

EC Motor MultiZone Fan Coil Units

IXDL-Y Series

100 – 1000 l/s





Company Profile

Temperzone Limited is a leading manufacturer and distributor of quality air conditioning and ventilation products throughout the Western Pacific Rim. Corporate Head Office is located in New Zealand with factories in Auckland and Sydney. A network of offices, warehouses and distributors provide local support and representation in Australasia, South East Asia and China.

temperzone's aim is to provide the most competitively priced, reliable and efficient air conditioning equipment available to the international market. A privately owned company, temperzone Holdings Ltd, is the parent company of temperzone ltd (est.1956) in Auckland and temperzone Australia Pty Ltd in Sydney.

The wide range of temperzone products are manufactured in Auckland for markets in Australasia and Asia. This range includes air distribution items and fans for New Zealand. The Sydney headquarters acts as both a distribution centre and manufacturer of customised and larger standard air conditioning units specifically for Australia. temperzone's Asia Regional Head Office is located in Singapore. The combined group operations employ over 500 staff.

Temperzone's Fan Coil History

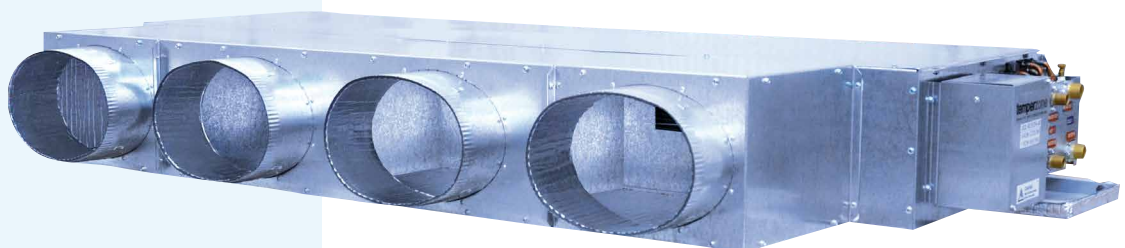
Temperzone have been manufacturing chilled water fan coil units for more than 45 years. The original RCMC units were superseded in the mid 1980's with a new breed of RCMC which were then superseded in the late 1990's with the IMDL range.

Prior to the development of temperzone's EC motor fan coils, units had all been manufactured with fixed single speed or multi-speed PSC motors. Any changes in the cooling or heating performance had been solely on the basis of varying the water flow by way of a 2-way or 3-way water regulating/modulating valve. With the indoor fan running on a constant speed, this left considerable room for improvement in designing higher efficiency models.

The new IXDL-Y version with EC (Electronically Commutated) motors is a step forward. EC motors allow for the air flow to be controlled over a wider range via the use of a 0 – 10V dc variable signal.

Speeds as high as 2500 rpm and as low as 500 rpm are available by the variable voltage signal.

With sophisticated controls the multiple single fan / single fan motors allow for the individual control of each outlet and fan for zone control. Other sophisticated controls and water control valves can be fitted as an optional extra (over a drain tray extension).



IXDL-Y Fan Coil Units

GENERAL

Fan coil units are an integral part of an overall air conditioning system where the energy transfer medium (i.e. chilled or hot water) is circulated by a central plant facility. temperzone offers an extensive range of ducted fan coil units. A variety of options and accessories are available to meet most air conditioning requirements. Low operating cost, energy efficient fan motors are used in all units. Easy installation and maintenance add to the cost effectiveness of temperzone IXDL Series fan coil units.

All IXDL fan coil units can be handed left or right. Unless otherwise ordered units will be supplied 'right handed' which is the standard handing, i.e. when facing the discharge side of the unit, the water and electrical connections are on the right hand side.

TYPICAL APPLICATIONS

Office Buildings

The low overall height of 260 mm makes them ideally suited to office building applications where false ceiling space is at a premium.

Hotels

IXDL units are extremely well suited for individual room control.

Airport Terminal Buildings

temperzone fan coil units are gaining worldwide popularity in airport terminals. These complexes generally consist of a number of areas with very diverse occupancy and capacity requirements.

Hospitals

The majority of hospital rooms must have a separate and independent air conditioning system. This is to avoid bacterial cross contamination. temperzone fan coil units have been used successfully in these applications.

STANDARD FEATURES

Drain Tray

The drain tray is removable for ease of cleaning and can be adjusted to slope when the unit is installed level.

Motors

High efficiency electronically commutated (EC) motors are fitted as standard on all units. Motors can be operated on 0-100% capacity using a 0-10V dc signal supplied by a BMS or sophisticated controller. The motors are resiliently mounted, self aligning and oiled for life.

Fans

Quiet low line, centrifugal type, double width, statically and dynamically balanced, multi-bladed impellers are used. The position and shape of the fan blades and housing has been developed after extensive testing to achieve minimum noise levels while maintaining a smooth pressure vs air flow curve.

Coils

Coils are manufactured in rifled copper tubing. All coils are thoroughly tested to 2100 kPa. Coil rows are staggered for maximum heat exchange. Four different coil configurations are available – refer table below.

The coil fins are manufactured as a continuous plate, die formed from epoxy coated aluminium with a smooth corrugated surface, specially designed to overcome and prevent lint build up. The coil fins are mechanically bonded to the copper tubing which results in a rigid assembly and provides a permanent metallic contact between fins and tube for maximum heat transfer.

Casing

The casing is manufactured from high quality galvanised steel and internally insulated.

Insulation

Closed cell foam insulation has been used in the cabinet to ensure no particles are introduced into the air stream. The insulation is foil faced and meets the fire test standards AS 1530.3 (1989) and BS 476 parts 6 and 7. Noise attenuation material is fitted with the individual supply air plenum chambers of each fan.

ELECTRICAL BOX

Wiring from the motors terminate in a terminal block in a sheetmetal enclosed electrical box. The box is supplied on the same side as the water connections, but can be changed on site to the opposite side.

WIRING

The electrical supply required (including voltage fluctuation limits) is:

1 phase 200-252 V a.c. 50 Hz with neutral and earth. Each IXDL unit is fully wired ready to accept the main power supply.

ORDER DETAIL

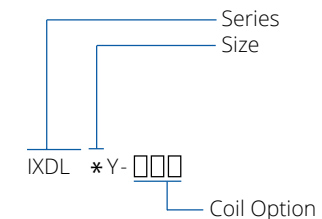
Coil Options:

3 - Three row coil for cooling

4 - Four row coil for cooling

3/1 - Three row cooling / one row heating

4/1 - Four row cooling / one row heating



Examples:

IXDL 160Y-3/1

IXDL 40Y-4

TECHNOLOGY

VAV

For the last 40 years virtually all fan coil units have operated with a constant fan speed and therefore constant air volume (CAV). Temperature changes in these units were achieved by the water valve, i.e. varying the water volume. With this design, energy was wasted due to fans constantly running at full speed, regardless of the requirement of the thermal zone served.

With temperzone's new range of VAV fan coil units, varying air volume results in greater efficiency.

Controls

The new EC motor version IXDL units allow for several methods of control allowing great flexibility to meet the demands of modern buildings expectations. The fan speed could be adjusted for instance as the first step of capacity control before adjusting water flow.

Potentiometer

The fans could be controlled by the fitting of a potentiometer to preset the required speed. This will be particularly useful during onsite commissioning to adjust to obtain the desired air flow.

BMS

Many modern buildings these days have Building Management Systems (BMS) and it is most desirable to control the fan speed variably to meet the building's load demands. The unit can accept a 0-10Vdc signal from the BMS or other sophisticated controller.

