



Floorstanding gas condensing boiler

VITOCROSSAL 100 CIB





*NO_x <24mg/kWh (2 Credit Points) in line with 'BREEAM UK
New Construction 2018 – Technical Manual' assessment criteria

VITOCROSSAL 100 CIB 80-318 KW

The Vitocrossal 100 is a compact gas-fired condensing boiler with one of the smallest footprints in the market. It measures only 680mm in width and is perfect for smaller plant rooms and applications, especially when replacing boilers in confined spaces.

The Vitocrossal 100 (type CIB) is a universal gas condensing unit with an output of 80 to 318 kW, also available as a twin cascade system up to 636 kW in one housing. With the very good price-performance ratio, the central heating system is a particularly economical solution for residential buildings and commercial enterprises.

It features the further developed Inox-Crossal heat exchanger with a robust Matrix cylinder burner. The modulation range up to 1:5 is combined with the large water content for long burner run times and economical energy consumption.

Take advantage of these benefits

- Gross efficiency up to 98%
- Small dimensions for easy installation
- Compact width of 680mm**
- Operating pressure up to 6 bar
- Max. flow temperature 95°C
- Water content 65 to 180 litres
- Modulation range up to 1:5
- NO_x <24mg/kWh (2 Credit Points)*

Lambda Pro control reduces costs

The integrated Lambda Pro combustion controller automatically adjusts the burner to the natural gas type. This ensures consistently high and efficient combustion quality with low emissions and very low noise levels.

Proven Vitotronic control

The integrated Vitotronic control allows for quick commissioning and simple service. With the optional WiFi module Vitoconnect 100, the boiler can be controlled via the ViCare app.

Output range

- 80, 120, 160, 200, 240, 280, 318 kW

Easy installation and efficient operation

- Easy access to components for convenient service and maintenance
- Pre-wired and pre-assembled
- Added wheels for ease of movement
- Low power consumption – does not require a boiler circuit pump
- Quiet operation – no additional noise protection necessary



Energy Technology List (ETL)

The ETL (or Energy Technology Product List, ETPL) is a government-managed list of energy-efficient plant and machinery. It is part of the Enhanced Capital Allowance (ECA) tax scheme for businesses.

If you're a business that pays income or corporation tax, you'll be able to claim 100% first year capital allowance on a product if it's on the ETL at the time of purchase. If it's been taken off the list, or is added at a later date, you will not.

Vitocrossal 100 is listed on the ETL, for all outputs. For more information see, www.gov.uk/guidance/energy-technology-list



VITOCROSSAL 100 CIB CASCADE 240-636 KW

The Vitocrossal 100 is available as a twin boiler unit, housed inside a single casing. It is fully wired and pre-assembled as a complete unit, which significantly reduces installation time.

Product features

- Gas types: natural gas
- As a twin boiler unit: 240 to 636 kW
- Standard seasonal efficiency [to DIN]: 109%
- Modulation range: down to 1:10
- Operating pressure: 6 bar
- Maximum flow temperature: 95°C
- Water capacity: 206 to 360 litres
- Energy efficiency class: A
- NOx <24mg/kWh (2 Credit Points) in line with 'BREEAM UK New Construction 2018 – Technical Manual' assessment criteria

Benefits for installers

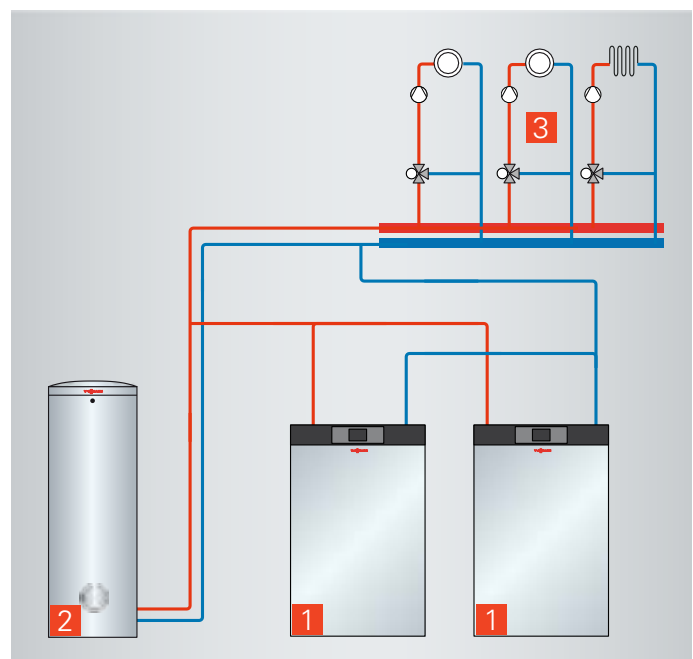
- Pre installed unit: quick and simple installation thanks to fully wired and pre assembled components
- Compact dimensions for easy handling: 450mm (80 kW), 570mm (120 and 160 kW) in case of dismantled boiler
- Lambda Pro combustion controller for automatic adaptation in case of changing gas qualities
- Good accessibility of all components from the front for ease of servicing and maintenance
- Twin boiler in a single casing from 240 to 636 kW
- Proven Vitotronic control unit with user prompts and plain text display

