electrical auxiliaries at full load	el _{max}	0,028	kW
Power input of electrical auxiliaries at part load	el _{min}	0,011	kW
Power input of electrical auxiliaries in stand-by mode	P _{SB}	0,004	kW
Stand-by losses	P _{stby}	0,042	kW
Power input of ignition burner fossil fuel	P _{ign}	0,000	kW

(3) For heat pumps and heat pump combination heaters, the nominal heat output (Prated) is equal to the design load for heating (Pdesignh), and the nominal heat output of the boiler (Psup) is equal to the additional capacity for heating (sup (Tj)).

(4) If Cdh is not determined by measurements the default value of Cdh is = 0.9

FOGLIO DATI TECNICI ERP PER RISCALDAMENTO AMBIENTE / ERP TECHNICAL DATA SHEET FOR SPACE HEATING

IDOLA S 3.2 HYBRID 28C 8 - Modo riscaldamento - Clima più caldo - Bassa temperatura (35°C) / Heating mode - Warmer climate - Low temperature (35°C)

Technical data sheet for hybrid heat pump

Model(s):				IDOLA S 3.2 HYBRID 28C 8			
Heat source (air, water, brine, direct expansion)							air
Heat sink (water, brine)							water
Tipo di combustibile fossile (liquido / gas)							gas
Low temperature heat pump:							no
Heat pump combination heater:							no
Parameters are declared for low-temperature application (35°C).							
Parameters are declared for warmer climate conditions.							
Item	Symbol	Value	Unit	Item	Symbol	Value	Unit
Rated heat output ⁽³⁾ at Tdesignh = -10 (-11) °C	Prated = Pdesignh	7,57	kW	Seasonal space heating energy efficiency	η_s	281	%
Consumo di energia annuale	Q_{HE}	1423	kWh	Emissions of nitrogen oxides	NO_x	-	mg/kWh
Declared capacity for heating				Declared coefficient of performance for heating			
$T_i = -7\text{ °C}$	P_{dh}	-	kW	$T_j = -7\text{ °C}$	COPd	-	-
$T_i = +2\text{ °C}$	P_{dh}	7,57	kW	$T_j = +2\text{ °C}$	COPd	3,98	-
$T_i = +7\text{ °C}$	P_{dh}	5,22	kW	$T_j = +7\text{ °C}$	COPd	6,26	-
$T_i = +12\text{ °C}$	P_{dh}	2,45	kW	$T_j = +12\text{ °C}$	COPd	8,91	-
$T_j = T_{HP,off}$	P_{dh}	7,57	kW	$T_j = T_{HP,off}$	COPd	3,98	-
$T_j = T_{fb,off}$	P_{dh}	7,57	kW	$T_j = T_{fb,off}$	COPd	3,98	-
For air-to-water heat pumps: $T_i = -15\text{ °C}$ (if TOL < -20 °C)	P_{dh}	-	kW	For air-to-water HP : Operation limit temperature (maximum -7°C)	COPd	-	-
Switch temperature heat pump off	$T_{hp,off}$	2	°C	Switch temperature boiler off	$T_{fb,off}$	2	°C
Degradation coefficient ⁽⁴⁾	C_{dh}	0,9	—				
Heat pump: power input in modes other than active				Boiler			
Off mode	P_{OFF}	0,014	kW	Useful heat output at rated heat output and high temperature regime (3)	P_4	24,0	kW
Thermostat-off mode	P_{TO}	0,024	kW	Useful heat output at 30% of rated heat output and high temperature regime (3)	P_1	8,1	kW
Standby mode	P_{SB}	0,014	kW	Useful efficiency at rated heat output and high temperature regime (3)	η_4	88,30	%
Crankcase heater mode	P_{CK}	0	kW	Useful efficiency at 30% of rated heat output and high temperature regime (3)	η_1	98,80	%
Other items				Power input of electrical auxiliaries at full load	elmax	0,028	kW
Capacity control of heat pump	fisso/variabile	Variable		Power input of electrical auxiliaries at part load	elmin	0,011	kW
For air-to-water HP: Rated air flow rate	$Q_{airsource}$	4030	m ³ /h	Power input of electrical auxiliaries in stand-by mode	P_{SB}	0,004	kW
Sound power level, indoors	L_{WA}	-	dB(A)	Stand-by losses	P_{stby}	0,042	kW
Sound power level, outdoors	L_{WA}	-	dB(A)	Power input of ignition burner fossil fuel	P_{ign}	0,000	kW
Contact details	Ferrolis.p.a. via Ritonda 78A - S.Bonifacio (VR) - Italy						

(3) For heat pumps and heat pump combination heaters, the nominal heat output (Prated) is equal to the design load for heating (Pdesignh), and the nominal heat output of the boiler (Psup) is equal to the additional capacity for heating (sup (Tj)).

(4) If Cdh is not determined by measurements the default value of Cdh is = 0.9

FOGLIO DATI TECNICI ERP PER RISCALDAMENTO AMBIENTE / ERP TECHNICAL DATA SHEET FOR SPACE HEATING

IDOLA S 3.2 HYBRID 28C 8 - Modo riscaldamento - Clima medio - Media temperatura (55°C) / Heating mode - Average climate - Medium temperature (55°C)

Technical data sheet for hybrid heat pump

Model(s):		IDOLA S 3.2 HYBRID 28C 8					
Heat source (air, water, brine, direct expansion)				air			
Heat sink (water, brine)				water			
Tipo di combustibile fossile (liquido / gas)				gas			
Low temperature heat pump:				no			
Heat pump combination heater:				no			
Parameters are declared for medium-temperature application (55°C).							
Parameters are declared for average climate conditions.							
Item	Symbol	Value	Unit	Item	Symbol	Value	Unit
Rated heat output ⁽³⁾ at T _{designh} = -10 (-11) °C	Prated = P _{designh}	6,60	kW	Seasonal space heating energy efficiency	η _s	131	%
Consumo di energia annuale	Q _{HE}	4085	kWh	Emissions of nitrogen oxides	NO _x	-	mg/kWh
Declared capacity for heating				Declared coefficient of performance for heating			
T _i = - 7 °C	P _{dh}	5,84	kW	T _j = - 7 °C	COP _d	2,16	-
T _i = + 2 °C	P _{dh}	3,76	kW	T _j = + 2 °C	COP _d	3,30	-
T _i = + 7 °C	P _{dh}	2,43	kW	T _j = + 7 °C	COP _d	4,34	-
T _i = +12°C	P _{dh}	1,40	kW	T _j = +12°C	COP _d	5,14	-
T _j = T _{HP,off}	P _{dh}	5,38	kW	T _j = T _{HP,off}	COP _d	2,41	-
T _j = T _{fb,off}	P _{dh}	5,38	kW	T _j = T _{fb,off}	COP _d	2,41	-
For air-to-water heat pumps: T _i = - 15 °C (if TOL < - 20 °C)	P _{dh}	-	kW	For air-to-water HP : Operation limit temperature (maximum -7°C)	COP _d	-	-
Switch temperature heat pump off	T _{hp,off}	-7	°C	Switch temperature boiler off	T _{fb,off}	-7	°C
Degradation coefficient ⁽⁴⁾	C _{dh}	0,9	—				
Heat pump: power input in modes other than active				Boiler			
Off mode	P _{OFF}	0,014	kW	Useful heat output at rated heat output and high temperature regime (3)	P ₄	24,0	kW
Thermostat-off mode	P _{TO}	0,024	kW	Useful heat output at 30% of rated heat output and high tempera- ture regime (3)	P ₁	8,1	kW
Standby mode	P _{SB}	0,014	kW	Useful efficiency at rated heat output and high temperature regime (3)	η ₄	88,30	%
Crankcase heater mode	P _{CK}	0	kW	Useful efficiency at 30% of rated heat output and high tempera- ture regime (3)	η ₁	98,80	%
Other items				Power input of electrical auxiliaries at full load	el _{max}	0,028	kW
Capacity control of heat pump	fisso/varia- bile	Variable		Power input of electrical auxiliaries at part load	el _{min}	0,011	kW
For air-to-water HP: Rated air flow rate	Q _{airsource}	4030	m ³ /h	Power input of electrical auxiliaries in stand-by mode	P _{SB}	0,004	kW
Sound power level, indoors	L _{WA}	39	dB(A)	Stand-by losses	P _{stby}	0,042	kW
Sound power level, outdoors	L _{WA}	59	dB(A)	Power input of ignition burner fossil fuel	P _{ign}	0,000	kW
Contact details	Ferrolis.p.a. via Ritonda 78A - S.Bonifacio (VR) - Italy						

(3) For heat pumps and heat pump combination heaters, the nominal heat output (Prated) is equal to the design load for heating (Pdesignh), and the nominal heat output of the boiler (Psup) is equal to the additional capacity for heating (sup (Tj)).

