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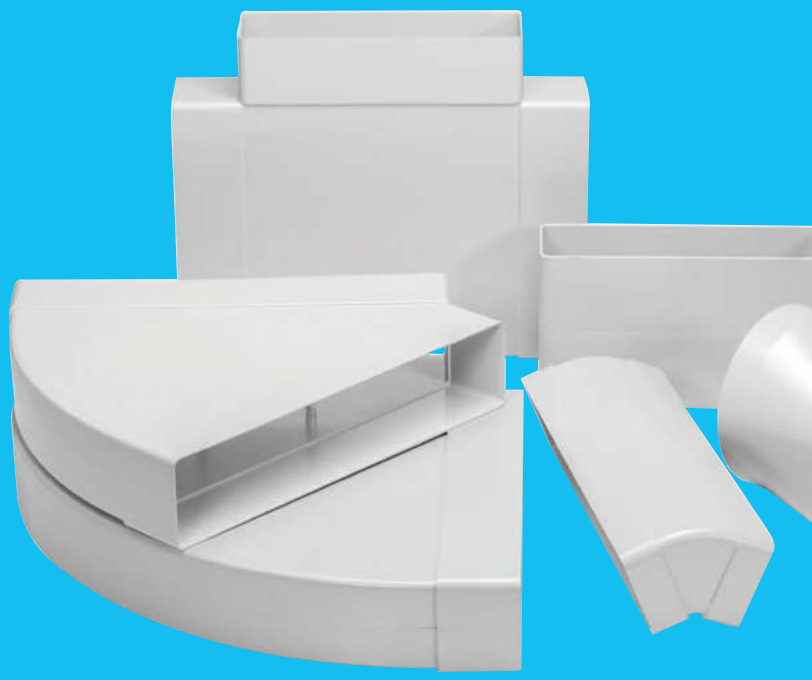

Low profile duct system

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PRODUCT BROCHURE

LOW PROFILE DUCT SYSTEM

200, 300 & 350 Series

A low profile duct system for restricted ceiling spaces

The Idealair Group Low Profile Duct System has been specifically designed to meet the needs of modern day applications. The HAD series duct system has been developed to offer a solution to engineers who face limited space in ceiling voids and cavities, which is often the norm in modern day apartments, hotels and domestic dwellings.

As the Low Profile Duct System is available in multiple profiles, engineers will be able to select the right system to meet the airflow requirements and increase efficiency. This is a critical factor that often results in reduced fan size and less energy consumption.

The installation time for this range has been greatly reduced by using matched fittings and ancillary products that are available in the Idealair Group range. This lightweight alternative to sheet metal is hygienic and due to the self-extinguishing PVC construction, will not suffer from corrosion.

As with all Idealair Group products, the Low Profile Duct System has been rigorously tested by Australia's leading institutions to ensure its reliability and quality. It is fire rated to AS/NZS 1530.3 to comply with building standards and is manufactured from 100% recycled uPVC to meet green building requirements. The specifier and contractor can be assured the product they install will deliver the performance required and meet the requirements of the system design.

Features

- Available in 204mm, 300mm and 350mm duct sizes
- Hygienic and corrosion free
- Lightweight and easy to install
- Low velocity
- Self extinguishing
- Can be cut down on site using non-specialist equipment
- Low air leakage
- Thoroughly tested by Australian experts
- Wide range of fittings, making it very versatile
- Wide range of additional ancillaries available

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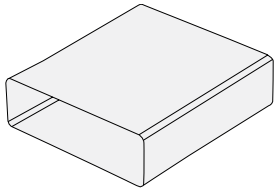
Low Profile Duct & Duct Fittings

Low Profile Duct

Product Code	System	Size
HAD201	200 series	204 x 60 – 2000
HAD301	300 series	300 x 60 – 2000
HAD351	350 series	350 x 75 - 2000

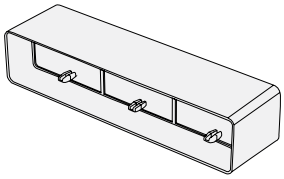
Dimensions in millimetres



Connector

Product Code	System	Size
HAD202	200 series	204 x 60 – 123
HAD302	300 series	300 x 60 – 80
HAD352	350 series	350 x 75 - 80