Benefits for users

- Extremely compact, easy to integrate into various heating centres
- Robust operation and a long service life, modulation down to 1:10 and long burner runtimes with a low cycling frequency
- Consistently high efficiency in case of changing gas qualities thanks to Lambda Pro combustion controller
- Self cleaning stainless steel heat exchanger for consistently high efficiency
- Low power consumption, as large water content means no need for boiler circuit pump
- Quiet operation through integral MatriX cylinder burner
- Can be controlled via the ViCare app

MATCHED SYSTEM COMPONENTS

- 1 Vitocrossal 100 gas condensing boiler
- 2 Vitocell 100-V DHW cylinder
- 3 Heating circuits



Twin boiler schematic

Delivery and components

The Vitocrossal boiler is delivered pre-wired and pre-assembled on a pallet to aid installation and save time for the installer.

With nearly all parts already integrated into the boiler casing, the Vitocrossal 100 is designed to save the installer time in setting up the system and to fit into any plant room.

When delivered the front panel of the pallet acts as a ramp when moving the boiler to aid installation. The boiler can be easily moved using the three integrated wheels and then fixed in place using the fully adjustable integrated feet.

Delivery Content

Each Vitocrossal 100 unit is delivered with the following components:

- Boiler unit pre-assembled including: gas burner, controller, casing, insulation and wiring
- User display panel

- Technical documentation
- Venturi extension from 200 kW (only room sealed)
- Cascade controller provided with multiple boilers



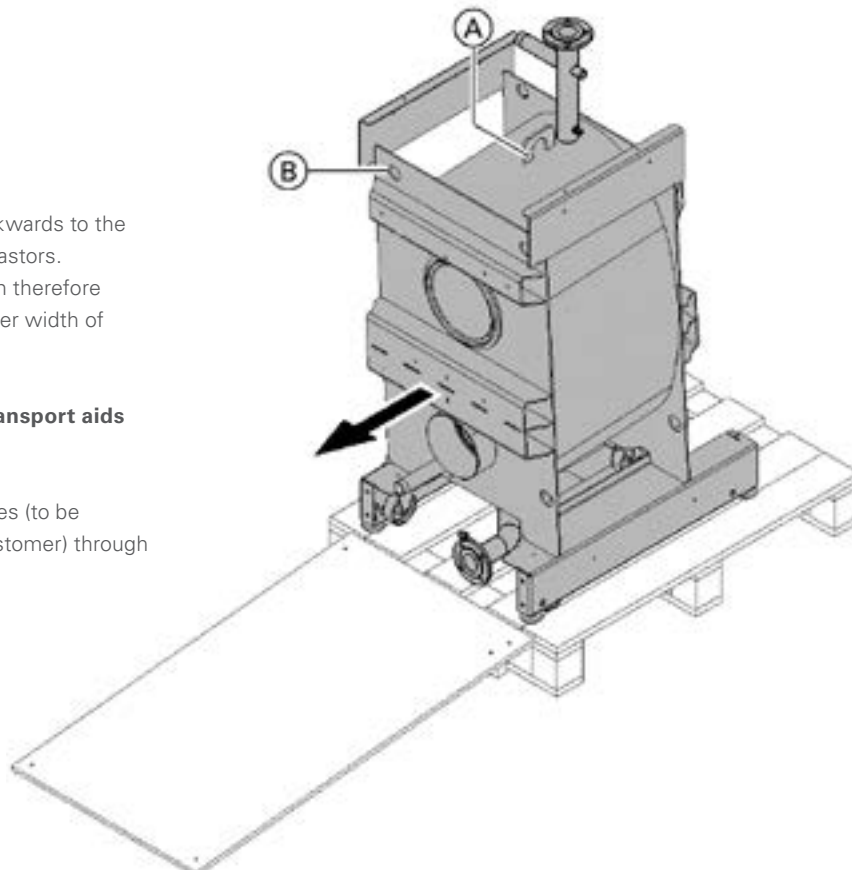
HANDLING

The boiler is rolled backwards to the installation site on its castors.

