

**SCHIEDEL**

**RITE-VENT**

# commercial systems



CLV &  
1/2 CLV



SEPTEMBER 2007

A company of **LAFARGE**  
ROOFING

## Application

**The CLV System** is a stainless steel, double skin, concentric system which allows intake of air and evacuation of flue gasses. The system is available in 5 internal diameters; 160, 180, 200, 250 and 300mm. It has a 316 stainless steel inner liner and a 304 stainless steel outer case.

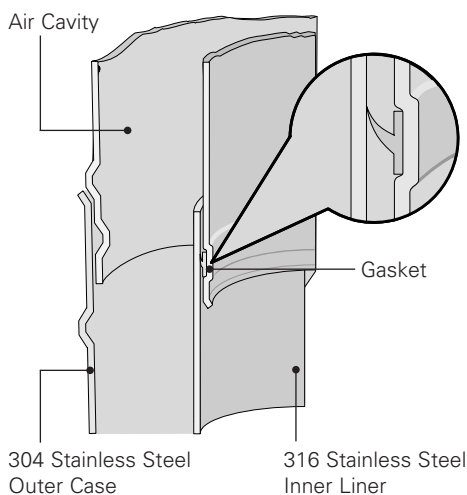
**The 1/2 CLV System** is a simple 316 stainless steel single skin system which allows evacuation of flue gasses (The air intake coming from an independent source).

Both systems are designed to operate with a number of boilers (see page 3 for sizing) with a maximum power rating of 30Kw for dry systems and a 25Kw for wet/condensing systems.

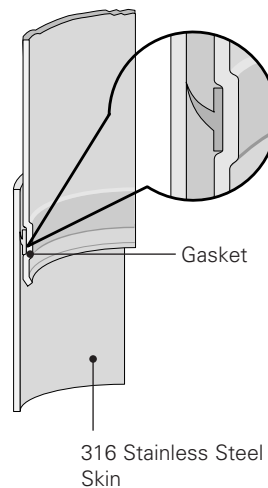
The systems are both water and gas tight and operate at a temperature of less than, or equal to 200°C.