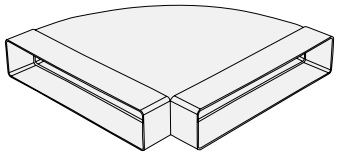
Dimensions in millimetres



Horizontal 90° Bend

Product Code	System	Size
HAD203	200 series	204 x 60
HAD312	300 series	300 x 60
HAD3510	350 series	350 x 75
HAD3512	350 series	350 x 75

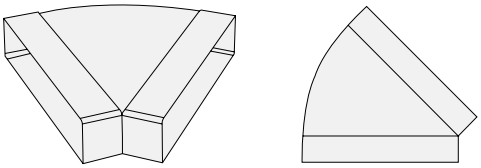
Dimensions in millimetres



Horizontal 45° Bend

Product Code	System	Size
HAD210	200 series	204 x 60
HAD304	300 series	300 x 60
HAD354	350 series	350 x 75

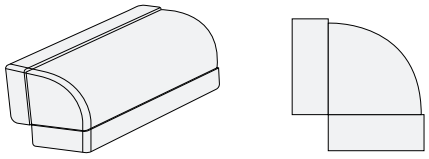
Dimensions in millimetres



Vertical 90° Bend

Product Code	System	Size
HAD315	300 series	300 x 60
HAD3516	350 series	350 x 75

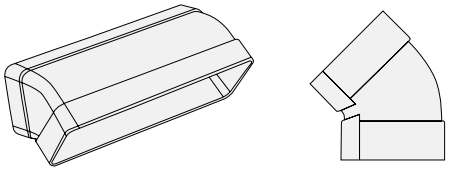
Dimensions in millimetres



Vertical 45° Bend

Product Code	System	Size
HAD213	200 series	204 x 60
HAD309	300 series	300 x 60
HAD359	350 series	350 x 75

Dimensions in millimetres

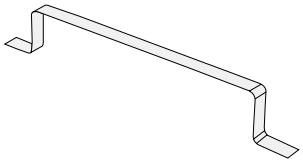


Low Profile Duct & Duct Fittings (cont.)

Metal Fix Clip

Product Code	System	Size
HAD209	200 series	204 x 60 – 290
HAD308	300 series	300 x 60 – 380
HAD358	350 series	350 x 75 - 425

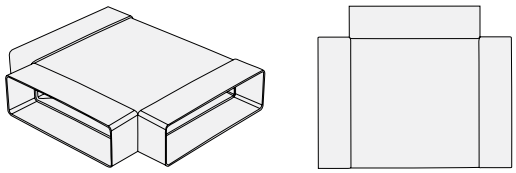
Dimensions in millimetres



Horizontal T Piece

Product Code	System	Size
HAD205	200 series	204 x 60 : 204 x 60
HAD303	300 series	300 x 60 : 300 x 60
HAD353	350 series	350 x 75 : 350 x 75

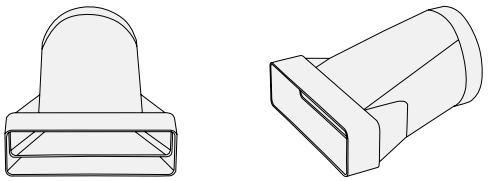
Dimensions in millimetres



Round to Rectangular Reducer

Product Code	System	Size
HAD207	200 series	204 x 60 : Ø 125
HAD307	300 series	300 x 60 : Ø 150
HAD319	300 series	300 x 60: Ø 200
HAD357	350 series	350 x 75 : Ø 150
HAD356	350 series	350 x 75 : Ø 200

