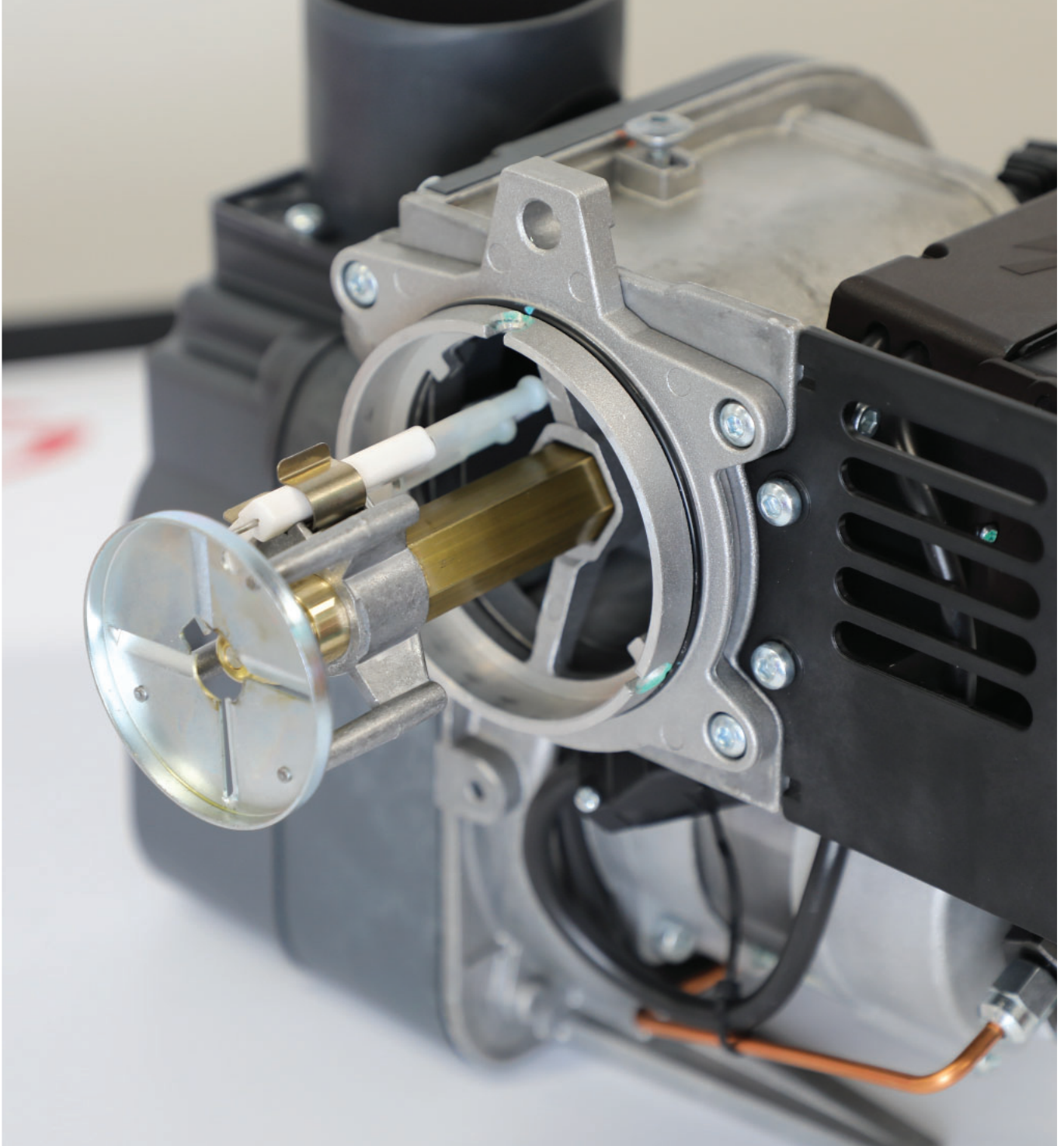


Grant Burner Settings

Including settings for current low NOx and yellow flame burners on kerosene or using 100% HVO, as well as original, standard efficiency burner settings



IMPORTANT NOTE FOR SERVICE TECHNICIANS

These settings are intended to give an overview of the burner settings for Grant oil boilers.

SPECIAL TEXT FORMATS

The following special text formats are used in these instructions for the purposes listed below:

! WARNING !

Warning of possible human injury as a consequence of not following the instructions in the warning.

! CAUTION !

Caution concerning likely damage to equipment or tools as a consequence of not following the instructions in the caution.

! NOTE !

Used for emphasis or information not directly concerned with the surrounding text but of importance to the reader.

SERVICING

The boiler should be serviced at least every twelve months and the details entered in the Service Log in the user handbook.



GRANT ENGINEERING (IRELAND) ULC

Crinkle, Birr, Co Offaly

R42 D788, Ireland

www.grant.eu

Email: info@grant.ie

Tel: +353 (0)57 91 20089

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1 LOW NOX KEROSENE (2022 TO PRESENT)