The handling dimension therefore corresponds to the boiler width of 680mm.

Alternative transport aids

- Ⓐ Lifting eye
- Ⓑ 4 holes to slide poles (to be provided by the customer) through as a transport aid



Stainless steel heat exchanger

The Vitocrossal 100 features a brand new stainless steel heat exchanger that provides reduced dimensions and cost compared to other models.

The compact design of the Vitocrossal 100 stainless steel heat exchanger delivers exceptionally accurate temperature distribution and maintains the high standard of all Viessmann components. It provides a high volume of water with very low pressure losses but also enables the Vitocrossal 100 boiler to operate without a minimum flow rate.

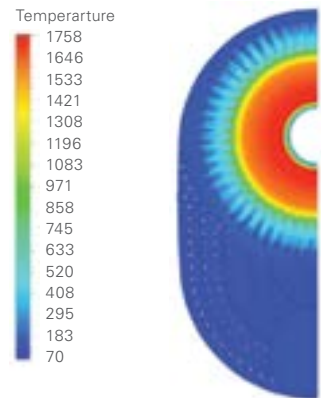
Combined with the MatriX cylinder burner, this delivers the 98% high efficiency you expect from a Viessmann boiler.

Benefits

- High water volume
- No low loss header required
- No minimum flow rate
- Simple design with fewer circulating pumps



- 1 Burner flange /combustion chamber
- 2 Cleaning aperture
- 3 Flue outlet



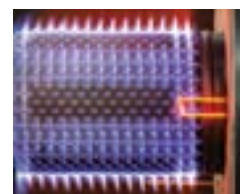
Exceptionally accurate temperature distribution

MatriX cylinder burner

State-of-the-art combustion management which continuously adapts to the gas quality and always delivers high performance.

With gas sourced increasingly from around the world, we now experience varying qualities of gas in the grid. This can affect the performance of the boiler, however thanks to the Lambda Pro combustion control inside the Vitocrossal 100 boiler, we can guarantee high performance regardless of the gas quality. The combustion management within the MatriX cylinder burner continuously adapts to the gas quality, so that no nozzle change is required.

The modulation range of 1:5 as a single unit or 1:10 as a double cascade ensures that the output of the unit can be reduced to suit demand. This enables the boiler to deliver exceptionally low NOx levels down to <24mg/kWh.



MatriX cylinder burner with large modulation range

Benefits

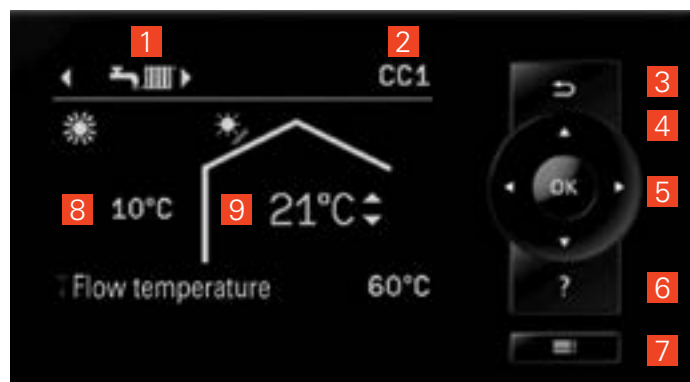
- Automatic combustion controller
- Consistent efficiency
- Very quiet
- Low NOx
- Easy commissioning e.g. no gas valve adjustment

VITOCROSSAL 100 CIB CONTROLS

From single boiler to multi boiler systems, Vitotronic digital control units are essential for the economic and effective operation of your heating system.