The BMS can be programmed to achieve various beneficial functions such as; maintaining high air flow when on heating first thing in the morning to avoid stratification within the space, reducing the air flow down to say 50 to 60% as a capacity control method prior to adjustment of the water flow.

EC Motors

Brushless EC motors within the fan coil units provide a cooler running motor emitting less heat into the supply air. This is achieved as energy savings reduce the fan power to almost a quarter of a comparable PSC motor.

The life expectancy of an EC motor can be up to twice as long as a comparable PSC motor due to functions such as the soft start which eliminate stress to the mounting bracket or hardware. This improved life expectancy further benefits the building owner by a reduction in maintenance costs.

Key Features

- Energy Efficient EC Motor
- Significant Energy Savings
- On-site Adjustable Fan Air Volume Controller
- Remote Fan Air Volume Adjustment Capability from BMS.

Specification

Model	IXDL 40Y	IXDL 90Y	IXDL 130Y	IXDL 160Y	IXDL 200Y
Nominal Air Flow @ 50 Pa external static (l/s) *	200	400	600	800	1000
Air Flow Range (l/s)	0 - 225	0 - 450	0 - 675	0 - 900	0 - 1125
No. of Outlet Spigots	1	2	3	4	5
Control	0 - 10Vdc (High/Med/Low optional with conversion boards added)				
Fan Type	Forward curved centrifugal double inlet double width				
No. of Fans	1	2	3	4	5
Motor Type	Electronically Commutated (EC) DC direct drive				
Power Source**	1 Phase 230Volt AC 50 Hz				
No. of Motors	1	2	3	4	5
Motor Rating (W)	182	182 (x2)	182 (x3)	182 (x4)	182 (x5)
Full Load Amps (A)	1.4	1.4 x 2 (2.8)	1.4 x 3 (4.2)	1.4 x 4 (5.6)	1.4 x 5 (7.0)
Amps at Nominal Air Flow (A)	0.4	0.4 x 2 (0.8)	0.4 x 3 (1.2)	0.4 x 4 (1.6)	0.4 x 5 (2.0)
Heat Exchanger Type	Epoxy coated aluminium corrugated plate fins to expanded rifled copper tubing				
Cooling/Heating Medium	Chilled water or hot water				
Coil Rows Options	3 or 4 row cooling or 3 or 4 row cooling + 1 row heating				
Finish	Natural zinc galvanised steel				
Test Pressure	2100 kPa				
Connection Sizes Cooling Coil	25 BSP Male (1")				
Connection Sizes Heating Coil	13 BSP Male (1/2")				
Air Filter Type	washable G2 / EU2				
No. of Filters	1	2	2	2	2
Air Filter Size (mm)	466 x 161 x 13	484 x 161 x 13	684 x 161 x 13	858 x 161 x 13	1058 x 161 x 13
Static to allow for Air Filter (Clean)	45 Pa				
Static to allow for wet surface coil	25 Pa				
Outlet Spigot Options (mm)	250Ø				
Weight (with water) (kg)	34	53	73	92	112
Nett Weight (without water) (kg)	32	49	68	84	103
Shipping Weight (kg)	34	53	72	90	110

Notes: -

* With no filters fitted, a dry coil surface, and approx. 7 volt dc control voltage.

** Voltage fluctuation limits 200 - 252 V

Summary of Choices

Size	40 / 90 / 130 / 160 / 200
Cooling and Heating Coil Configurations	3 Rows Cooling
	3 Rows Cooling + 1 Row Heating
	4 Rows Cooling
	4 Rows Cooling + 1 Row Heating
Multi S/A Spigot	250Ø Standard
Handing	Right (Standard) / Left

IXDL 40Y

Cooling Capacity kW

Entering Air Temperature 23.0°C db 17.0°C wb

Nominal Air Flow 200 l/s

Coil Rows	Water Flow l/s	Water Pressure Drop kPa	Entering Water Temperature °C									
			5		6		7		8		9	
			Total	Sensible	Total	Sensible	Total	Sensible	Total	Sensible	Total	Sensible
3	0.19	3.2	3.4	2.5	3.1	2.4	2.9	2.3	2.6	2.2	2.4	2.1
	0.35	9.2	4.1	2.7	3.8	2.6	3.5	2.5	3.2	2.4	2.9	2.3
	0.60	24.2	4.6	2.9	4.2	2.8	3.9	2.7	3.6	2.6	3.2	2.5
4	0.26	3.5	4.3	2.9	3.9	2.8	3.6	2.7	3.3	2.6	3.0	2.5
	0.43	8.5	4.8	3.1	4.4	3.0	4.1	2.9	3.7	2.8	3.4	2.7
	0.59	14.0	5.2	3.3	4.8	3.2	4.4	3.0	4.0	2.9	3.6	2.8

Entering Air Temperature 23.0°C db 17.0°C wb

Medium Air Flow 150 l/s

Coil Rows	Water Flow l/s	Water Pressure Drop kPa	Entering Water Temperature °C									
			5		6		7		8		9	
			Total	Sensible	Total	Sensible	Total	Sensible	Total	Sensible	Total	Sensible
3	0.19	3.2	2.8	1.9	2.6	1.9	2.4	1.8	2.2	1.7	2.0	1.6
	0.35	9.2	3.4	2.1	3.2	2.0	2.9	2.0	2.7	1.9	2.4	1.8
	0.60	24.2	3.9	2.3	3.6	2.2	3.3	2.1	3.0	2.0	2.7	1.9
4	0.26	3.5	3.5	2.5	3.2	2.4	3.0	2.3	2.7	2.3	2.5	2.2
	0.43	8.5	3.9	2.7	3.6	2.6	3.4	2.5	3.1	2.4	2.8	2.3
	0.59	14.0	4.2	2.8	3.9	2.7	3.6	2.6	3.3	2.5	3.0	2.4

Entering Air Temperature 23.0°C db 17.0°C wb

Low Air Flow 100 l/s

Coil Rows	Water Flow l/s	Water Pressure Drop kPa	Entering Water Temperature °C									
			5		6		7		8		9	
			Total	Sensible	Total	Sensible	Total	Sensible	Total	Sensible	Total	Sensible
3	0.19	3.2	2.4	1.6	2.2	1.5	2.1	1.5	1.9	1.4	1.7	1.3
	0.35	9.2	2.9	1.7	2.7	1.7	2.5	1.6	2.3	1.5	2.1	1.5
	0.60	24.2	3.3	1.8	3.0	1.8	2.8	1.7	2.6	1.6	2.3	1.6
4	0.26	3.5	2.9	1.8	2.7	1.8	2.5	1.7	2.3	1.6	2.0	1.6
	0.43	8.5	3.3	1.9	3.0	1.9	2.8	1.8	2.6	1.7	2.3	1.7
	0.59	14.0	3.5	2.0	3.3	2.0	3.0	1.9	2.8	1.8	2.5	1.7

Heating Capacity

Entering Air Temperature 21.0°C db

Nominal Air Flow 200 l/s

Coil Rows	Water Flow l/s	Water Pressure Drop kPa	Entering Water Temperature °C									
			40	45	50	55	60	65	70	75	80	
1	0.06	2.0	1.4	1.8	2.2	2.6	3.0	3.4	3.7	4.1	4.5	
	0.13	7.7	1.7	2.2	2.6	3.1	3.5	4.0	4.4	4.9	5.3	
	0.24	22.0	1.8	2.4	2.9	3.4	3.9	4.4	4.9	5.4	5.8	

