



COMMERCIAL HEATING SOLUTIONS



CAST IRON RADIATORS

Units 13-14 Charlwoods Road  
East Grinstead, West Sussex, RH19 2HU  
[www.clyderadiators.co.uk](http://www.clyderadiators.co.uk) 01342 305550

A brand of IRSAP, Italy's leading manufacturer of design led radiators.

EDS 640/16 16.08.16

# Contents

Clyde is a brand of the IRSAP, Italy's leading manufacturer of design led radiators. With over 50 years experience, we have the expertise to produce the best in quality & customer service.

Clyde provides bespoke solutions for LSTs, Cast Iron, Multi Column and Aluminium radiators. With a wide range of traditional and contemporary radiators, Clyde's solution based approach is designed to ensure we supply the ideal solution for all commercial and industrial requirements.

Our dedicated team of technical advisors and estimators will discuss your installation including the calculation of your heat output requirements (from drawings if necessary), arrange a full quotation based on your exact project specifications and provide lead times. They can also arrange a site visit from our National Sales Network if required.

For more information about Clyde or any of our products, please contact our customer service department: 01342 305522 / 305566

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# WINDSOR

Timeless elegance and durable qualities to span generations come together in these traditional and stylish cast iron radiators.

## KEY FEATURES

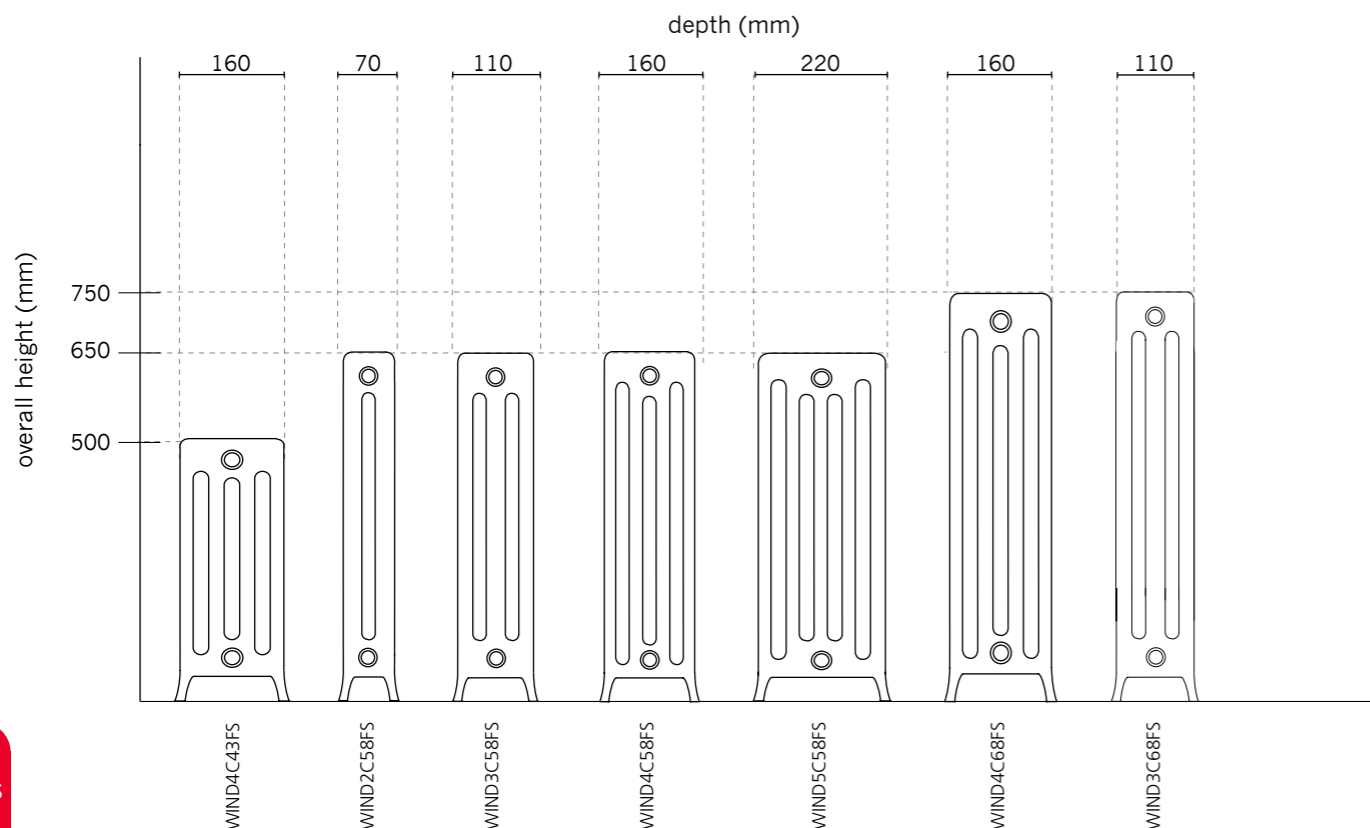
- Open column sections
- 3 Heights
- 2, 3, 4, and 5 column options
- Footed ends as standard; optional cast feet or wall brackets
- Available in Primer as standard, 25 RAL colours and 31 special finishes, polished & lacquer



\* Subject to correct handling, installation, water treatment and operation, Clyde Windsor radiators are guaranteed against manufacturing defects for 20 years from date of despatch.