FEATURES

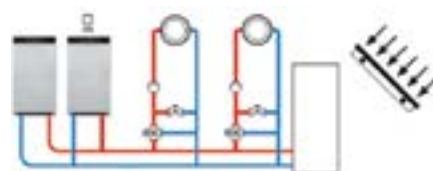
- 1 Operating mode: - standby - DHW only - heating and DHW
- 2 Selecting the heating circuit: CC1, CC2 or CC3
- 3 Return key
- 4 Selection Cursors
- 5 'OK' button for validation
- 6 Contextual Help
- 7 Menu key
- 8 Outdoor temperature
- 9 Indoor temperature setpoint



Vitotronic 100 (single boiler)
Constant boiler water temperature control, equipped with a fault self-diagnosis system and DHW control.



Vitotronic 200 (single boiler)
Weather compensation boiler control for installations up to 3 heating circuits, one direct and two with mixer, plus DHW and solar control.

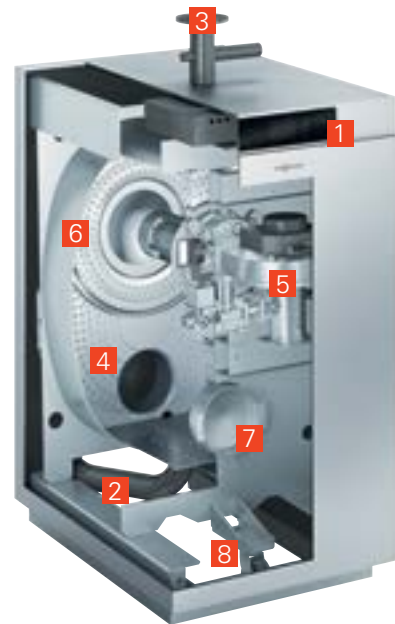


Vitotronic 300-K (multi boiler)
Weather compensation cascade control allowing the control of 4 boilers equipped with Vitotronic 100.

VITOCROSSAL 100 CIB
TECHNICAL SPECIFICATION

VITOCROSSAL 100 CIB

Rated heating output	kW	Up to 80	120 and 160	200 and 240	280 and 318
a Total height incl. KV	mm			1650	
b	mm			1450	
c Total width	mm			750	
d Boiler body width	mm			680	
e Total length incl. boiler flue connection	mm	1027	1154	1256	1375
f	mm	243	243	248	253
g	mm	683	810	904	1021
h Boiler body length incl. KR	mm	655	770	890	1004
i Total length excl. boiler flue connection	mm	739	862	967	1085
j	mm	660	780	900	1010
k	mm		90		
l			167		
m	mm	492	500	492	492
n	mm		107		
o	mm	195	189	183	177
p	mm		298		
q	mm		190		
r			298		
s	mm	126	126	146	136
t	mm	337	331	325	319
u	mm		383		
v	mm	800	794	789	783
w	mm	193	193	203	203
x	mm	65	65	74	74
y	mm		1530		



VITOCROSSAL 100
(Type CIB)

- 1 Vitotronic control unit
- 2 Return connection
- 3 Flow connection
- 4 Large water content
- 5 MatriX cylinder burner
- 6 Stainless steel heat exchanger
- 7 Service aperture
- 8 Wheels for manoeuvring