Entering Air Temperature 21.0°C db

Medium Air Flow 150 l/s

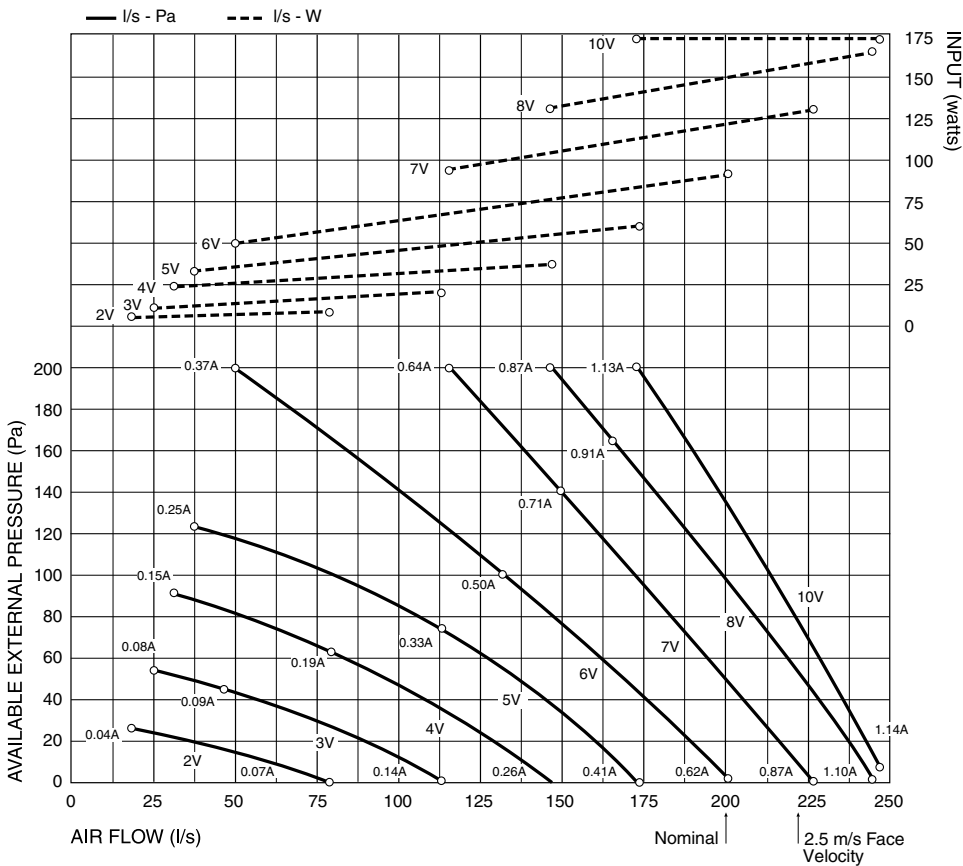
Coil Rows	Water Flow l/s	Water Pressure Drop kPa	Entering Water Temperature °C									
			40	45	50	55	60	65	70	75	80	
1	0.06	2.0	1.2	1.6	1.9	2.3	2.6	2.9	3.2	3.6	3.9	
	0.13	7.7	1.4	1.9	2.3	2.6	3.0	3.4	3.8	4.2	4.6	
	0.24	22.0	1.6	2.1	2.5	2.9	3.3	3.7	4.2	4.6	5.0	

Entering Air Temperature 21.0°C db

Low Air Flow 100 l/s

Coil Rows	Water Flow l/s	Water Pressure Drop kPa	Entering Water Temperature °C									
			40	45	50	55	60	65	70	75	80	
1	0.06	2.0	1.0	1.3	1.6	1.9	2.1	2.4	2.7	3.0	3.3	
	0.13	7.7	1.2	1.6	1.9	2.2	2.5	2.8	3.2	3.5	3.8	
	0.24	22.0	1.3	1.7	2.1	2.4	2.8	3.1	3.5	3.9	4.2	

IXDL 40Y Air Handling (Single fan operating)



Note: Airflows are for dry coil. Reduce airflow by 10% in high moisture removal conditions.

Air flows given are for IXDL-Y units without filter installed.

Refer page 22 for filter pressure drop.

Test Conditions: BS 848 PT2 1985
Installation Type A (free inlet and outlet)
Direct method of measurement (reverberant room)
Measured in decibels re 1 picowatt

Return Air Inlet + Case Breakout

Vdc	Sound Power SWL dB(A)	Octave Band Frequency Hz					
		125	250	500	1K	2K	4K
		Sound Power Levels (SWL) dB					
9	62	67	66	60	52	51	46
8	61	67	66	60	51	51	46
7*	60	65	64	58	50	48	44
6	58	64	63	56	48	46	41
5	55	61	59	53	46	42	38
4	52	58	57	49	42	37	32
3	47	55	52	45	38	32	26
2	41	51	44	39	30	25	20

Supply Air Outlet

Vdc	Sound Power SWL dB(A)	Octave Band Frequency Hz					
		125	250	500	1K	2K	4K
		Sound Power Levels (SWL) dB					
9	63	68	64	58	56	57	53
8	63	68	64	58	56	57	56
7*	61	66	62	56	54	54	51
6	59	64	61	54	53	52	49
5	57	61	58	50	50	48	45
4	52	58	54	46	46	43	39
3	47	55	50	43	42	37	33
2.55	41	52	43	38	35	31	25

*Nominal

IXDL 90Y

Cooling Capacity kW

Entering Air Temperature 23.0°C db 17.0°C wb

Nominal Air Flow 400 l/s

Coil Rows	Water Flow l/s	Water Pressure Drop kPa	Entering Water Temperature °C									
			5		6		7		8		9	
			Total	Sensible	Total	Sensible	Total	Sensible	Total	Sensible	Total	Sensible
3	0.25	7.5	6.6	5.0	6.1	4.8	5.7	4.6	5.1	4.4	4.7	4.2
	0.41	18.8	8.1	5.4	7.5	5.2	6.9	5.0	6.3	4.8	5.7	4.6
	0.62	38.4	9.0	5.8	8.3	5.6	7.7	5.4	7.0	5.1	6.3	4.9
4	0.37	9.2	8.6	5.9	8.0	5.7	7.4	5.5	6.7	5.2	6.1	5.0
	0.55	18.9	9.7	6.3	9.0	6.0	8.3	5.8	7.6	5.6	6.8	5.3
	0.77	35.0	10.5	6.5	9.7	6.3	9.0	6.1	8.2	5.8	7.4	5.6

Entering Air Temperature 23.0°C db 17.0°C wb

Medium Air Flow 300 l/s

Coil Rows	Water Flow l/s	Water Pressure Drop kPa	Entering Water Temperature °C									
			5		6		7		8		9	
			Total	Sensible	Total	Sensible	Total	Sensible	Total	Sensible	Total	Sensible
3	0.25	7.5	5.6	3.9	5.1	3.7	4.8	3.6	4.3	3.4	3.9	3.3
	0.41	18.8	6.8	4.2	6.3	4.1	5.8	3.9	5.3	3.7	4.8	3.6
	0.62	38.4	7.6	4.5	7.0	4.3	6.5	4.2	5.9	4.0	5.3	3.8
4	0.37	9.2	7.1	5.1	6.5	4.9	6.1	4.7	5.5	4.5	5.0	4.3
	0.55	18.9	8.0	5.4	7.4	5.2	6.8	5.0	6.2	4.8	5.6	4.6
	0.77	35.0	8.6	5.6	7.9	5.4	7.4	5.2	6.7	5.0	6.0	4.8