(4) If Cdh is not determined by measurements the default value of Cdh is = 0.9

FOGLIO DATI TECNICI ERP PER RISCALDAMENTO AMBIENTE / ERP TECHNICAL DATA SHEET FOR SPACE HEATING

IDOLA S 3.2 HYBRID 28C 8 - Modo riscaldamento - Clima più freddo - Media temperatura (55°C) / Heating mode - Colder climate - Medium temperature (55°C)

Technical data sheet for hybrid heat pump

Model(s):				IDOLA S 3.2 HYBRID 28C 8			
Heat source (air, water, brine, direct expansion)							air
Heat sink (water, brine)							water
Tipo di combustibile fossile (liquido / gas)							gas
Low temperature heat pump:							no
Heat pump combination heater:							no
Parameters are declared for medium-temperature application (55°C).							
Parameters are declared for colder climate conditions.							
Item	Symbol	Value	Unit	Item	Symbol	Value	Unit
Rated heat output ⁽³⁾ at T _{designh} = -10 (-11) °C	Prated = P _{designh}	5,78	kW	Seasonal space heating energy efficiency	η_s	113	%
Consumo di energia annuale	Q _{HE}	4911	kWh	Emissions of nitrogen oxides	NO _x	-	mg/kWh
Declared capacity for heating				Declared coefficient of performance for heating			
T _i = - 7 °C	P _{dh}	3,86	kW	T _j = - 7 °C	COP _d	2,45	-
T _i = + 2 °C	P _{dh}	2,21	kW	T _j = + 2 °C	COP _d	3,35	-
T _i = + 7 °C	P _{dh}	1,44	kW	T _j = + 7 °C	COP _d	4,11	-
T _i = +12°C	P _{dh}	1,47	kW	T _j = +12°C	COP _d	5,19	-
T _j = T _{HP,off}	P _{dh}	3,50	kW	T _j = T _{HP,off}	COP _d	2,65	-
T _j = T _{fb,off}	P _{dh}	3,50	kW	T _j = T _{fb,off}	COP _d	2,65	-
For air-to-water heat pumps: T _i = - 15 °C (if TOL < - 20 °C)	P _{dh}	4,713	kW	For air-to-water HP : Operation limit temperature (maximum -7°C)	COP _d	-	-
Switch temperature heat pump off	T _{hp,off}	-15	°C	Switch temperature boiler off	T _{fb,off}	-15	°C
Degradation coefficient ⁽⁴⁾	C _{dh}	0,90	-				
Heat pump: power input in modes other than active				Boiler			
Off mode	P _{OFF}	0,014	kW	Useful heat output at rated heat output and high temperature regime (3)	P ₄	24,0	kW
Thermostat-off mode	P _{TO}	0,024	kW	Useful heat output at 30% of rated heat output and high tempera- ture regime (3)	P ₁	8,1	kW
Standby mode	P _{SB}	0,014	kW	Useful efficiency at rated heat output and high temperature regime (3)	η_4	88,30	%
Crankcase heater mode	P _{CK}	0	kW	Useful efficiency at 30% of rated heat output and high tempera- ture regime (3)	η_1	98,80	%
Other items				Power input of electrical auxiliaries at full load	elmax	0,028	kW
Capacity control of heat pump	fisso/varia- bile	Variable		Power input of electrical auxiliaries at part load	elmin	0,011	kW
For air-to-water HP: Rated air flow rate	Q _{airsource}	4030	m ³ /h	Power input of electrical auxiliaries in stand-by mode	P _{SB}	0,004	kW
Sound power level, indoors	L _{WA}	-	dB(A)	Stand-by losses	P _{stby}	0,042	kW
Sound power level, outdoors	L _{WA}	-	dB(A)	Power input of ignition burner fossil fuel	P _{ign}	0,000	kW
Contact details	Ferrolis.p.a. via Ritonda 78A - S.Bonifacio (VR) - Italy						

(3) For heat pumps and heat pump combination heaters, the nominal heat output (Prated) is equal to the design load for heating (Pdesignh), and the nominal heat output of the boiler (Psup) is equal to the additional capacity for heating (sup (Tj)).

(4) If Cdh is not determined by measurements the default value of Cdh is = 0.9

FOGLIO DATI TECNICI ERP PER RISCALDAMENTO AMBIENTE / ERP TECHNICAL DATA SHEET FOR SPACE HEATING

IDOLA S 3.2 HYBRID 28C 8 - Modo riscaldamento - Clima più caldo - Media temperatura (55°C) / Heating mode - Warmer climate - Medium temperature (55°C)

Technical data sheet for hybrid heat pump

Model(s):		IDOLA S 3.2 HYBRID 28C 8					
Heat source (air, water, brine, direct expansion)				air			
Heat sink (water, brine)				water			
Tipo di combustibile fossile (liquido / gas)				gas			
Low temperature heat pump:				no			
Heat pump combination heater:				no			
Parameters are declared for medium-temperature application (55°C).							
Parameters are declared for warmer climate conditions.							
Item	Symbol	Value	Unit				
Rated heat output ⁽³⁾ at T _{designh} = -10 (-11) °C	Prated = P _{designh}	7,55	kW	Seasonal space heating energy efficiency			
Consumo di energia annuale	Q _{HE}	2254	kWh	Emissions of nitrogen oxides			
Declared capacity for heating				Declared coefficient of performance for heating			
T _i = - 7 °C	P _{dh}	-	kW	T _j = - 7 °C	COP _d	-	-
T _i = + 2 °C	P _{dh}	7,55	kW	T _j = + 2 °C	COP _d	2,59	-
T _i = + 7 °C	P _{dh}	4,86	kW	T _j = + 7 °C	COP _d	3,92	-
T _i = +12°C	P _{dh}	2,32	kW	T _j = +12°C	COP _d	5,55	-
T _j = T _{HP,off}	P _{dh}	7,55	kW	T _j = T _{HP,off}	COP _d	2,59	-
T _j = T _{fb,off}	P _{dh}	7,55	kW	T _j = T _{fb,off}	COP _d	2,59	-
For air-to-water heat pumps: T _i = - 15 °C (if TOL < - 20 °C)	P _{dh}	-	kW	For air-to-water HP : Operation limit temperature (maximum -7°C)	COP _d	-	-
Switch temperature heat pump off	T _{hp,off}	2	°C	Switch temperature boiler off	T _{fb,off}	2	°C
Degradation coefficient ⁽⁴⁾	C _{dh}	0,90	—				
Heat pump: power input in modes other than active				Boiler			
Off mode	P _{OFF}	0,014	kW	Useful heat output at rated heat output and high temperature regime (3)	P ₄	24,0	kW
Thermostat-off mode	P _{TO}	0,024	kW	Useful heat output at 30% of rated heat output and high tempera- ture regime (3)	P ₁	8,1	kW
Standby mode	P _{SB}	0,014	kW	Useful efficiency at rated heat output and high temperature regime (3)	η ₄	88,30	%
Crankcase heater mode	P _{CK}	0	kW	Useful efficiency at 30% of rated heat output and high tempera- ture regime (3)	η ₁	98,80	%
Other items				Power input of electrical auxiliaries at full load	el _{max}	0,028	kW
Capacity control of heat pump	fisso/varia- bile	Variable		Power input of electrical auxiliaries at part load	el _{min}	0,011	kW
For air-to-water HP: Rated air flow rate	Q _{airsource}	4030	m ³ /h	Power input of electrical auxiliaries in stand-by mode	P _{SB}	0,004	kW
Sound power level, indoors	L _{WA}	-	dB(A)	Stand-by losses	P _{stby}	0,042	kW
Sound power level, outdoors	L _{WA}	-	dB(A)	Power input of ignition burner fossil fuel	P _{ign}	0,000	kW
Contact details	Ferrol s.p.a. via Ritonda 78A - S.Bonifacio (VR) - Italy						

(3) For heat pumps and heat pump combination heaters, the nominal heat output (Prated) is equal to the design load for heating (Pdesignh), and the nominal heat output of the boiler (Psup) is equal to the additional capacity for heating (sup (Tj)).

