



TreGi-K

with storage cylinders calorifier



Cast iron 3-pass sectional boiler with wet base furnace, complete with removable turbulators and horizontal flue passes with fins, to generate an efficient gas to water heat transfer. Available with pressure jet oil or gas (natural gas and LPG) burners achieving efficiency > 90%. Supplied with DHW calorifier (capacity 60 and 100 litres) lagged with a thick polyurethane foam jacket complete with pipe and pump.

Double hinged front door with ceramic insulation. Boiler lagged with fibre-glass wool.

Control panel designed to suit on-off burner complete with control and high-limit thermostats. Hot painted cast steel Casing constructed from sheet steel finished in power coating . The range includes 6 boiler models with duties from 24 to 64 kW.

PRODUCT ADVANTAGES

High overall seasonal efficiency with low operating costs.

High efficiency, long life, calorifier manufactured from mild steel with vitreous enamel lining.

Return temperature up to 40 °C for all fuels.

INSTALLATION/MAINTENANCE ADVANTAGES

Easy to transport. Boilers come pre-assembled in a palletised wooden crate (models "TREGI 3K and 4K"), alternatively in two separate packages (one for the boiler, one for the casing).

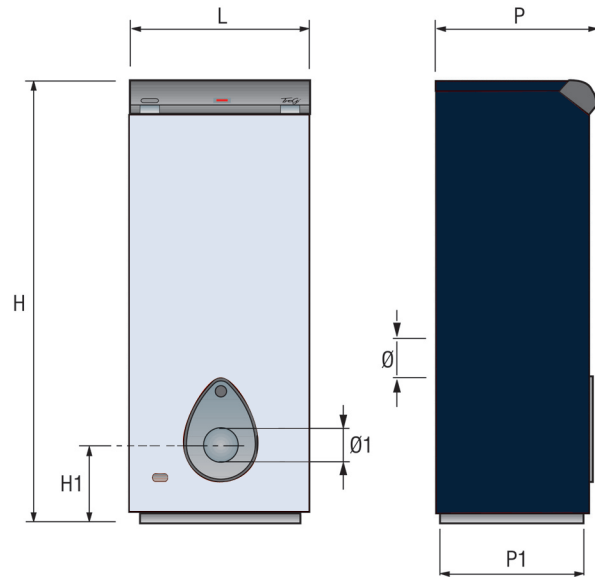
Easy installation. Standard fittings, compact size and standard boiler plate.

Easy maintenance and serviceability . Front-on access to the combustion chamber; easy access to the flue gas and control panel; inspection flange and sacrificial magnesium anode.