Entering Air Temperature 23.0°C db 17.0°C wb

Low Air Flow 220 l/s

Coil Rows	Water Flow l/s	Water Pressure Drop kPa	Entering Water Temperature °C									
			5		6		7		8		9	
			Total	Sensible	Total	Sensible	Total	Sensible	Total	Sensible	Total	Sensible
3	0.25	7.5	4.8	3.2	4.4	3.1	4.1	2.9	3.7	2.8	3.4	2.7
	0.41	18.8	5.8	3.5	5.4	3.3	5.0	3.2	4.5	3.1	4.1	2.9
	0.62	38.4	6.5	3.7	6.0	3.6	5.6	3.4	5.1	3.3	4.6	3.2
4	0.37	9.2	5.9	3.7	5.5	3.5	5.1	3.4	4.6	3.2	4.1	3.1
	0.55	18.9	6.7	3.9	6.1	3.7	5.7	3.6	5.2	3.5	4.7	3.3
	0.77	35.0	7.2	4.1	6.6	3.9	6.1	3.8	5.6	3.6	5.0	3.5

Heating Capacity

Entering Air Temperature 21.0°C db

Nominal Air Flow 400 l/s

Coil Rows	Water Flow l/s	Water Pressure Drop kPa	Entering Water Temperature °C									
			40	45	50	55	60	65	70	75	80	
1	0.1	10.3	3.3	4.3	5.2	6.1	6.9	7.8	8.7	9.6	10.5	
	0.14	18.8	3.9	5.0	6.1	7.1	8.1	9.2	10.2	11.3	12.3	
	0.18	29.4	4.3	5.5	6.7	7.8	8.9	10.1	11.2	12.4	13.5	

Entering Air Temperature 21.0°C db

Medium Air Flow 300 l/s

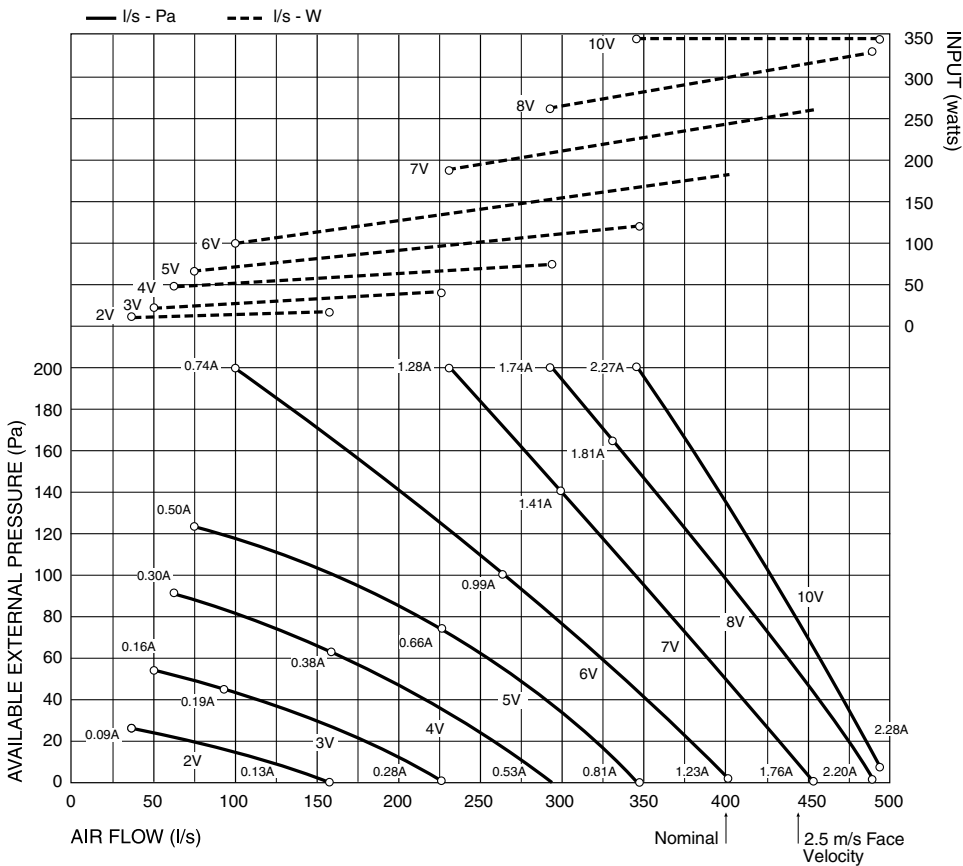
Coil Rows	Water Flow l/s	Water Pressure Drop kPa	Entering Water Temperature °C									
			40	45	50	55	60	65	70	75	80	
1	0.1	10.3	2.8	3.7	4.4	5.2	5.9	6.7	7.5	8.2	9.0	
	0.14	18.8	3.3	4.3	5.2	6.1	7.0	7.9	8.8	9.7	10.6	
	0.18	29.4	3.7	4.8	5.7	6.7	7.7	8.7	9.7	10.7	11.6	

Entering Air Temperature 21.0°C db

Low Air Flow 200 l/s

Coil Rows	Water Flow l/s	Water Pressure Drop kPa	Entering Water Temperature °C									
			40	45	50	55	60	65	70	75	80	
1	0.1	10.3	2.4	3.1	3.7	4.4	5.0	5.6	6.2	6.9	7.5	
	0.14	18.8	2.8	3.6	4.4	5.1	5.8	6.6	7.3	8.1	8.9	
	0.18	29.4	3.1	4.0	4.8	5.6	6.4	7.2	8.1	8.9	9.7	

IXDL 90Y Air Handling (Both fans operational)



Note: Airflows are for dry coil. Reduce airflow by 10% in high moisture removal conditions.

Air flows given are for IXDL-Y units without filter installed.

Refer page 22 for filter pressure drop.

For **individual fan performance** see page 7 - IXDL 40Y Fan Curve

Test Conditions: BS 848 PT2 1985
Installation Type A (free inlet and outlet)
Direct method of measurement (reverberant room)
Measured in decibels re 1 picowatt

Return Air Inlet + Case Breakout

Vdc	Sound Power SWL dB(A)	Octave Band Frequency Hz					
		125	250	500	1K	2K	4K
		Sound Power Levels (SWL) dB					
9	65	70	69	63	55	53	49
8	64	70	69	63	54	54	49
7*	63	68	67	61	53	51	47
6	60	66	65	58	50	48	43
5	57	63	61	55	48	44	40
4	54	60	59	51	44	39	34
3	48	56	53	46	39	33	27
2	42	52	45	40	31	26	21

Supply Air Outlet

Vdc	Sound Power SWL dB(A)	Octave Band Frequency Hz					
		125	250	500	1K	2K	4K
		Sound Power Levels (SWL) dB					
9	66	71	67	61	59	60	56
8	66	71	67	61	59	60	56
7*	64	69	65	59	57	57	54
6	61	66	63	56	55	54	51
5	58	63	60	52	52	50	47
4	54	60	56	48	48	45	41
3	48	56	51	44	43	38	34
2.55	42	53	44	39	36	32	26

*Nominal

IXDL 130Y

Cooling Capacity kW

Entering Air Temperature 23.0°C db 17.0°C wb

Nominal Air Flow 600 l/s

Coil Rows	Water Flow l/s	Water Pressure Drop kPa	Entering Water Temperature °C									
			5		6		7		8		9	
			Total	Sensible	Total	Sensible	Total	Sensible	Total	Sensible	Total	Sensible
3	0.24	9.0	8.0	6.6	7.4	6.3	6.8	6.1	6.2	5.8	5.6	5.5
	0.36	18.5	9.7	7.1	9.0	6.9	8.3	6.6	7.6	6.3	6.8	6.1
	0.51	34.8	10.9	7.6	10.0	7.3	9.3	7.1	8.5	6.8	7.6	6.5
4	0.35	10.5	10.6	7.9	9.8	7.6	9.1	7.3	8.3	7.0	7.4	6.7
	0.49	19.3	11.9	8.4	11.0	8.1	10.2	7.8	9.3	7.5	8.4	7.2
	0.63	30.2	12.9	8.8	11.9	8.5	11.0	8.2	10.0	7.8	9.0	7.5