(4) If Cdh is not determined by measurements the default value of Cdh is = 0.9

FOGLIO DATI TECNICI ERP PER RISCALDAMENTO AMBIENTE / ERP TECHNICAL DATA SHEET FOR SPACE HEATING

IDOLA S 3.2 HYBRID 28C 10 - Modo riscaldamento - Clima medio - Bassa temperatura (35°C) / Heating mode - Average climate - Low temperature (35°C)

Technical data sheet for hybrid heat pump

Model(s):		IDOLA S 3.2 HYBRID 28C 10							
Heat source (air, water, brine, direct expansion)								air	
Heat sink (water, brine)								water	
Tipo di combustibile fossile (liquido / gas)								gas	
Low temperature heat pump:								no	
Heat pump combination heater:								no	
Parameters are declared for low-temperature application (35°C).									
Parameters are declared for average climate conditions.									
Item	Symbol	Value	Unit	Item	Symbol	Value	Unit		
Rated heat output ⁽³⁾ at Tdesignh = -10 (-11) °C	Prated = Pdesignh	9,17	kW	Seasonal space heating energy efficiency	η_s	201	%		
Consumo di energia annuale	Q _{HE}	3708	kWh	Emissions of nitrogen oxides	NO _x	-	mg/kWh		
Declared capacity for heating				Declared coefficient of performance for heating					
T _i = - 7 °C	P _{dh}	8,11	kW	T _j = - 7 °C	COP _d	3,23	-		
T _i = + 2 °C	P _{dh}	5,18	kW	T _j = + 2 °C	COP _d	5,09	-		
T _i = + 7 °C	P _{dh}	3,32	kW	T _j = + 7 °C	COP _d	7,08	-		
T _i = +12°C	P _{dh}	1,65	kW	T _j = +12°C	COP _d	8,41	-		
T _j = T _{HP,off}	P _{dh}	7,46	kW	T _j = T _{HP,off}	COP _d	3,64	-		
T _j = T _{fb,off}	P _{dh}	7,46	kW	T _j = T _{fb,off}	COP _d	3,64	-		
For air-to-water heat pumps: T _i = - 15 °C (if TOL < - 20 °C)	P _{dh}	-	kW	For air-to-water HP : Operation limit temperature (maximum -7°C)	COP _d	-	-		
Switch temperature heat pump off	T _{hp,off}	-7	°C	Switch temperature boiler off	T _{fb,off}	-7	°C		
Degradation coefficient ⁽⁴⁾	C _{dh}	0,9	—						
Heat pump: power input in modes other than active				Boiler					
Off mode	P _{OFF}	0,014	kW	Useful heat output at rated heat output and high temperature regime (3)	P ₄	24,0	kW		
Thermostat-off mode	P _{TO}	0,024	kW	Useful heat output at 30% of rated heat output and high temperature regime (3)	P ₁	8,1	kW		
Standby mode	P _{SB}	0,014	kW	Useful efficiency at rated heat output and high temperature regime (3)	η_4	88,30	%		
Crankcase heater mode	P _{CK}	0	kW	Useful efficiency at 30% of rated heat output and high temperature regime (3)	η_1	98,80	%		
Other items				Power input of electrical auxiliaries at full load	elmax	0,028	kW		
Capacity control of heat pump	fisso/variabile	Variable 0		Power input of electrical auxiliaries at part load	elmin	0,011	kW		
For air-to-water HP: Rated air flow rate	Q _{airsource}	4030	m ³ /h	Power input of electrical auxiliaries in stand-by mode	P _{SB}	0,004	kW		
Sound power level, indoors	L _{WA}	39	dB(A)	Stand-by losses	P _{stby}	0,042	kW		
Sound power level, outdoors	L _{WA}	60	dB(A)	Power input of ignition burner fossil fuel	P _{ign}	0,000	kW		
Contact details	Ferrolis.p.a. via Ritonda 78A - S.Bonifacio (VR) - Italy								

(3) For heat pumps and heat pump combination heaters, the nominal heat output (Prated) is equal to the design load for heating (Pdesignh), and the nominal heat output of the boiler (Psup) is equal to the additional capacity for heating (sup (Tj)).

(4) If Cdh is not determined by measurements the default value of Cdh is = 0.9

FOGLIO DATI TECNICI ERP PER RISCALDAMENTO AMBIENTE / ERP TECHNICAL DATA SHEET FOR SPACE HEATING

IDOLA S 3.2 HYBRID 28C 10 - Modo riscaldamento - Clima più freddo - Bassa temperatura (35°C) / Heating mode - Colder climate - Low temperature (35°C)

Technical data sheet for hybrid heat pump

Model(s):				IDOLA S 3.2 HYBRID 28C 10			
Heat source (air, water, brine, direct expansion)							air
Heat sink (water, brine)							water
Tipo di combustibile fossile (liquido / gas)							gas
Low temperature heat pump:							no
Heat pump combination heater:							no
Parameters are declared for low-temperature application (35°C).							
Parameters are declared for colder climate conditions.							
Item	Symbol	Value	Unit	Item	Symbol	Value	Unit
Rated heat output ⁽³⁾ at T _{designh} = -10 (-11) °C	Prated = P _{designh}	7,75	kW	Seasonal space heating energy efficiency	η_s	166	%
Consumo di energia annuale	Q _{HE}	4533	kWh	Emissions of nitrogen oxides	NO _x	-	mg/kWh
Declared capacity for heating				Declared coefficient of performance for heating			
T _i = - 7 °C	P _{dh}	4,83	kW	T _j = - 7 °C	COP _d	3,60	-
T _i = + 2 °C	P _{dh}	2,94	kW	T _j = + 2 °C	COP _d	5,26	-
T _i = + 7 °C	P _{dh}	1,92	kW	T _j = + 7 °C	COP _d	7,08	-
T _i = +12°C	P _{dh}	1,66	kW	T _j = +12°C	COP _d	7,22	-
T _j = T _{HP,off}	P _{dh}	4,41	kW	T _j = T _{HP,off}	COP _d	3,97	-
T _j = T _{fb,off}	P _{dh}	4,41	kW	T _j = T _{fb,off}	COP _d	3,97	-
For air-to-water heat pumps: T _i = - 15 °C (if TOL < - 20 °C)	P _{dh}	6,324	kW	For air-to-water HP : Operation limit temperature (maximum -7°C)	COP _d	-	-
Switch temperature heat pump off	T _{hp,off}	-15	°C	Switch temperature boiler off	T _{fb,off}	-15	°C
Degradation coefficient ⁽⁴⁾	C _{dh}	0,9	—				
Heat pump: power input in modes other than active				Boiler			
Off mode	P _{OFF}	0,014	kW	Useful heat output at rated heat output and high temperature regime (3)	P ₄	24,0	kW
Thermostat-off mode	P _{TO}	0,024	kW	Useful heat output at 30% of rated heat output and high tempera- ture regime (3)	P ₁	8,1	kW
Standby mode	P _{SB}	0,014	kW	Useful efficiency at rated heat output and high temperature regime (3)	η_4	88,30	%
Crankcase heater mode	P _{CK}	0	kW	Useful efficiency at 30% of rated heat output and high tempera- ture regime (3)	η_1	98,80	%
Other items				Power input of electrical auxiliaries at full load	el _{max}	0,028	kW
Capacity control of heat pump	fisso/varia- bile	Variable 0		Power input of electrical auxiliaries at part load	el _{min}	0,011	kW
For air-to-water HP: Rated air flow rate	Q _{airsource}	4030	m ³ /h	Power input of electrical auxiliaries in stand-by mode	P _{SB}	0,004	kW
Sound power level, indoors	L _{WA}	-	dB(A)	Stand-by losses	P _{stby}	0,042	kW
Sound power level, outdoors	L _{WA}	-	dB(A)	Power input of ignition burner fossil fuel	P _{ign}	0,000	kW
Contact details	Ferrolis.p.a. via Ritonda 78A - S.Bonifacio (VR) - Italy						

(3) For heat pumps and heat pump combination heaters, the nominal heat output (Prated) is equal to the design load for heating (Pdesignh), and the nominal heat output of the boiler (Psup) is equal to the additional capacity for heating (sup (Tj)).