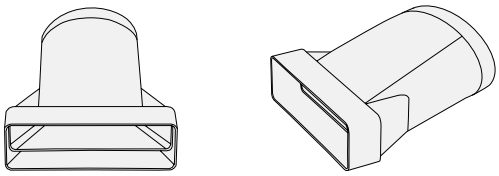
Dimensions in millimetres



Oval to Rectangular Reducer

Product Code	System	Size
HAD355	350 series	350 x 75 : Ø 200 OVAL

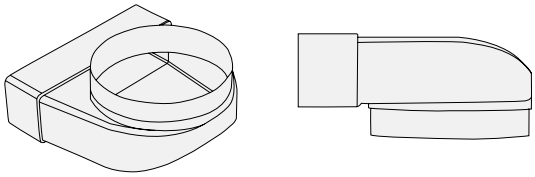
Dimensions in millimetres



90° Bend Spigot

Product Code	System	Size
HAD204	200 series	204 x 60 : Ø 150
HAD317	300 series	300 x 60 X Ø 150
HAD3518	350 series	350 x 75 : Ø 150

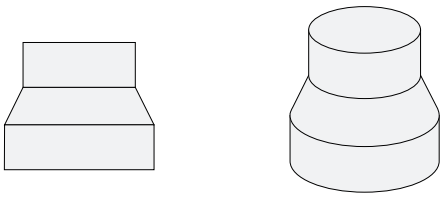
Dimensions in millimetres



Circular Reducer

Product Code	System	Size
HAD208	200 series	Ø 100 : Ø 150
HAD215	200 series	Ø 125 : Ø 150
HAD902	200 series	Ø 150 : Ø 200
HAD3522	350 series	Ø 125 : Ø 100

Dimensions in millimetres



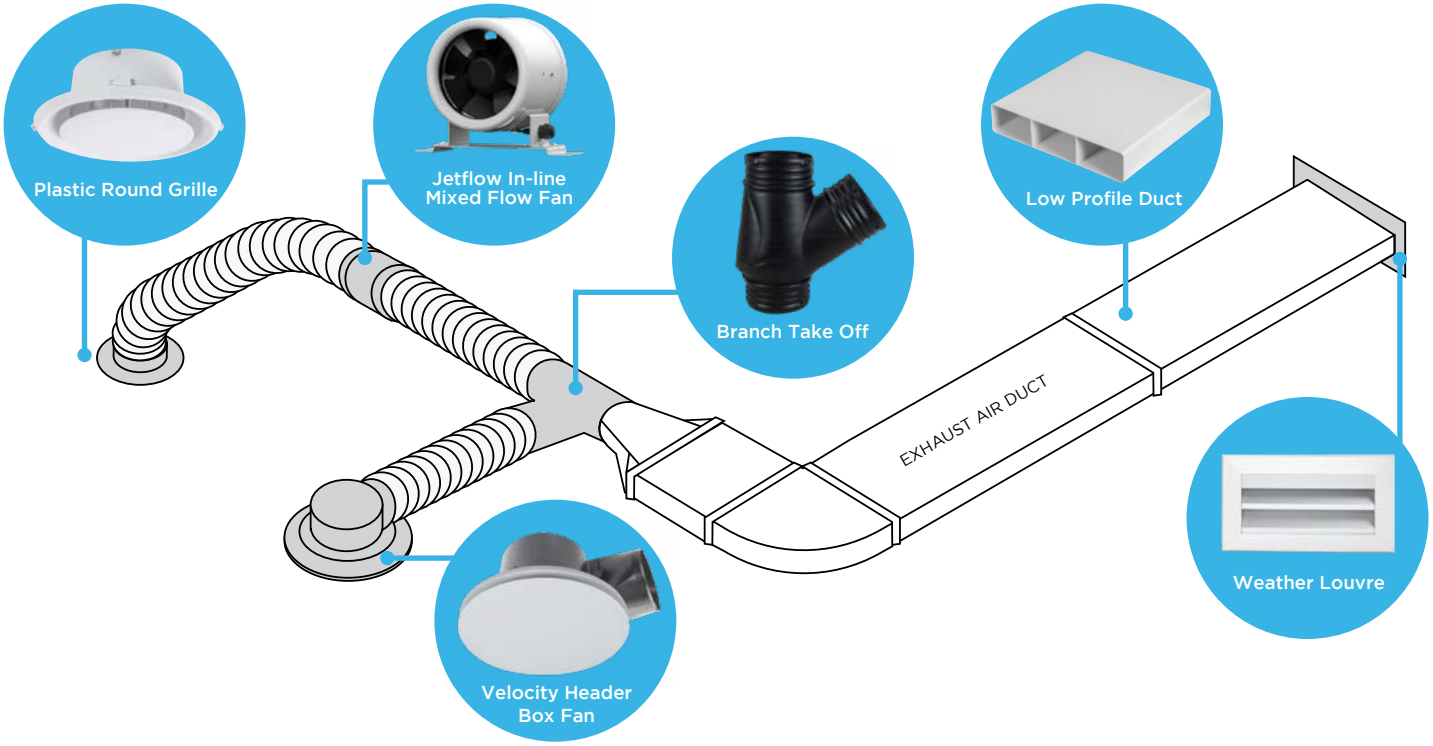
NOTE: Data for HAD201, 301 & 351 is for 2 metre lengths