Entering Air Temperature 23.0°C db 17.0°C wb

Medium Air Flow 450 l/s

Coil Rows	Water Flow l/s	Water Pressure Drop kPa	Entering Water Temperature °C									
			5		6		7		8		9	
			Total	Sensible	Total	Sensible	Total	Sensible	Total	Sensible	Total	Sensible
3	0.24	9.0	6.7	5.1	6.2	4.9	5.7	4.7	5.2	4.5	4.7	4.3
	0.36	18.5	8.2	5.6	7.5	5.4	7.0	5.1	6.3	4.9	5.7	4.7
	0.51	34.8	9.1	5.9	8.4	5.7	7.8	5.5	7.1	5.3	6.4	5.1
4	0.35	10.5	8.7	6.8	8.0	6.6	7.4	6.3	6.8	6.1	6.1	5.8
	0.49	19.3	9.8	7.2	9.0	7.0	8.4	6.7	7.6	6.4	6.9	6.2
	0.63	30.2	10.6	7.6	9.8	7.3	9.0	7.0	8.2	6.7	7.4	6.4

Entering Air Temperature 23.0°C db 17.0°C wb

Low Air Flow 300 l/s

Coil Rows	Water Flow l/s	Water Pressure Drop kPa	Entering Water Temperature °C									
			5		6		7		8		9	
			Total	Sensible	Total	Sensible	Total	Sensible	Total	Sensible	Total	Sensible
3	0.24	9.0	5.7	4.2	5.3	4.0	4.9	3.9	4.5	3.7	4.1	3.5
	0.36	18.5	7.0	4.6	6.5	4.4	6.0	4.2	5.4	4.1	4.9	3.9
	0.51	34.8	7.8	4.9	7.2	4.7	6.7	4.5	6.1	4.3	5.5	4.2
4	0.35	10.5	7.3	4.9	6.7	4.7	6.2	4.5	5.7	4.4	5.1	4.2
	0.49	19.3	8.2	5.2	7.5	5.0	7.0	4.8	6.4	4.6	5.7	4.4
	0.63	30.2	8.8	5.5	8.1	5.3	7.5	5.1	6.9	4.9	6.2	4.6

Heating Capacity

Entering Air Temperature 21.0°C db

Nominal Air Flow 600 l/s

Coil Rows	Water Flow l/s	Water Pressure Drop kPa	Entering Water Temperature °C									
			40	45	50	55	60	65	70	75	80	
1	0.08	9.0	4.0	5.2	6.3	7.4	8.4	9.5	10.6	11.7	12.8	
	0.12	18.4	4.8	6.1	7.4	8.7	9.9	11.2	12.5	13.8	15.0	
	0.16	30.8	5.2	6.8	8.2	9.6	10.9	12.3	13.7	15.1	16.4	

Entering Air Temperature 21.0°C db

Medium Air Flow 450 l/s

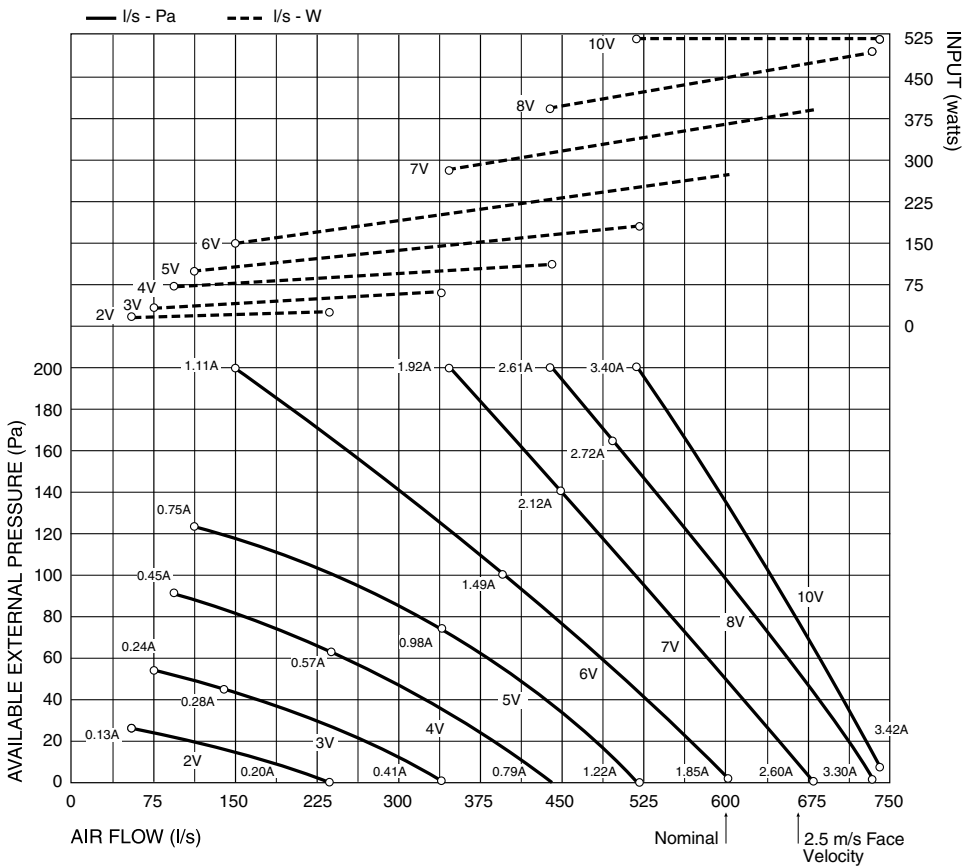
Coil Rows	Water Flow l/s	Water Pressure Drop kPa	Entering Water Temperature °C									
			40	45	50	55	60	65	70	75	80	
1	0.08	9.0	3.5	4.5	5.4	6.4	7.2	8.2	9.1	10.1	11.0	
	0.12	18.4	4.1	5.3	6.4	7.5	8.5	9.6	10.7	11.8	12.9	
	0.16	30.8	4.5	5.8	7.0	8.2	9.4	10.6	11.8	13.0	14.1	

Entering Air Temperature 21.0°C db

Low Air Flow 300 l/s

Coil Rows	Water Flow l/s	Water Pressure Drop kPa	Entering Water Temperature °C									
			40	45	50	55	60	65	70	75	80	
1	0.08	9.0	2.9	3.8	4.5	5.3	6.1	6.8	7.6	8.4	9.2	
	0.12	18.4	3.4	4.4	5.3	6.3	7.1	8.1	9.0	9.9	10.8	
	0.16	30.8	3.8	4.9	5.9	6.9	7.8	8.9	9.9	10.9	11.8	

IXDL 130Y Air Handling (All three fans operational)



Note: Airflows are for dry coil. Reduce airflow by 10% in high moisture removal conditions.

Air flows given are for IXDL-Y units without filter installed.

Refer page 22 for filter pressure drop.