(4) If Cdh is not determined by measurements the default value of Cdh is = 0.9

FOGLIO DATI TECNICI ERP PER RISCALDAMENTO AMBIENTE / ERP TECHNICAL DATA SHEET FOR SPACE HEATING
IDOLA S 3.2 HYBRID 28C 10 - Modo riscaldamento - Clima più caldo - Bassa temperatura (35°C) / Heating mode - Warmer climate - Low temperature (35°C)
Technical data sheet for hybrid heat pump

Model(s):	IDOLA S 3.2 HYBRID 28C 10		
Heat source (air, water, brine, direct expansion)	air		
Heat sink (water, brine)	water		
Tipo di combustibile fossile (liquido / gas)	gas		
Low temperature heat pump:	no		
Heat pump combination heater:	no		
Parameters are declared for low-temperature application (35°C).			
Parameters are declared for warmer climate conditions.			
Item	Symbol	Value	Unit
Rated heat output ⁽³⁾ at T _{designh} = -10 (-11) °C	Prated = Pdesignh	8,44	kW
Consumo di energia annuale	Q _{HE}	1588	kWh
Declared capacity for heating			
T _i = - 7 °C	P _{dh}	-	kW
T _i = + 2 °C	P _{dh}	8,44	kW
T _i = + 7 °C	P _{dh}	5,52	kW
T _i = +12°C	P _{dh}	2,62	kW
T _j = T _{HP,off}	P _{dh}	8,44	kW
T _j = T _{fb,off}	P _{dh}	8,44	kW
For air-to-water heat pumps: T _i = - 15 °C (if TOL < - 20 °C)	P _{dh}	-	kW
Switch temperature heat pump off	T _{hp,off}	2	°C
Degradation coefficient ⁽⁴⁾	C _{dh}	0,9	—
Heat pump: power input in modes other than active			
Off mode	P _{OFF}	0,014	kW
Thermostat-off mode	P _{TO}	0,024	kW
Standby mode	P _{SB}	0,014	kW
Crankcase heater mode	P _{CK}	0	kW
Other items			
Capacity control of heat pump	fisso/variabile	Variable 0	
For air-to-water HP: Rated air flow rate	Q _{airsource}	4030	m ³ /h
Sound power level, indoors	L _{WA}	-	dB(A)
Sound power level, outdoors	L _{WA}	-	dB(A)
Contact details	Ferrolis s.p.a. via Ritonda 78A - S.Bonifacio (VR) - Italy		

Item	Symbol	Value	Unit
Seasonal space heating energy efficiency	η _s	281	%
Emissions of nitrogen oxides	NO _x	-	mg/kWh
Declared coefficient of performance for heating			
T _j = - 7 °C	COP _d	-	-
T _j = + 2 °C	COP _d	3,84	-
T _j = + 7 °C	COP _d	6,18	-
T _j = +12°C	COP _d	9,04	-
T _j = T _{HP,off}	COP _d	3,84	-
T _j = T _{fb,off}	COP _d	3,84	-
For air-to-water HP : Operation limit temperature (maximum -7°C)	COP _d	-	-
Switch temperature boiler off	T _{fb,off}	2	°C

Boiler			
Useful heat output at rated heat output and high temperature regime (3)	P ₄	24,0	kW
Useful heat output at 30% of rated heat output and high temperature regime (3)	P ₁	8,1	kW
Useful efficiency at rated heat output and high temperature regime (3)	η ₄	88,30	%
Useful efficiency at 30% of rated heat output and high temperature regime (3)	η ₁	98,80	%
Power input of electrical auxiliaries at full load	elmax	0,028	kW
Power input of electrical auxiliaries at part load	elmin	0,011	kW
Power input of electrical auxiliaries in stand-by mode	P _{SB}	0,004	kW
Stand-by losses	P _{stby}	0,042	kW
Power input of ignition burner fossil fuel	P _{ign}	0,000	kW

(3) For heat pumps and heat pump combination heaters, the nominal heat output (Prated) is equal to the design load for heating (Pdesignh), and the nominal heat output of the boiler (Psup) is equal to the additional capacity for heating (sup (Tj)).

(4) If Cdh is not determined by measurements the default value of Cdh is = 0.9

FOGLIO DATI TECNICI ERP PER RISCALDAMENTO AMBIENTE / ERP TECHNICAL DATA SHEET FOR SPACE HEATING

IDOLA S 3.2 HYBRID 28C 10 - Modo riscaldamento - Clima medio - Media temperatura (55°C) / Heating mode - Average climate - Medium temperature (55°C)

Technical data sheet for hybrid heat pump

Model(s):	IDOLA S 3.2 HYBRID 28C 10		
Heat source (air, water, brine, direct expansion)	air		
Heat sink (water, brine)	water		
Tipo di combustibile fossile (liquido / gas)	gas		
Low temperature heat pump:	no		
Heat pump combination heater:	no		
Parameters are declared for medium-temperature application (55°C).			
Parameters are declared for average climate conditions.			
Item	Symbol	Value	Unit
Rated heat output ⁽³⁾ at T _{designh} = -10 (-11) °C	Prated = P _{designh}	7,67	kW
Consumo di energia annuale	Q _{HE}	4571	kWh
Declared capacity for heating			
T _i = - 7 °C	P _{dh}	6,78	kW
T _i = + 2 °C	P _{dh}	4,29	kW
T _i = + 7 °C	P _{dh}	2,77	kW
T _i = +12°C	P _{dh}	1,58	kW
T _j = T _{HP,off}	P _{dh}	6,23	kW
T _j = T _{fb,off}	P _{dh}	6,23	kW
For air-to-water heat pumps: T _i = - 15 °C (if TOL < - 20 °C)	P _{dh}	-	kW
Switch temperature heat pump off	T _{hp,off}	-7	°C
Degradation coefficient ⁽⁴⁾	C _{dh}	0,9	—
Heat pump: power input in modes other than active			
Off mode	P _{OFF}	0,014	kW
Thermostat-off mode	P _{TO}	0,024	kW
Standby mode	P _{SB}	0,014	kW
Crankcase heater mode	P _{CK}	0	kW
Other items			
Capacity control of heat pump	fisso/variabile	Variable 0	
For air-to-water HP: Rated air flow rate	Q _{airsource}	4030	m ³ /h
Sound power level, indoors	L _{WA}	39	dB(A)
Sound power level, outdoors	L _{WA}	60	dB(A)
Contact details	Ferrolis.p.a. via Ritonda 78A - S.Bonifacio (VR) - Italy		

Item	Symbol	Value	Unit
Seasonal space heating energy efficiency	η _s	136	%
Emissions of nitrogen oxides	NO _x	-	mg/kWh
Declared coefficient of performance for heating			
T _j = - 7 °C	COP _d	2,24	-
T _j = + 2 °C	COP _d	3,42	-
T _j = + 7 °C	COP _d	4,52	-
T _j = +12°C	COP _d	5,50	-
T _j = T _{HP,off}	COP _d	2,51	-
T _j = T _{fb,off}	COP _d	2,51	-
For air-to-water HP : Operation limit temperature (maximum -7°C)	COP _d	-	-
Switch temperature boiler off	T _{fb,off}	-7	°C