AGA Flue outlet DN 200

AGS Flue gas temperature sensor

AS Fitting assembly

E Drain

KOA Condensate drain

KR Boiler return

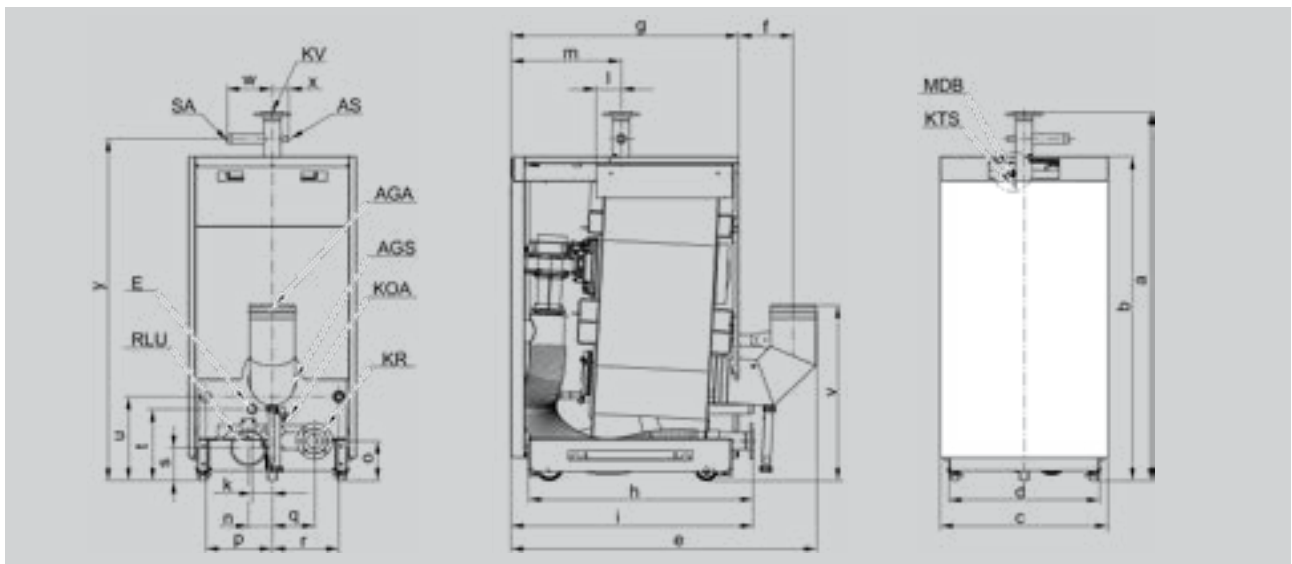
KTS Boiler water temperature sensor R 1/8

KV Boiler flow

MDB Water pressure switch (minimum pressure limiter)

RLU Room sealed operation (accessories)

SA Safety connection (safety valve)



VITOCROSSAL 100 CIB, SINGLE UNIT

Rated heating output range								
TF/TR = 50/30	kW	16 – 80	32 – 120	32 – 160	48 – 200	48 – 240	64 – 280	64 – 318
TF/TR = 80/60	kW	15 – 74	29 – 110	29 – 146	44 – 184	44 – 220	58 – 258	58 – 291
Rated heat input	kW	76	113	151	189	226	264	300
Product ID		CE-0085CR0391						
Permiss. operating temperature	°C	95						
Permiss. flow temperature (= safety temperature)	°C	110						
Max. permiss. operating pressure	bar	6						
	MPa	0.6						
Min. permiss. operating pressure *1	bar	1						
	MPa	0.1						
Test pressure	bar	7.8						
	MPa	0.78						
Boiler body dimensions**								
Length	mm	665	770	770	890	890	1004	1004
Width	mm	680	680	680	680	680	680	680
Height	mm	1650	1650	1650	1650	1650	1650	1650
Total dimensions incl. casing, boiler flow and return; excl. boiler flue connection								
Length	mm	739	862	862	967	967	1085	1085
Width	mm	750	750	750	750	750	750	750
Height	mm	1650	1650	1650	1650	1650	1650	1650
Foundation dimensions								
Length	mm	750	850	850	1000	1000	1100	1100
Width	mm	800	800	800	800	800	800	800
Height	mm	100	100	100	100	100	100	100
Weight								
Overall unit weight	kg	238	295	295	340	340	385	385
Packed unit	kg	288	345	345	390	390	435	435
Boiler body	kg	183	230	230	265	265	300	300
Boiler body with transport pallet	kg	210	260	260	295	295	330	330
Burner	kg	10	11	11	15	15	15	15
Water capacity	litres	65	103	103	145	145	180	180
Connections								
Boiler flow	PN 6 DN	50	50	50	65	65	65	65
Boiler return	PN 6 DN	50	50	50	65	65	65	65
Safety connection	R	1¼	1¼	1¼	1¼	1¼	1¼	1¼
Drain	R	1¼	1¼	1¼	1¼	1¼	1¼	1¼
Trap with condensate drain	mm	20	20	20	20	20	20	20
Flue gas parameters *2								
Temperature (at a return temperature of 30°C)								
– At rated heating output	°C	45	45	45	45	45	45	45
– At partial load	°C	35	35	35	35	35	35	35
Temperature (at a return temperature of 60°C)		65	65	65	65	65	65	65
Mass flow rate (for natural gas)								
– At rated heating output	kg/h	120	180	240	300	360	420	477
– At partial load	kg/h	36	54	72	90	108	126	143
Flue gas connection	DN	200	200	200	200	200	200	200
Product parameters according to EnEV								
Standard seasonal efficiency [to DIN]								
For heating system temperature 40/30°C	%	Up to 98 (Hs) [gross cv] / 109 (Hi) [net cv]						
For heating system temperature 75/60°C	%	Up to 96 (Hs) [gross cv] / 106 (Hi) [net cv]						
Seasonal efficiency (gross) to Part L2	gas	95.5	95.8	95.4	95.4	95.5	95.6	95.6
	LPG	97.6	98.0	97.5	97.6	97.6	97.7	97.7
Rated heating output range								
TF/TR = 50/30	kW	16 – 80	32 – 120	32 – 160	48 – 200	48 – 240	64 – 280	64 – 318
TF/TR = 80/60	kW	15 – 74	29 – 110	29 – 146	44 – 184	44 – 220	58 – 258	58 – 291
Standby loss qB,70	%	0.6	0.5	0.3	0.6	0.6	0.6	0.6
NOx		*NOx, < 24 mg/kWh						