For **individual fan performance** see page 7 - IXDL 40Y Fan Curve

Test Conditions: BS 848 PT2 1985
Installation Type A (free inlet and outlet)
Direct method of measurement (reverberant room)
Measured in decibels re 1 picowatt

Return Air Inlet + Case Breakout

Vdc	Sound Power SWL dB(A)	Octave Band Frequency Hz					
		125	250	500	1K	2K	4K
		Sound Power Levels (SWL) dB					
9	68	73	73	67	58	57	52
8	68	73	73	66	57	56	51
7*	66	71	71	64	56	53	48
6	63	69	68	61	53	50	44
5	60	65	65	57	50	47	40
4	56	62	61	54	46	40	35
3	49	56	54	47	40	32	26
2	42	49	47	41	33	29	22

Supply Air Outlet

Vdc	Sound Power SWL dB(A)	Octave Band Frequency Hz					
		125	250	500	1K	2K	4K
		Sound Power Levels (SWL) dB					
9	69	76	72	64	61	62	58
8	68	76	70	64	60	61	57
7*	66	73	69	61	59	59	54
6	64	71	66	59	57	56	51
5	60	68	63	55	54	51	47
4	56	64	60	51	49	46	41
3	50	59	54	46	44	39	33
2.55	42	51	46	40	35	31	24

*Nominal

IXDL 160Y

Cooling Capacity kW

Entering Air Temperature 23.0°C db 17.0°C wb

Nominal Air Flow 800 l/s

Coil Rows	Water Flow l/s	Water Pressure Drop kPa	Entering Water Temperature °C									
			5		6		7		8		9	
			Total	Sensible	Total	Sensible	Total	Sensible	Total	Sensible	Total	Sensible
3	0.23	10.0	10.1	8.4	9.3	8.1	8.6	7.8	7.8	7.5	7.1	7.1
	0.33	19.0	12.3	9.2	11.3	8.8	10.5	8.5	9.6	8.2	8.6	7.8
	0.44	32.0	13.8	9.8	12.7	9.5	11.8	9.1	10.7	8.7	9.6	8.4
4	0.34	11.8	13.7	10.4	12.7	10.0	11.7	9.6	10.7	9.2	9.6	8.8
	0.44	18.9	15.4	11.0	14.3	10.6	13.2	10.2	12.0	9.8	10.8	9.4
	0.54	27.5	16.7	11.5	15.4	11.1	14.3	10.7	13.0	10.2	11.7	9.8

Entering Air Temperature 23.0°C db 17.0°C wb

Medium Air Flow 600 l/s

Coil Rows	Water Flow l/s	Water Pressure Drop kPa	Entering Water Temperature °C									
			5		6		7		8		9	
			Total	Sensible	Total	Sensible	Total	Sensible	Total	Sensible	Total	Sensible
3	0.23	10.0	8.5	6.6	7.8	6.3	7.2	6.1	6.6	5.9	6.0	5.6
	0.33	19.0	10.3	7.2	9.5	6.9	8.8	6.6	8.0	6.4	7.2	6.1
	0.44	32.0	11.6	7.7	10.7	7.4	9.9	7.1	9.0	6.8	8.1	6.5
4	0.34	11.8	11.3	8.9	10.4	8.6	9.6	8.2	8.8	7.9	7.9	7.6
	0.44	18.9	12.7	9.5	11.7	9.1	10.8	8.8	9.8	8.4	8.9	8.1
	0.54	27.5	13.7	9.9	12.6	9.5	11.7	9.2	10.6	8.8	9.6	8.4

Entering Air Temperature 23.0°C db 17.0°C wb

Low Air Flow 400 l/s

Coil Rows	Water Flow l/s	Water Pressure Drop kPa	Entering Water Temperature °C									
			5		6		7		8		9	
			Total	Sensible	Total	Sensible	Total	Sensible	Total	Sensible	Total	Sensible
3	0.23	10.0	7.3	5.4	6.7	5.2	6.2	5.0	5.6	4.8	5.1	4.6
	0.33	19.0	8.8	5.9	8.2	5.7	7.6	5.4	6.9	5.2	6.2	5.0
	0.44	32.0	9.9	6.3	9.1	6.1	8.5	5.8	7.7	5.6	6.9	5.4
4	0.34	11.8	9.4	6.4	8.7	6.2	8.0	5.9	7.3	5.7	6.6	5.5
	0.44	18.9	10.6	6.8	9.8	6.6	9.0	6.3	8.2	6.1	7.4	5.8
	0.54	27.5	11.4	7.1	10.5	6.9	9.8	6.6	8.9	6.3	8.0	6.1

Heating Capacity

Entering Air Temperature 21.0°C db

Nominal Air Flow 800 l/s

Coil Rows	Water Flow l/s	Water Pressure Drop kPa	Entering Water Temperature °C									
			40	45	50	55	60	65	70	75	80	
1	0.09	9.0	4.4	5.7	6.9	8.1	9.2	10.4	11.6	12.8	14.0	
	0.13	18.2	5.2	6.7	8.1	9.5	10.8	12.2	13.6	15.0	16.4	
	0.17	29.5	5.7	7.4	8.9	10.5	11.9	13.4	15.0	16.5	17.9	

Entering Air Temperature 21.0°C db

Medium Air Flow 600 l/s

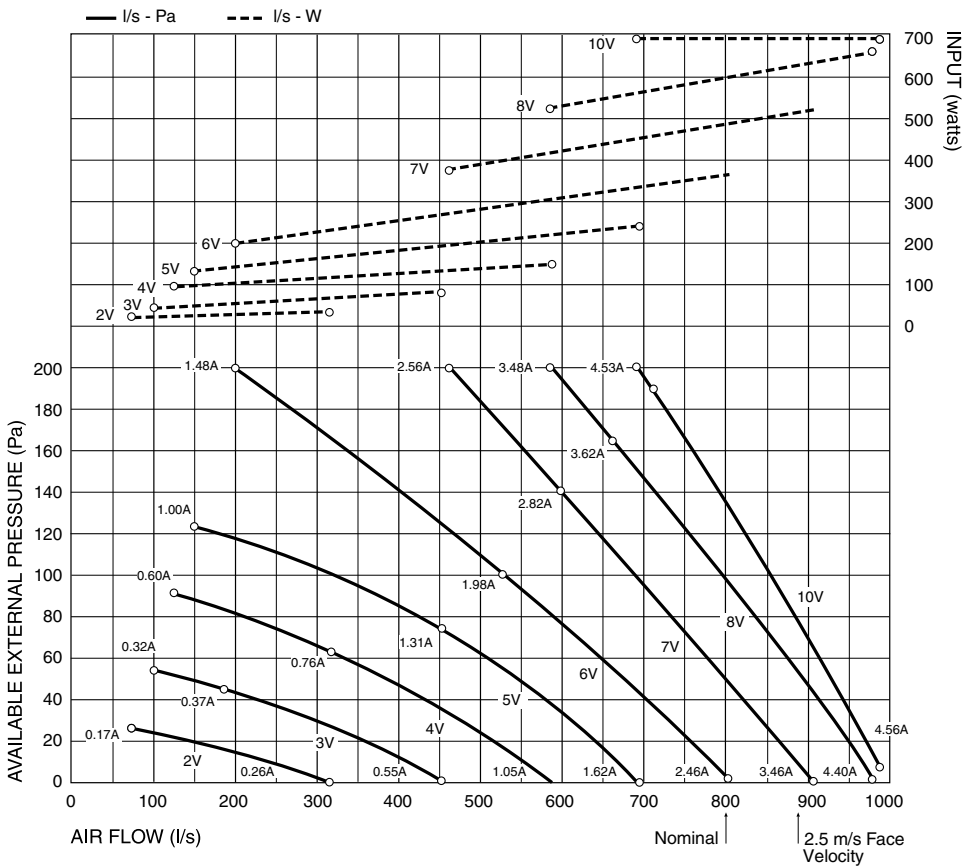
Coil Rows	Water Flow l/s	Water Pressure Drop kPa	Entering Water Temperature °C									
			40	45	50	55	60	65	70	75	80	
1	0.09	9.0	3.8	4.9	5.9	6.9	7.9	8.9	9.9	11.0	12.0	
	0.13	18.2	4.5	5.8	7.0	8.2	9.3	10.5	11.7	12.9	14.1	
	0.17	29.5	4.9	6.3	7.7	9.0	10.2	11.5	12.9	14.2	15.4	