Boiler			
Useful heat output at rated heat output and high temperature regime (3)	P ₄	24,0	kW
Useful heat output at 30% of rated heat output and high temperature regime (3)	P ₁	8,1	kW
Useful efficiency at rated heat output and high temperature regime (3)	η ₄	88,30	%
Useful efficiency at 30% of rated heat output and high temperature regime (3)	η ₁	98,80	%
Power input of electrical auxiliaries at full load	el _{max}	0,028	kW
Power input of electrical auxiliaries at part load	el _{min}	0,011	kW
Power input of electrical auxiliaries in stand-by mode	P _{SB}	0,004	kW
Stand-by losses	P _{stby}	0,042	kW
Power input of ignition burner fossil fuel	P _{ign}	0,000	kW

(3) For heat pumps and heat pump combination heaters, the nominal heat output (Prated) is equal to the design load for heating (Pdesignh), and the nominal heat output of the boiler (Psup) is equal to the additional capacity for heating (sup (Tj)).

(4) If Cdh is not determined by measurements the default value of Cdh is = 0.9

FOGLIO DATI TECNICI ERP PER RISCALDAMENTO AMBIENTE / ERP TECHNICAL DATA SHEET FOR SPACE HEATING

IDOLA S 3.2 HYBRID 28C 10 - Modo riscaldamento - Clima più freddo - Media temperatura (55°C) / Heating mode - Colder climate - Medium temperature (55°C)

Technical data sheet for hybrid heat pump

Model(s):	IDOLA S 3.2 HYBRID 28C 10		
Heat source (air, water, brine, direct expansion)	air		
Heat sink (water, brine)	water		
Tipo di combustibile fossile (liquido / gas)	gas		
Low temperature heat pump:	no		
Heat pump combination heater:	no		
Parameters are declared for medium-temperature application (55°C).			
Parameters are declared for colder climate conditions.			
Item	Symbol	Value	Unit
Rated heat output ⁽³⁾ at T _{designh} = -10 (-11) °C	Prated = Pdesignh	6,71	kW
Consumo di energia annuale	Q _{HE}	5480	kWh
Declared capacity for heating			
T _i = - 7 °C	P _{dh}	4,27	kW
T _i = + 2 °C	P _{dh}	2,57	kW
T _i = + 7 °C	P _{dh}	1,66	kW
T _i = +12°C	P _{dh}	1,48	kW
T _j = T _{HP,off}	P _{dh}	3,89	kW
T _j = T _{fb,off}	P _{dh}	3,89	kW
For air-to-water heat pumps: T _i = - 15 °C (if TOL < - 20 °C)	P _{dh}	5,477	kW
Switch temperature heat pump off	T _{hp,off}	-15	°C
Degradation coefficient ⁽⁴⁾	C _{dh}	0,90	—
Heat pump: power input in modes other than active			
Off mode	P _{OFF}	0,014	kW
Thermostat-off mode	P _{TO}	0,024	kW
Standby mode	P _{SB}	0,014	kW
Crankcase heater mode	P _{CK}	0	kW
Other items			
Capacity control of heat pump	fisso/varia- bile	Variable 0	
For air-to-water HP: Rated air flow rate	Q _{airsource}	4030	m ³ /h
Sound power level, indoors	L _{WA}	-	dB(A)
Sound power level, outdoors	L _{WA}	-	dB(A)
Contact details	Ferrolis.p.a. via Ritonda 78A - S.Bonifacio (VR) - Italy		

Item	Symbol	Value	Unit
Seasonal space heating energy efficiency	η _s	118	%
Emissions of nitrogen oxides	NO _x	-	mg/kWh
Declared coefficient of performance for heating			
T _j = - 7 °C	COP _d	2,54	-
T _j = + 2 °C	COP _d	3,51	-
T _j = + 7 °C	COP _d	4,37	-
T _j = +12°C	COP _d	5,38	-
T _j = T _{HP,off}	COP _d	2,76	-
T _j = T _{fb,off}	COP _d	2,76	-
For air-to-water HP : Operation limit temperature (maximum -7°C)	COP _d	-	-
Switch temperature boiler off	T _{fb,off}	-15	°C

Boiler			
Useful heat output at rated heat output and high temperature regime (3)	P ₄	24,0	kW
Useful heat output at 30% of rated heat output and high temperature regime (3)	P ₁	8,1	kW
Useful efficiency at rated heat output and high temperature regime (3)	η ₄	88,30	%
Useful efficiency at 30% of rated heat output and high temperature regime (3)	η ₁	98,80	%
Power input of electrical auxiliaries at full load	elmax	0,028	kW
Power input of electrical auxiliaries at part load	elmin	0,011	kW
Power input of electrical auxiliaries in stand-by mode	P _{SB}	0,004	kW
Stand-by losses	P _{stby}	0,042	kW
Power input of ignition burner fossil fuel	P _{ign}	0,000	kW

(3) For heat pumps and heat pump combination heaters, the nominal heat output (Prated) is equal to the design load for heating (Pdesignh), and the nominal heat output of the boiler (Psup) is equal to the additional capacity for heating (sup (Tj)).

(4) If Cdh is not determined by measurements the default value of Cdh is = 0.9

FOGLIO DATI TECNICI ERP PER RISCALDAMENTO AMBIENTE / ERP TECHNICAL DATA SHEET FOR SPACE HEATING

IDOLA S 3.2 HYBRID 28C 10 - Modo riscaldamento - Clima più caldo - Media temperatura (55°C) / Heating mode - Warmer climate - Medium temperature (55°C)

Technical data sheet for hybrid heat pump

Model(s):		IDOLA S 3.2 HYBRID 28C 10	
Heat source (air, water, brine, direct expansion)			air
Heat sink (water, brine)			water
Tipo di combustibile fossile (liquido / gas)			gas
Low temperature heat pump:			no
Heat pump combination heater:			no
Parameters are declared for medium-temperature application (55°C).			
Parameters are declared for warmer climate conditions.			
Item	Symbol	Value	Unit
Rated heat output ⁽³⁾ at T _{designh} = -10 (-11) °C	Prated = P _{designh}	8,06	kW
Consumo di energia annuale	Q _{HE}	2308	kWh
Declared capacity for heating			
T _i = - 7 °C	P _{dh}	-	kW
T _i = + 2 °C	P _{dh}	8,06	kW
T _i = + 7 °C	P _{dh}	5,55	kW
T _i = +12°C	P _{dh}	2,53	kW
T _j = T _{HP,off}	P _{dh}	8,06	kW
T _j = T _{fb,off}	P _{dh}	8,06	kW
For air-to-water heat pumps: T _i = - 15 °C (if TOL < - 20 °C)	P _{dh}	-	kW
Switch temperature heat pump off	T _{hp,off}	2	°C
Degradation coefficient ⁽⁴⁾	C _{dh}	0,90	—
Heat pump: power input in modes other than active			
Off mode	P _{OFF}	0,014	kW
Thermostat-off mode	P _{TO}	0,024	kW
Standby mode	P _{SB}	0,014	kW
Crankcase heater mode	P _{CK}	0	kW
Other items			
Capacity control of heat pump	fisso/varia- bile	Variable 0	
For air-to-water HP: Rated air flow rate	Q _{airsource}	4030	m ³ /h
Sound power level, indoors	L _{WA}	-	dB(A)
Sound power level, outdoors	L _{WA}	-	dB(A)
Contact details	Ferrolis.p.a. via Ritonda 78A - S.Bonifacio (VR) - Italy		