Table 1-1: Vortex Utility, Module and Boilerhouse Burner Settings

| Boiler models (burner type) | Heat output | | Nozzle | Oil pressure (bar) | Smoke No. | Burner head type | Air disc setting | Diffuser head setting | Flue gas temp. (°C) | CO ₂ (%) |
|---|-------------|---------|------------|--------------------------|--------------|------------------------|---------------------|-----------------------------|---------------------------|------------------------|
| | (kW) | (Btu/h) | | | | | | | | |
| Vortex 15/26 (Riello RDB2.2 BX V15/26) | 15.0 | 51,200 | 0.45/80°EH | 8.0 | 0 - 1 | BX 500 | Disc: B | 11.5 | 60 - 65 | 12.5 |
| | *21.0 | 71,600 | 0.60/60°ES | 8.0 | 0 - 1 | BX 500 | Disc: C | 13 | 65 - 70 | 12.5 |
| | 26.0 | 88,700 | 0.75/60°ES | 8.5 | 0 - 1 | BX 500 | N/A | 15 | 75 - 80 | 12.5 |
| Vortex 26/36 (Riello RDB2.2 BX V26/36) | 26.0 | 88,700 | 0.75/60°ES | 8.0 | 0 - 1 | BX 700 | N/A | 15 | 65 - 70 | 12.5 |
| | *31.0 | 105,700 | 0.85/60°ES | 9.0 | 0 - 1 | BX 700 | N/A | 16 | 70 - 75 | 12.5 |
| | 36.0 | 122,800 | 1.00/60°ES | 9.0 | 0 - 1 | BX 700 | N/A | 17.5 | 75 - 80 | 12.5 |
| Vortex 36/46 (Riello RDB2.2 BX V36/46) | 36.0 | 122,800 | 1.00/60°ES | 9.0 | 0 - 1 | BX 700 | N/A | 17.5 | 75 - 80 | 12.5 |
| | *41.0 | 140,000 | 1.10/60°ES | 10.0 | 0 - 1 | BX 700 | N/A | 17.5 | 80 - 85 | 12.5 |
| | 46.0 | 157,000 | 1.25/60°S | 8.0 | 0 - 1 | BX 700 | N/A | 20 | 85 - 90 | 12.5 |
| Vortex 46/70 (Riello RDB3.2 VORT 70) | 46.0 | 157,000 | 1.25/80°S | 8.0 | 0 - 1 | GIB | Head: 0 | - | 75 - 80 | 12.5 |
| | 52.0 | 177,400 | 1.35/80°S | 9.5 | 0 - 1 | GIB | Head: 0 | - | 75 - 80 | 12.5 |
| | 58.0 | 197,900 | 1.35 45°H | 10.0 | 0 - 1 | GIB | Head: 0 | - | 75 - 80 | 12.5 |
| | *64.0 | 218,300 | 1.50 45°H | 10.5 | 0 - 1 | GIB | Head: 2 | - | 75 - 80 | 12.5 |
| | 70.0 | 238,800 | 2.00 45°S | 8.5 | 0 - 1 | GIB | Head: 2 | - | 75 - 80 | 12.5 |

Table 1-2: Euroflame Utility, Module and Boilerhouse Burner Settings

| Boiler models (burner type) | Heat output | | Nozzle | Oil pressure (bar) | Smoke No. | Burner head type | Air disc setting | Diffuser head setting | Flue gas temp. (°C) | CO ₂ (%) |
|--|-------------|---------|------------|--------------------------|--------------|------------------------|---------------------|-----------------------------|---------------------------|------------------------|
| | (kW) | (Btu/h) | | | | | | | | |
| Euroflame 15/26 (Riello RDB2.2 BX E21/26) | 15.0 | 51,200 | 0.45 80°EH | 7.5 | 0 - 1 | BX 500 | Disc: B | 11 | 70 - 75 | 12.5 |
| | *23.5 | 80,200 | 0.65/60°ES | 10.0 | 0 - 1 | BX 500 | Disc: C | 13 | 85 - 90 | 12.5 |
| | 26.0 | 88,700 | 0.75/60°ES | 8.5 | 0 - 1 | BX 500 | N/A | 15 | 90 - 95 | 12.5 |
| Euroflame 26/35 (Riello RDB2.2 BX V26/36) | 26.0 | 88,700 | 0.75/60°ES | 8.5 | 0 - 1 | BX 700 | N/A | 15 | 75 - 80 | 12.5 |
| | *31.0 | 105,700 | 0.85/60°ES | 9.0 | 0 - 1 | BX 700 | N/A | 16 | 85 - 90 | 12.5 |
| | 35.0 | 119,400 | 1.00/60°ES | 8.5 | 0 - 1 | BX 700 | N/A | 17.5 | 90 - 95 | 12.5 |

Table 1-3: Vortex Combi Utility and Module Burner Settings

| Boiler models (burner type) | Heat output | | Nozzle | Oil pressure (bar) | Smoke No. | Burner head type | Air disc setting | Diffuser head setting | Flue gas temp. (°C) | CO ₂ (%) |
|-------------------------------------|-------------|---------|------------|--------------------------|--------------|------------------------|---------------------|-----------------------------|---------------------------|------------------------|
| | (kW) | (Btu/h) | | | | | | | | |
| Combi 26 (Riello RDB2.2 BX VC26) | 26.0 | 88,700 | 0.75/60°ES | 8.5 | 0 - 1 | BX 500 | N/A | 15 | 75 - 80 | 12.5 |
| Combi 36 (Riello RDB2.2 BX VC36) | 36.0 | 122,800 | 1.00/60°ES | 9.0 | 0 - 1 | BX 700 | N/A | 17.5 | 75 - 80 | 12.5 |