Series 200 low profile duct		Airflow (l/sec)				
		25	50	75	100	125
Part #	Description	Pressure Loss (Pa)				
HAD201	Flat duct - 204mm x 60mm - 2m long	3	10.5	22	38	58
HAD202	Duct connector to suit	0.2	0.8	1.5	2.4	3.8
HAD205	Horizontal T piece	-	-	-	-	-
HAD210	Horizontal 45° bend	2	9	23	46	78
HAD203	Horizontal 90° bend	5	21	48	86	136
HAD213	Vertical 45° bend	2	9	21	37	58
HAD204	90° bend rectangular spigot to Ø 150	5	15	36	65	103
HAD207	Round to rectangular reducer - Ø 125	2.7	11	23.5	43	67.5
HAD208	Circular reducer - Ø 100 to Ø 150	5.5	22	46	77	110
HAD215	Circular reducer - Ø 125 to Ø 150	2	5.3	17.5	34.5	51.5

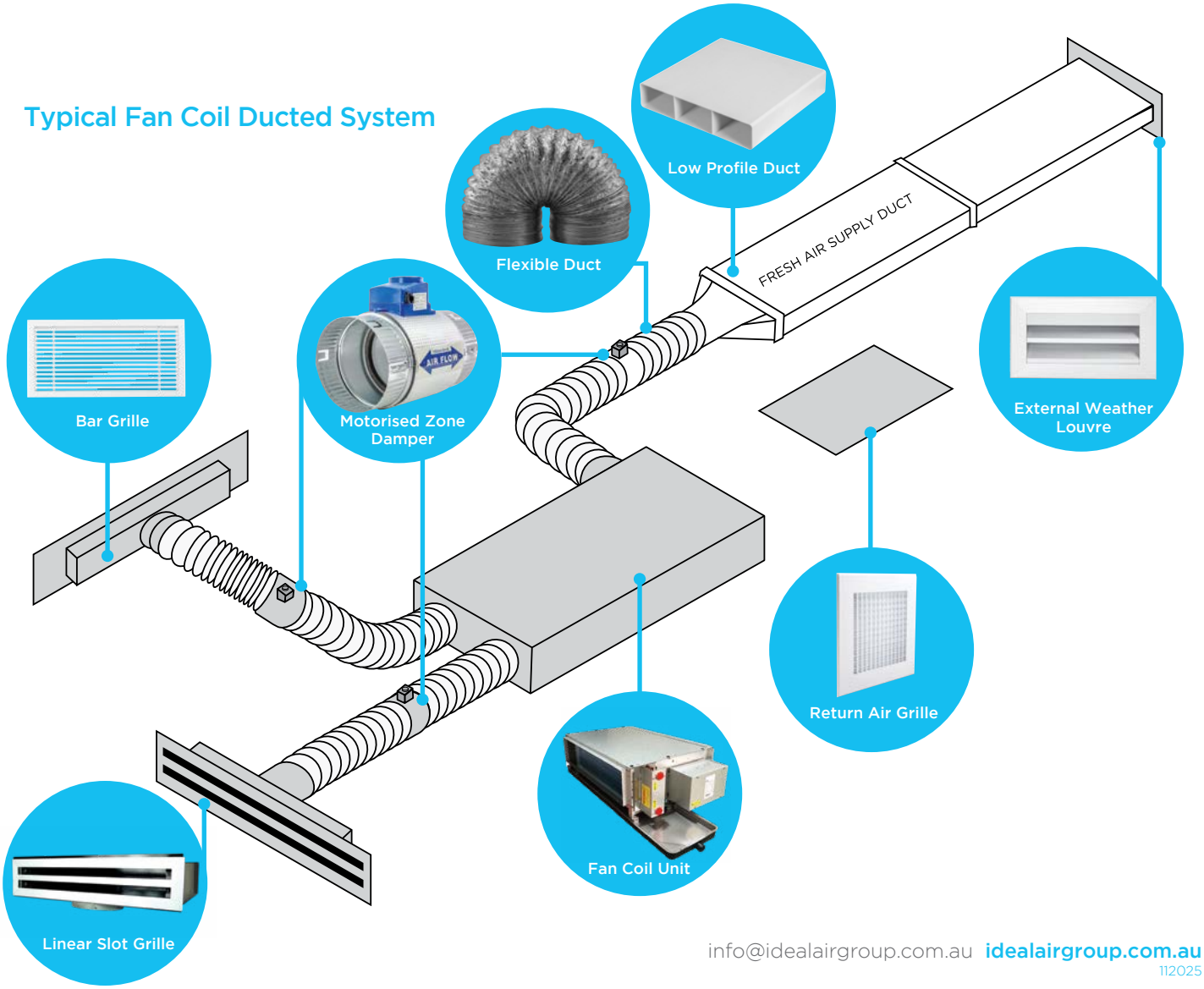
Series 300 low profile duct		Airflow (l/sec)				
		25	50	75	100	125
Part #	Description	Pressure Loss (Pa)				
HAD301	Flat duct - 300mm x 60mm - 2m long	0.5	2.1	4.3	7.5	11.3
HAD302	Duct connector to suit	-	-	-	-	-
HAD303	Horizontal T piece	-	-	-	-	-
HAD304	Horizontal 45° bend	0.6	2.4	5.2	10	14
HAD312	Horizontal 90° bend	2	8.7	18.5	37	50
HAD309	Vertical 45° bend	1	3.5	7.6	15.7	22