## PACKING, HANDLING AND SITE WORK

- With large orders, radiator sections will be supplied on pallets to facilitate handling.
- Accessories are delivered packed separately for fitting by the installer. It is important that radiators are protected from the elements during offloading and are stored in dry and adequately heated premises. After radiators have been removed from their pallets, they must be kept vertical whilst being carried to their installation locations to avoid damage to the section joints.
- Radiators are factory assembled and pressure tested in blocks of up to 10 sections. For longer radiators additional blocks are supplied complete with nipples and joints for site assembling.
- Joining Keys are optionally available where additional blocks are supplied, the below outlines the required key;
  - All 5 column radiators require a Heavy Duty Key.
  - For 2, 3, and 4 Column radiators;
    - If more than two blocks are joined to make a complete radiator; Heavy Duty Key
    - If there are 4 or more completed radiators to be made; Heavy Duty Key
    - If there are 3 or less complete radiators to make & each completed radiator needs only 2 blocks to be joined; Basic Key



## TECHNICAL DATA

### PRODUCT FEATURES

- Open end sections
- 3 Heights
- 2, 3, 4 and 5 column options
- 2 Floor & 1 Wall mounting option
- Also available in 25 RAL colours, 31 Special Finishes, Polished & Lacquer
- Max. operating pressure of 6 Bar
- Cast Iron material complying with ISO 185.



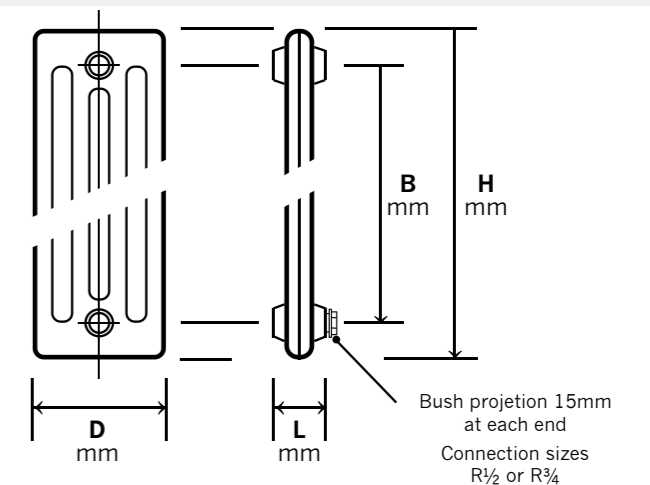
### HEAT EMISSION RATES

- $\Delta T50$  (75°C / 65°C / 20°C)
- $\Delta T55.5$  (82°C / 71°C / 21°C)
- $\Delta T60$  (90°C / 70°C / 20°C)
- BS EN 442-1 conditions of  $\Delta T50$

### RANGE SELECTION

- 3 heights; 500, 650 and 750
- 4 Column options; 2,3,4 & 5

### TECHNICAL DRAWINGS



Model	BS EN442 Emission rates				Max. no. sections ** (recommended)	Section Details						
	75/65/20°C $\Delta T50$ watts	Exponent	82/71/21°C $\Delta T55.5$ watts	90/70/20°C DT60 watts		overall length* L mm	overall height H mm	Bore centres B mm	Depth D mm	Dry Weight (Kg)	Water Content (Litres)	Surface Area (m <sup>2</sup> )
WIND4C43	72.6	1.3	83.1	92	30	60	500	350	160	4.3	0.8	0.185
WIND4C43FS	72.6	1.3	83.1	92	30	60	500	350	160	4.8	0.8	0.185
WIND2C58	55.4	1.3	63.4	70.2	30	60	650	500	70	3.2	0.5	0.144
WIND2C58FS	55.4	1.3	63.4	70.2	30	60	650	500	70	3.2	0.5	0.144
WIND3C43	70	1.3	81.8	88.4	30	60	500	350	110	3.4	0.6	0.143
WIND3C43FS	70	1.3	81.7	88.2	30	60	500	350	110	4.0	0.7	0.161
WIND3C58	72.6	1.3	83.1	92	30	60	650	500	110	4	0.8	0.18
WIND3C58FS	72.6	1.3	83.1	92	30	60	650	500	110	4.9	0.8	0.18
WIND4C58	94.7	1.3	108.5	120	30	60	650	500	160	5.6	1.1	0.255
WIND4C58FS	94.7	1.3	108.5	120	30	60	650	500	160	5.9	1.1	0.255
WIND5C58	121.5	1.3	139.2	154	30	60	650	500	220	7.2	1.3	0.305
WIND5C58FS	121.5	1.3	139.2	154	30	60	650	500	220	7.1	1.3	0.305
WIND4C68	111.3	1.3	127.5	141.1	30	60	750	600	160	6.9	1.2	0.276
WIND4C68FS	111.3	1.3	127.5	141.1	30	60	750	600	160	6.5	1.2	0.276
WIND3C68	92	1.3	105.4	116.6	30	60	750	600	110	5.5	0.9	0.256
WIND3C68FS	92	1.3	105.4	116.6	30	60	750	600	110	5	0.9	0.256