CHARACTERISTICS			TREGi 3 K	TREGi 4 K	TREGi 5 K	TREGi 6 K	TREGi 7 K	TREGi 8 K
Input	min/max	kW	26,5	34,8	36/44,3	46,1/53,1	55/62	63/70
		Mcal/h	22,8	29,9	30,9/38,1	39,6/45,7	47,3/53,3	54,2/60,2
Output	min/max	kW	23,9	31,5	33/40,2	42,3/48,2	50/56,2	57,6/63,8
		Mcal/h	20,6	27,1	28,4/34,6	36,4/41,5	43/48,3	49,5/54,9
Efficiency at min/max output		%	90,2	90,5	91,7/90,7	91,8/90,8	90,9/90,6	91,4/91,1
Efficiency at 30% Load		%	90,9	91,3	91,6	92	91,8	92
Heat losses through flue gas	burner lock-out	%	0,1	0,1	0,1	0,1	0,1	0,1
	100 % load	%	7	7,2	7	7	7	7
Heat losses through insulation		%	2,7	2	2,3	2,2	2,4	1,9
Flue gas temperature (Δt)		$^{\circ}\text{C}$	>140	>140	>140	>140	>140	>140
Flue gas mass flow rate		kg/s	0,01	0,013	0,017	0,02	0,024	0,027
CO2	On Natural Gas	%	9,5	9,5	9,5	9,5	9,5	9,5
	On Light oil	%	12,5	12,5	12,5	12,5	12,5	12,5
Exhaust side volume Total Flue Gas Volume		dm ³	22	31	39	47	55	63
Combustion chamber volume		dm ³	16	22	28	34	40	46
Volumetric Thermal Load		kW/m ³	1656	1582	1582	1562	1550	1522
Combustion Chamber Pressure drop	min/max	mbar	0,1	0,17	0,17/0,26	0,26/0,36	0,33/0,42	0,47/0,6
		Pa	10	17	17/26	26/36	33/42	47/60
Maximum flow temperature		$^{\circ}\text{C}$	100	100	100	100	100	100
Minimum Return temperature		$^{\circ}\text{C}$	35	35	35	35	35	35
Water-side pressure drop	@ ΔT 10 $^{\circ}\text{C}$	mbar	4	6	10	14	20	26
		Pa	400	600	1000	1400	2000	2600
	@ ΔT 20 $^{\circ}\text{C}$	mbar	1,2	1,6	2,5	3,5	5	7
		Pa	120	160	250	350	500	700
Boiler capacity		l	13,7	17,2	20,7	24,2	27,7	31,2
Boiler maximum working pressure		bar	4	4	4	4	4	
		kPa	400	400	400	400	400	400
Calorifier capacity		l	60	60	100	100	100	100
Coil water capacity		l	6,6	6,6	6,9	6,9	6,9	6,9
Domestic hot water production with ΔT @ 35 $^{\circ}\text{C}$		l/h	570	760	770	770	770	770
10 minutes peak DHW Output flow temperature @ 48 $^{\circ}\text{C}$ *		l	115	125	185	185	185	185
10 minutes peak DHW Output flow temperature @ 60 $^{\circ}\text{C}$ *		l	140	150	230	230	230	230
Recovery time (ΔT 35 $^{\circ}\text{C}$)		min	12	10	11	11	11	11
Maximum power input (primary 80 \pm 3 $^{\circ}\text{C}$)		kW	23,2	30,9	31,3	31,3	31,3	31,3
Calorifier maximum working pressure		bar	7	7	7	7	7	7
		kPa	700	700	700	700	700	700
Index of protection		IP	X0D (40)	X0D (40)	X0D (40)	X0D (40)	X0D (40)	X0D (40)
Boiler Weight		kg	157	182	223	247	272	297

* With Inlet water temperature 13 $^{\circ}\text{C}$; average DHW flow outlet temperature 43 $^{\circ}\text{C}$.
Performance obtained with feed pump at maximum output and burner without pre-heater.

