

TECHNICAL DATA SHEET

TECHNICAL DATA SHEET COM122 (2024/06)



BOSCH

Uni Condens 8000 F Floor Standing Condensing Boiler:

Uni 8000 F – 145	59.2 – 145 kW	@50/30
Uni 8000 F – 185	75.6 – 185 kW	@50/30
Uni 8000 F – 240	97.8 – 240 kW	@50/30
Uni 8000 F – 310	126.3 – 310 kW	@50/30
Uni 8000 F – 400	162.4 – 400 kW	@50/30
Uni 8000 F – 510	208.8 – 510 kW	@50/30
Uni 8000 F – 640	261.5 – 640 kW	@50/30



- New, pre-configured boiler-burner system optimized for 100% hydrogen operation (H₂)
- This dual-fuel system prioritizes hydrogen (H₂) but seamlessly switches to 100% natural gas (G₂₀) as a backup or when hydrogen isn't readily available
- Low NO_x emission values (<40mg/kWh) for natural gas and hydrogen operation through Flue Gas Recirculation (FGR)
- Matched Burner supplied by Dunphy Combustion, with over 25 years of experience in hydrogen burners. Based in Rochdale, Manchester, UK
- CE-certified Hydrogen burner and boiler combination
- Stainless steel heat exchanger
- Flexible control options using the Bosch 8000 control system

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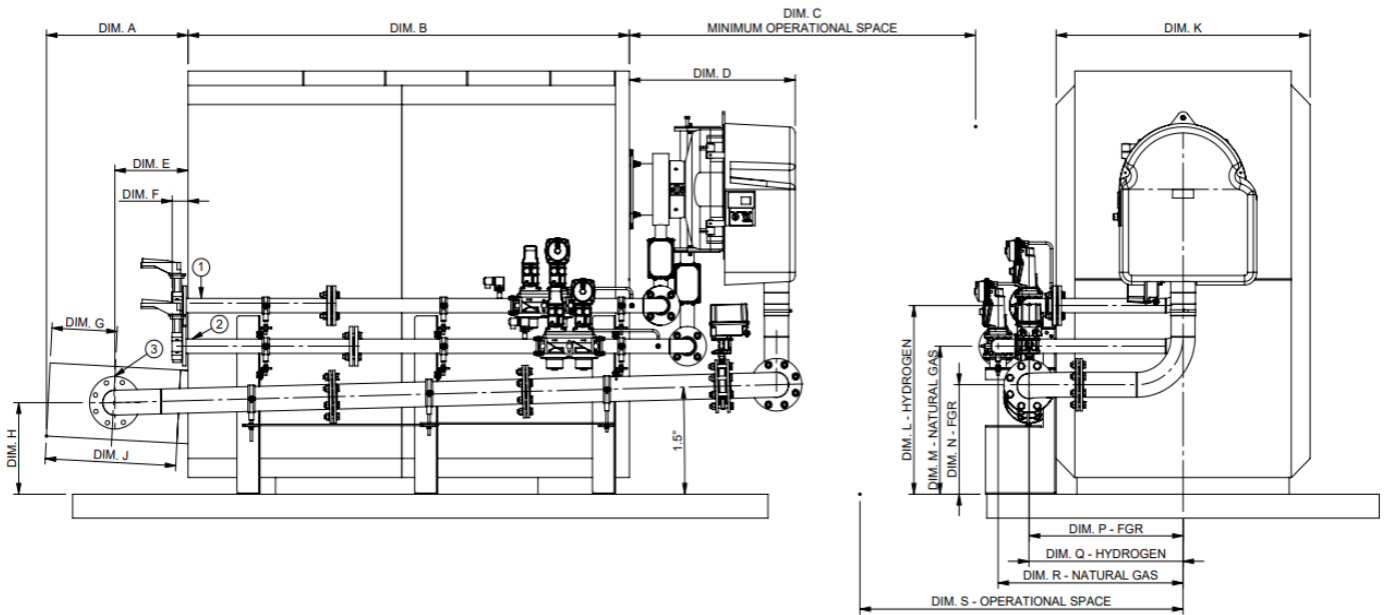
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Dimensions:



Boiler Size		145 kW	185 kW	240 kW	310 kW	400 kW	510 kW	640 kW
Burner Size		T02 Burner	T03 Burner		T04 Burner		T05 Burner	
Dim. A	mm	353	661		670		613	
Dim. B	mm	1746	1774		1774		1912	
Dim. C	mm	1000	1100		1250		1500	
Dim. D	mm	555	635		591		718	
Dim. E	mm	199	378		380		317	
Dim. F	mm	60	56		63		69	
Dim. G	mm	150	282		283		283	
Dim. H	mm	405	409		343		383	
Dim. J	mm	300	566		566		566	
Dim. K	mm	900	970		970		1100	
Dim. L	mm	700	713		727		789	
Dim. M	mm	575	595		624		619	
Dim. N	mm	469	480		408		458	
Dim. P	mm	600	622		646		667	
Dim. Q	mm	650	792		780		668	
Dim. R	mm	720	885		844		802	
Dim. S	mm	1300	1300		1400		1400	
Fuel Connection Size	H ₂	DN32 PN16	DN32 PN16		DN40 PN16		DN50 PN16	
	NG	DN32 PN16	DN32 PN16		DN40 PN16		DN50 PN16	
	FGR	DN100 PN16						

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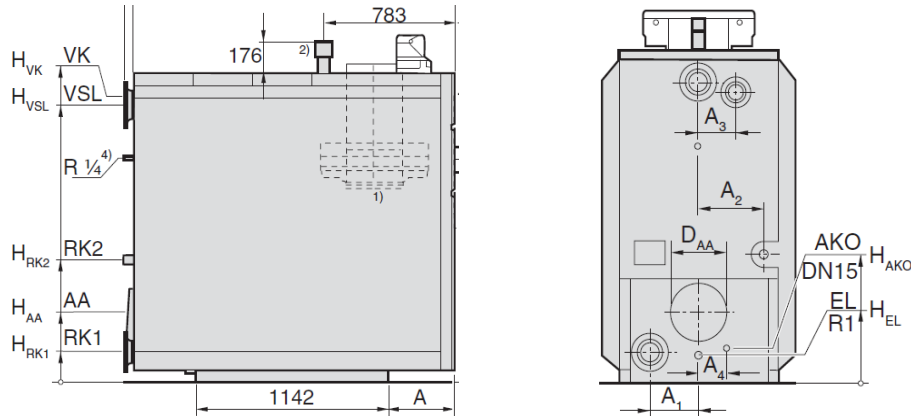
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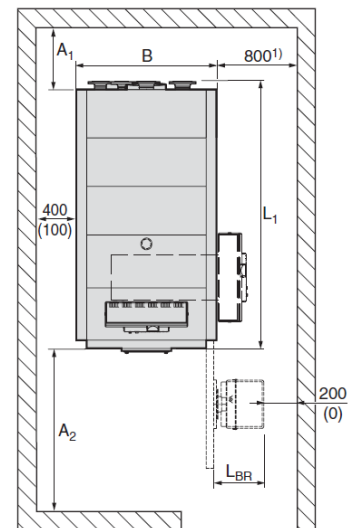
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Boiler Size			145 kW	185 kW	240 kW	310 kW	400 kW	510 kW	640 kW
Flow	Ø VK	DN	65			80		100	
	H _{VK}	mm	1239			1260	1442	1612	
Return RK1	Ø RK1	DN	65			80		100	
	H _{RK1}	mm	142			150			
	A ₁	mm	275		300	290	284		
Return RK2	Ø RK2		R 1 ^{1/2}		DN 65		DN 80		
	H _{RK2}	mm	495		512	597	685		
	A ₂	mm	295		310	315	360		
Safety Flow	Ø VSL		R 1 ^{1/4}		DN 32		DN 50		
	H _{VSL}	mm	1180		1213	1327	1549		
	A ₃	mm	160		170	210	195		
Flue Outlet	Ø D _{AA} Inside	DN	183		203	253	303		
	H _{AA}	mm	299		295	333	368		
Condensate Pipe	H _{AKO}	mm	194		185	193	203		
	A ₄	mm	110		135	130	155		
	Ø External	mm	32						