* Factory Setting



Riello RDB
Low NOx Burner
Commissioning Video

2 LOW NOX KEROSENE (2017-2022)

Table 2-1: Vortex Utility, Module and Boilerhouse Burner Settings

| Boiler models (burner type) | Heat output | | Nozzle | Oil pressure (bar) | Smoke No. | Burner head type | Air disc setting | Diffuser head setting | Flue gas temp. (°C) | CO ₂ (%) |
|------------------------------------|-------------|---------|------------|--------------------------|--------------|------------------------|---------------------|-----------------------------|---------------------------|------------------------|
| | (kW) | (Btu/h) | | | | | | | | |
| 15/21 (Riello RDB2.2 BX E15/21) | 15.0 | 51,200 | 0.45/80°EH | 7.5 | 0 - 1 | BX 500 | Disc: B | 11 | 65 - 70 | 12.5 |
| | 18.0 | 63,400 | 0.55/60°ES | 7.0 | 0 - 1 | BX 500 | Disc: C | 11.5 | 70 - 75 | 12.5 |
| | *21.0 | 71,600 | 0.60/60°ES | 8.0 | 0 - 1 | BX 500 | Disc: C | 13 | 75 - 80 | 12.5 |
| 15/26 (Riello RDB2.2 BX V15/26) | 15.0 | 51,200 | 0.45/80°ES | 8.0 | 0 - 1 | BX 500 | Disc: B | 11.5 | 60 - 65 | 12.5 |
| | *21.0 | 71,600 | 0.60/60°ES | 8.0 | 0 - 1 | BX 500 | Disc: C | 13 | 65 - 70 | 12.5 |
| | 26.0 | 88,700 | 0.75/60°ES | 8.5 | 0 - 1 | BX 500 | N/A | 15 | 75 - 80 | 12.5 |
| 26/36 (Riello RDB2.2 BX V26/36) | 26.0 | 88,700 | 0.75/60°ES | 9.0 | 0 - 1 | BX 700 | N/A | 15 | 65 - 70 | 12.5 |
| | *31.0 | 105,700 | 0.85/60°ES | 9.0 | 0 - 1 | BX 700 | N/A | 16 | 70 - 75 | 12.5 |
| | 36.0 | 122,800 | 1.00/60°S | 9.0 | 0 - 1 | BX 700 | N/A | 17.5 | 75 - 80 | 12.5 |
| 36/46 (Riello RDB2.2 BX V36/46) | 36.0 | 122,800 | 1.00/60°ES | 9.0 | 0 - 1 | BX 700 | N/A | 17.5 | 75 - 80 | 12.5 |
| | *41.0 | 140,000 | 1.10/60°ES | 10.0 | 0 - 1 | BX 700 | N/A | 17.5 | 80 - 85 | 12.5 |
| | 46.0 | 157,000 | 1.25/60°ES | 8.0 | 0 - 1 | BX 700 | N/A | 20 | 85 - 90 | 12.5 |
| 46/58 (Riello RDB3.2 VORT 58) | 46.0 | 157,000 | 1.25/80°S | 8.0 | 0 - 1 | GIB | Head: 0 | - | 75 - 80 | 12.5 |
| | *52.0 | 177,500 | 1.35/80°S | 9.5 | 0 - 1 | GIB | Head: 0 | - | 75 - 80 | 12.5 |
| | 58.0 | 197,900 | 1.65 80°S | 8 | 0 - 1 | GIB | Head: 0 | - | 75 - 80 | 12.5 |
| 58/70 (Riello RDB3.2 VORT 58) | 58.0 | 197,900 | 1.65/80°S | 8.0 | 0 - 1 | GIB | Head: 0 | - | 75 - 80 | 12.5 |
| | *64.0 | 218,300 | 1.65/80°S | 9.5 | 0 - 1 | GIB | Head: 0 | - | 75 - 80 | 12.5 |
| | 70.0 | 238,800 | 1.75 80°S | 9.5 | 0 - 1 | GIB | Head: 4 | - | 75 - 80 | 12.5 |

Table 2-2: Euroflame Utility, Module and Boilerhouse Burner Settings

| Boiler models (burner type) | Heat output | | Nozzle | Oil pressure (bar) | Smoke No. | Burner head type | Air disc setting | Diffuser head setting | Flue gas temp. (°C) | CO ₂ (%) |
|------------------------------------|-------------|---------|------------|--------------------------|--------------|------------------------|---------------------|-----------------------------|---------------------------|------------------------|
| | (kW) | (Btu/h) | | | | | | | | |
| 15/21 (Riello RDB2.2 BX E15/21) | 15.0 | 51,200 | 0.45/80°EH | 7.5 | 0 - 1 | BX 500 | Disc: B | 11 | 70 - 75 | 12.5 |
| | 18.0 | 61,400 | 0.55/60°ES | 7.0 | 0 - 1 | BX 500 | Disc: C | 11.5 | 75 - 80 | 12.5 |
| | *21.0 | 71,600 | 0.60/60°ES | 8.0 | 0 - 1 | BX 500 | Disc: C | 13 | 80 - 85 | 12.5 |
| 21/26 (Riello RDB2.2 BX E21/26) | 21.0 | 71,600 | 0.60/60°ES | 8.0 | 0 - 1 | BX 500 | Disc: C | 13 | 85 - 90 | 12.5 |
| | *21.0 | 80,200 | 0.65/60°ES | 10.0 | 0 - 1 | BX 500 | Disc: C | 13 | 85 - 90 | 12.5 |
| | 26.0 | 88,700 | 0.75/60°ES | 8.5 | 0 - 1 | BX 500 | N/A | 15 | 90 - 95 | 12.5 |
| 26/35 (Riello RDB2.2 BX V26/36) | 26.0 | 88,700 | 0.75/60°ES | 8.5 | 0 - 1 | BX 700 | N/A | 15 | 75 - 80 | 12.5 |
| | *31.0 | 105,700 | 0.85/60°ES | 9.0 | 0 - 1 | BX 700 | N/A | 16 | 85 - 90 | 12.5 |
| | 36.0 | 119,400 | 1.00/60°ES | 8.5 | 0 - 1 | BX 700 | N/A | 17.5 | 90 - 95 | 12.5 |

* Factory Setting

Table 2-3: Vortex Combi Utility and Module Burner Settings

| Boiler models (burner type) | Heat output | | Nozzle | Oil pressure (bar) | Smoke No. | Burner head type | Air disc setting | Diffuser head setting | Flue gas temp. (°C) | CO ₂ (%) |
|-------------------------------------|-------------|---------|------------|--------------------------|--------------|------------------------|---------------------|-----------------------------|---------------------------|------------------------|
| | (kW) | (Btu/h) | | | | | | | | |
| Combi 26 (Riello RDB2.2 BX VC26) | 26.0 | 88,700 | 0.75/60°ES | 8.5 | 0 - 1 | BX 500 | N/A | 15 | 75 - 80 | 12.5 |
| Combi 36 (Riello RDB2.2 BX VC36) | 36.0 | 122,800 | 1.00/60°ES | 9.0 | 0 - 1 | BX 700 | N/A | 17.5 | 75 - 80 | 12.5 |