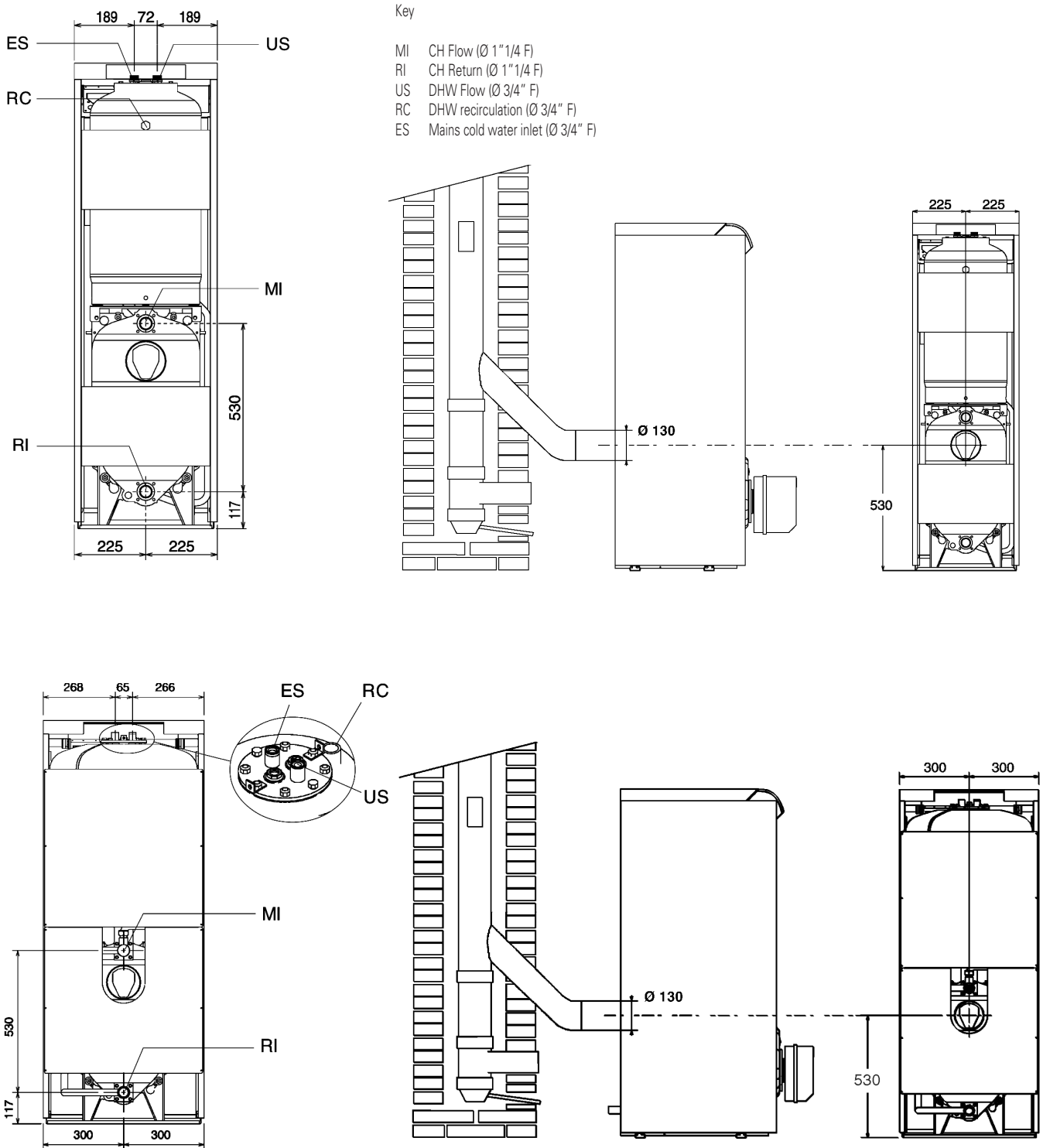
DIMENSIONS (mm)



Models		TREGi 3 K	TREGi 4 K	TREGi 5 K	TREGi 6 K	TREGi 7 K	TREGi 8 K
L - Width	mm	450	450	600	600	600	600
P - Length	mm	580	580	690	790	890	990
P1 - Base Length	mm	550	550	660	760	860	960
H - Height	mm	1470	1470	1510	1510	1510	1510
H1	mm	290	290	290	290	290	290
Ø	mm	130	130	130	130	130	130
Ø1	mm	112	112	112	112	112	112

HIDRAULIC CONNECTIONS – FLUE CONNECTIONS

Tregi K boilers are designed and manufactured for central heating and domestic hot water installations.



The Flues fittings and connections must be made in compliance with relevant requirement and local authority, using heat resistant, condensate resistant and stress resistant pipe-works and gaskets.

The Chimney must guarantee the minimum draught specified by applicable technical standards, assuming zero pressure at flue connection. Inadequate or badly sized chimneys and flues can increase combustion noise, cause condensation problems and affect combustion parameters.

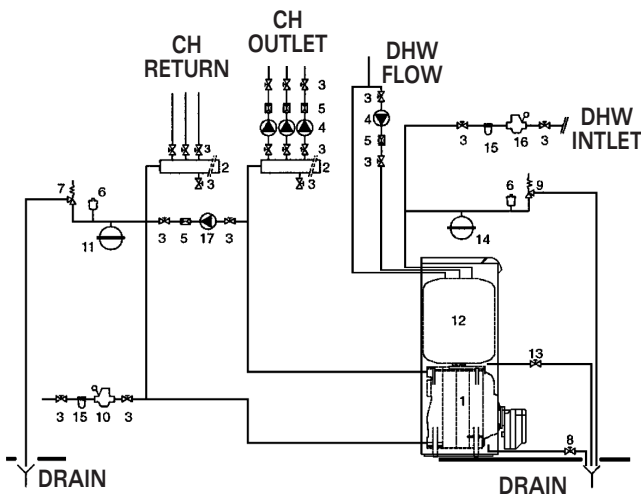
Flues installed without a proper insulation are potentially dangerous.

Gaskets and seals must be manufactured with high temperature resistant materials (250°C e.g. silicon glues).

