



# Multi-Fuel 'Waste Oil' Boilers from ZMO Systems UK

At a time of rising fuel costs, the multi-fuel 'waste oil' Boilers from ZM Heaters, which can burn nearly all vegetable, animal, conventional and waste oil, will save you money.

It provides you with flexibility in choosing your preferred choice of fuel source.

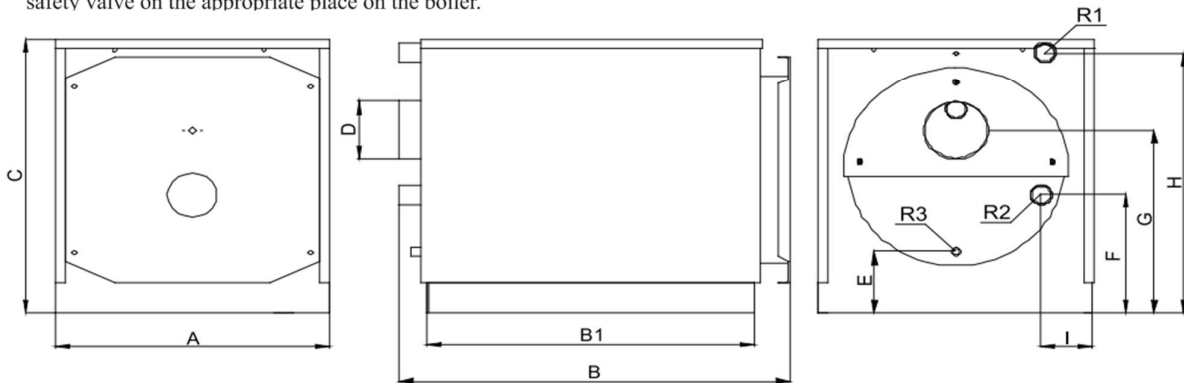
# PRIMULA R BOILER SERIES



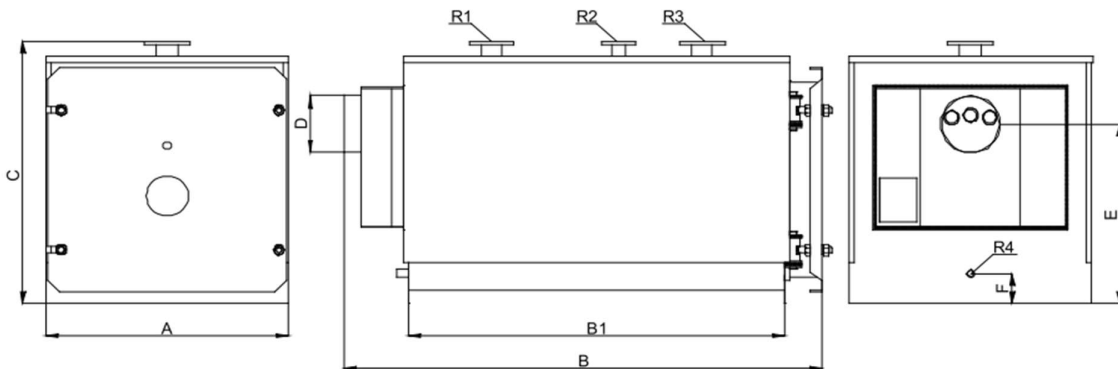
Boilers type Primula R with power range 18-320kW are ment for combustion of liquid and gas fuel with the use of fan burners. Coupling the boiler with fan burners on liquid or gas fuel gives maximal boiler output and boiler efficiency of 90-92%.

Boiler is constructed as „three drafted“ with reversible fire tube and flue pipes which means that products of combustion pass water area in three occasions maximizing the heat exchange. First and second heat exchange are in the reversible fire tube, mostly by methods of irradiation and the third heat exchange is in flue pipes before the flue gasses exit the boiler mostly by methods of conduction and convection. Because of the use of fan burners, turbulators are instaled into flue pipes which maximases the heat exchange between the flue gases and water and increases the boiler efficiency. Construction of the boiles is such that provides free dilatations of fire tube and flue pipes which as a result has that these boiler can easily stand the sudden heat regime changes. Boiler body is well insulated with mineral wool and boiler sheeting is protected with painting or powder coating processes. Boiler is ment for production of hot water in operating mode 110/90°C and 90/70°C with maximum allowed work pressure of 2,5bar (for 22-60 boilers) and 3 bar (for 80-400 boilers) Regulation of air flow needed for combustion is done through the burner and boiler automatic controler.

