



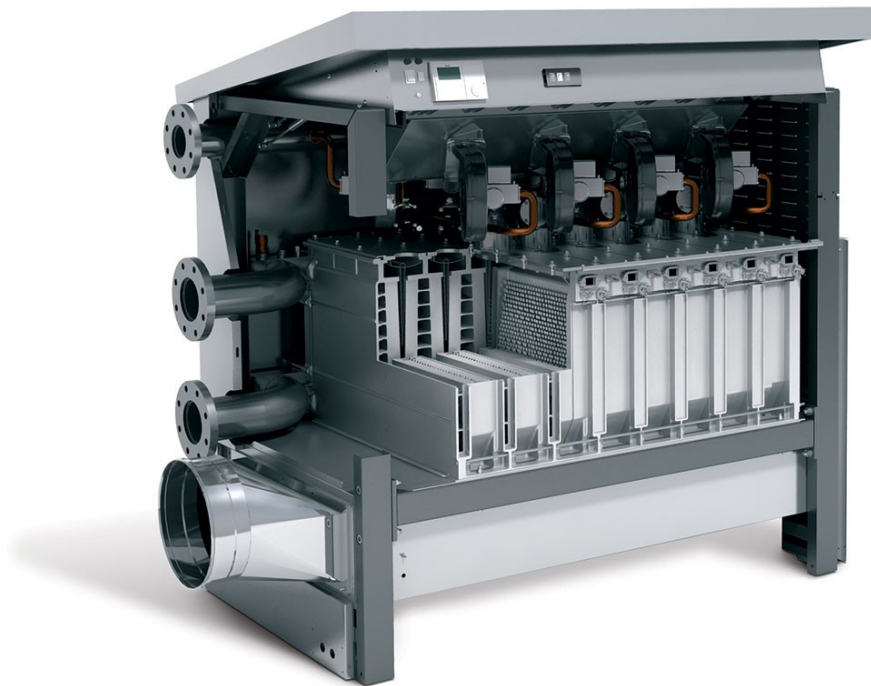
ARES Tec 150-900kW

Floor Standing Condensing Boilers
Technical Brochure

ARES Tec floor standing condensing boilers provide infinitely flexible solutions for buildings requiring a high output heating system.

Each boiler is made up of a number of self contained heat generating modules linked together within a single casing. This modular design enables ARES Tec boilers to optimise energy efficiency and comfort levels for occupants of a wide range of projects from hotels to office buildings, schools to sports centres.

In addition, consultants, system designers and contractors also benefit from ARES Tec's advanced technology which greatly eases the installation process, increases siting options and simplifies maintenance.



PRODUCT CHOICE

- Ten models with outputs ranging from 150-900kW
- Can be cascaded for higher output requirements
- Natural gas or LPG options

PERFORMANCE BENEFITS

- Very high modulation range up to 1:40 optimises comfort levels
- Exceptional energy efficiency (up to 109% at the minimum modulated capacity)
- High seasonal efficiency (+30% compared to standard efficiency boilers)
- Low emissions (<31 ppm low NOx)

SITING ADVANTAGES

- Compact dimensions
- Ultra-low operating noise levels (<49 dBA)
- IPX5D rated for optional siting outdoors

EASIER INSTALLATION AND MAINTENANCE

- Excellent power to weight ratios
- Fewer connections
- Easy access internal layout
- Each module shares a single set of ancillary components including flow and return pipes, electronic controls and flue

COMPLIANCE

- Building Regulations Part L 2010
- NOx Class 6 – EN 15420 and EN 297/A3

Each heat generating module within ARES Tec boilers is self-contained, with its own down firing pre-mix gas burner, fan, ignition and safety controls.

As system load decreases, a built-in Boiler Cascade Manager modulates the boiler down to the combined minimum. As loads continue to reduce, individual modules are switched off as necessary down to a minimum output of a single module – 12 kW for 150-350 kW models and 22kW for 440-900 kW models.

This ensures optimum load matching and minimises wasteful boiler cycling; maximising energy efficiency in the process. The combination of a high modulation ratio up to 1:40 and a high output plus very low water content ensures rapid warm-up and turn-down times

thereby enabling quick response to changing demands throughout the day.

Thanks to their modular design, ARES Tec boilers will also continue to operate even in the unlikely event of single module malfunction.

