

Ecodesign Information

Model(s):		BEN Dual-AIR							
Type of heat source/sink:		Exhaust air-to-water							
Low-temperature heat pump:		No							
Equipped with supplementary heater:		Yes							
Heat pump combination heater:		Yes							
Climate condition:		Average							
Temperature application:		Low temperature (35 °C)							
Doc revision: 2		Applied standards: EN14825, EN14511, EN16147, EN12102							
Rated heat output		Prated	4,6	kW	Seasonal Space heating energy efficiency		ηs	194	%
Declared capacity for part load at outdoor temperature Tj					Declared coefficient of performance for part load at outdoor temperature Tj				
Tj = -7 °C	Pdh	4,3	kW	Tj = -7 °C	COPd	2,90			
Tj = +2 °C	Pdh	2,6	kW	Tj = +2 °C	COPd	5,04			
Tj = +7 °C	Pdh	1,8	kW	Tj = +7 °C	COPd	7,09			
Tj = +12 °C	Pdh	1,8	kW	Tj = +12 °C	COPd	7,14			
Tj = biv	Pdh	4,5	kW	Tj = biv	COPd	2,89			
Tj = TOL	Pdh	4,5	kW	Tj = TOL	COPd	2,89			
Tj = -15 °C (if TOL < -20 °C)	Pdh		kW	Tj = -15 °C (if TOL < -20 °C)	COPd				
Bivalent temperature	Tbiv	-10	°C	Operation limit temperature	TOL	-10	°C		
Cycling interval capacity for	Pcych		kW	Cycling interval efficiency	COPcyc		-		
Degradation co-efficient	Cdh	0,90	-	Heating water operating limit	WTOL	70	°C		
Power consumption in modes other than active mode					Supplementary heater				
Off mode	Poff	0,010	kW	Rated heat output	Psup	6	kW		
Thermostat-off mode	Pto	0,010	kW						
Standby mode	Psb	0,010	kW	Type of energy input	Electric				
Crankcase heater mode	Pck	-	kW						
Other items									
Space heating energy efficiency class	A+++			Rated air flow rate CH	250	m³/h			
Annual energy consumption	QHE	1927	kWh						
Sound power level indoor	Lwa	46	dB	Capacity control	variable				
DHW production									
Storage volume		170	190				(L)		
Declared load profile		L	L						
Water heating energy efficiency class		A+	A+						
Water heating energy efficiency	ηwh	135	141				%		
Daily electricity consumption	Qelec	3,5	3,3				kWh		
Annual electricity consumption	AEC	760	726				kWh		
Setpoint/hyst	Tset	55/2	55/10				dgC		
Rated airflow DHW		190	190				m³/h		
Contact details	Joule Group Ltd. Unit 407 NW Business Park, Ballycoolin, Dublin 15, Ireland								

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Low-temperature heat pump:		No							
Equipped with supplementary heater:		Yes							
Heat pump combination heater:		Yes							
Climate condition:		Average							
Temperature application:		Medium temperature (55 °C)							
Doc revision: 2		Applied standards: EN14825, EN14511, EN16147, EN12102							
Rated heat output		Prated	4,6	kW	Seasonal Space heating energy efficiency		ηs	156	%
Declared capacity for part load at outdoor temperature Tj					Declared coefficient of performance for part load at outdoor temperature Tj				
Tj = -7 °C	Pdh	4,4	kW	Tj = -7 °C	COPd	2,47			
Tj = +2 °C	Pdh	2,5	kW	Tj = +2 °C	COPd	4,01			
Tj = +7 °C	Pdh	1,7	kW	Tj = +7 °C	COPd	5,39			
Tj = +12 °C	Pdh	1,8	kW	Tj = +12 °C	COPd	5,92			
Tj = biv	Pdh	4,6	kW	Tj = biv	COPd	2,35			
Tj = TOL	Pdh	4,6	kW	Tj = TOL	COPd	2,35			
Tj = -15 °C (if TOL < -20 °C)	Pdh		kW	Tj = -15 °C (if TOL < -20 °C)	COPd				
Bivalent temperature	Tbiv	-10	°C	Operation limit temperature		TOL	-10	°C	
Cycling interval capacity for	Pcyc		kW	Cycling interval efficiency		COPcyc		-	
Degradation co-efficient	Cdh	0,90	-	Heating water operating limit temperature		WTOL	70	°C	
Power consumption in modes other than active mode					Supplementary heater				
Off mode	Poff	0,010	kW	Rated heat output		Psup	6	kW	
Thermostat-off mode	Pto	0,010	kW						
Standby mode	Psb	0,010	kW	Type of energy input		Electric			
Crankcase heater mode	Pck	-	kW						
Other items									
Space heating energy efficiency class	A+++			Rated air flow rate CH		250	m³/h		
Annual energy consumption	QHE	2394	kWh						
Sound power level indoor	Lwa	46	dB	Capacity control		variable			
DHW production									
Storage volume		170	190				(L)		
Declared load profile		L	L						
Water heating energy efficiency class		A+	A+						
Water heating energy efficiency	ηwh	135	141				%		
Daily electricity consumption	Qelec	3,5	3,3				kWh		
Annual electricity consumption	AEC	760	726				kWh		
Setpoint/hyst	Tset	55/2	55/10				dgC		
Rated airflow DHW		190	190				m³/h		
Contact details	Joule Group Ltd. Unit 407 NW Business Park, Ballycoolin, Dublin 15, Ireland								