HAD315	Vertical 90° bend	1.6	5.6	12.2	25.1	35.2
HAD307	Round to rectangular reducer - Ø 150	0.2	4.4	9.2	18	25.5
HAD317	90° bend rectangular spigot to Ø 150	-	-	-	-	-
HAD319	Round to rectangular reducer - Ø 200	0.1	2.6	5.5	10.8	15.3

Series 350 low profile duct		Airflow (l/sec)					
		50	75	100	125	150	175
Part #	Description	Pressure Loss (Pa)					
HAD351	Flat duct - 350mm x 75mm - 2m long	0.9	1.9	3	4.5	6.9	9.9
HAD352	Duct connector to suit	-	-	-	-	-	-
HAD353	Horizontal T piece	1.8	3.6	6	9.3	11.5	16.8
HAD354	Horizontal 45° bend	0.4	1.1	2.2	3	4.3	5.4
HAD3512	Horizontal 90° bend	0.8	2.1	3.4	4.1	6.7	8.8
HAD359	Vertical 45° bend	1.8	3.6	8.2	10.9	14.7	21.2
HAD3516	Vertical 90° bend	2.2	6.8	12.3	17.4	23.8	36
HAD3518	90° bend rectangular spigot to Ø 150	1	7.5	13.8	20.8	33.5	44
HAD355	Round to oval reducer - Ø 200	1.2	2.1	2.9	4.6	6.4	8.8
HAD357	Round to rectangular reducer - Ø 150	1.7	3	4.2	6.5	9.1	12.5
HAD356	Round to rectangular reducer - Ø 200	1.0	1.8	2.5	3.9	5.5	7.5
HAD3510	Horizontal 90° bend	-	-	-	-	-	-
HAD3522	Circular reducer - Ø 125 to Ø 100	17.5	34.4	55	78	103	132