## Details of Assembly

### CLV



### 1/2 CLV

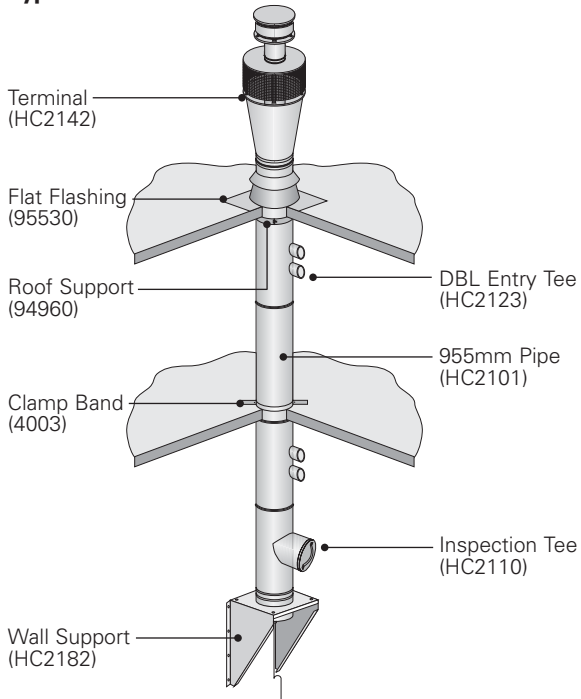


## Technical Data

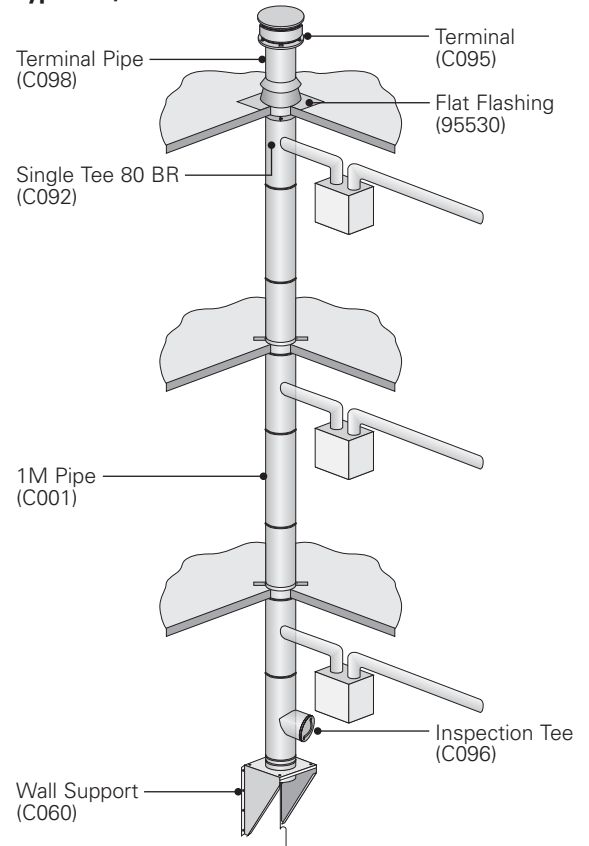
| Int Dia (mm)                  | 160                              | 180   | 200   | 250   | 300  |
|-------------------------------|----------------------------------|-------|-------|-------|------|
| Ext Dia. (mm)                 | 300                              | 355   | 405   | 505   | 605  |
| X Section                     | 0.02                             | 0.025 | 0.031 | 0.049 | 0.07 |
| <b>Material Specification</b> |                                  |       |       |       |      |
| Liner (CLV and 1/2 CLV)       | 316 : 1.4404 : X2 CrNiMo 17-12-2 |       |       |       |      |
| - Thickness                   | 0.6mm                            |       |       |       |      |
| - Seam                        | Laser or inert gas welding       |       |       |       |      |
| Outer Case (CLV only)         | 304 : 1.4301 : X5 CrNi 18-10     |       |       |       |      |
| - Thickness                   | 0.6mm                            |       |       |       |      |
| - Seam                        | Laser or inert gas welding       |       |       |       |      |
| <b>Operating Conditions</b>   |                                  |       |       |       |      |
| Fuel                          | Gas                              |       |       |       |      |
| Continuous Firing Temp        | 160°C                            |       |       |       |      |
| Short Firing Temp             | 200°C                            |       |       |       |      |
| Thermal Shock                 | 250°C                            |       |       |       |      |
| Pressure Capabilities         | 1000Pa                           |       |       |       |      |

# Types of Installations

## Typical CLV



## Typical 1/2 CLV



## Flue Sizing

| Number of Boilers | Internal Diameter of Flue (mm) |
|-------------------|--------------------------------|
| 2 - 3             | 160                            |
| 4 - 5             | 180                            |
| 6 - 8             | 200                            |
| 9 - 12            | 250                            |
| 14 - 18           | 300                            |

## Approx Weight of Products (Kg)

| Internal Diameter (mm) | 160  | 180  | 200  | 250  | 300   |
|------------------------|------|------|------|------|-------|
| 1000 Pipe              | 7.33 | 8.52 | 9.68 | 12.1 | 14.49 |
| 550 Pipe               | 4.45 | 5.17 | 5.89 | 7.38 | 8.83  |
| 250 Pipe               | 2.36 | 2.73 | 3.14 | 3.94 | 4.70  |
| Inspection Tee         | 4.31 | 5.69 | 6.93 | 9.58 | 15.12 |
| Single Entry Tee       | 3.92 | 4.53 | 5.16 | 7.05 | 7.72  |

## Load Bearing Data (metres of pipe)

| Internal Diameter (mm)   | 160-250 | 300 |
|--------------------------|---------|-----|
| Wall Support (Diagram A) | 15      | 15  |
| Wall Support (Diagram B) | 10      | 6   |