SUMMARY

- Optimum load matching
- Minimal boiler cycling
- Rapid warm-up time
- Quick response to changing demands
- Boiler able to operate even if one module fails

KEY MODULE COMPONENTS

- PCB to manage the boiler
- Automatic and pre-programmed electronic management and thermal regulation
- Individually controlled premix modelling burners
- Electronic ignition with flame ionisation
- Modulating gas valve
- Integrated fan inlet non-return valve
- Temperature and safety sensors

SEAMLESS INSTALLATION

- One-piece interconnecting flow and return manifolds
- Three flue position options (rear or either side)
- Reversible left/right handed water and gas connections (150-350kW models)
- A range of complementary accessory kits

MAXIMUM HEAT TRANSFER

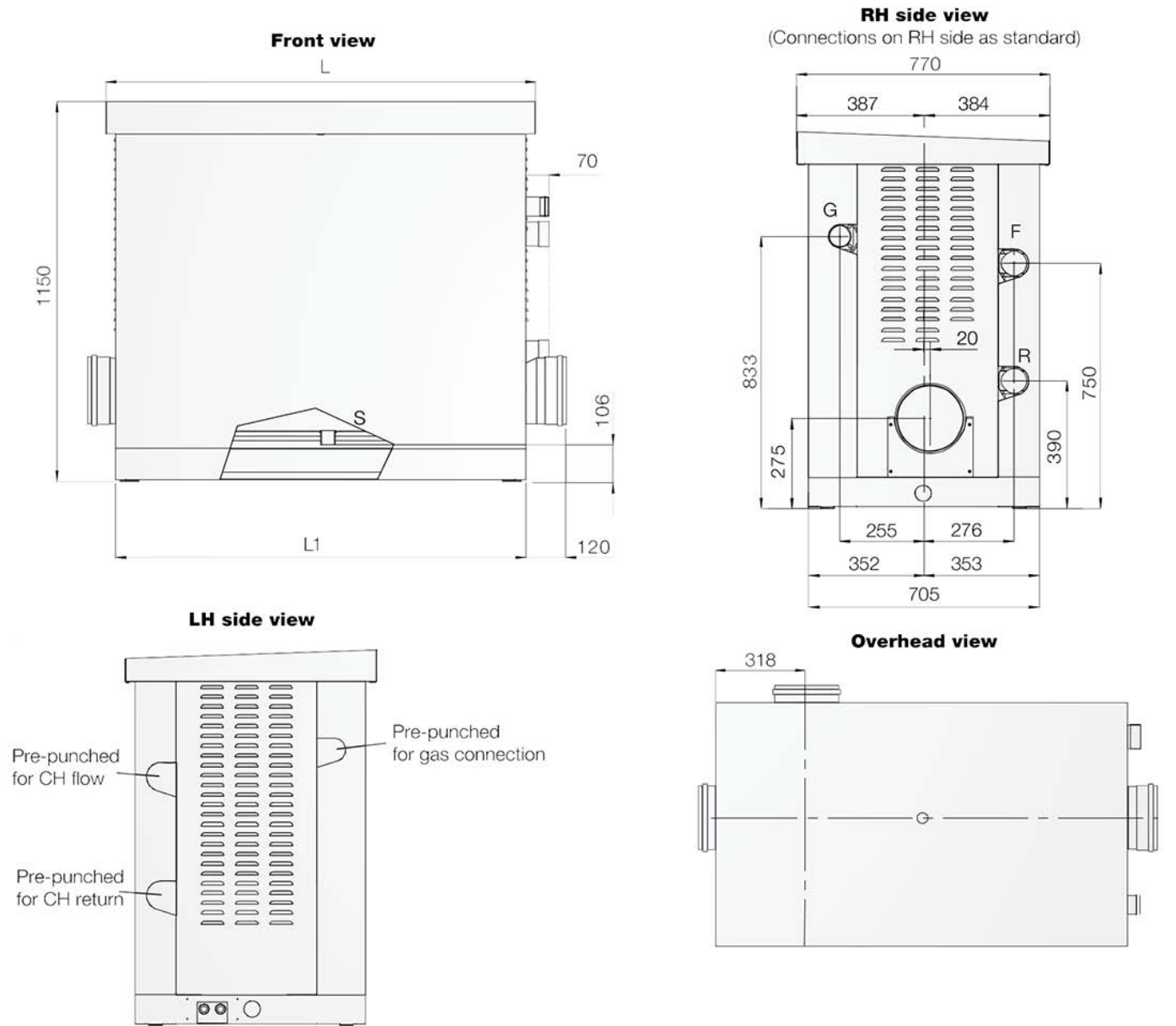
Each heating module is a counter flow heat exchanger featuring:

- Cast aluminium alloy with silicon and magnesium construction for lightness, strength and corrosion resistance
- Serpentine water ways to optimise heat transfer
- Cast pin design to increase surface area and boiler efficiency

ARES Tec Technical Data

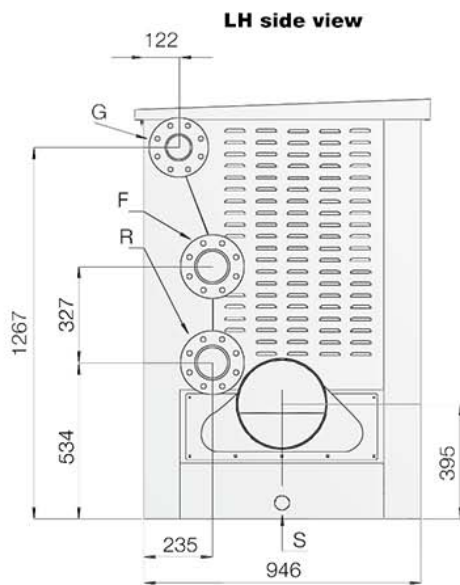
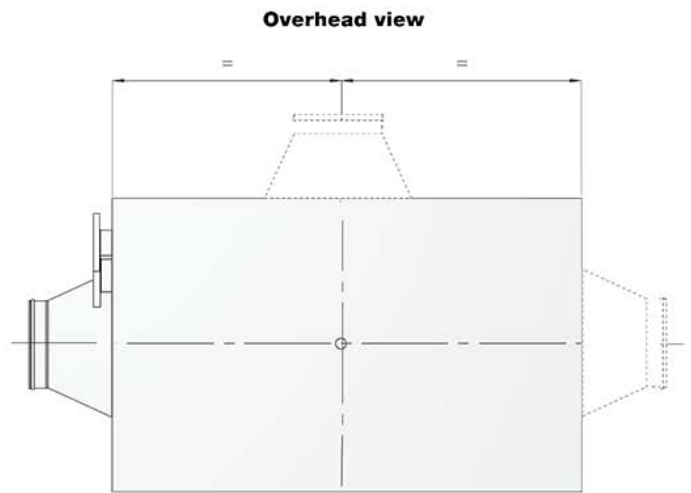
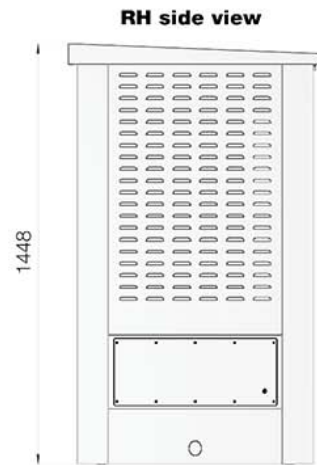
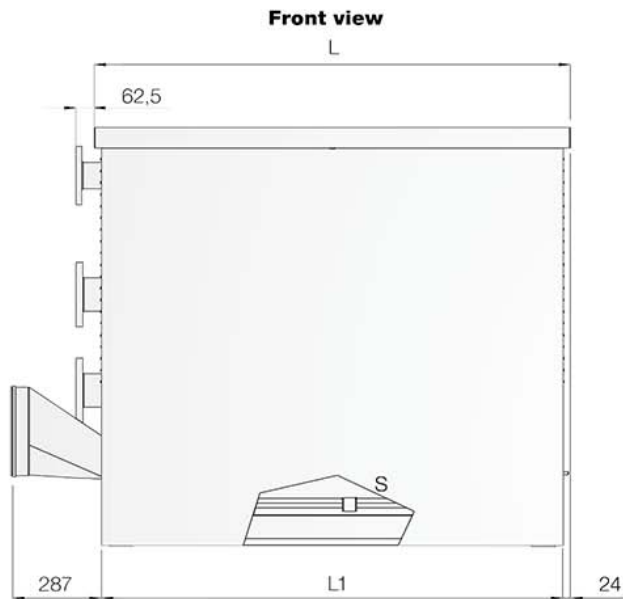
ARES Tec model		150	200	250	300	350	440	550	660	770	900
Nominal input (NCV)	kW	150	200	250	300	348	432	540	648	756	864
Number of heating modules		3	4	5	6	7	4	5	6	7	8
Nominal output in condensation 30/50°C	kW	150	200.4	251.3	302.7	354.6	445	557.8	670.1	783.2	900.3
Minimal input in condensation 30/50°C	kW	12.8	12.8	12.8	12.8	12.8	23.9	23.9	23.9	23.9	23.9
Nominal output in standard conditions 60/80°C	kW	146.1	195.2	244.5	294	342.2	424.35	530.44	636.53	742.62	849.05
Efficiency at maximum load condensing	%	100	100.2	100.5	100.9	101.9	104	104	104	104	104
Efficiency at part load condensing	%	107.3	107.3	107.3	107.3	107.3	107.3	107.5	108.3	107.8	107.6
Efficiency at full load 80/60°C	%	97.4	97.6	97.8	98	98.2	98.2	98.2	98.2	98.2	98.2
NOx Class		6	6	6	6	6	6	6	6	6	6
Natural gas consumption (gross)	m³/h	15.9	21.1	26.4	31.7	37	45.68	57.1	68.52	79.94	91.36
Flue gas temperature rise (max) 30/50°C	°C	45.1	46.5	47.3	48.2	49.1	46.7	46.7	46.7	46.7	45.8
Flue gas mass flow (max) 30/50°C	kg/h	245	326.9	408.6	490.3	572	693	866	1040	1213	1386
Max flue resistance	Pa	100	100	100	100	100	100	100	100	100	100
Maximum operational electrical consumption	W	210	290	362	435	507	626	783	940	1096	1252
Stand-by consumption	W	10	10	10	10	10	20	20	20	20	20
Flue connection	mm	150	150	200	200	200	250	250	300	300	300