Protection of boiler from increased pressure is done by installing the safety valve on the appropriate place on the boiler.



Boiler	Boiler power kW	CONECTION DIMENSIONS		BOILER DIMENSIONS (mm)										Water content (l)	Necessary draft (Pa)	Work pressure (bar)	Boiler weight (kg)
		R1/R2	R3	A	B1	B	C	D	E	F	G	H	I				
Primula R 22	18-26	5/4"	1/2"	550	550	650	630	120	155	300	415	570	105	22	20	2,5	113
Primula R 29	25-34	5/4"	1/2"	550	550	650	680	120	165	310	425	620	105	30	30	2,5	154
Primula R 36	38-42	5/4"	1/2"	550	550	650	680	120	165	310	425	620	105	34	35	2,5	171
Primula R 46	42-54	6/4"	1/2"	625	750	880	730	150	155	300	465	665	110	50	40	2,5	205
Primula R 60	54-70	6/4"	1/2"	625	750	880	780	150	165	310	465	715	110	60	45	2,5	251



Boiler	Boiler power kW	CONECTION DIMENSIONS			BOILER DIMENSIONS (mm)								Water content (l)	Necessary draft (Pa)	Work pressure (bar)	Boiler weight (kg)
		R1/R3	R2	R4	A	B1	B	C	D	E	F					
Primula R 80	60-85	DN50 NP6	5/4"	5/4"	765	850	1170	935	200	510	80	122	55	3	324	
Primula R 99	74-106	DN50 NP6	5/4"	5/4"	765	850	1170	935	200	510	80	130	67	3	360	
Primula R 120	90-128	DN65 NP6	5/4"	5/4"	765	1180	1350	935	200	510	80	138	88	3	400	
Primula R 150	112-160	DN65 NP6	5/4"	5/4"	765	1180	1350	935	200	510	80	152	102	3	443	
Primula R 180	135-193	DN65 NP6	6/4"	5/4"	875	1430	1600	985	220	510	80	200	120	3	585	
Primula R 210	157-224	DN65 NP6	6/4"	5/4"	875	1430	1600	985	220	510	80	218	180	3	650	
Primula R 250	188-268	DN80 NP6	2"	5/4"	875	1660	1850	985	250	510	80	280	220	3	725	
Primula R 300	280-320	DN80 NP6	2"	5/4"	875	1660	1850	985	250	510	80	320	250	3	807	

## Compressed Air

For those who don't have an existing compressed air supply, you will need a small compressor.

We can have a huge choice of compressors and recommend the oil free units as these require very little maintenance and are also super quiet (only 70 dba max).

Many industrial sites and workshops already have a compressed air supply. This can be used to supply our universal oil burner with the compressed air it requires.

## MAINTENANCE SCHEDULE

### EVERY MORNING

DRAIN WATER & SLUDGE FROM PRE-HEAT TANK,  
DRAIN WATER FROM COMPRESSED AIR WATER TRAP.

### WEEKLY

CLEAN BURNER FLAME RING & ELECTRODES,  
REMOVING ANY CARBON BUILD UP

### EVERY 4-6 WEEKS – (OR 250 Burning Hours)

OPEN BOILER DOOR & CLEAN OUT HEAT EXCHANGER.

### EVERY 3 MONTHS

DRAIN WATER & SLUDGE FROM MAIN TANK  
CLEAN FILTER WITHIN PRE- HEATED FILTER  
INSPECT & CLEAN FLUE SYSTEM IF REQUIRED

**FAILURE TO CARRY OUT THIS SCHEDULE CAN LEAD TO**

**FAILURE OF THE BOILER**

**WARNING!**

WEAR INDUSTRIAL RUBBER GLOVES, OVERALLS AND PROTECTIVE FACE MASK  
TO CLEAN COMBUSTION CHAMBER.

BAG AND SEAL CONTENTS.

## Waste Oil Fuels

Please ensure the following

**NO** Water, Petrol or Paint Thinners

**NO** Brake or Clutch Fluid

**NO** Anti-Freeze

**DO NOT** use unused engine oil as it does not burn very well at all.

**Synthetic Oils** – If your oil is all synthetic then you must add at least 15% heating oil /diesel to ensure reliable starting.

If the synthetic oil content is more 50:50 to mineral oil in your waste oil, then you must add at least 15% heating oil/diesel to ensure reliable starting.

**If burning used cooking oil, please ensure all fats are removed prior to entering the pre heat tank of the burner.**