\* overall length = section length + joint ring

\*\* for maximum emission of 6kW at DT60 or 60 sections maximum

## QUICK SIZING CHARTS $\Delta T_{50}$ (75°C / 65°C / 20°C) BC EN442-1:1995

Model	watts per section	Radiator emission in kilowatts											
		0.6	0.8	1.0	1.25	1.5	1.75	2.0	2.5	3.0	4.0	5.0	6.0
		Nearest number of sections required											
WIND4C43	72.6	8	11	14	17	21	24	28	34	41	55	—	—
WIND4C43FS	72.6	8	11	14	17	21	24	28	34	—	55	—	—
WIND2C58	55.4	11	14	18	23	27	32	36	45	54	—	—	—
WIND2C58FS	55.4	11	14	18	23	27	32	36	45	—	—	—	—
WIND3C43	70	9	11	14	18	21	25	29	36	43	57	71	86
WIND3C43FS	70	9	11	14	18	21	25	29	36	43	57	71	86
WIND3C58	72.6	8	11	14	17	21	24	28	34	41	55	—	—
WIND3C58FS	72.6	8	11	14	17	21	24	28	34	—	55	—	—
WIND4C58	94.7	6	8	11	13	16	18	21	26	32	42	53	—
WIND4C58FS	94.7	6	8	11	13	16	18	21	26	—	42	53	—
WIND5C58	121.5	5	7	8	10	12	14	16	21	25	33	41	49
WIND5C58FS	121.5	5	7	8	10	12	14	16	21	—	33	41	49
WIND4C68	111.3	5	7	9	11	13	16	18	22	27	36	45	54
WIND4C68FS	111.3	5	7	9	11	13	16	18	22	—	36	45	54
WIND3C68	86	7	9	11	14	16	19	22	27	—	—	—	—
WIND3C68FS	86	7	9	12	15	17	20	23	29	—	47	58	—

## $\Delta T_{55.5}$ (82°C / 71°C / 21°C)

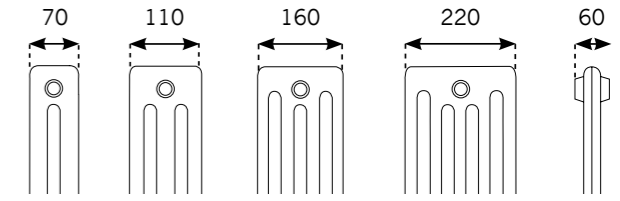
Model	watts per section	Radiator emission in kilowatts											
		0.6	0.8	1.0	1.25	1.5	1.75	2.0	2.5	3.0	4.0	5.0	6.0
		Nearest number of sections required											
WIND4C43	83.1	7	10	12	15	18	21	24	30	36	48	60	—
WIND4C43FS	83.1	7	10	12	15	18	21	24	30	—	48	60	—
WIND2C58	63.4	9	13	16	20	24	28	32	39	47	—	—	—
WIND2C58FS	63.4	9	13	16	20	24	28	32	39	—	—	—	—
WIND3C43	81.8	7	10	12	15	18	21	24	31	37	49	61	73
WIND3C43FS	81.7	7	10	12	15	18	21	24	31	37	49	61	73
WIND3C58	83.1	7	10	12	15	18	21	24	30	36	48	60	—
WIND3C58FS	83.1	7	10	12	15	18	21	24	30	—	48	60	—
WIND4C58	108.5	6	7	9	12	14	16	18	23	28	37	46	55
WIND4C58FS	108.5	6	7	9	12	14	16	18	23	—	37	46	55
WIND5C58	139.2	4	6	7	9	11	13	14	18	22	29	36	43
WIND5C58FS	139.2	4	6	7	9	11	13	14	18	—	29	36	43
WIND4C68	127.5	5	6	8	10	12	14	16	20	24	31	39	47
WIND4C68FS	127.5	5	6	8	10	12	14	16	20	—	31	39	47
WIND3C68	98.5	6	8	10	12	14	17	19	24	29	—	—	—
WIND3C68FS	98.5	6	8	10	13	15	18	20	25	—	41	51	—

## $\Delta T_{60}$ (90°C / 70°C / 20°C)

Model	watts per section	Radiator emission in kilowatts											
		0.6	0.8	1.0	1.25	1.5	1.75	2.0	2.5	3.0	4.0	5.0	6.0
		Nearest number of sections required											
WIND4C43	92	7	9	11	14	16	19	22	27	33	43	54	—
WIND4C43FS	92	7	9	11	14	16	19	22	27	—	43	54	—
WIND2C58	70.2	9	11	14	18	21	25	28	36	43	57	—	—
WIND2C58FS	70.2	9	11	14	18	21	25	28	36	—	57	—	—
WIND3C43	88.4	7	9	11	14	17	20	23	28	34	45	57	68
WIND3C43FS	88.2	7	9	11	14	17	20	23	28	34	45	57	68
WIND3C58	92	7	9	11	14	16	19	22	27	33	43	54	—
WIND3C58FS	92	7	9	11	14	16	19	22	27	—	43	54	—
WIND4C58	120	5	7	8	10	12	15	17	21	25	33	42	50
WIND4C58FS	120	5	7	8	10	12	15	17	21	—	33	42	50
WIND5C58	154	4	5	6	8	10	11	13	16	19	26	32	39
WIND5C58FS	154	4	5	6	8	10	11	13	16	—	26	32	39
WIND4C68	141.1	4	6	7	9	11	12	14	18	21	28	35	43
WIND4C68FS	141.1	4	6	7	9	11	12	14	18	—	28	35	43
WIND3C68	109	5	7	9	11	13	15	17	22	—	—	—	—
WIND3C68FS	109	6	7	9	11	14	16	18	23	—	37	46	55

## PIPE CENTRES & TECHNICAL DRAWING

Windsor	Pipe centres left to right	Pipe centres from wall	Section width
2 Column	60 x no.of sections + 30mm bushes + valves	85mm - 105mm	70mm
3 Column	60 x no.of sections + 30mm bushes + valves	105mm - 125mm	110mm
4 Column	60 x no.of sections + 30mm bushes + valves	130mm - 150mm	160mm
5 Column	60 x no.of sections + 30mm bushes + valves	160mm - 180mm	220mm