Clearances:

Boiler Size	A1	A2	L1	B
145 kW	760 (460)	1700 (1200)	1816	900
185 kW				
240 kW	800 (500)	1700 (1200)	1845	970
310 kW				
400 kW	900 (600)	1750 (1250)	1845	970
510 kW	1000 (700)	2000 (1500)	1980	1100
640 kW				



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Data Table:

Boiler Size	Unit	145	185	240	310	400	510	640	
Rated output, Gas and Hydrogen (50/30 °C)	Full Load	kW	145	185	240	310	400	510	640
	Partial load (40%)	kW	59.2	75.6	97.8	126.3	162.4	208.8	261.5
Rated output, Gas and Hydrogen (80/60 °C)	Full load	kW	133	170	219	283	366	466	588
Rated heat input, Gas and Hydrogen (burner output Q _n (H _i))	Full load, max.	kW	137.0	175.0	226.0	292.0	377.0	480.0	605.0
	Partial load (40%)	kW	54.8	70.0	90.4	116.8	150.8	192.0	242.0
CO ₂ value	Gas	%	10						
O ₂ value	Hydrogen	%	4						
Nominal flow rate	Hydrogen	m ³ /h	48	61	79	102	132	168	210
Rated gas pressure Gas (Flow Pressure)	20 mbar gas train	mbar	17.5 - 21						
	40 mbar gas train	mbar	25 - 40						
Rated gas pressure Hydrogen (Flow Pressure)	100 mbar gas train (145 -310 kW)	mbar	100						
	100 mbar gas train (400 - 640 kW)	mbar	100						
Flue gas temperature ¹⁾ (50/30°C)	Full load	°C	45						
	Partial load (40%)	°C	35						
Flue gas temperature ¹⁾ (80/60 °C)	Full load	°C	74						
	Partial load (40%)	°C	45						
Flue gas mass flow rate (50/30 °C)	Full load	kg/s	0.0552	0.0704	0.0928	0.1200	0.1528	0.1969	0.2466
	Partial load (40%)	kg/s	0.0217	0.0277	0.0360	0.0465	0.0603	0.0770	0.0958
Flue gas mass flow rate (80/60 °C)	Full load	kg/s	0.0579	0.0738	0.0956	0.1235	0.1592	0.2040	0.2555
	Partial load (40%)	kg/s	0.0231	0.0295	0.0383	0.0494	0.0637	0.0816	0.1022
Water content (approx.)	ltr	560	555	675	645	680	865	845	
Gas content	ltr	327	333	347	376	541	735	750	
Available flue resistance	Pa	150							
Resistance of products of combustion	mbar	1.20	1.55	2.20	2.40	3.00	3.55	4.40	
Permissible flow temperature ²⁾	°C	110							
Permitted operating pressure	bar	4		5		5.5			
Product ID Number		CE-0085 AT 0075							

Table 11 Specifications of the floor standing condensing boiler UC 8000 F 145 ... 640

1) Calculated flue gas temperature for cross-sectional calculation to DIN EN 13384 (average value across the product line). The actual flue gas temperature may differ from this, subject to burner setting and actual operating temperature.

2) Safety limit (high limit safety cut-out): In combination with the CC 8000 control unit: maximum possible flow temperature = safety limit (high limit safety cut-out) - 9 K (Table 14, page 47).

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