Table 2-4: Vortex Wall Hung Burner Settings

| Boiler models (burner type) | Heat output | | Nozzle | Oil pressure (bar) | Smoke No. | Burner head type | Distance between nozzle and burn- er head | Flue gas temp. (°C) | CO ₂ (%) |
|--|-------------|---------|------------|--------------------------|--------------|---------------------|---|---------------------------|------------------------|
| | (kW) | (Btu/h) | | | | | | | |
| Wallhung 12/16 (Ecoflam Max 1 LN Vortex WM 12-16 ERP) | 12.7 | 40,900 | 0.40/80°S | 7 | 0 - 1 | EK 12-16 | 30.5 | 60 - 65 | 12.5 |
| | *14.0 | 47,800 | 0.40/80°EH | 9 | 0 - 1 | EK 12-16 | 31.5 | 65 - 69 | 12.5 |
| | 16.5 | 56,300 | 0.50/80°EH | 8 | 0 - 1 | EK 12-16 | 32.5 | 65 - 69 | 12.5 |
| Wallhung 16-21 (Ecoflam Max 1 LN Vortex WM 16-21 ERP) | 16.5 | 56,300 | 0.50/80°EH | 7 | 0 - 1 | EK 16-21 | 29.5 | 65 - 69 | 12.5 |
| | *18.7 | 63,800 | 0.50/80°EH | 10 | 0 - 1 | EK 16-21 | 31.0 | 70 - 75 | 12.5 |
| | 21.0 | 71,700 | 0.60/80°EH | 8 | 0 - 1 | EK 16-21 | 31.0 | 75 - 79 | 12.5 |

* Factory Setting

3 HVO (100%) LOW NOX

! NOTE !

NOTE: If fuel distributors introduce a Kerosene/HVO blend below 30%, NO CHANGES are required on the burner except confirming the settings with a digital flue gas analyser.

! NOTE !

NOTE: For 100% HVO only, If your analyser has a HVO option, set the CO₂ at 12.5% but if using a light oil option, set the CO₂ at 13% minimum.

Table 3-1: Vortex Utility, Module and Boilerhouse Burner Settings

| Boiler model (burner type) | Heat output | | Nozzle | Oil pressure (bar) | Burner head type | Burner head setting | Diffuser head setting | Air Box | Air Disc Setting | Flue gas temp (°C) | CO ₂ (%) |
|----------------------------------|-------------|---------|-------------|-----------------------|------------------|---------------------|-----------------------|---------|------------------|--------------------|---------------------|
| | (kW) | (Btu/h) | | | | | | | | | |
| Vortex 15-21 RDB2.2-BX-E15/21 | 15.0 | 51,200 | 0.40/60° ES | 9.0 | BX 500 | N/A | 13 | 1 | B | 65-70 | 12.5 |
| | 18.0 | 61,400 | 0.40/60° ES | 12.0 | BX 500 | N/A | 13 | 1 | B | 70-75 | 12.5 |
| | *21.0 | 71,600 | 0.50/60° ES | 12.0 | BX 500 | N/A | 14 | 1 | C | 75-80 | 12.5 |
| Vortex 15-26 RDB2.2-BX-V15-26 | 15.0 | 51,200 | 0.40/60° ES | 9.0 | BX 500 | N/A | 13 | 1 | B | 60-65 | 12.5 |
| | *21.0 | 71,600 | 0.50/60° ES | 12.0 | BX 500 | N/A | 13 | 1 | C | 65-70 | 12.5 |
| | 26.0 | 88,700 | 0.60/60° ES | 12.5 | BX 500 | N/A | 15 | 1 | N/A | 75-80 | 12.5 |
| Vortex 26-36 RDB2.2-BX-V26-36 | 26.0 | 88,700 | 0.60 60°ES | 12.5 | BX 700 | N/A | 15 | 1 | N/A | 65-70 | 12.5 |
| | *31.0 | 105,700 | 0.75 60°ES | 12.0 | BX 700 | N/A | 16 | 1 | N/A | 70-75 | 12.5 |
| | 36.0 | 122,800 | 0.85 60°ES | 12.0 | BX 700 | N/A | 17.5 | 1 | N/A | 75-80 | 12.5 |
| Vortex 36-46 RDB2.2-BX-V36/46 | 36.0 | 122,800 | 0.85/60° ES | 12.0 | BX 700 | N/A | 17.5 | 2 | N/A | 75-80 | 12.5 |
| | *41.0 | 140,000 | 0.85/60° ES | 14.5 | BX 700 | N/A | 17.5 | 2 | N/A | 80-85 | 12.5 |
| Vortex 46-58 RDB3.2 VORT 58 | 46.0 | 157,000 | 1.25/80°S | 8.0 | GIB | 0 | N/A | 2 | N/A | 75-80 | 12.5 |
| | *52.0 | 177,500 | 1.35/80°S | 9.5 | GIB | 0 | N/A | 2 | N/A | 75-80 | 12.5 |
| | 58.0 | 197,900 | 1.65/80°S | 8.0 | GIB | 0 | N/A | 2 | N/A | 75-80 | 12.5 |
| Vortex 58-70 RDB3.2 VORT 70 | 58.0 | 197,900 | 1.35/45°H | 10.0 | GIB | 0 | N/A | 2 | N/A | 75-80 | 12.5 |
| | *64.0 | 218,300 | 1.50/45°H | 10.5 | GIB | 2 | N/A | 2 | N/A | 75-80 | 12.5 |
| | 70.0 | 238,800 | 2.00/45°S | 7.0 | GIB | 2 | N/A | 2 | N/A | 75-80 | 12.5 |