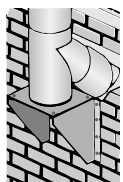


Diagram A

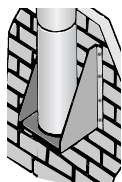
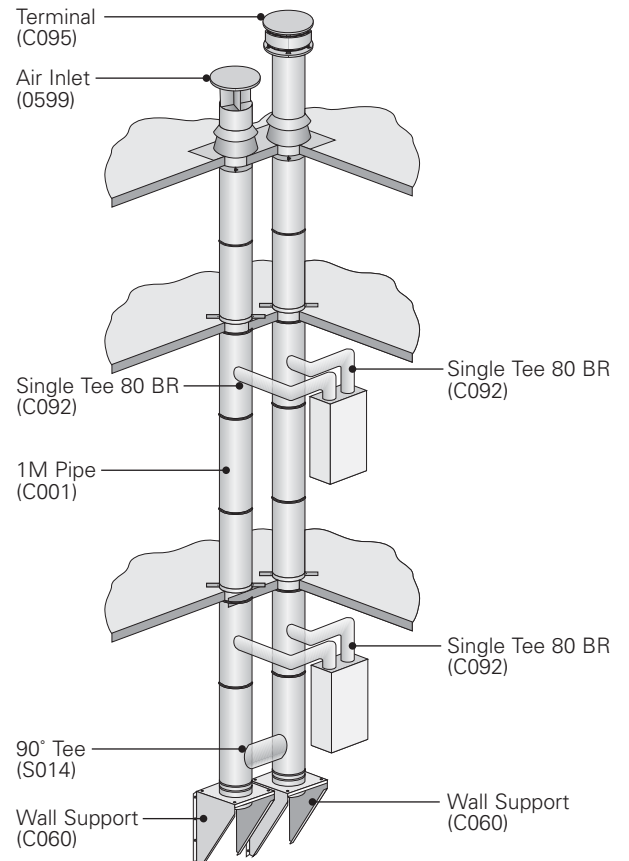
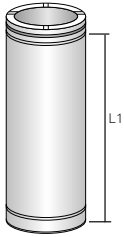


Diagram B

## 1/2 CLV in parallel

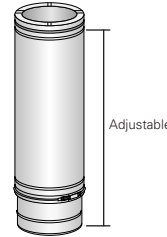


## Pipes



|                 |        |  |  |  |  |
|-----------------|--------|--|--|--|--|
| <b>L1 955mm</b> | HC2101 |  |  |  |  |
| <b>L1 550mm</b> | HC2102 |  |  |  |  |
| <b>L1 255mm</b> | HC2103 |  |  |  |  |

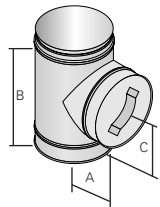
|       |     |     |     |     |     |
|-------|-----|-----|-----|-----|-----|
| ∅ Int | 160 | 180 | 200 | 250 | 300 |
| ∅ Ext | 300 | 355 | 405 | 505 | 605 |



|                        |        |  |  |  |  |
|------------------------|--------|--|--|--|--|
| <b>Adjustable Pipe</b> | HC2109 |  |  |  |  |
| <b>284mm - 377mm</b>   | HC2109 |  |  |  |  |
| <b>375mm - 585mm</b>   | HC2153 |  |  |  |  |

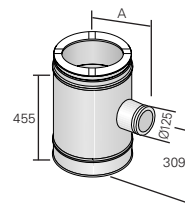
|       |     |     |     |     |     |
|-------|-----|-----|-----|-----|-----|
| ∅ Int | 160 | 180 | 200 | 250 | 300 |
| ∅ Ext | 300 | 355 | 405 | 505 | 605 |

## Tees



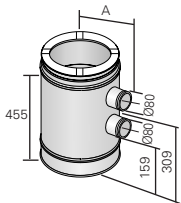
|                       |        |  |  |  |  |
|-----------------------|--------|--|--|--|--|
| <b>Inspection Tee</b> | HC2110 |  |  |  |  |
|-----------------------|--------|--|--|--|--|

|       |     |     |     |     |     |
|-------|-----|-----|-----|-----|-----|
| ∅ Int | 160 | 180 | 200 | 250 | 300 |
| ∅ Ext | 300 | 355 | 405 | 505 | 605 |
| A     | 215 | 243 | 268 | 318 | 368 |
| B     | 500 | 555 | 605 | 705 | 805 |
| C     | 275 | 303 | 328 | 378 | 428 |



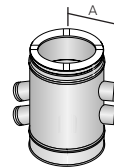
|                         |        |  |  |  |  |
|-------------------------|--------|--|--|--|--|
| <b>Single Entry Tee</b> | HC2124 |  |  |  |  |
| <b>1 x 80/125 Dia.</b>  | HC2124 |  |  |  |  |

|       |     |     |     |     |     |
|-------|-----|-----|-----|-----|-----|
| ∅ Int | 160 | 180 | 200 | 250 | 300 |
| ∅ Ext | 300 | 355 | 405 | 505 | 605 |
| A     | 250 | 278 | 303 | 353 | 403 |



|                         |        |  |  |  |  |
|-------------------------|--------|--|--|--|--|
| <b>Single Entry Tee</b> | HC2123 |  |  |  |  |
| <b>2 x 80 Dia.</b>      | HC2123 |  |  |  |  |