Model(s):		BEN Dual-AIR							
Type of heat source/sink:		Outdoor air-to-water							
Low-temperature heat pump:		No							
Equipped with supplementary heater:		Yes							
Heat pump combination heater:		Yes							
Climate condition:		Average							
Temperature application:		Low temperature (35 °C)							
Doc revision: 2		Applied standards: EN14825, EN14511, EN16147, EN12102							
Rated heat output		Prated	4,6	kW	Seasonal Space heating energy efficiency		ηs	175	%
<i>Declared capacity for part load at outdoor temperature Tj</i>					<i>Declared coefficient of performance for part load at outdoor temperature Tj</i>				
Tj = -7 °C	Pdh	3,8	kW	Tj = -7 °C	COPd	2,63			
Tj = +2 °C	Pdh	2,5	kW	Tj = +2 °C	COPd	4,44			
Tj = +7 °C	Pdh	1,6	kW	Tj = +7 °C	COPd	6,23			
Tj = +12 °C	Pdh	1,8	kW	Tj = +12 °C	COPd	7,46			
Tj = biv	Pdh	3,8	kW	Tj = biv	COPd	2,63			
Tj = TOL	Pdh	4,3	kW	Tj = TOL	COPd	2,50			
Tj = -15 °C (if TOL < -20 °C)	Pdh		kW	Tj = -15 °C (if TOL < -20 °C)	COPd				
Bivalent temperature	Tbiv	-7	°C	Operation limit temperature	TOL	-10	°C		
Cycling interval capacity for	Pcyc		kW	Cycling interval efficiency	COPcyc		-		
Degradation co-efficient	Cdh	0,94	-	Heating water operating limit	WTOL	70	°C		
<i>Power consumption in modes other than active mode</i>					<i>Supplementary heater</i>				
Off mode	Poff	0,010	kW	Rated heat output	Psup	6	kW		
Thermostat-off mode	Pto	0,010	kW						
Standby mode	Psb	0,010	kW	Type of energy input	Electric				
Crankcase heater mode	Pck	-	kW						
<i>Other items</i>									
Space heating energy efficiency class	A+++								
Annual energy consumption	QHE	2138	kWh						
Sound power level indoor	Lwa	46	dB	Capacity control		variable			
<i>DHW production</i>									
Storage volume		190						(L)	
Declared load profile		L							
Water heating energy efficiency class		A+							
Water heating energy efficiency	ηwh	115						%	
Daily electricity consumption	Qelec	4,1						kWh	
Annual electricity consumption	AEC	896						kWh	
Setpoint/hyst	Tset	55/10						dgC	
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Low-temperature heat pump:		No							
Equipped with supplementary heater:		Yes							
Heat pump combination heater:		Yes							
Climate condition:		Average							
Temperature application:		Medium temperature (55 °C)							
Doc revision: 2		Applied standards: EN14825, EN14511, EN16147, EN12102							
Rated heat output		Prated	4,6	kW	Seasonal Space heating energy efficiency		ηs	140	%
<i>Declared capacity for part load at outdoor temperature Tj</i>					<i>Declared coefficient of performance for part load at outdoor temperature Tj</i>				
Tj = -7 °C	Pdh	4,0	kW	Tj = -7 °C	COPd	2,27			
Tj = +2 °C	Pdh	2,5	kW	Tj = +2 °C	COPd	3,54			
Tj = +7 °C	Pdh	1,5	kW	Tj = +7 °C	COPd	4,73			
Tj = +12 °C	Pdh	1,8	kW	Tj = +12 °C	COPd	6,13			
Tj = biv	Pdh	4,0	kW	Tj = biv	COPd	2,27			
Tj = TOL	Pdh	4,1	kW	Tj = TOL	COPd	1,97			
Tj = -15 °C (if TOL < -20 °C)	Pdh		kW	Tj = -15 °C (if TOL < -20 °C)	COPd				
Bivalent temperature	Tbiv	-7	°C	Operation limit temperature		TOL	-10	°C	
Cycling interval capacity for	Pcyc		kW	Cycling interval efficiency		COPcyc		-	
Degradation co-efficient	Cdh	0,95	-	Heating water operating limit temperature		WTOL	70	°C	
<i>Power consumption in modes other than active mode</i>					<i>Supplementary heater</i>				
Off mode	Poff	0,010	kW	Rated heat output		Psup	6	kW	
Thermostat-off mode	Pto	0,010	kW						
Standby mode	Psb	0,010	kW	Type of energy input		Electric			
Crankcase heater mode	Pck	-	kW						
<i>Other items</i>									
Space heating energy efficiency class	A++								
Annual energy consumption	QHE	2657	kWh						
Sound power level indoor	Lwa	46	dB	Capacity control		variable			
<i>DHW production</i>									
Storage volume		190						(L)	
Declared load profile		L							
Water heating energy efficiency class		A+							
Water heating energy efficiency	ηwh	115						%	
Daily electricity consumption	Qelec	4,1						kWh	
Annual electricity consumption	AEC	896						kWh	
Setpoint/hyst	Tset	55/10						dgC	
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