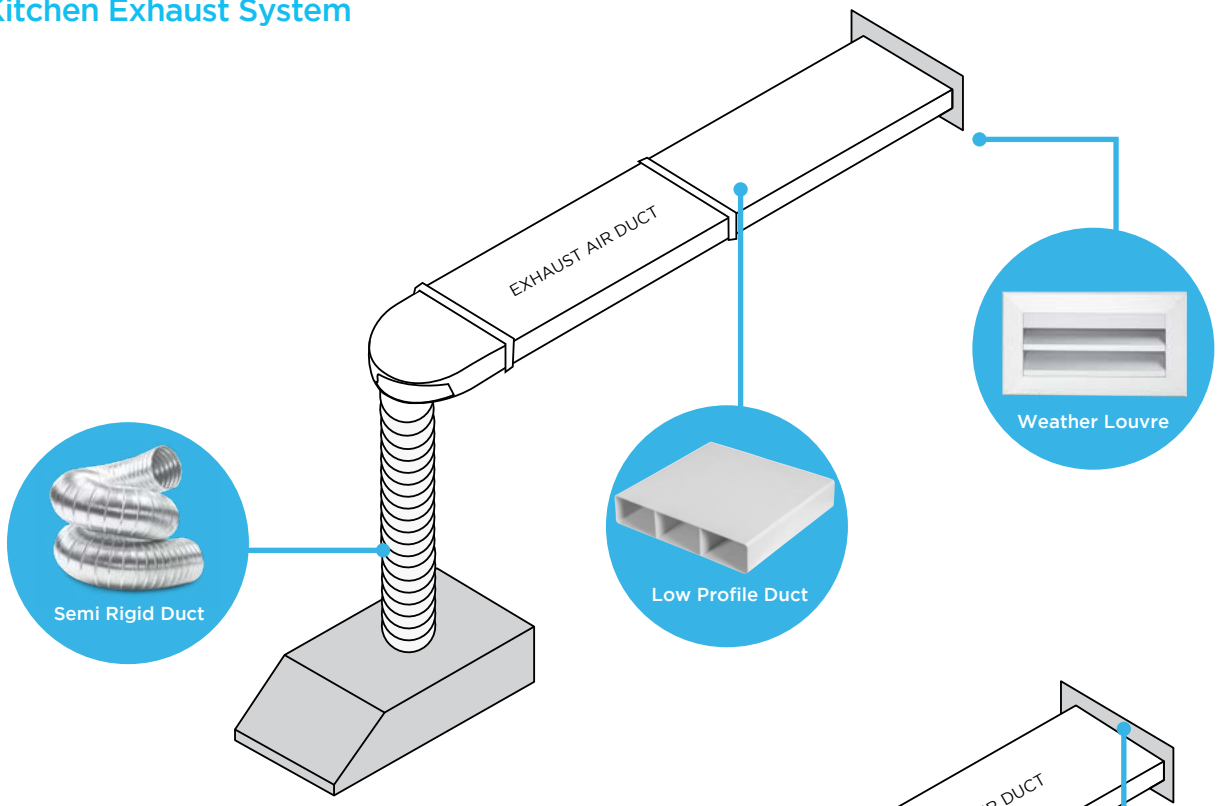
Typical Bathroom and Toilet Exhaust System