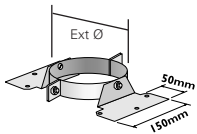
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|-------|-----|-----|-----|-----|-----|
| ∅ Int | 160 | 180 | 200 | 250 | 300 |
| ∅ Ext | 300 | 355 | 405 | 505 | 605 |
| A     | 250 | 278 | 303 | 353 | 403 |



|                           |        |  |  |  |  |
|---------------------------|--------|--|--|--|--|
| <b>4 Way Tee</b>          | HC2122 |  |  |  |  |
| <b>@ 180° 4 x 80 Dia.</b> | HC2122 |  |  |  |  |

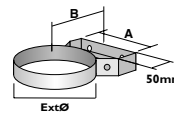
|       |     |     |     |     |     |
|-------|-----|-----|-----|-----|-----|
| ∅ Int | 160 | 180 | 200 | 250 | 300 |
| ∅ Ext | 300 | 355 | 405 | 505 | 605 |
| A     | 250 | 278 | 303 | 353 | 403 |

## Support Accessories



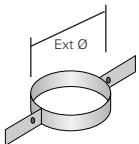
|                     |       |  |  |  |  |
|---------------------|-------|--|--|--|--|
| <b>Roof Support</b> | 94640 |  |  |  |  |
|---------------------|-------|--|--|--|--|

|       |     |     |     |     |     |
|-------|-----|-----|-----|-----|-----|
| ∅ Ext | 300 | 355 | 405 | 505 | 605 |
|-------|-----|-----|-----|-----|-----|



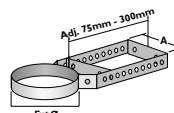
|                  |       |  |  |  |  |
|------------------|-------|--|--|--|--|
| <b>Wall Band</b> | 92940 |  |  |  |  |
|------------------|-------|--|--|--|--|

|       |     |     |     |     |     |
|-------|-----|-----|-----|-----|-----|
| ∅ Ext | 300 | 355 | 405 | 505 | 605 |
| A     | 298 | 353 | 403 | 503 | 601 |
| B     | 200 | 228 | 253 | 303 | 353 |



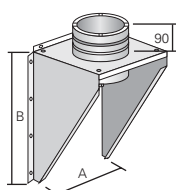
|                   |      |  |  |  |  |
|-------------------|------|--|--|--|--|
| <b>Clamp Band</b> | 4003 |  |  |  |  |
|-------------------|------|--|--|--|--|

|       |     |     |     |     |     |
|-------|-----|-----|-----|-----|-----|
| ∅ Ext | 300 | 355 | 405 | 505 | 605 |
|-------|-----|-----|-----|-----|-----|



|                           |       |  |  |  |  |
|---------------------------|-------|--|--|--|--|
| <b>Wall Band Extended</b> | 95960 |  |  |  |  |
|---------------------------|-------|--|--|--|--|

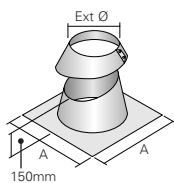
|       |     |     |     |     |     |
|-------|-----|-----|-----|-----|-----|
| ∅ Ext | 300 | 355 | 405 | 505 | 605 |
| A     | 301 | 356 | 406 | 506 | 607 |



|                     |        |  |  |  |  |
|---------------------|--------|--|--|--|--|
| <b>Wall Support</b> | HC2182 |  |  |  |  |
|---------------------|--------|--|--|--|--|

|       |     |     |     |     |     |
|-------|-----|-----|-----|-----|-----|
| ∅ Int | 160 | 180 | 200 | 250 | 300 |
| ∅ Ext | 300 | 355 | 405 | 505 | 605 |
| A     | 370 | 425 | 475 | 575 | 675 |
| B     | 470 | 470 | 670 | 670 | 870 |

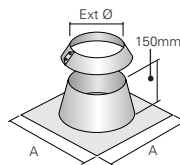
## Flashings



**Angled Flashing**  
5-45° 300 & 355 Dia. 95510

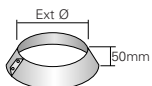
**Angled Flashing**  
5-30° other Dias. 95520

|       |     |     |     |     |      |
|-------|-----|-----|-----|-----|------|
| Ø Ext | 300 | 355 | 405 | 505 | 605  |
| A     | 800 | 860 | 800 | 900 | 1000 |



**Flat Flashing** 95530

|       |     |     |     |     |      |
|-------|-----|-----|-----|-----|------|
| Ø Ext | 300 | 355 | 405 | 505 | 605  |
| A     | 610 | 800 | 800 | 800 | 1000 |