Item	Symbol	Value	Unit
Seasonal space heating energy efficiency	η _s	184	%
Emissions of nitrogen oxides	NO _x	-	mg/kWh
Declared coefficient of performance for heating			
T _j = - 7 °C	COP _d	-	-
T _j = + 2 °C	COP _d	2,59	-
T _j = + 7 °C	COP _d	4,09	-
T _j = +12°C	COP _d	5,82	-
T _j = T _{HP,off}	COP _d	2,59	-
T _j = T _{fb,off}	COP _d	2,59	-
For air-to-water HP : Operation limit temperature (maximum -7°C)	COP _d	-	-
Switch temperature boiler off	T _{fb,off}	2	°C
Boiler			
Useful heat output at rated heat output and high temperature regime (3)	P ₄	24,0	kW
Useful heat output at 30% of rated heat output and high temperature regime (3)	P ₁	8,1	kW
Useful efficiency at rated heat output and high temperature regime (3)	η ₄	88,30	%
Useful efficiency at 30% of rated heat output and high temperature regime (3)	η ₁	98,80	%
Power input of electrical auxiliaries at full load	el _{max}	0,028	kW
Power input of electrical auxiliaries at part load	el _{min}	0,011	kW
Power input of electrical auxiliaries in stand-by mode	P _{SB}	0,004	kW
Stand-by losses	P _{stby}	0,042	kW
Power input of ignition burner fossil fuel	P _{ign}	0,000	kW

(3) For heat pumps and heat pump combination heaters, the nominal heat output (Prated) is equal to the design load for heating (Pdesignh), and the nominal heat output of the boiler (Psup) is equal to the additional capacity for heating (sup (Tj)).

(4) If Cdh is not determined by measurements the default value of Cdh is = 0.9

FOGLIO DATI TECNICI ERP PER RAFFREDDAMENTO AMBIENTE ERP TECHNICAL DATA SHEET FOR SPACE COOLING

IDOLA S 3.2 HYBRID 28C 4 - Modo raffreddamento - Clima Medio - Bassa temperatura (7°C) / Cooling mode - Average climate - Low temperature (7°C)

Model(s):				IDOLA S 3.2 HYBRID 28C 4			
Outdoor side heat exchanger of chiller:				Air to water			
Indoor side heat exchanger chiller:				Water			
Type:				Compressor driven vapour compression			
Driver of compressor:				Electric motor			
Item	Symbol	Value	Unit	Item	Symbol	Value	Unit
Rated cooling capacity	$P_{rated,c}$	4.7	kW	Seasonal space cooling energy efficiency	$\eta_{s,c}$	197	%
Declared cooling capacity for part load at given outdoor temperature T_j				Declared energy efficiency ratio for part load at given outdoor temperature T_j			
$T_j=+35^\circ\text{C}$	P_{dc}	4.66	kW	$T_j=+35^\circ\text{C}$	EER_d	3.52	-
$T_j=+30^\circ\text{C}$	P_{dc}	3.66	kW	$T_j=+30^\circ\text{C}$	EER_d	4.76	-
$T_j=+25^\circ\text{C}$	P_{dc}	2.21	kW	$T_j=+25^\circ\text{C}$	EER_d	5.72	-
$T_j=+20^\circ\text{C}$	P_{dc}	0.94	kW	$T_j=+20^\circ\text{C}$	EER_d	5.72	-
Degradation co-efficient for chillers (*)	C_{dc}	0.9	-				
Power consumption in modes other than "active mode"							
Off mode	P_{OFF}	0.014	kW	Crankcase heater mode	P_{CK}	0.000	kW
Thermosat-off mode	P_{TO}	0.010	kW	Standby mode	P_{SB}	0.014	kW
Other items							
Capacity control	variable			For air-to-water comfort chillers: air flow rate, outdoor measured	-	2770	m ³ /h
Sound power level, indoors / outdoors	L_{WA}	39 / 56	dB				
Emissions of nitrogen oxides (if applicable)	$NO_x(**)$	-	mg/kWh input GCV	For water / brine-to-water chillers: Rated brine or water flow rate, outdoor side heat exchanger	-	-	m ³ /h
GWP of the refrigerant	-	675	kg CO ₂ eq (100years)				
Standard rating conditions used	Low temperature application						
Contact details	Ferroli spa - 37047 San Bonifacio (Verona) Italy - Via Ritonda 78/A - tel. +39.045.6139411 - fax +39.045.6100933 - www.ferroli.com						
(*) If C_{dc} is not determined by measurement then the default degradation coefficient of chillers shall be 0.9. (**) From 26 September 2018.							

FOGLIO DATI TECNICI ERP PER RAFFREDDAMENTO AMBIENTE ERP TECHNICAL DATA SHEET FOR SPACE COOLING

IDOLA S 3.2 HYBRID 28C 4 - Modo raffreddamento - Clima Medio - Media temperature (18°C) / Cooling mode - Average climate - Medium temperature (18°C)

Model(s):				IDOLA S 3.2 HYBRID 28C 4			
Outdoor side heat exchanger of chiller:				Air to water			
Indoor side heat exchanger chiller:				Water			
Type:				Compressor driven vapour compression			
Driver of compressor:				Electric motor			
Item	Symbol	Value	Unit	Item	Symbol	Value	Unit
Rated cooling capacity	$P_{rated,c}$	4.5	kW	Seasonal space cooling energy efficiency	$\eta_{s,c}$	308	%
Declared cooling capacity for part load at given outdoor temperature T_j				Declared energy efficiency ratio for part load at given outdoor temperature T_j			
$T_j=+35^\circ\text{C}$	P_{dc}	4.51	kW	$T_j=+35^\circ\text{C}$	EER_d	5.54	-
$T_j=+30^\circ\text{C}$	P_{dc}	3.44	kW	$T_j=+30^\circ\text{C}$	EER_d	7.23	-
$T_j=+25^\circ\text{C}$	P_{dc}	2.19	kW	$T_j=+25^\circ\text{C}$	EER_d	8.94	-
$T_j=+20^\circ\text{C}$	P_{dc}	1.13	kW	$T_j=+20^\circ\text{C}$	EER_d	10.48	-
Degradation co-efficient for chillers (*)	C_{dc}	0.9	-				
Power consumption in modes other than "active mode"							
Off mode	P_{OFF}	0.014	kW	Crankcase heater mode	P_{CK}	0.000	kW
Thermosat-off mode	P_{TO}	0.010	kW	Standby mode	P_{SB}	0.014	kW
Other items							
Capacity control	variable			For air-to-water comfort chillers: air flow rate, outdoor measured	-	2770	m ³ /h
Sound power level, indoors / outdoors	L_{WA}	39 / 56	dB				
Emissions of nitrogen oxides (if applicable)	$NO_x(**)$	-	mg/kWh input GCV	For water / brine-to-water chillers: Rated brine or water flow rate, outdoor side heat exchanger	-	-	m ³ /h
GWP of the refrigerant	-	675	kg CO ₂ eq (100years)				
Standard rating conditions used	Medium temperature application						
Contact details	Ferroli spa - 37047 San Bonifacio (Verona) Italy - Via Ritonda 78/A - tel. +39.045.6139411 - fax +39.045.6100933 - www.ferroli.com						
(*) If C_{dc} is not determined by measurement then the default degradation coefficient of chillers shall be 0,9. (**) From 26 September 2018.							