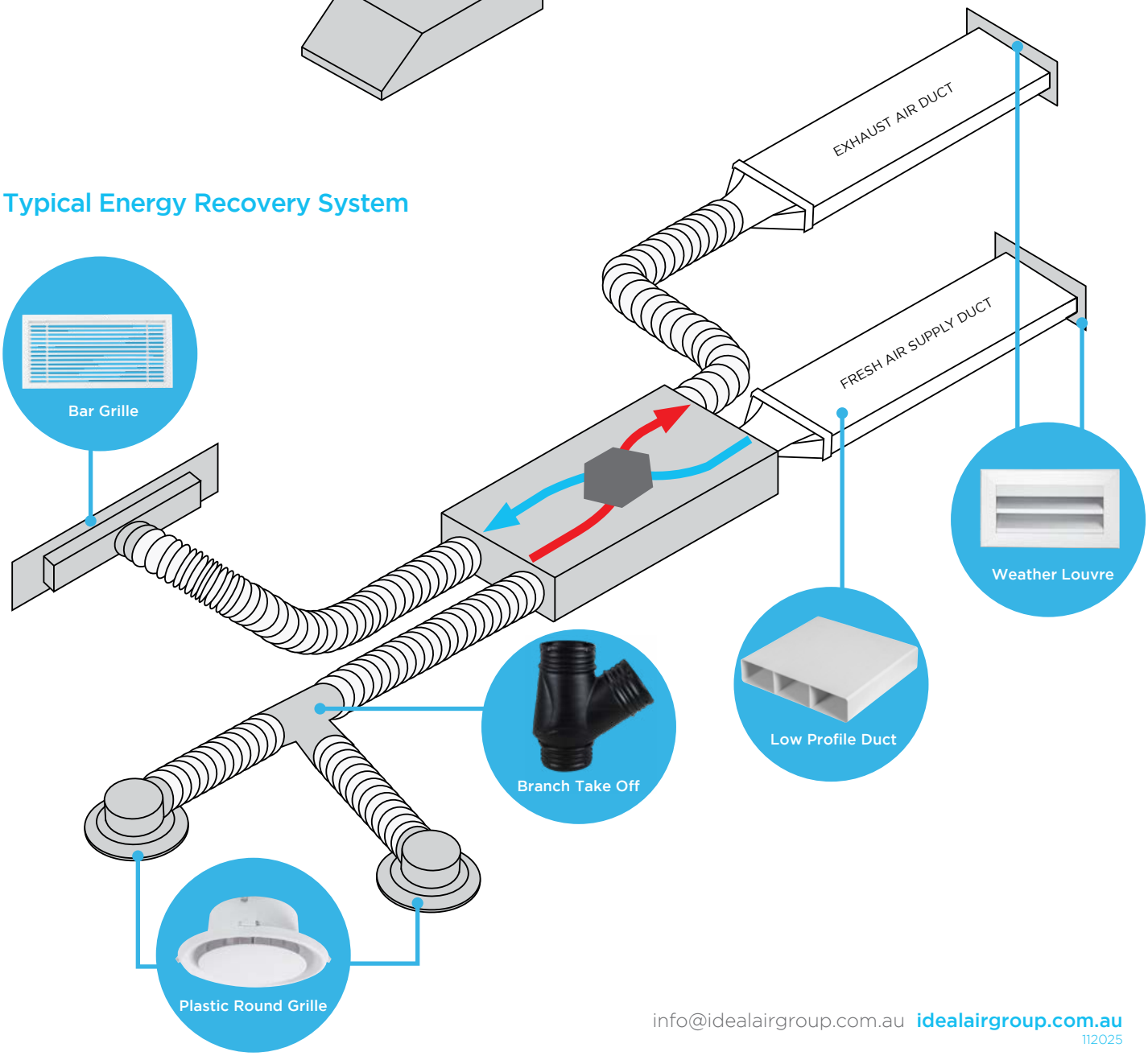
Typical Fan Coil Ducted System



Typical Kitchen Exhaust System



Typical Energy Recovery System



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Idealair Low Profile Duct Installation Tips for Residential Ventilation

Ductwork Installation: Install the Idealair Group Low Profile Duct System using the matching joiners, bends, support clips, and end connectors. Ensure all components comply with AS 1530.3 (1999) and AS 4254 (2002) standards. When fitting the ductwork within ceiling spaces, minimise the length of aluminium flexible duct to help maintain the specified pressure and airflow.

Kitchen Exhaust Connection: Connect the kitchen exhaust to the Low Profile Duct System, either directly or via Idealair Group semi-rigid duct, and then to the range hood. Keep this system separate from toilet and laundry ventilation, connecting it to external weatherproof louvres.

Toilet and Laundry Exhaust: Connect the ductwork from the toilet and laundry fans to external weatherproof louvres.

Fan Operation: Install separate fan switches near light switches for laundry and toilet fans. Kitchen booster fans for the range hood should have switches installed adjacent to the range hood.

Non-Return Damper: Ensure all exhaust fans are equipped with a non-return damper before connecting them to the Low Profile Duct System, in accordance with building standards.

Navigating Structural Elements: When ductwork passes under beams, use Idealair Group Low Profile 90-degree or 45-degree vertical bends to maintain low airflow resistance and ensure the specified air delivery.