**Storm Collar** 95560

|       |     |     |     |     |     |
|-------|-----|-----|-----|-----|-----|
| Ø Ext | 300 | 355 | 405 | 505 | 605 |
|-------|-----|-----|-----|-----|-----|

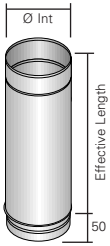
## Terminal



**Terminal** HC2142

|       |      |      |      |      |      |
|-------|------|------|------|------|------|
| Ø Int | 160  | 180  | 200  | 250  | 300  |
| Ø Ext | 300  | 355  | 405  | 505  | 605  |
| A     | 158  | 178  | 198  | 248  | 298  |
| B     | 334  | 359  | 409  | 509  | 609  |
| C     | 1195 | 1285 | 1475 | 1715 | 1795 |

## Pipes



**Effective Pipe** C001, 2, 3, 11, 12

|       |     |     |     |     |     |     |     |     |     |     |     |
|-------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Ø Int | 80  | 100 | 113 | 120 | 130 | 140 | 160 | 180 | 200 | 250 | 300 |
| C001  | 950 | 950 | 950 | 950 | 950 | 950 | 950 | 950 | 950 | 950 | 950 |
| C011  | 690 | 690 | 690 | 690 | 690 | 690 | 690 | 690 | 690 | 690 | 690 |
| C012  | 590 | 590 | 590 | 590 | 590 | 590 | 590 | 590 | 590 | 590 | 590 |
| C002  | 450 | 450 | 450 | 450 | 450 | 450 | 450 | 450 | 450 | 450 | 450 |
| C003  | 200 | 200 | 200 | 200 | 200 | 200 | 200 | 200 | 200 | 200 | 200 |



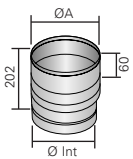
**Adjustable Pipe** C085

|       |    |     |     |     |     |     |     |     |     |     |     |
|-------|----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Ø Int | 80 | 100 | 113 | 120 | 130 | 140 | 160 | 180 | 200 | 250 | 300 |
| Ø A   | 78 | 98  | 112 | 118 | 128 | 139 | 158 | 187 | 198 | 248 | 299 |



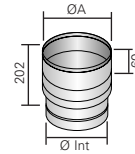
**Locking Band** S030

|       |    |     |     |     |     |     |     |     |     |     |     |
|-------|----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Ø Int | 80 | 100 | 113 | 120 | 130 | 140 | 160 | 180 | 200 | 250 | 300 |
|-------|----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|



**Eccentric Increaser** C090

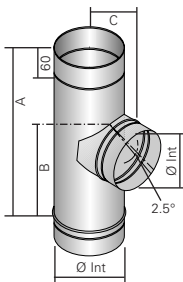
|       |     |     |     |     |     |
|-------|-----|-----|-----|-----|-----|
| Ø Int | 140 | 160 | 180 | 200 | 250 |
| Ø A   | 160 | 180 | 200 | 250 | 300 |



**Concentric Increaser** C091

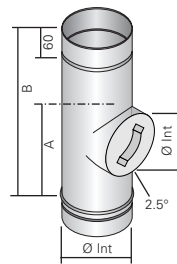
|       |     |     |     |     |     |
|-------|-----|-----|-----|-----|-----|
| Ø Int | 140 | 160 | 180 | 200 | 250 |
| Ø A   | 160 | 180 | 200 | 250 | 300 |

## Tees



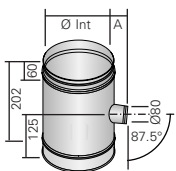
**92.5° Tee** C099

|       |     |     |     |     |     |     |     |     |
|-------|-----|-----|-----|-----|-----|-----|-----|-----|
| Ø Int | 80  | 140 | 150 | 160 | 180 | 200 | 250 | 300 |
| A     | 283 | 452 | 452 | 452 | 452 | 452 | 452 | 452 |
| B     | 117 | 202 | 202 | 202 | 202 | 202 | 202 | 202 |
| C     | 142 | 172 | 177 | 182 | 192 | 202 | 227 | 252 |



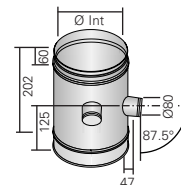
**87° Inspection Tee** C096

|       |     |     |     |     |     |     |     |     |
|-------|-----|-----|-----|-----|-----|-----|-----|-----|
| Ø Int | 80  | 140 | 150 | 160 | 180 | 200 | 250 | 300 |
| A     | 119 | 202 | 202 | 202 | 202 | 202 | 202 | 202 |
| B     | 285 | 452 | 452 | 452 | 452 | 452 | 452 | 452 |