Table 3-2: Euroflame Utility, Module and Boilerhouse Burner Settings

| Boiler model (burner type) | Heat output | | Nozzle | Oil pressure (bar) | Burner head type | Burner head setting | Diffuser head setting | Air Box | Air Disc Setting | Flue gas temp (°C) | CO ₂ (%) |
|--|-------------|---------|-------------|-----------------------|------------------|---------------------|-----------------------|---------|------------------|--------------------|---------------------|
| | (kW) | (Btu/h) | | | | | | | | | |
| Euroflame Condensing 15-21 RDB2.2-BX-E15/21 | 15.0 | 51,180 | 0.40/60° ES | 9.0 | BX 500 | N/A | 13 | 1 | B | 70-75 | 12.5 |
| | 18.0 | 61,400 | 0.40/60° ES | 12.0 | BX 500 | N/A | 13 | 1 | B | 75-80 | 12.5 |
| | *21.0 | 71,600 | 0.50/60° ES | 12.0 | BX 500 | N/A | 13 | 1 | C | 80-85 | 12.5 |
| Euroflame Condensing 21-26 RDB2.2-BX-E21/26 | 21.0 | 71,600 | 0.50/60° ES | 12.0 | BX 500 | N/A | 13 | 1 | C | 80-85 | 12.5 |
| | *23.5 | 80,200 | 0.50/60 ES | 15.0 | BX 500 | N/A | 14 | 1 | C | 85-90 | 12.5 |
| | 26.0 | 88,700 | 0.60/60 °ES | 12.5 | BX 500 | N/A | 15 | 1 | N/A | 90-95 | 12.5 |
| Euroflame Condensing 26-35 RDB2.2-BX-V26/36 | 26.0 | 88,700 | 0.60/60 ES | 12.5 | BX 700 | N/A | 15 | 1 | N/A | 75-80 | 12.5 |
| | *31.0 | 105,700 | 0.75/60 ES | 12.0 | BX 700 | N/A | 16 | 1 | N/A | 85-90 | 12.5 |
| | 35.0 | 119,400 | 0.75/60°ES | 14.0 | BX 700 | N/A | 17.5 | 1 | N/A | 90-95 | 12.5 |

* Factory Setting

Table 3-3: Vortex Combi Utility and Module Burner settings

| Boiler model (burner type) | Heat output | | Nozzle | Oil pressure (bar) | Burner head type | Burner head setting | Diffuser head setting | Air Box | Air Disc Setting | Flue gas temp (°C) | CO ₂ (%) |
|-------------------------------------|-------------|---------|-------------|--------------------------|------------------------|---------------------------|-----------------------------|------------|------------------------|-----------------------------|------------------------|
| | (kW) | (Btu/h) | | | | | | | | | |
| Vortex Combi 26e RDB2.2-BX-VC-26 | 26.0 | 88,700 | 0.60/60° ES | 12.5 | BX 500 | N/A | 15 | 1 | N/A | 75-80 | 12.5 |
| Vortex Combi 36e RDB 2.2-BX-VC36 | 36.0 | 122,800 | 0.85/60° ES | 12.0 | BX 700 | N/A | 17.5 | 1 | N/A | 75-80 | 12.5 |

Table 3-4: Vortex Wall Hung Burner Settings

| Boiler models (burner type) | Heat output | | Nozzle | Oil pressure (bar) | Burner head type | Disc Setting | Flue gas temp. (°C) | CO ₂ (%) |
|--------------------------------|-------------|---------|------------|--------------------------|---------------------|--------------|---------------------------|------------------------|
| | (kW) | (Btu/h) | | | | | | |
| Vortex Wallhung 12/16 | 16.5 | 56,300 | 0.40/80°ES | 11 | EK12-16 | 32.5 | 65 - 69 | 12.5 |
| Vortex Wallhung 16-21 | 16.5 | 56,300 | 0.40/80°ES | 11 | EK16-21 | 29.5 | 65 - 69 | 12.5 |
| | *18.7 | 63,800 | 0.40/80°ES | 14 | EK16-21 | 31.0 | 70 - 75 | 12.5 |
| | 21.0 | 71,600 | 0.50/80°ES | 12 | EK16-21 | 31.0 | 75 - 79 | 12.5 |

* Factory Setting

4 HVO (100%) YELLOW FLAME

! NOTE !

NOTE: If fuel distributors introduce a Kerosene/HVO blend below 30%, NO CHANGES are required on the burner except confirming the settings with a digital flue gas analyser.

! NOTE !

NOTE: For 100% HVO only, If your analyser has a HVO option, set the CO₂ at 12.5% but if using a light oil option, set the CO₂ at 13% minimum.

Table 4-1: Vortex Utility, Module and Boilerhouse Burner Settings

| Boiler model (burner type) | Heat output | | Nozzle | Oil pressure (bar) | Burner head type | Burner head setting | Air Box | Air Disc Setting | Flue gas temp (°C) | CO ₂ (°C) |
|---------------------------------|-------------|---------|-------------|--------------------------|------------------------|---------------------------|------------|---------------------|-----------------------------|-------------------------|
| | (kW) | (Btu/h) | | | | | | | | |
| Vortex 15-21 RDB2.2 VORT 21 | 15.0 | 51,200 | 0.40/60° ES | 10.0 | T1 | FIXED | 1 | B | 65-70 | 12.0 |
| | 18.0 | 61,400 | 0.40/60° ES | 12.5 | T1 | FIXED | 1 | B | 70-75 | 12.5 |
| | *21.0 | 71,600 | 0.45/60° ES | 12.5 | T2 | FIXED | 1 | C | 75-80 | 12.5 |
| Vortex 15-26 RDB 1 VORT-23 | 15.0 | 51,200 | 0.40/60° ES | 10.0 | T1 | FIXED | 1 | B | 60-65 | 12.5 |
| | 21.0 | 71,600 | 0.40/60° ES | 12.5 | T1 | FIXED | 1 | C | 65-70 | 12.5 |
| | *23.0 | 78,500 | 0.65/60° ES | 9.5 | T2 | FIXED | 1 | N/A | 65-70 | 12.5 |
| Vortex 26-36 RDBVORT-36 | 26.0 | 88,700 | 0.65/60° ES | 11.5 | T3 | FIXED | 1 | N/A | 65-70 | 12.5 |
| | *31.0 | 105,700 | 0.75/60° ES | 12.0 | T3 | FIXED | 1 | N/A | 70-75 | 12.5 |
| | 36.0 | 122,800 | 0.85/60° ES | 12.0 | T5 | FIXED | 1 | N/A | 75-80 | 12.5 |
| Vortex 36-46 RDB 2.2 VORT 46 | 36.0 | 122,800 | 0.85/60° ES | 12.0 | T5 | FIXED | 2 | N/A | 75-80 | 12.5 |
| | *41.0 | 140,000 | 0.85/60° ES | 14.5 | T5 | FIXED | 2 | N/A | 80-85 | 12.5 |
| | 46.0 | 157,000 | 1.00/60° ES | 14.5 | T5 | FIXED | 2 | N/A | 85-90 | 12.5 |
| Vortex 46-58 RDB3.2 VORT 58 | 46.0 | 157,000 | 1.25 80° S | 8.0 | GIB | 0 | N/A | N/A | 75-80 | 12.0 |
| | *52.0 | 177,500 | 1.35 80° S | 9.5 | GIB | 0 | N/A | N/A | 75-80 | 12.0 |
| | 58.0 | 197,900 | 1.65 80°S | 8.0 | GIB | 0 | N/A | N/A | 75-80 | 12.0 |
| Vortex 58-70 RDB3.2 VORT 70 | 58.0 | 197,900 | 1.35 45°H | 10.0 | GIB | 0 | N/A | N/A | 75-80 | 12.0 |
| | *64.0 | 218,300 | 1.50 45°H | 10.5 | GIB | 2 | N/A | N/A | 75-80 | 12.0 |
| | 70.0 | 238,800 | 2.00 45°S | 7.0 | GIB | 2 | N/A | N/A | 75-80 | 12.0 |