## CONNECTIONS

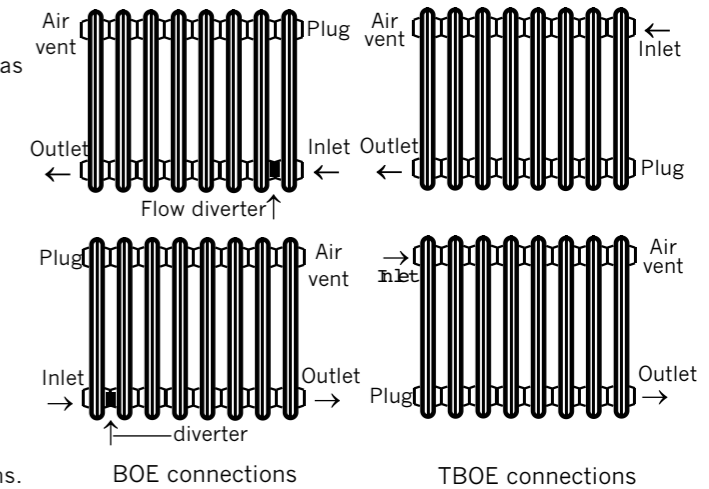
All connection fittings, including joining nipples for site assembling of blocks, must be dry jointed using the joint rings supplied. Thread pastes or tapes with or without packing such as hemp **must not be used**. All machined faces and threads must be thoroughly cleaned before joining.

A set of connection fittings and joint rings is provided for each radiator.

- Each set comprises :
- 2 x R1¼ x R½ pipe connection bushes (or R1¼ x R¾ when requested)
  - 1 x R1¼ plug (LH thread)
  - 1 x R1¼ vent bush (RH thread) and R½ vent valve.

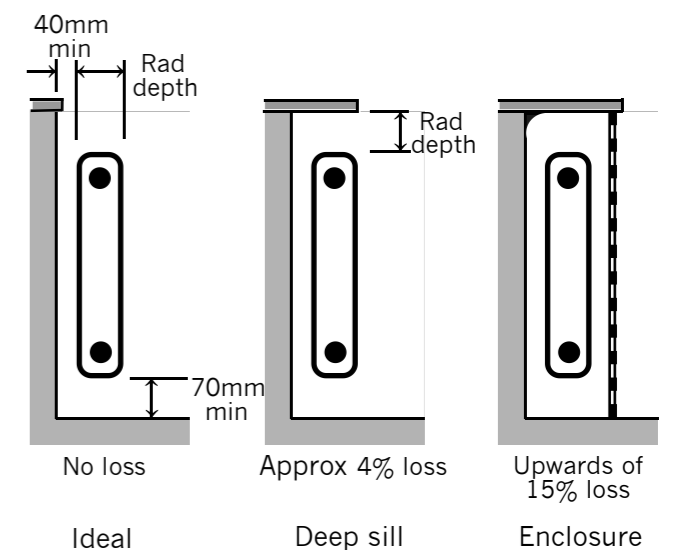
Radiators are normally installed with either BOE (bottom opposite end) or TBOE (top & bottom opposite end) connections. For installations with BOE connections, a diverter should be fitted at the inlet connection for radiators up to 20 sections long.

The vent valve should always be fitted at the outlet end of the radiator. If necessary, rotate the radiator to position the vent correctly.



## BOXING AND ENCLOSURES

It is recommended that radiators are installed with a minimum gap of 70mm above floor level. A full width window sill above the radiator extending the depth of the radiator will reduce emission rates by approximately 4%. Boxing of radiators or the use of decorative enclosures will reduce emission rates by upwards of 15%, according to the design of the boxing. Any restriction of the free flow of air over the radiator surface is detrimental to convected heat emission. Obscuring the front surface of the radiator eliminates the beneficial effect of radiated heat.



## COMMISSIONING

In accordance with Part L1 2006 of the Building Regulations and BS7593:1992 code of practice for the treatment of hot water and central heating systems, we strongly recommend flushing the heating system post installation of new radiators and then adding the correct quantity and type of inhibitor for use with your radiator and system to prevent corrosion. Damage caused to systems not protected by a suitable inhibitor will not be covered by manufacturer's guarantee