BURNERS MATCHING

		TREGÌ 3 K	TREGÌ 4 K	TREGÌ 5 K	TREGÌ 6 K	TREGÌ 7 K	TREGÌ 8 K
BURNERS							
GAS	GULLIVER BS 1	●	●	●			
	GULLIVER BS 2				●	●	●
LIGHT OIL	GULLIVER RG 0R	●					
	GULLIVER RG 0.3	●					
	GULLIVER RG 1 NR		●	●			
	GULLIVER RG 1 RK		●	●			
	GULLIVER RG 2				●	●	
	GULLIVER RG 2 KD						●
	REG 3	●					
REG 5		●	●				

TYPICAL BOILER/CALORIFIER CONNECTION SCHEME



Key

- | | |
|-----------------------|--|
| 1 Boiler | 9 Calorifier safety valve |
| 2 CH system manifolds | 10 CH fill cock |
| 3 Isolating valves | 11 CH expansion vessel |
| 4 Pumps | 12 Calorifier |
| 5 Non-return valves | 13 Calorifier drain cock |
| 6 Automatic air vent | 14 DHW expansion vessel |
| 7 Boiler safety valve | 15 Water Filter |
| 8 Boiler drain cock | 16 Pressure reduction station |
| | 17 Anti-condensation pump/
Shunt Pump |

WATER REFERENCE VALUES

PH	6-8
Electrical conductivity	below 200 mV/cm (25°C)
Chlorine ions	below 50 ppm
Sulphuric acid ions	below 50 ppm
Total iron	below 0.3 ppm
Alkalinity M	below 50 ppm
Total hardness	below 35° f
Sulphur ions	none
Ammonia ions	none
Silicon ions	below 30 ppm

The choice of system components and the installation are up to the installer. Installers must use their experience to guarantee a proper installation and functioning in compliance with all applicable legislation.

Circuits filled with anti-frost must be fitted with water disconnectors.

Water treatment values if required.

See the table for applicable reference values.

If needed, water supplies and recovery circuits must be conditioned by suitable treatment

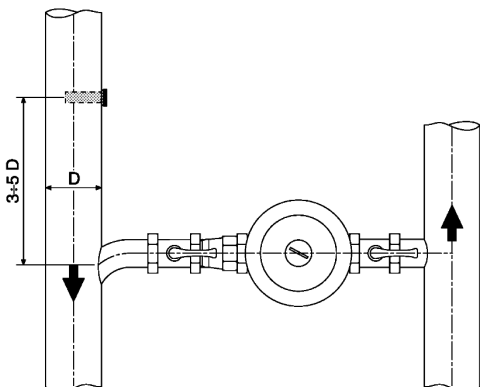
SHUNT PUMP

The domestic hot water circuit must include an expansion vessel of adequate capacity as well as a safety valve (max 6 bar), connected directly to the calorifier.

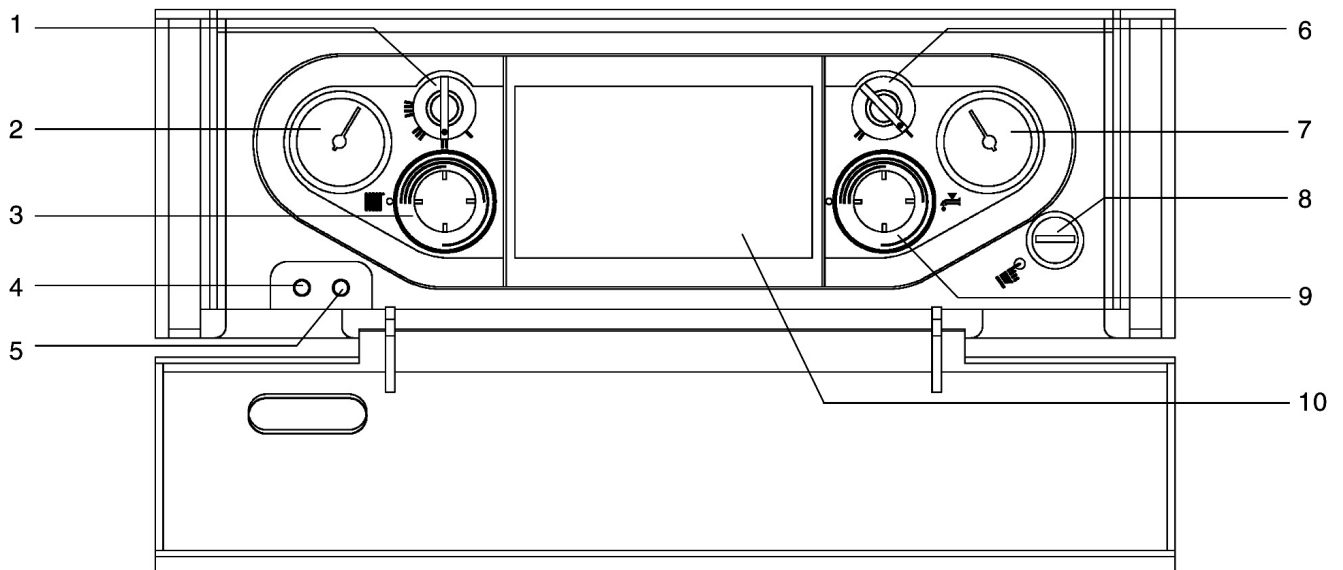
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CONTROL PANEL