Joint Sealing: Use silicone or another suitable adhesive to seal joints in the plastic ductwork. Install according to the manufacturer's recommendations, using moulded clips. Avoid using self-tapping screws for joining the ducts.

Proper Support for Plastic Piping Systems

Allow for Expansion & Contraction: Ensure the system can accommodate movement due to thermal expansion and contraction.

Use Appropriate Hangers: Install hangers specifically designed for plastic piping.

Follow Support Spacing Guidelines: Adhere to the recommended hanger support spacing to prevent sagging or damage.

Protect from Damage: Shield the piping from potential harm caused by nails, screws, and abrasive surfaces.

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FIRE TESTING CERTIFICATES

AWTA PRODUCT TESTING

idealair group

Australian Wool Testing Authority Ltd - trading as AWTA Product Testing
A.B.N 43 006 014 106
1st Floor, 191 Racecourse Road, Flemington, Victoria 3031
P.O Box 240, North Melbourne, Victoria 3051
Phone (03) 9371 2400 Fax (03) 9371 2499

TEST REPORT

Client : Idealair Group (Pty) Ltd
Unit 1, Building 1, Sydney Corporate Park
85 O'Riordan Street,
ALEXANDRIA NSW 2015

Test Number : 19-004816
Issue Date : 22/08/2019
Print Date : 22/08/2019

Sample Description

Clients Ref : "Hydor Flat Duct"
PVC Duct with Flame Retardant
Colour : White
End Use : Ducting
Nominal Composition : PVC
Nominal Mass per Unit Area/Density : 1450g/m2
Nominal Thickness : 2mm

AS/NZS 1530.3-1999

Methods for Fire Tests on Building Materials, Components and Structures
Part 3: Simultaneous Determination of Ignitability,
Flame Propagation, Heat Release and Smoke Release

Face tested: Face
Date tested: 22/08/2019

	Standard Error	Mean	
Ignition time	Nil	Nil	min
Flame propagation time	Nil	Nil	sec
Heat release integral	Nil	Nil	kJ/m²
Smoke release, log d	0.0474	-1.2039	
Optical density, d		0.0643	/ metre

Number of specimens ignited: 0
Number of specimens tested: 6

Regulatory Indices:

Ignitability Index	0	Range 0-20
Spread of Flame Index	0	Range 0-10
Heat Evolved Index	0	Range 0-10
Smoke Developed Index	3	Range 0-10

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Accredited for compliance with ISO/IEC 17025 - Testing
- Chemical Testing : Accreditation No. 983
- Mechanical Testing : Accreditation No. 985
- Performance & Approvals Testing : Accreditation No. 1356

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APPROVED SIGNATORY

MICHAEL A. JACKSON B.Sc.(Hons)
MANAGING DIRECTOR

0204/11/06

AWTA PRODUCT TESTING

idealair group

Australian Wool Testing Authority Ltd - trading as AWTA Product Testing
A.B.N 43 006 014 106
1st Floor, 191 Racecourse Road, Flemington, Victoria 3031
P.O Box 240, North Melbourne, Victoria 3051
Phone (03) 9371 2400 Fax (03) 9371 2499

TEST REPORT

Client : Idealair Group (Pty) Ltd
Unit 1, Building 1, Sydney Corporate Park
85 O'Riordan Street,
ALEXANDRIA NSW 2015

Test Number : 19-004816
Issue Date : 22/08/2019
Print Date : 22/08/2019

These results only apply to the specimen mounted, as described in this report. The result of this fire test may be used to directly assess fire hazard, but it should be recognised that a single test method will not provide a full assessment of fire hazard under all fire conditions.

Ignition is initiated by a pilot flame that is held near, but does not touch the specimen . A material that does not ignite during the standard test may ignite if contacted with a pilot flame during the test.

Each test specimen was sandwiched between two layers of galvanised welded square mesh made from wire of nominal diameter 0.8mm and nominal spacing 12mm in both directions and the assembly clamped along all sides.

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MICHAEL A. JACKSON B.Sc.(Hons)
MANAGING DIRECTOR

AWTA LIMITED

0204/11/06