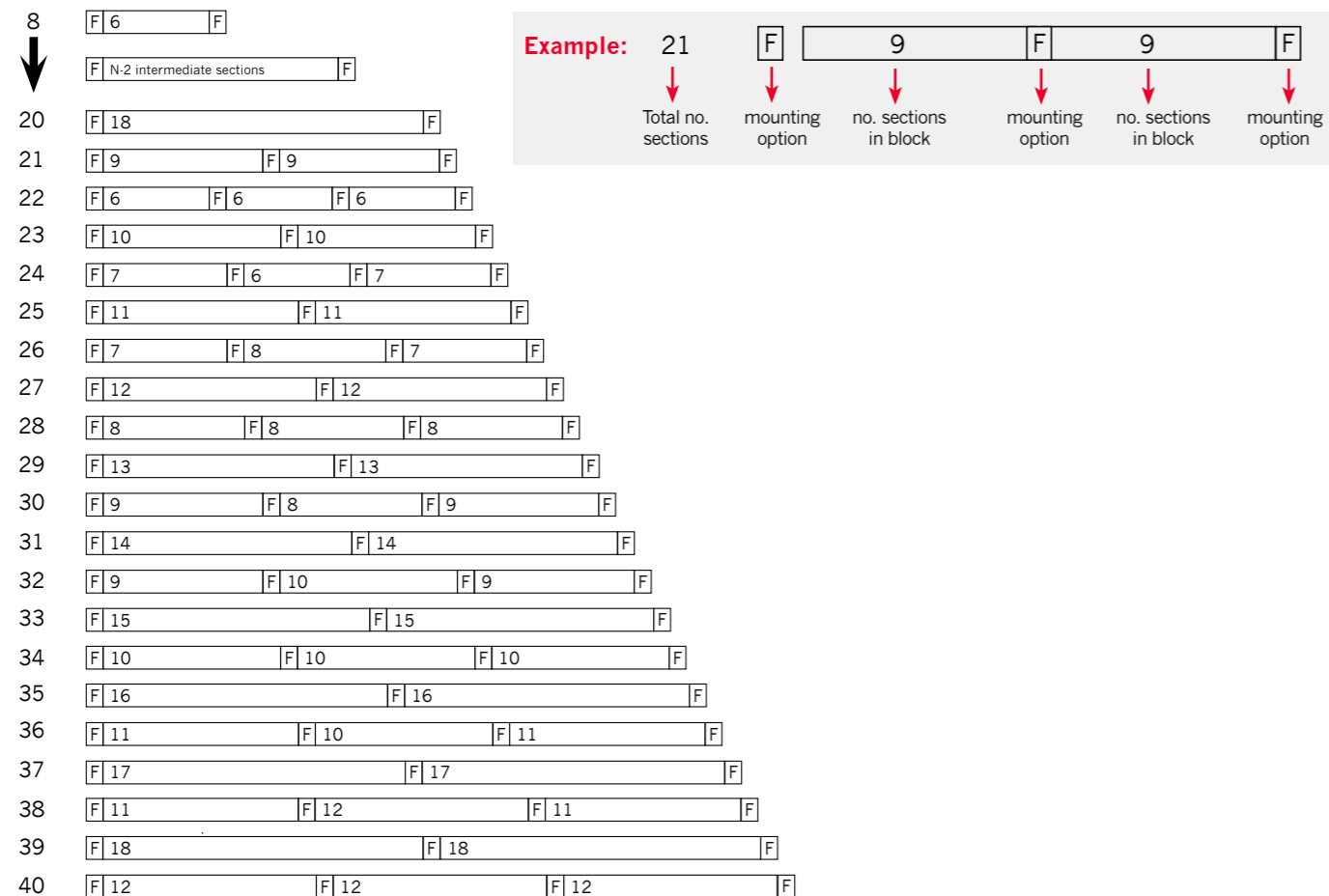
Before unpacking, please ensure that the delivered sizes and quantity are correct. Any shortages or damages must be notified to Clyde Radiators in writing within 7 days; Clyde Radiators, 13-14 Charlwoods Road, East Grinstead, West Sussex, RH19 2HU

## FIXING ARRANGEMENTS, FLOOR MOUNTS & WALL BRACKETS

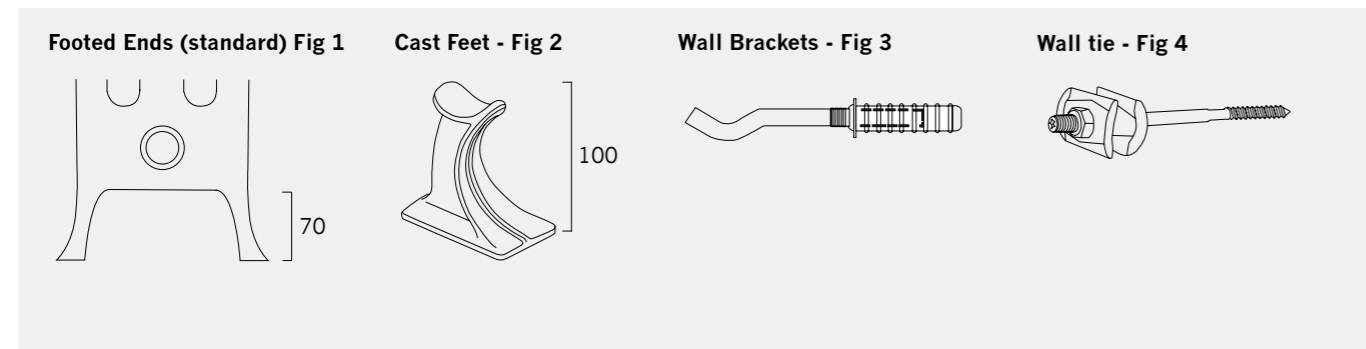
Windsor radiators are always quoted with footed end sections as standard, if you require an alternative mounting option please specify at time of order. Clyde also offer alternative mounting options; cast feet, floor mounts and wall brackets, wall ties come as standard with all mounting options. Floor mounting is recommended for cast iron radiators. Wall brackets may be used for some radiators if the wall is sound and capable of taking the weight of the radiator. If the wall is generally unsound, built of low density cellular blocks or is a timber stud wall, floor mounts with wall stays should be used. Special arrangement may be necessary for providing fixing for stud walling, dry lined and composite walls (eg flint aggregate) which are commonly encountered in period restoration projects.

All screw fixes and wall plugs must be appropriate fittings selected to be suitable for the fabric of the wall to which the supports or brackets are being fixed. Do not use fibre or ceramic plug materials as these degrade in time and become unreliable. Advice on screw fixes and wall plugs is provided by specialist suppliers such as Fischer or Rawlplug. Pipework should never be used to provide support for the radiator. Assembling instructions are supplied with all Clyde radiators.