* Factory Setting

Table 4-2: Euroflame Utility, Module and Boilerhouse Burner Settings

| Boiler model (burner type) | Heat output | | Nozzle | Oil pressure (bar) | Burner head type | Burner head setting | Air Box | Air Disc Setting | Flue gas temp (°C) | CO2 (°C) |
|---|-------------|---------|-------------|--------------------------|------------------------|---------------------------|------------|---------------------|-----------------------------|-------------|
| | (kW) | (Btu/h) | | | | | | | | |
| Euroflame Condensing 15-21 RDB 2.2 EFCOND 50-70 | 15.0 | 51,200 | 0.40 60 ES | 10.0 | T1 | N/A | 1 | B | 70-75 | 12.0 |
| | 18.0 | 61,400 | 0.40 60 ES | 12.5 | T1 | N/A | 1 | B | 75-80 | 12.5 |
| | *21.0 | 71,600 | 0.45 60 ES | 12.5 | T1 | N/A | 1 | C | 80-85 | 12.5 |
| Euroflame Condensing 21-26 RDB 2.2 EFCOND 70-90 | 21.0 | 71,600 | 0.45 60° ES | 12.5 | T1 | N/A | 1 | C | 80-85 | 12.5 |
| | *23.0 | 78,400 | 0.65 60° ES | 9.5 | T2 | N/A | 1 | N/A | 85-90 | 12.5 |
| | 26.0 | 88,700 | 0.65 60° ES | 11.5 | T2 | N/A | 1 | N/A | 90-95 | 12.5 |
| Euroflame Condensing 26-35 RDB 2.2 EFCOND 90-120 | 26.0 | 88,700 | 0.65 60° ES | 11.5 | T3 | N/A | 1 | N/A | 75-80 | 12.5 |
| | *31.0 | 105,700 | 0.75 60° ES | 12.0 | T5 | N/A | 1 | N/A | 85-90 | 12.5 |
| | 35.0 | 119,400 | 0.75 60° ES | 14.0 | T5 | N/A | 1 | N/A | 90-95 | 12.5 |

Table 4-3: Vortex Combi Utility and Module Burner Settings

| Boiler model (burner type) | Heat output (kW) (Btu/h) | | Nozzle | Oil pressure (bar) | Burner head type | Burner head setting | Diffuser head setting | Air Disc Setting | Flue gas temp (°C) | CO2 (°C) |
|------------------------------------|--------------------------------|---------|-------------|--------------------------|------------------------|---------------------------|-----------------------------|------------------------|-----------------------------|-------------|
| Vortex Combi 26e RDB1 VCOM 26 | *26.0 | 88,700 | 0.65/60° ES | 11.5 | T2 | FIXED | 1 | N/A | 75-80 | 12.5 |
| Vortex Combi 36e RDB2.2 VCOM 36 | *36.0 | 122,800 | 0.85/60° ES | 12.0 | T5 | FIXED | 1 | N/A | 75-80 | 12.5 |