*1 The minimum operating pressure is essential for safe operation. A minimum pressure switch can be used to ensure this is met (1 per system for multi boiler systems).

*2 Values for calculating the size of the flue system to EN 13384, based on 10% CO₂ for natural gas.

Flue gas temperatures as actual gross values at 20°C combustion air temperature. The details for partial load refer to an output of 30% of the rated heating output. If the partial load differs (subject to burner operating mode), calculate the flue gas mass flow rate accordingly.

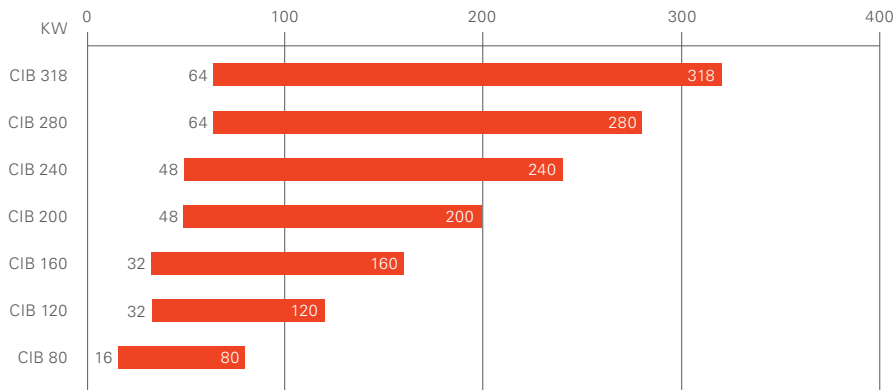
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VITOCROSSAL 100 CIB
TECHNICAL SPECIFICATION

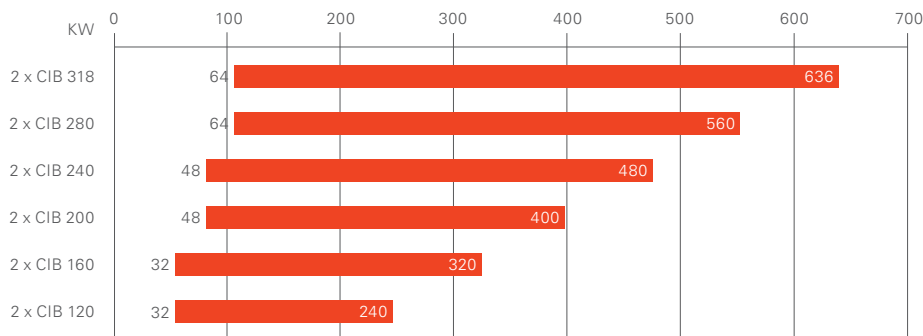
VITOCROSSAL 100 CIB, TWIN UNIT

Rated heating output	kW	240	318	400	480	560	636
Twin boiler comprises 2 boilers, each with	kW	120	156	200	240	280	318
Overall dimensions without boiler flue connection							
Length	mm	862	862	967	967	1085	1085
Width	mm	1500	1500	1500	1500	1500	1500
Height	mm	1650	1650	1650	1650	1650	1650
Total weight	kg	590	590	680	680	770	770
Water capacity	litres	206	206	290	290	360	360

SINGLE UNIT OUTPUT RANGE



TWIN UNIT OUTPUT RANGE



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