## BLOCK MAKE-UP FOR ALL RADIATORS



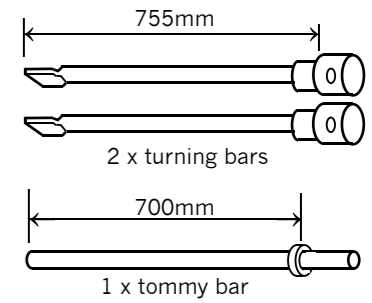
## MOUNTING OPTIONS



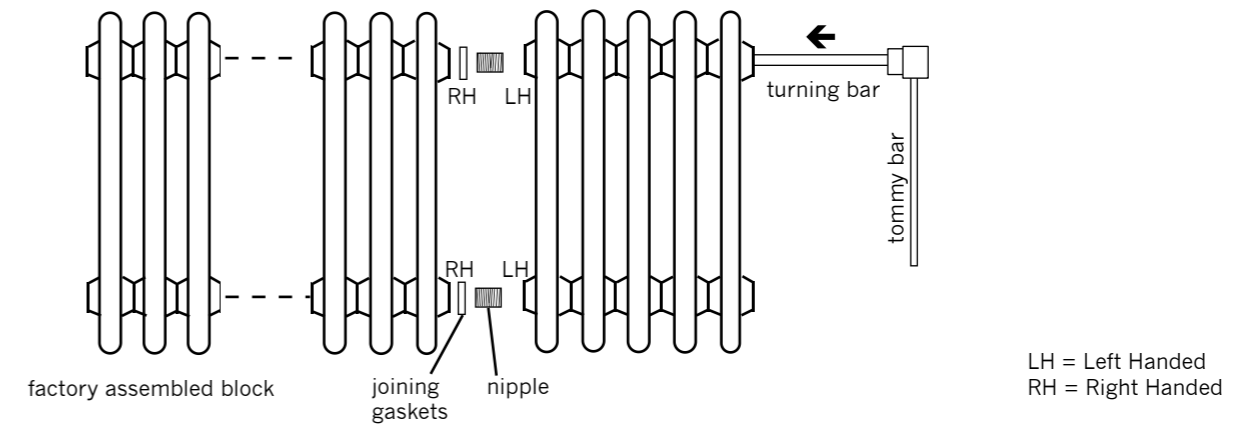
Please specify your chosen mounting option at time of order, if none specified Footed Ends will be supplied.

## CONNECTIONS

Radiator blocks have Rp1¼ right hand threads at one end and Rp1¼ left hand threads at the other. Lay the blocks out so the right hand threads are aligned with left hand threads to suit the threaded nipples - refer diagram below. Before joining, inspect all blocks for primer paint runs and arrange these to be at the bottom of the radiator. Paint runs can usually be removed with a stiff wire brush. Match all blocks so that the assembled radiator is uniform along its entire length.



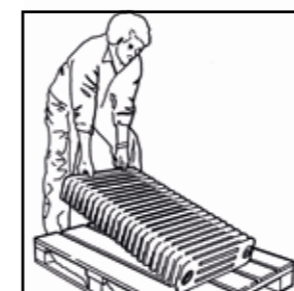
## BLOCK ASSEMBLING



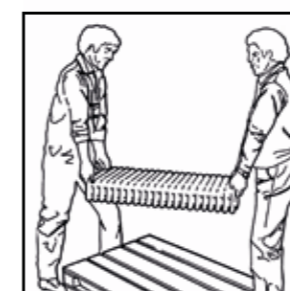
## HANDLING

- With large orders, radiator sections will be supplied on pallets to facilitate handling.
- Accessories are delivered packed separately for fitting by the installer. It is important that radiators are protected from the elements during offloading and are stored in dry and adequately heated premises. After radiators have been removed from their pallets, they must be kept vertical whilst being carried to their installation locations to avoid damage to the section joints.
- Radiators are factory assembled and pressure tested up to ten sections. For longer radiators additional blocks are supplied complete with nipples and joints for site assembling.
- Assembling tools are optionally available where additional blocks are supplied.
- Joining Keys are optionally supplied on a sale or return basis where additional blocks are supplied.

Cast iron radiators are heavy. Always provide sufficient manpower to make carrying safe. Incorrect handling of radiator blocks can cause water leaks from section joints. Lift the radiator blocks in the centre to bring them to the vertical position before lifting and carrying. Never carry radiators in a stretcher fashion.



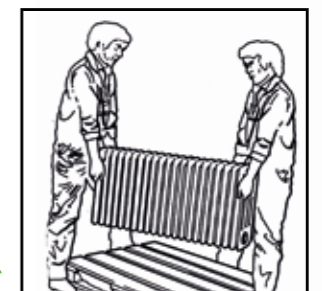
**DO NOT**  
Lift from one end



**DO NOT**  
Carry radiators flat



**ALWAYS**  
Lift in centre



**ALWAYS**  
Keep sections vertical



## ► ASSEMBLING

Sections are joined with dry fitted joining gaskets between the machined faces of each section. Bushes and plugs are dry sealed in the connections at each end of the radiator with a joining gasket supplied as part of the bush or plug. Hemp, tape or sealing compounds **must not be used**.

- Position the section block horizontally on two lengths of timber.
- Ensure that the machined faces and threads of the section are perfectly clean.
- Screw two nipples one full turn into each of the section tappings. Note that the nipples have left and right handed threads.
- Place a joining gasket (as supplied) on each nipple.
- Clean the machined surfaces and threads of the adjoining block or section. Lay this block or section beside the first block ensuring that the threads mating to the nipples have the correct thread rotation.
- Measure and mark off the length of the adjoining block or section on the nipple turning bars.
- Insert the turning bars through the nippleways of the adjoining block or section to engage with the nipples.
- Rotate both nipple turning bars equally to draw the blocks together keeping them parallel. If the blocks are not pulled together evenly, threads can be damaged and may give rise to leakage. Tighten the section nipples to tommy bar.
- Repeat operations 2 to 8 until the radiator is fully assembled.
- If a diverter is required, this should be fitted at the inlet to the radiator block. Refer to the fitting instructions supplied with the diverter.
- Fit bushes, blanking plug and vent valve according to the connection plan required.