FOGLIO DATI TECNICI ERP PER RAFFREDDAMENTO AMBIENTE ERP TECHNICAL DATA SHEET FOR SPACE COOLING

IDOLA S 3.2 HYBRID 28C 6 - Modo raffreddamento - Clima Medio - Bassa temperatura (7°C) / Cooling mode - Average climate - Low temperature (7°C)

Model(s):				IDOLA S 3.2 HYBRID 28C 6			
Outdoor side heat exchanger of chiller:				Air to water			
Indoor side heat exchanger chiller:				Water			
Type:				Compressor driven vapour compression			
Driver of compressor:				Electric motor			
Item	Symbol	Value	Unit	Item	Symbol	Value	Unit
Rated cooling capacity	$P_{rated,c}$	6.3	kW	Seasonal space cooling energy efficiency	$\eta_{s,c}$	211	%
Declared cooling capacity for part load at given outdoor temperature T_j				Declared energy efficiency ratio for part load at given outdoor temperature T_j			
$T_j=+35^\circ\text{C}$	P_{dc}	6.35	kW	$T_j=+35^\circ\text{C}$	EER_d	2.93	-
$T_j=+30^\circ\text{C}$	P_{dc}	4.76	kW	$T_j=+30^\circ\text{C}$	EER_d	4.53	-
$T_j=+25^\circ\text{C}$	P_{dc}	3.02	kW	$T_j=+25^\circ\text{C}$	EER_d	6.32	-
$T_j=+20^\circ\text{C}$	P_{dc}	1.39	kW	$T_j=+20^\circ\text{C}$	EER_d	7.20	-
Degradation co-efficient for chillers (*)	C_{dc}	0.9	-				
Power consumption in modes other than "active mode"							
Off mode	P_{OFF}	0.014	kW	Crankcase heater mode	P_{CK}	0.000	kW
Thermosat-off mode	P_{TO}	0.010	kW	Standby mode	P_{SB}	0.014	kW
Other items							
Capacity control	variable			For air-to-water comfort chillers: air flow rate, outdoor measured	-	2770	m^3/h
Sound power level, indoors / outdoors	L_{WA}	39 / 58	dB				
Emissions of nitrogen oxides (if applicable)	$\text{NO}_x(**)$	-	mg/kWh input GCV	For water / brine-to-water chillers: Rated brine or water flow rate, outdoor side heat exchanger	-	-	m^3/h
GWP of the refrigerant	-	675	kg CO_2 eq (100years)				
Standard rating conditions used	Low temperature application						
Contact details	Ferrolli spa - 37047 San Bonifacio (Verona) Italy - Via Ritonda 78/A - tel. +39.045.6139411 - fax +39.045.6100933 - www.ferrolli.com						
(*) If C_{dc} is not determined by measurement then the default degradation coefficient of chillers shall be 0,9. (**) From 26 September 2018.							

FOGLIO DATI TECNICI ERP PER RAFFREDDAMENTO AMBIENTE ERP TECHNICAL DATA SHEET FOR SPACE COOLING

IDOLA S 3.2 HYBRID 28C 6 - Modo raffreddamento - Clima Medio - Media temperature (18°C) / Cooling mode - Average climate - Medium temperature (18°C)

Model(s):				IDOLA S 3.2 HYBRID 28C 6			
Outdoor side heat exchanger of chiller:				Air to water			
Indoor side heat exchanger chiller:				Water			
Type:				Compressor driven vapour compression			
Driver of compressor:				Electric motor			
Item	Symbol	Value	Unit	Item	Symbol	Value	Unit
Rated cooling capacity	$P_{rated,c}$	6.5	kW	Seasonal space cooling energy efficiency	$\eta_{s,c}$	325	%
Declared cooling capacity for part load at given outdoor temperature T_j				Declared energy efficiency ratio for part load at given outdoor temperature T_j			
$T_j=+35^\circ\text{C}$	P_{dc}	6.55	kW	$T_j=+35^\circ\text{C}$	EER_d	4.69	-
$T_j=+30^\circ\text{C}$	P_{dc}	4.84	kW	$T_j=+30^\circ\text{C}$	EER_d	7.16	-
$T_j=+25^\circ\text{C}$	P_{dc}	3.26	kW	$T_j=+25^\circ\text{C}$	EER_d	9.64	-
$T_j=+20^\circ\text{C}$	P_{dc}	1.41	kW	$T_j=+20^\circ\text{C}$	EER_d	11.48	-
Degradation co-efficient for chillers (*)	C_{dc}	0.9	-				
Power consumption in modes other than "active mode"							
Off mode	P_{OFF}	0.014	kW	Crankcase heater mode	P_{CK}	0.000	kW
Thermosat-off mode	P_{TO}	0.010	kW	Standby mode	P_{SB}	0.014	kW
Other items							
Capacity control	variable			For air-to-water comfort chillers: air flow rate, outdoor measured	-	2770	m^3/h
Sound power level, indoors / outdoors	L_{WA}	39 / 58	dB				
Emissions of nitrogen oxides (if applicable)	$\text{NO}_x (**)$	-	mg/kWh input GCV	For water / brine-to-water chillers: Rated brine or water flow rate, outdoor side heat exchanger	-	-	m^3/h
GWP of the refrigerant	-	675	kg CO_2 eq (100years)				
Standard rating conditions used	Medium temperature application						
Contact details	Ferrolli spa - 37047 San Bonifacio (Verona) Italy - Via Ritonda 78/A - tel. +39.045.6139411 - fax +39.045.6100933 - www.ferrolli.com						
(*) If C_{dc} is not determined by measurement then the default degradation coefficient of chillers shall be 0,9. (**) From 26 September 2018.							

FOGLIO DATI TECNICI ERP PER RAFFREDDAMENTO AMBIENTE ERP TECHNICAL DATA SHEET FOR SPACE COOLING

IDOLA S 3.2 HYBRID 28C 8 - Modo raffreddamento - Clima Medio - Bassa temperatura (7°C) / Cooling mode - Average climate - Low temperature (7°C)

Model(s):				IDOLA S 3.2 HYBRID 28C 8			
Outdoor side heat exchanger of chiller:				Air to water			
Indoor side heat exchanger chiller:				Water			
Type:				Compressor driven vapour compression			
Driver of compressor:				Electric motor			
Item	Symbol	Value	Unit	Item	Symbol	Value	Unit
Rated cooling capacity	$P_{rated,c}$	7.4	kW	Seasonal space cooling energy efficiency	$\eta_{s,c}$	230	%
Declared cooling capacity for part load at given outdoor temperature T_j				Declared energy efficiency ratio for part load at given outdoor temperature T_j			
$T_j=+35^\circ\text{C}$	P_{dc}	7.38	kW	$T_j=+35^\circ\text{C}$	EER_d	3.39	-
$T_j=+30^\circ\text{C}$	P_{dc}	5.72	kW	$T_j=+30^\circ\text{C}$	EER_d	4.71	-
$T_j=+25^\circ\text{C}$	P_{dc}	3.62	kW	$T_j=+25^\circ\text{C}$	EER_d	6.65	-
$T_j=+20^\circ\text{C}$	P_{dc}	1.64	kW	$T_j=+20^\circ\text{C}$	EER_d	8.55	-
Degradation co-efficient for chillers (*)	C_{dc}	0.9	-				
Power consumption in modes other than "active mode"							
Off mode	P_{OFF}	0.014	kW	Crankcase heater mode	P_{CK}	0.000	kW
Thermosat-off mode	P_{TO}	0.010	kW	Standby mode	P_{SB}	0.014	kW
Other items							
Capacity control	variable			For air-to-water comfort chillers: air flow rate, outdoor measured	-	4030	m^3/h
Sound power level, indoors / outdoors	L_{WA}	39 / 59	dB				
Emissions of nitrogen oxides (if applicable)	$\text{NO}_x (**)$	-	mg/kWh input GCV	For water / brine-to-water chillers: Rated brine or water flow rate, outdoor side heat exchanger	-	-	m^3/h
GWP of the refrigerant	-	675	kg CO_2 eq (100years)				
Standard rating conditions used	Low temperature application						
Contact details	Ferrolli spa - 37047 San Bonifacio (Verona) Italy - Via Ritonda 78/A - tel. +39.045.6139411 - fax +39.045.6100933 - www.ferrolli.com						
(*) If C_{dc} is not determined by measurement then the default degradation coefficient of chillers shall be 0,9. (**) From 26 September 2018.							