* Factory Setting

5 YELLOW FLAME KEROSENE

Table 5-1: Vortex Utility, Module and Boilerhouse Burner Settings

| Boiler model (burner type) | Heat output | | Nozzle | Oil pressure (bar) | Burner head type | Burner head setting | Air Box | Air Disc Setting | Flue gas temp (°C) | CO2 (°C) |
|-------------------------------|-------------|---------|-------------|--------------------------|------------------------|---------------------------|------------|---------------------|-----------------------------|-------------|
| | (kW) | (Btu/h) | | | | | | | | |
| 15/21 Reillo RDB2.2 | 15.0 | 51,200 | 0.50/80° EH | 7.0 | T1 | N/A | 1 | B | 65 - 70 | 12 |
| | 18.3 | 62,400 | 0.55/80° EH | 7.5 | T1 | N/A | 1 | C | 65 - 70 | 12 |
| | *21.0 | 71,650 | 0.60/80° EH | 9.0 | T1 | N/A | 1 | C | 65 - 70 | 12 |
| 15/26 Riello RDB1 | 15.0 | 51,180 | 0.50/80° EH | 7.0 | T1 | N/A | 1 | N/A | 60 - 65 | 12 |
| | 20.0 | 68,240 | 0.60/80° EH | 8.0 | T1 | N/A | 1 | N/A | 65 - 70 | 12 |
| | *23.0 | 78,475 | 0.65/80° EH | 8.5 | T2 | N/A | 1 | N/A | 70 - 75 | 12 |
| | 26.0 | 88,700 | 0.75/80° EH | 8.0 | T2 | N/A | 1 | N/A | 65 - 70 | 12 |
| 26/36 Riello RDB2 | 26.0 | 88,700 | 0.75/80° EH | 8.0 | T3 | N/A | 1 | N/A | 65-70 | 12 |
| | *31.5 | 107,500 | 0.85/80° EH | 9.0 | T3 | N/A | 1 | N/A | 70-75 | 12 |
| | 36.0 | 123,000 | 1.00/80° EH | 9.1 | T3 | N/A | 1 | N/A | 75-80 | 12 |
| 36/46 Riello RDB2.2 | 36.0 | 121,300 | 1.00/80° EH | 9.0 | T5 | N/A | 2 | N/A | 75-80 | 12 |
| | *41.5 | 142,000 | 1.20/80° S | 8.0 | T5 | N/A | 2 | N/A | 80-85 | 12 |
| | 46.0 | 157,000 | 1.25/80° S | 8.0 | T5 | N/A | 2 | N/A | 85-90 | 12 |
| 46/58 Riello RDB3.2 | 46.0 | 156,952 | 1.25 80° S | 8.0 | GIB | 0 | N/A | N/A | 75-80 | 12 |
| | *52.0 | 177,424 | 1.35 80° S | 9.5 | GIB | 0 | N/A | N/A | 75-80 | 12 |
| | 58.0 | 197,896 | 1.65 80°S | 8.0 | GIB | 0 | N/A | N/A | 75-80 | 12 |
| 58/70 Riello RDB3.2 | 58.0 | 197,896 | 1.65 80°S | 8 | GIB | 0 | N/A | N/A | 75-80 | 12 |
| | *64.0 | 218,368 | 1.60 80°S | 9.5 | GIB | 0 | N/A | N/A | 75-80 | 12 |
| | 70.0 | 238,840 | 1.75 80°S | 9.5 | GIB | 4 | N/A | N/A | 75-80 | 12 |

Table 5-2: Euroflame Utility, Module and Boilerhouse Burner Settings

| Boiler model (burner type) | Heat output | | Nozzle | Oil pressure (bar) | Burner head type | Burner head setting | Air Box | Air Disc Setting | Flue gas temp (°C) | CO2 (°C) |
|-------------------------------|-------------|---------|-------------|--------------------------|------------------------|---------------------------|------------|---------------------|-----------------------------|-------------|
| | (kW) | (Btu/h) | | | | | | | | |
| 50/70 Reillo RDB2.2 | 15.1 | 51,500 | 0.50/80° EH | 7.0 | T1 | N/A | 1 | B | 70 - 75 | 11-12 |
| | *18.1 | 61,750 | 0.55/80° EH | 7.5 | T1 | N/A | 1 | C | 75 - 80 | 11-12 |
| | 20.7 | 70,600 | 0.60/80° EH | 8.5 | T1 | N/A | 1 | C | 80 - 85 | 11-12 |
| 70/90 Reillo RDB2.2 | 20.7 | 70,600 | 0.60/80° EH | 8.5 | T1 | N/A | 1 | N/A | 85 - 90 | 11-12 |
| | *22.7 | 77,500 | 0.65/80° EH | 8.5 | T2 | N/A | 1 | N/A | 85 - 90 | 11-12 |
| | 25.6 | 87,350 | 0.75/80° EH | 8.0 | T2 | N/A | 1 | N/A | 90 - 95 | 11-12 |
| 90/120 Reillo RDB2.2 | 25.6 | 87,350 | 0.75/80° EH | 8.0 | T2 | N/A | 1 | N/A | 75 - 80 | 11-12 |
| | *30.8 | 105,100 | 0.85/80° EH | 9.1 | T3 | N/A | 1 | N/A | 85 - 90 | 11-12 |
| | 34.7 | 118,400 | 1.00/80° EH | 8.0 | T3 | N/A | 1 | N/A | 90 - 95 | 11-12 |

* Factory Setting

Table 5-3: Vortex Combi Utility and Module Burner Settings

| Boiler model (burner type) | Heat output | | Nozzle | Oil pressure (bar) | Burner head type | Air Disc Setting | Flue gas temp (°C) | Smoke No. | CO ₂ (°C) |
|-----------------------------------|-------------|---------|-------------|--------------------------|------------------------|------------------------|-----------------------------|--------------|-------------------------|
| | (kW) | (Btu/h) | | | | | | | |
| Vortex Combi 26e RIELLO RDB1 | 26.0 | 88,700 | 0.75/80° EH | 8 | T2 | N/A | 75-80 | 0 - 1 | 12.0 |
| Vortex Combi 36e RIELLO RDB2.2 | 36.0 | 123,000 | 1.00/80° EH | 9.1 | T5 | N/A | 78 | 0 - 1 | 12.0 |

Table 5-4: Wall Hung Burner Settings

| Boiler models (burner type) | Heat output | | Nozzle | Oil pressure (bar) | Burner head type | Disc Setting | Flue gas temp. (°C) | CO ₂ (%) |
|--------------------------------|-------------|---------|------------|--------------------------|---------------------|--------------|---------------------------|------------------------|
| | (kW) | (Btu/h) | | | | | | |
| Wallhung 12/16 | 12.0 | 43,300 | 0.35/80°S | 7 | NO.1 FIXED | NO.1 FIXED | 60 - 65 | 11 - 12 |
| | *14.5 | 47,770 | 0.40/80°EH | 10 | NO.1 FIXED | NO.1 FIXED | 65 - 69 | 11 - 12 |
| | 16.0 | 56,300 | 0.50/80°EH | 7 | NO.1 FIXED | NO.1 FIXED | 65 - 69 | 11 - 12 |
| Wallhung 16-21 | 16.0 | 56,300 | 0.50/80°EH | 7 | NO.1 FIXED | NO.1 FIXED | 65 - 69 | 11 - 12 |
| | *19.3 | 63,800 | 0.50/80°EH | 10 | NO.1 FIXED | NO.1 FIXED | 70 - 75 | 11 - 12 |
| | 21.0 | 69,270 | 0.60/80°EH | 8 | NO.1 FIXED | NO.1 FIXED | 75 - 79 | 11 - 12 |

