



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	%		
<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	4,3	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				
Cycling interval capacity for				Pcyc		kW	TOL	-10	°C		
Degradation co-efficient				Cdh	0,90	-	Cycling interval efficiency				
<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	Type of energy input				
Standby mode				Psb	0,010	kW	Electric				
Crankcase heater mode				Pck	-	kW					
<i>Other items</i>											
Space heating energy efficiency class				A+++			Rated air flow rate CH		250	m³/h	
Annual energy consumption				QHE	1927	kWh	Capacity control				
Sound power level indoor				Lwa	46	dB	variable				
<i>DHW production</i>											
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:	Exhaust air-to-water						
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	%
<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	4,4	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				Operation limit temperature			
	Tbiv	-10	°C		TOL	-10	°C
Cycling interval capacity for				Cycling interval efficiency			
	Pcych		kW		COPcyc		-
Degradation co-efficient				Heating water operating limit temperature			
	Cdh	0,90	-		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+++			Rated air flow rate CH	250	m ³ /h	
Annual energy consumption	QHE	2394	kWh				
Sound power level indoor	Lwa	46	dB	Capacity control	variable		
<i>DHW production</i>							
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			m ³ /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		
<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
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:	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		
<i>Bivalent temperature</i>				<i>Operation limit temperature</i>			
Tbiv -7 °C				TOL -10 °C			
<i>Cycling interval capacity for</i>				<i>Cycling interval efficiency</i>			
Ppsych				COPcyc -			
<i>Degradation co-efficient</i>				<i>Heating water operating limit temperature</i>			
Cdh 0,95				WTOL 70 °C			
<i>Power consumption in modes other than active mode</i>				<i>Supplementary heater</i>			
<i>Off mode</i>				<i>Rated heat output</i>			
Poff 0,010 kW				Psup 6 kW			
<i>Thermostat-off mode</i>				<i>Type of energy input</i>			
Pto 0,010 kW				Electric			
<i>Standby mode</i>							
Psb 0,010 kW							
<i>Crankcase heater mode</i>							
Pck - kW							
<i>Other items</i>							
<i>Space heating energy efficiency class</i>				A++			
<i>Annual energy consumption</i>				QHE 2657 kWh			
<i>Sound power level indoor</i>				Lwa 46 dB			
				Capacity control variable			
<i>DHW production</i>							
<i>Storage volume</i>				190 (L)			
<i>Declared load profile</i>				L			
<i>Water heating energy efficiency class</i>				A+			
<i>Water heating energy efficiency</i>				ηwh 115 %			
<i>Daily electricity consumption</i>				Qelec 4,1 kWh			
<i>Annual electricity consumption</i>				AEC 896 kWh			
<i>Setpoint/hyst</i>				Tset 55/10 dgC			
Contact details Joule Group Ltd. Unit 407 NW Business Park, Ballycoolin, Dublin 15, Ireland							