Key

- | | |
|---|---|
| 1 Switch:
I Off
II On
III On
III On | 5 Burner lock-out Alarm |
| 2 Boiler temperature gauge | 6 Summer/Winter Switch
I Summer
II Winter |
| 3 Boiler control thermostat | 7 Calorifier temperature gauge |
| 4 Electrical power indicator | 8 High Limit Thermostat Manual Reset |
| | 9 Calorifier Control Thermostat |
| | 10 Function indicators |

DESCRIPTION FOR SUMMARY SPECIFICATIONS

High efficiency 3 pass floor standing boiler manufactured from cast iron.

The boiler serves the central heating system and produces domestic hot water in a calorifier manufactured in mild steel with vitreous enamel lining. Boiler Maximum working pressure is 4 bar, DHW calorifier working pressure is 7 bar.

DESCRIPTION FOR SPECIFICATIONS

Boiler characteristics:

- minimum heat output - kW
- maximum heat output - kW
- efficiency greater than 90% at maximum /minimum output
- efficiency at 30% load between 90.9% and 92.0% depending on model
- Heat losses through flue gases $\leq 0.1\%$ with burner lockout $\geq 7\%$ with burner on
- Heat losses through insulation between 1.9% and 2.7% depending on model
- average flue gas temperature $> 140^{\circ}\text{C}$
- $\text{CO}_2 \leq 9.5\%$ with natural gas fuel, $\leq 12.5\%$ with light oil fuel
- boiler maximum working pressure 4 bar
- calorifier maximum working pressure of hot water 7 bar
- index of protection IPX0D (40)
- Casing constructed from sheet steel finished in power coating
- insulation in high density fibreglass wool
- boiler body made from pre-assembled elements in MB18C cast iron
- 3-pass pressurised wet back combustion chamber with horizontal finned flue passes low pressure drop.
- insulated burner mounting flange
- 60/100 litres vitrified calorifier complete with water circuit connections and pump, with threaded fittings for the water supply, hot water outlet and recirculation connection; magnesium anode; CFC-free expanded polyurethane shell insulation; recovery time ≤ 11 minutes with ΔT at 35°C
- switch to ensure domestic hot water output with both boiler on or off
- calorifier sensors/control probe wells
- header for central heating water connections complete with flow return, expansion vessel fitting, safety valve and pressure switch (if fitted).
- easily accessible control panel with all necessary boiler controls, Summer/Winter switch and total high limit thermostat functions in Summer mode
- Low temperature design (minimum return temperature 35°C)
- appliance type B23
- compliant with 90/396/EEC directive (gas - CE marking)
- compliant with 89/336/EEC directive (electromagnetic compatibility)
- compliant with 72/23/EEC directive (low voltage)
- compliant with 92/42/EEC directive (efficiency) - 2 stars (1 star for Tregi 3K)

ANCILLARIS SUPPLIED

- Wieland plug
- certificate of warranty
- installation, operation and maintenance manual
- hydraulic test certificate
- product identification plate
- spare parts catalogue