Please visit our youtube channel where you can watch a demonstration on how to join and assemble a sectional cast iron radiator.

<https://www.youtube.com/watch?v=Nu1RJQGSrKk&list=PLMGnL07Af-x6fIWfVMOLKwq-50XBVaRc>

## ► PAINTING

### CHOICE OF PAINT

Windsor radiator blocks are supplied with a protective primer coating that will afford limited protection against the formation of rust provided that the blocks are correctly dry stored. Blocks will rust if they become wet.

**Clyde Radiators can deliver your cast iron radiators fully furnished and ready for installation. We use a robust, polyester powder coat paint, which is applied by our specialist painters based in the UK, to achieve a long lasting, durable finish. Please be aware that as a result of the casting process, cast iron radiators have a rough surface finish with small imperfections which will show after the painting process.**

### THIS PROTECTIVE PRIMER COATING IS NOT INTENDED AS AN UNDERCOAT.

For a superior, long lasting paint finish we recommend that a protective coat of a zinc based rust inhibitor is applied. This must be compatible with the undercoat and finish coat selected for the radiator. Radiators may be finished with most domestic paints that are formulated to withstand temperatures up to 100°C. Spray paints (air drying or oven cured) as used for car bodywork are also suitable. Paint supplier's recommendations regarding the use of an undercoat should be observed to ensure a true colour rendering.

**Topcoats and undercoats MUST NEVER be WATER BASED or EMULSION type.** Care must be taken in selecting undercoats as many modern formulations are water based although they are designed for use with oil based topcoats. A water based paint will always create rust pocks that will grow and become unsightly.

### PAINTING

Paint may be applied by brush or spray and an undercoat should be applied, in accordance with the paint manufacturer's instructions. The quantity of paint required may be calculated from the coverage factor declared by the paint manufacturer and the surface area of the radiator sections.

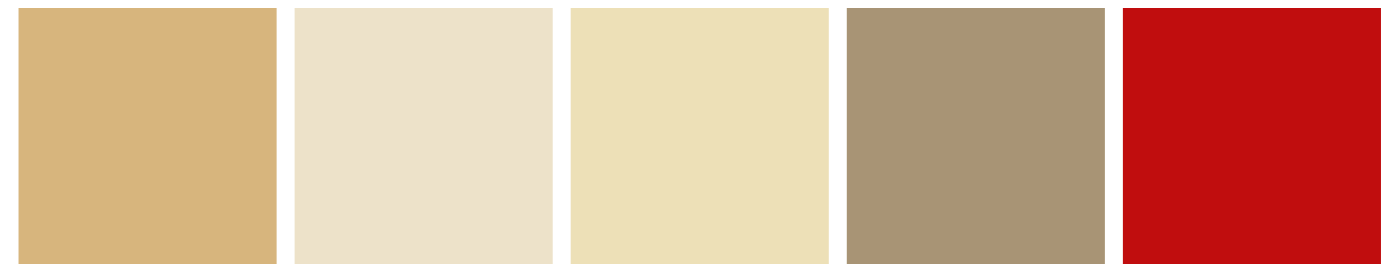
Mount the radiators in their final positions and complete all pipe connections. Painting radiators 'in situ' against a wall is not recommended as the entire surface cannot be reached and there will be a high risk of rust formation on untreated surfaces.

When all installation work has been completed, disconnect the pipework and remove the radiators from the wall. Because the radiators are heavy and cumbersome to move, it is highly advisable to paint each radiator close to where it is being installed. Stand or lay the radiators on wood chocks. For safety, radiators must be supported whilst standing up, but it is necessary to turn them over to examine and treat all surfaces.

Using dry cloths, a wire brush and/or emery sheets, remove all dust and debris from the radiator surface. If any rust spots are found these must be removed and then treated with a chemical rust cleaner such as 'Jenolite'.

## WINDSOR COLOUR OPTIONS

If you are looking to have your WINDdor radiator in an alternative colour we offer the following RAL colour options, Polished, Lacquer plus 31 Special Finishes, please specify chosen colour at time of order.