Entering Air Temperature 21.0°C db

Low Air Flow 400 l/s

Coil Rows	Water Flow l/s	Water Pressure Drop kPa	Entering Water Temperature °C									
			40	45	50	55	60	65	70	75	80	
1	0.09	9.0	3.2	4.1	5.0	5.8	6.6	7.5	8.3	9.2	10.0	
	0.13	18.2	3.7	4.8	5.8	6.8	7.8	8.8	9.8	10.8	11.8	
	0.17	29.5	4.1	5.3	6.4	7.5	8.6	9.7	10.8	11.9	12.9	

IXDL 160Y Air Handling (All four fans operational)



Note: Airflows are for dry coil. Reduce airflow by 10% in high moisture removal conditions.

Air flows given are for IXDL-Y units without filter installed.

Refer page 22 for filter pressure drop.

For **individual fan performance** see page 7 - IXDL 40Y Fan Curve

Test Conditions: BS 848 PT2 1985
Installation Type A (free inlet and outlet)
Direct method of measurement (reverberant room)
Measured in decibels re 1 picowatt

Return Air Inlet + Case Breakout

Vdc	Sound Power SWL dB(A)	Octave Band Frequency Hz					
		125	250	500	1K	2K	4K
		Sound Power Levels (SWL) dB					
9	70	75	76	68	60	57	53
8	69	74	74	67	59	56	52
7*	67	72	72	65	57	53	48
6	64	70	70	62	54	50	45
5	61	66	66	59	51	46	40
4	56	62	62	55	47	41	35
3	51	57	56	49	41	34	29
2	44	51	48	41	34	31	26

Supply Air Outlet

Vdc	Sound Power SWL dB(A)	Octave Band Frequency Hz					
		125	250	500	1K	2K	4K
		Sound Power Levels (SWL) dB					
9	70	78	74	66	61	63	59
8	70	77	73	65	61	62	58
7*	68	75	71	63	59	59	55
6	65	73	70	60	57	56	52
5	61	70	66	56	53	52	47
4	57	66	62	53	50	47	41
3	51	61	55	46	43	39	33
2.55	44	54	47	40	35	31	24

*Nominal

IXDL 200Y

Cooling Capacity kW

Entering Air Temperature 23.0°C db 17.0°C wb

Nominal Air Flow 1000 l/s

Coil Rows	Water Flow l/s	Water Pressure Drop kPa	Entering Water Temperature °C									
			5		6		7		8		9	
			Total	Sensible	Total	Sensible	Total	Sensible	Total	Sensible	Total	Sensible
3	0.22	10.4	11.1	9.9	10.3	9.6	9.5	9.2	8.7	8.8	7.9	8.4
	0.3	18.8	13.6	10.8	12.5	10.4	11.6	10.0	10.6	9.6	9.5	9.2
	0.39	30.0	15.2	11.6	14.0	11.1	13.0	10.7	11.8	10.3	10.7	9.8
4	0.32	12.5	15.3	12.2	14.1	11.7	13.1	11.3	11.9	10.8	10.7	10.4
	0.4	18.6	17.2	13.0	15.9	12.5	14.7	12.0	13.4	11.5	12.1	11.0
	0.48	26.0	18.6	13.5	17.1	13.0	15.9	12.5	14.4	12.0	13.0	11.5

Entering Air Temperature 23.0°C db 17.0°C wb

Medium Air Flow 750 l/s

Coil Rows	Water Flow l/s	Water Pressure Drop kPa	Entering Water Temperature °C									
			5		6		7		8		9	
			Total	Sensible	Total	Sensible	Total	Sensible	Total	Sensible	Total	Sensible
3	0.22	10.4	9.3	7.8	8.6	7.5	8.0	7.2	7.3	6.9	6.6	6.5
	0.3	18.8	11.4	8.4	10.5	8.1	9.7	7.8	8.9	7.5	8.0	7.2
	0.39	30.0	12.8	9.0	11.8	8.7	10.9	8.3	9.9	8.0	8.9	7.7
4	0.32	12.5	12.6	10.5	11.6	10.1	10.7	9.7	9.8	9.3	8.8	8.9
	0.4	18.6	14.1	11.1	13.0	10.7	12.1	10.3	11.0	9.9	9.9	9.5
	0.48	26.0	15.2	11.6	14.1	11.2	13.0	10.8	11.8	10.4	10.7	9.9

Entering Air Temperature 23.0°C db 17.0°C wb

Low Air Flow 500 l/s

Coil Rows	Water Flow l/s	Water Pressure Drop kPa	Entering Water Temperature °C									
			5		6		7		8		9	
			Total	Sensible	Total	Sensible	Total	Sensible	Total	Sensible	Total	Sensible
3	0.22	10.4	8.0	6.4	7.4	6.1	6.8	5.9	6.2	5.7	5.7	5.4
	0.3	18.8	9.8	6.9	9.0	6.7	8.4	6.4	7.6	6.1	6.8	5.9
	0.39	30.0	10.9	7.4	10.1	7.1	9.4	6.8	8.5	6.6	7.7	6.3
4	0.32	12.5	10.5	7.6	9.7	7.3	9.0	7.0	8.2	6.7	7.3	6.4
	0.4	18.6	11.8	8.0	10.9	7.7	10.1	7.4	9.2	7.1	8.3	6.8
	0.48	26.0	12.7	8.4	11.7	8.1	10.9	7.8	9.9	7.5	8.9	7.2

Heating Capacity

Entering Air Temperature 21.0°C db

Nominal Air Flow 1000 l/s

Coil Rows	Water Flow l/s	Water Pressure Drop kPa	Entering Water Temperature °C									
			40	45	50	55	60	65	70	75	80	
1	0.09	11.5	4.9	6.4	7.7	9.1	10.3	11.6	13.0	14.3	15.6	
	0.12	18.9	5.8	7.5	9.1	10.6	12.1	13.7	15.2	16.8	18.4	
	0.15	27.9	6.4	8.3	10.0	11.7	13.3	15.0	16.8	18.5	20.1	