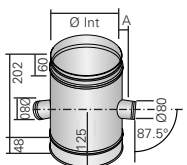
**Tee with 80 Dia. Branch (with Deflector)** C092

|       |     |     |     |     |     |     |     |
|-------|-----|-----|-----|-----|-----|-----|-----|
| Ø Int | 140 | 150 | 160 | 180 | 200 | 250 | 300 |
| A     | 20  | 30  | 30  | 30  | 45  | 45  | 45  |



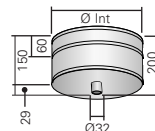
**Tee with 2 x 80 Dia. Branch @ 90° (with Deflector)** C086

|       |     |     |
|-------|-----|-----|
| Ø Int | 200 | 250 |
|-------|-----|-----|



**Tee with 80 Dia. Branch @ 180° (with Deflector)** C097

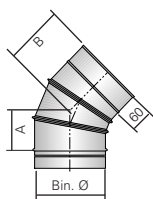
|       |     |     |     |     |     |
|-------|-----|-----|-----|-----|-----|
| Ø Int | 160 | 180 | 200 | 250 | 300 |
| A     | 30  | 30  | 45  | 45  | 45  |



**Tee Plug with Drain** C094

|       |    |     |     |     |     |     |     |     |     |
|-------|----|-----|-----|-----|-----|-----|-----|-----|-----|
| Ø Int | 80 | 100 | 130 | 150 | 180 | 200 | 230 | 250 | 300 |
|-------|----|-----|-----|-----|-----|-----|-----|-----|-----|

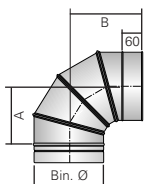
## Bends



**45° Bend**

C015

|       |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
|-------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Ø Int | 80  | 100 | 113 | 120 | 130 | 140 | 150 | 160 | 180 | 200 | 230 | 250 | 300 | 355 | 405 |
| A     | 54  | 58  | 50  | 52  | 54  | 56  | 58  | 60  | 64  | 68  | 73  | 79  | 89  | 101 | 111 |
| B     | 107 | 111 | 103 | 105 | 107 | 109 | 111 | 113 | 117 | 121 | 128 | 132 | 142 | 154 | 164 |

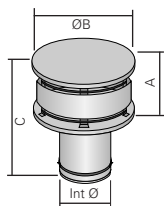


**90° Bend**

C051

|       |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
|-------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Ø Int | 80  | 100 | 113 | 120 | 130 | 140 | 150 | 160 | 180 | 200 | 230 | 250 | 300 | 355 | 405 |
| A     | 94  | 104 | 98  | 101 | 106 | 111 | 116 | 121 | 131 | 141 | 156 | 166 | 191 | 219 | 244 |
| B     | 147 | 157 | 151 | 154 | 159 | 164 | 169 | 174 | 184 | 194 | 209 | 219 | 244 | 272 | 297 |

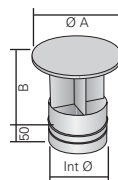
## Terminals



**Universal Terminal**

C095

|       |     |     |     |     |     |     |     |
|-------|-----|-----|-----|-----|-----|-----|-----|
| Ø Int | 140 | 150 | 160 | 180 | 200 | 250 | 300 |
| A     | 150 | 175 | 185 | 200 | 200 | 275 | 330 |
| B     | 284 | 304 | 334 | 359 | 409 | 509 | 609 |
| C     | 350 | 375 | 385 | 400 | 400 | 475 | 530 |



**Air Inlet Terminal**

0599

|       |     |     |     |
|-------|-----|-----|-----|
| Ø Int | 200 | 250 | 300 |
| A     | 409 | 509 | 609 |
| B     | 200 | 250 | 300 |



**Schiedel Rite-Vent**

Crowthor Estate  
Washington  
Tyne & Wear NE38 0AQ  
Tel. +44 (0)191 416 1150  
Fax. +44 (0)191 415 1263  
sales@schiedelrite-vent.co.uk  
[www.schiedelrite-vent.co.uk](http://www.schiedelrite-vent.co.uk)

**Schiedel Chimney Systems**

Carrickmacross  
Co. Monaghan  
Ireland  
Tel. +353 (0)42 966 1256  
Fax. +353 (0)42 966 2494  
office@schiedel.ie  
[www.schiedel.ie](http://www.schiedel.ie)