* Factory Setting

6 STANDARD EFFICIENCY KEROSENE

Table 6-1: MultiPass Utility, Module and Boilerhouse Burner Settings

| Boiler model (burner type) | Heat output | | Nozzle | Oil pressure (bar) | Burner head type | Disc Setting | Flue gas temp (°C) | CO2 (°C) |
|-------------------------------|-------------|---------|-------------|--------------------------|------------------------|--------------|-----------------------------|-------------|
| | (kW) | (Btu/h) | | | | | | |
| 70/90 RIELLO RDB1 | 20.5 | 70,000 | 0.60/60° EH | 8.5 | LD3 | N/A | 167 | 12 |
| | *23.5 | 80,000 | 0.75/60° EH | 7.0 | LD3 | N/A | 166 | 12 |
| | 26.4 | 90,000 | 0.75/60° EH | 9.5 | LD3 | N/A | 168 | 12 |
| 90/110 Riello RDB2 | 26.4 | 90,000 | 0.75/60° S | 9.5 | LD3A | N/A | 169 | 13 |
| | 29.3 | 100,000 | 0.85/60° S | 8.0 | LD3A | N/A | 164 | 13 |
| | 32.2 | 110,000 | 1.00/60° S | 9.0 | LD3A | N/A | 180 | 13 |
| 110/140 Riello RDB2 | 32.2 | 110,000 | 1.10/80° EH | 8.5 | LD3A | N/A | 185 | 12 |
| | *36.7 | 125,000 | 1.10/80° EH | 8.5 | LD3A | N/A | 185 | 12 |
| | 41.0 | 140,000 | 1.25/60° S | 8.25 | LD3A | N/A | 184 | 12 |
| 140/160 Riello RDB3.2 | *41.0 | 140,000 | 1.25/60° S | 7.5 | GIB | N/A | 185 | 12 |
| | 47.0 | 160,000 | 1.35/60° S | 8.25 | GIB | N/A | 198 | 12 |
| 160/200 Riello RDB3.2 | 47.0 | 160,000 | 1.35/60° S | 8.25 | GIB | N/A | 195 | 12 |
| | *52.8 | 180,000 | 1.50/60° S | 8.0 | GIB | N/A | 195 | 12 |
| | 58.6 | 200,000 | 1.65/60° S | 9.25 | GIB | N/A | 195 | 12 |
| 140/160 Riello G7 | *41.0 | 140,000 | 1.25/60° S | 9.0 | G7 | 2 | 185 | 12.5 |
| | 46.6 | 160,000 | 1.35/60° S | 8.5 | G7 | 3 | 195 | 12.5 |
| 160/200 Riello G7 | 46.6 | 160,000 | 1.35/60° S | 8.5 | G7 | 3 | 195 | 12.5 |
| | *52.7 | 180,000 | 1.50/60° S | 8.5 | G7 | 6(Full Open) | 195 | 12.5 |
| | 59.0 | 20,000 | 1.65/60° S | 10 | G7 | 6(Full Open) | 195 | 12.5 |

Table 6-2: Euroflame Utility, Module and Boilerhouse Burner Settings

| Boiler model (burner type) | Heat output | | Nozzle | Oil pressure (bar) | Burner head type | Disc Setting | Flue gas temp (°C) | CO2 (°C) |
|-------------------------------|-------------|---------|-------------|--------------------------|---------------------|--------------|-----------------------------|-------------|
| | (kW) | (Btu/h) | | | | | | |
| 50/70 RIELLO RDB1 | 14.7 | 50,000 | 0.50/60° EH | 7.0 | LD2SX Short | N/A | 211 | 11.5 |
| | *17.6 | 60,000 | 0.60/60° EH | 7 | LD2SX Short | N/A | 211 | 11.5 |
| | 20.5 | 70,000 | 0.60/60° EH | 8.5 | LD2SX Short | N/A | 211 | 11.5 |
| 50/90 RIELLO RDB1 | 14.7 | 50,000 | 0.50/60° S | 7 | LD2 | N/A | 180 | 11.5 |
| | 17.6 | 60,000 | 0.60/60° S | 7 | LD3 | N/A | 180 | 11.5 |
| | *20.5 | 70,000 | 0.60/60° S | 9 | LD3 | N/A | 180 | 11.5 |
| | 23.5 | 80,000 | 0.75/60° S | 7 | LD3 | N/A | 180 | 11.5 |
| | 26.4 | 90,000 | 0.75/60° S | 9.5 | LD3 | N/A | 180 | 11.5 |
| 90/120 Riello RDB2 | 26.4 | 90,000 | 0.75/80° S | 9.5 | LD3A | N/A | 190 | 12 |
| | *32.2 | 110,000 | 1.0/80° S | 8 | LD3A | N/A | 220 | 12 |
| | 35.2 | 120,000 | 1.0/80° S | 8.6 | LD3A | N/A | 250 | 12 |

Table 6-3: Combi 90 V3 Utility and Module (26 & 33kW) Burner Settings

| Boiler model (burner type) | Heat output | | Nozzle | Oil pressure (bar) | Burner head type | Smoke No. | Air Disc Setting | Flue gas temp (°C) | CO2 (°C) |
|-------------------------------|-------------|---------|-------------|--------------------------|------------------------|--------------|------------------------|-----------------------------|-------------|
| | (kW) | (Btu/h) | | | | | | | |
| Combi 90 V3 (Riello RDB1) | 26.4 | 90,000 | 0.75/60° EH | 9.5 | LD3 | 0 - 1 | N/A | 180 | 12.0 |
| Combi Max (Riello RDB2.2) | 33.3 | 113,600 | 1.00/80° EH | 9.0 | T5 | 0 - 1 | N/A | 190 | 12.0 |

* Factory Setting

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GRANT ENGINEERING (IRELAND) ULC

Crinkle, Birr, Co. Offaly, R42 D788, Ireland

Tel: +353 (0)57 91 20089

Email: info@grant.ie www.grant.eu