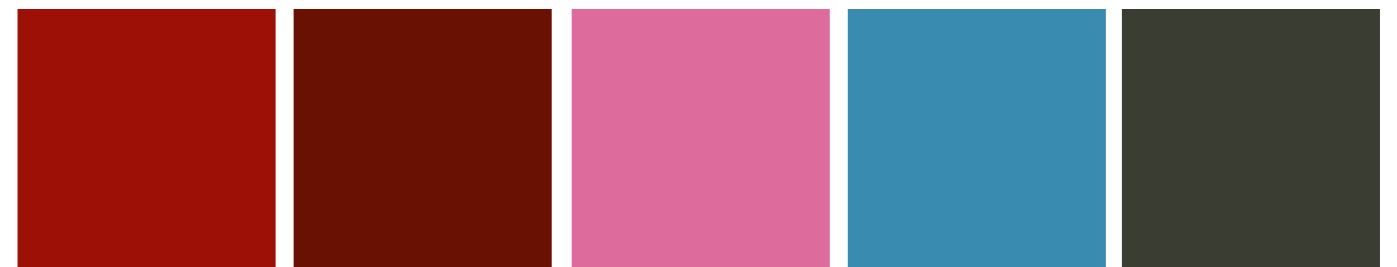
RAL 1001 - Beige

RAL 1013 - Oyster white

RAL 1015 - Light ivory

RAL 1019 - Grey beige

RAL 3000 - Flame red



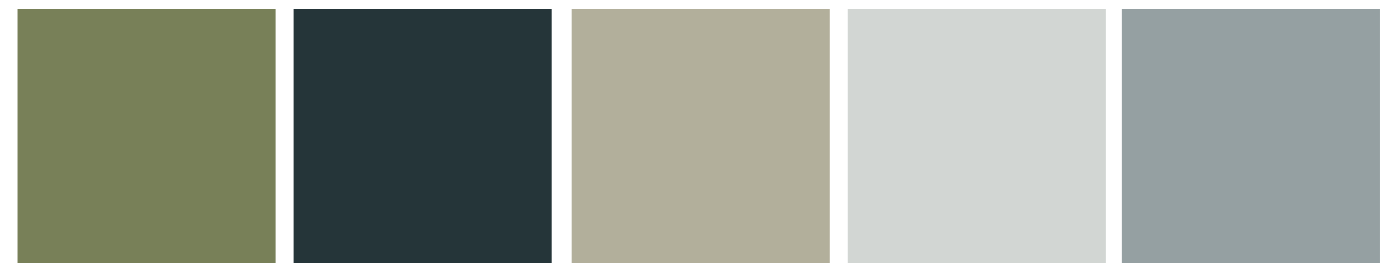
RAL 3003 - Ruby red

RAL 3004 - Purple red

RAL 4003 - Heather violet

RAL 5024 - Pastel blue

RAL 6006 - Grey olive



RAL 6013 - Reed green

RAL 7016 - Anthracite grey

RAL 7032 - Pebble grey

RAL 7035 - Light grey

RAL 7040 - Window grey



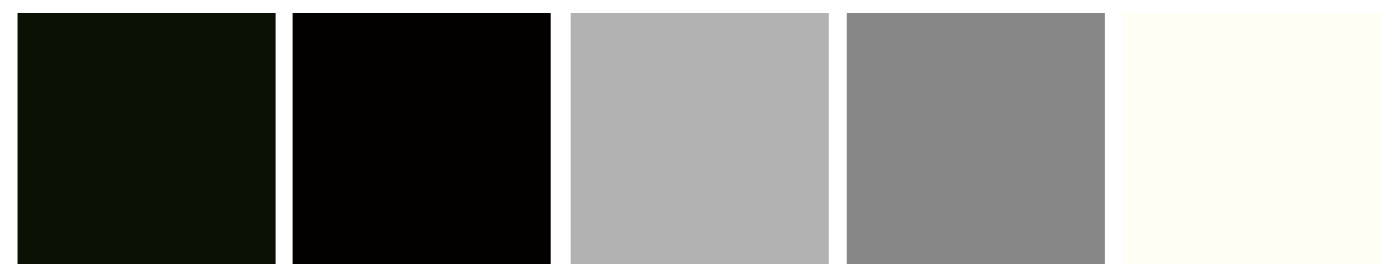
RAL 7042 - Traffic grey A

RAL 7044 - Silk grey

RAL 8011 - Nut brown

RAL 8025 - Pale brown

RAL 9001 - Cream



RAL 9004 - Signal black

RAL 9005 - Jet black

RAL 9006 - White aluminium

RAL 9007 - Grey aluminium

RAL 9010 - Pure white

Clyde Radiators can overpaint your Windsor radiators in a variety of special finishes including metallics, mottled & textured effects, polished and lacquered, see overleaf for more information or to discuss a quotation for other colours outside of the above range please call 01342 305550.

## WINDSOR COLOUR OPTIONS - SPECIAL FINISHES

Choose from 31 Special finishes; Textured, Mottled, Bronze, Metallics and Golds, please specify chosen colour at time of order.



For more information on the special finishes available or to discuss a quotation please call 01342 305550.

## OTHER CLYDE PRODUCTS

### Clyde Radiators

#### COMMERCIAL HEATING SOLUTIONS

- 4 Flat Panel radiators
- Lightweight & Efficient Sectional Aluminum
- Sectional Cast Iron in 3 other styles
- 2 Bespoke LST options, made to specification
- Sectional Steel Multi Column in over 3200 sizes
- Trench: Practical aluminium convector for underfloor heating
- Mini: Aluminium and copper convector, in steel casing with aluminium grille



[www.clyderadiators.co.uk](http://www.clyderadiators.co.uk)

## VALVES

Choose one of our TRV's to complement your cast iron radiator.

### ESTATE TRV

- Height of Wheelhead 127mm
- Available in Brass & Chrome
- Straight or Angled
- For angled valves allow an extra 80mm in total
- Estate TRV's are not Bi-directional
- Supplied in pairs of one thermostatic valve & one lockshield
- R $\frac{1}{2}$  x 15mm compression angled valves



### TRADITIONAL TRV

- Height of Wheelhead 115mm
- Chrome and Nickel finishes supplied with a Black top
- Antique Copper, Antique Brass and Polished Brass supplied with a Walnut top
- For angled valve allow an extra 90mm in total
- Traditional TRV's are not Bi-directional
- Supplied in pairs of one thermostatic valve & one lockshield
- R $\frac{1}{2}$  x 15mm compression angled valves



### TRADITIONAL XL TRV

- Height of Wheelhead 160mm
- Available in Chrome, Nickel & Antique Brass supplied with a Black top
- Available in Antique Copper & Polished Brass supplied with a Walnut top
- For angled valve allow an extra 120mm in total
- Traditional XL TRV's are not Bi-directional
- Supplied in pairs of one thermostatic valve & one lockshield
- R $\frac{1}{2}$  x 15mm compression angled valves