FOGLIO DATI TECNICI ERP PER RAFFREDDAMENTO AMBIENTE ERP TECHNICAL DATA SHEET FOR SPACE COOLING

IDOLA S 3.2 HYBRID 28C 8 - Modo raffreddamento - Clima Medio - Media temperature (18°C) / Cooling mode - Average climate - Medium temperature (18°C)

Model(s):				IDOLA S 3.2 HYBRID 28C 8			
Outdoor side heat exchanger of chiller:				Air to water			
Indoor side heat exchanger chiller:				Water			
Type:				Compressor driven vapour compression			
Driver of compressor:				Electric motor			
Item	Symbol	Value	Unit	Item	Symbol	Value	Unit
Rated cooling capacity	$P_{rated,c}$	8.4	kW	Seasonal space cooling energy efficiency	$\eta_{s,c}$	355	%
Declared cooling capacity for part load at given outdoor temperature T_j				Declared energy efficiency ratio for part load at given outdoor temperature T_j			
$T_j=+35^\circ\text{C}$	P_{dc}	8.37	kW	$T_j=+35^\circ\text{C}$	EER_d	5.09	-
$T_j=+30^\circ\text{C}$	P_{dc}	6.47	kW	$T_j=+30^\circ\text{C}$	EER_d	7.02	-
$T_j=+25^\circ\text{C}$	P_{dc}	4.31	kW	$T_j=+25^\circ\text{C}$	EER_d	10.67	-
$T_j=+20^\circ\text{C}$	P_{dc}	1.80	kW	$T_j=+20^\circ\text{C}$	EER_d	13.61	-
Degradation co-efficient for chillers (*)	C_{dc}	0.9	-				
Power consumption in modes other than "active mode"							
Off mode	P_{OFF}	0.014	kW	Crankcase heater mode	P_{CK}	0.000	kW
Thermosat-off mode	P_{TO}	0.010	kW	Standby mode	P_{SB}	0.014	kW
Other items							
Capacity control	variable			For air-to-water comfort chillers: air flow rate, outdoor measured	-	4030	m^3/h
Sound power level, indoors / outdoors	L_{WA}	39 / 59	dB				
Emissions of nitrogen oxides (if applicable)	$\text{NO}_x (**)$	-	mg/kWh input GCV	For water / brine-to-water chillers: Rated brine or water flow rate, outdoor side heat exchanger	-	-	m^3/h
GWP of the refrigerant	-	675	kg CO_2 eq (100years)				
Standard rating conditions used	Medium temperature application						
Contact details	Ferrolli spa - 37047 San Bonifacio (Verona) Italy - Via Ritonda 78/A - tel. +39.045.6139411 - fax +39.045.6100933 - www.ferrolli.com						
(*) If C_{dc} is not determined by measurement then the default degradation coefficient of chillers shall be 0,9. (**) From 26 September 2018.							

FOGLIO DATI TECNICI ERP PER RAFFREDDAMENTO AMBIENTE ERP TECHNICAL DATA SHEET FOR SPACE COOLING

IDOLA S 3.2 HYBRID 28C 10 - Modo raffreddamento - Clima Medio - Bassa temperatura (7°C) / Cooling mode - Average climate - Low temperature (7°C)

Model(s):				IDOLA S 3.2 HYBRID 28C 10			
Outdoor side heat exchanger of chiller:				Air to water			
Indoor side heat exchanger chiller:				Water			
Type:				Compressor driven vapour compression			
Driver of compressor:				Electric motor			
Item	Symbol	Value	Unit	Item	Symbol	Value	Unit
Rated cooling capacity	$P_{rated,c}$	8.7	kW	Seasonal space cooling energy efficiency	$\eta_{s,c}$	236	%
Declared cooling capacity for part load at given outdoor temperature T_j				Declared energy efficiency ratio for part load at given outdoor temperature T_j			
$T_j=+35^\circ\text{C}$	P_{dc}	8.73	kW	$T_j=+35^\circ\text{C}$	EER_d	3.21	-
$T_j=+30^\circ\text{C}$	P_{dc}	6.68	kW	$T_j=+30^\circ\text{C}$	EER_d	4.47	-
$T_j=+25^\circ\text{C}$	P_{dc}	4.26	kW	$T_j=+25^\circ\text{C}$	EER_d	7.02	-
$T_j=+20^\circ\text{C}$	P_{dc}	1.94	kW	$T_j=+20^\circ\text{C}$	EER_d	9.54	-
Degradation co-efficient for chillers (*)	C_{dc}	0.9	-				
Power consumption in modes other than "active mode"							
Off mode	P_{OFF}	0.014	kW	Crankcase heater mode	P_{CK}	0.000	kW
Thermosat-off mode	P_{TO}	0.010	kW	Standby mode	P_{SB}	0.014	kW
Other items							
Capacity control	variable			For air-to-water comfort chillers: air flow rate, outdoor measured	-	4030	m^3/h
Sound power level, indoors / outdoors	L_{WA}	39 / 60	dB				
Emissions of nitrogen oxides (if applicable)	$\text{NO}_x(**)$	-	mg/kWh input GCV	For water / brine-to-water chillers: Rated brine or water flow rate, outdoor side heat exchanger	-	-	m^3/h
GWP of the refrigerant	-	675	kg CO_2 eq (100years)				
Standard rating conditions used	Low temperature application						
Contact details	Ferroli spa - 37047 San Bonifacio (Verona) Italy - Via Ritonda 78/A - tel. +39.045.6139411 - fax +39.045.6100933 - www.ferroli.com						
(*) If C_{dc} is not determined by measurement then the default degradation coefficient of chillers shall be 0,9. (**) From 26 September 2018.							

FOGLIO DATI TECNICI ERP PER RAFFREDDAMENTO AMBIENTE ERP TECHNICAL DATA SHEET FOR SPACE COOLING

IDOLA S 3.2 HYBRID 28C 10 - Modo raffreddamento - Clima Medio - Media temperature (18°C) / Cooling mode - Average climate - Medium temperature (18°C)

Model(s):				IDOLA S 3.2 HYBRID 28C 10			
Outdoor side heat exchanger of chiller:				Air to water			
Indoor side heat exchanger chiller:				Water			
Type:				Compressor driven vapour compression			
Driver of compressor:				Electric motor			
Item	Symbol	Value	Unit	Item	Symbol	Value	Unit
Rated cooling capacity	$P_{rated,c}$	10.0	kW	Seasonal space cooling energy efficiency	$\eta_{s,c}$	348	%
Declared cooling capacity for part load at given outdoor temperature T_j				Declared energy efficiency ratio for part load at given outdoor temperature T_j			
$T_j=+35^\circ\text{C}$	P_{dc}	10.01	kW	$T_j=+35^\circ\text{C}$	EER_d	4.64	-
$T_j=+30^\circ\text{C}$	P_{dc}	7.71	kW	$T_j=+30^\circ\text{C}$	EER_d	6.45	-
$T_j=+25^\circ\text{C}$	P_{dc}	5.03	kW	$T_j=+25^\circ\text{C}$	EER_d	10.36	-
$T_j=+20^\circ\text{C}$	P_{dc}	2.32	kW	$T_j=+20^\circ\text{C}$	EER_d	14.98	-
Degradation co-efficient for chillers (*)	C_{dc}	0.9	-				
Power consumption in modes other than "active mode"							
Off mode	P_{OFF}	0.014	kW	Crankcase heater mode	P_{CK}	0.000	kW
Thermosat-off mode	P_{TO}	0.010	kW	Standby mode	P_{SB}	0.014	kW
Other items							
Capacity control	variable			For air-to-water comfort chillers: air flow rate, outdoor measured	-	4030	m^3/h
Sound power level, indoors / outdoors	L_{WA}	39 / 60	dB				
Emissions of nitrogen oxides (if applicable)	$\text{NO}_x(**)$	-	mg/kWh input GCV	For water / brine-to-water chillers: Rated brine or water flow rate, outdoor side heat exchanger	-	-	m^3/h
GWP of the refrigerant	-	675	kg CO_2 eq (100years)				
Standard rating conditions used	Medium temperature application						
Contact details	Ferrolli spa - 37047 San Bonifacio (Verona) Italy - Via Ritonda 78/A - tel. +39.045.6139411 - fax +39.045.6100933 - www.ferrolli.com						
(*) If C_{dc} is not determined by measurement then the default degradation coefficient of chillers shall be 0,9. (**) From 26 September 2018.							



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