Gas connection (G)	mm (inch)	50 (2)	50 (2)	50 (2)	50 (2)	50 (2)	80 (3)	80 (3)	80 (3)	80 (3)	80 (3)
Flow/Return connection (F/R)	mm (inch)	64 (2.5)	64 (2.5)	64 (2.5)	64 (2.5)	64 (2.5)	100 (4)	100 (4)	100 (4)	100 (4)	100 (4)
Water flow rate at 15°C temp. rise	l/s	2.73	3.1	3.89	4.68	5.48	6.76	8.45	10.14	11.83	13.51
Hydraulic resistance at 15°C temp. rise	kPa	19.61	21.6	24.5	23.7	24	21.6	31.4	42.1	34.1	33.3
Water flow rate at 20°C temp. rise	l/s	1.75	2.33	2.92	3.51	4.11	5.06	6.33	7.6	8.87	10.14
Hydraulic resistance at 20°C temp. rise	kPa	10.7	11.8	12.8	13.7	14.7	13.7	15.7	19.6	20.6	17.6
Maximum condensate production	ltr/hr	23	30.6	38.3	45.9	53.6	73.4	91.7	110	128.4	146.7
Protection degree	IP	X5D	X5D	X5D	X5D	X5D	X5D	X5D	X5D	X5D	X5D
Min-max water pressure	bar	0.5-6.0	0.5-6.0	0.5-6.0	0.5-6.0	0.5-6.0	0.5-6.0	0.5-6.0	0.5-6.0	0.5-6.0	0.5-6.0
Water content	ltr	14.2	18.3	22.4	26.5	30.6	67	80	94	108	122
Gross weight including packaging	kg	236	295	325	386	419	585	643	707	806	858

ARES Tec Dimensions 150-350kW



ARES Tec model	150	200	250	300	350
Width (L) mm	764	1032	1032	1032	1300
Width (L1) mm	706	974	974	1242	1242
Flue connection mm	150	150	200	200	200
Gas connection (G) mm (inch)	50 (2)	50 (2)	50 (2)	50 (2)	50 (2)
Condensate drain (S) mm	40	40	40	40	40
CH flow/return (F/R) mm (inch)	64 (2.5)	64 (2.5)	64 (2.5)	64 (2.5)	64 (2.5)

ARES Tec Dimensions 440-900kW



ARES Tec model	440	550	660	770	900
Width (L) mm	1087	1355	1355	1623	1623
Width (L1) mm	1039	1307	1307	1575	1575
Flue connection mm	250	250	300	300	300
Gas connection (G) mm (inch)	80 (3)	80 (3)	80 (3)	80 (3)	80 (3)
Condensate drain (S) mm	40	40	40	40	40
CH flow/return (F/R) mm (inch)	100 (4)	100 (4)	100 (4)	100 (4)	100 (4)



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