Entering Air Temperature 21.0°C db

Medium Air Flow 750 l/s

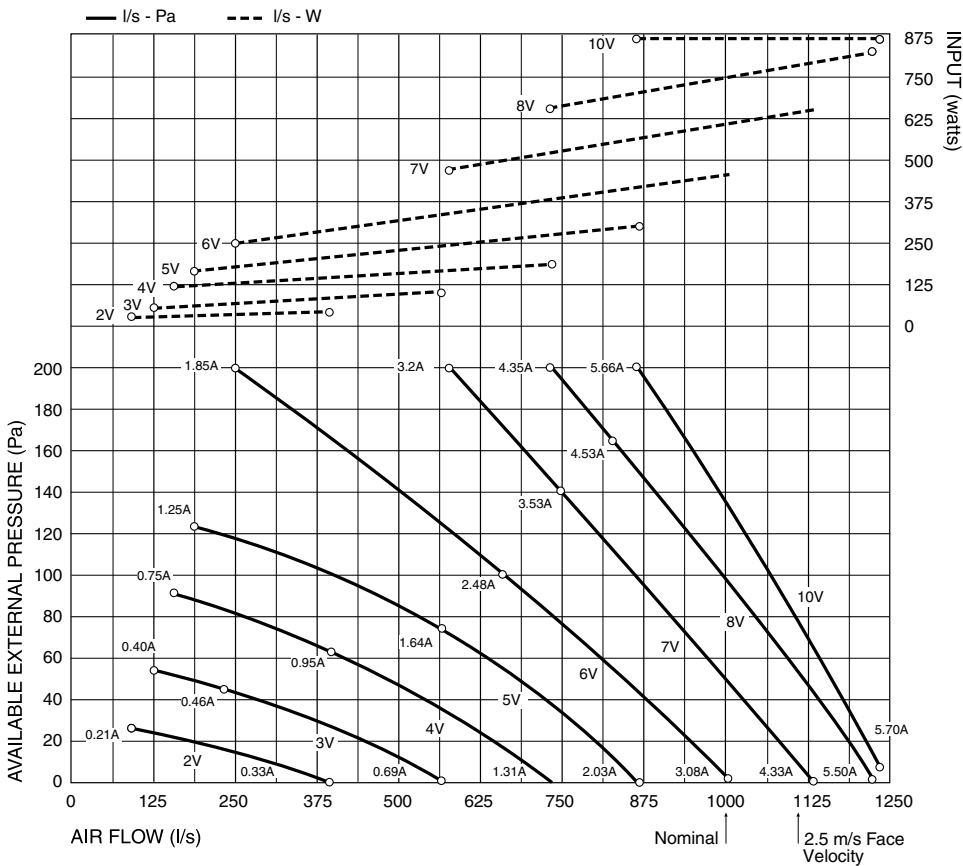
Coil Rows	Water Flow l/s	Water Pressure Drop kPa	Entering Water Temperature °C									
			40	45	50	55	60	65	70	75	80	
1	0.09	11.5	4.2	5.5	6.6	7.8	8.8	10.0	11.1	12.3	13.4	
	0.12	18.9	5.0	6.5	7.8	9.2	10.4	11.8	13.1	14.5	15.8	
	0.15	27.9	5.5	7.1	8.6	10.1	11.4	12.9	14.4	15.9	17.3	

Entering Air Temperature 21.0°C db

Low Air Flow 500 l/s

Coil Rows	Water Flow l/s	Water Pressure Drop kPa	Entering Water Temperature °C									
			40	45	50	55	60	65	70	75	80	
1	0.09	11.5	3.6	4.6	5.6	6.5	7.4	8.4	9.3	10.3	11.3	
	0.12	18.9	4.2	5.4	6.5	7.7	8.7	9.8	11.0	12.1	13.2	
	0.15	27.9	4.6	5.9	7.2	8.4	9.6	10.8	12.1	13.3	14.5	

IXDL 200Y Air Handling (All five fans operational)



Note: Airflows are for dry coil. Reduce airflow by 10% in high moisture removal conditions.

Air flows given are for IXDL-Y units without filter installed.

Refer page 22 for filter pressure drop.

For **individual fan performance** see page 7 - IXDL 40Y Fan Curve

Test Conditions: BS 848 PT2 1985
 Installation Type A (free inlet and outlet)
 Direct method of measurement (reverberant room)
 Measured in decibels re 1 picowatt

Return Air Inlet + Case Breakout

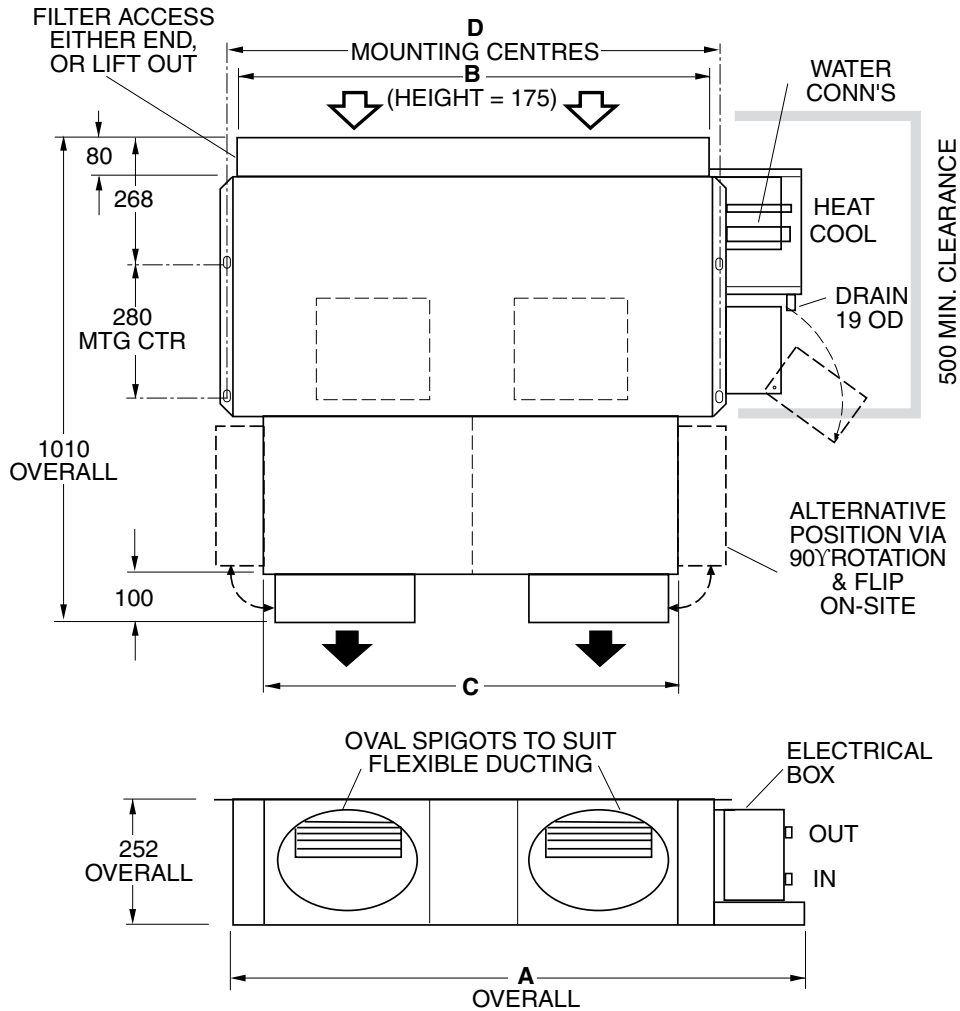
Vdc	Sound Power SWL dB(A)	Octave Band Frequency Hz					
		125	250	500	1K	2K	4K
9	71	76	77	69	61	58	54
8	70	75	75	68	60	57	53
7*	68	73	73	66	58	54	49
6	65	71	71	63	55	51	46
5	62	67	67	60	52	47	41
4	57	63	63	56	48	42	36
3	52	58	57	50	42	35	30
2	45	52	49	42	35	32	27

Supply Air Outlet

Vdc	Sound Power SWL dB(A)	Octave Band Frequency Hz					
		125	250	500	1K	2K	4K
9	71	79	75	67	62	64	60
8	71	78	74	66	62	63	59
7*	69	76	72	64	60	60	56
6	66	74	71	61	58	57	53
5	62	71	67	57	54	53	48
4	58	67	63	54	51	48	42
3	52	62	56	47	44	40	34
2.55	45	55	48	41	36	32	25

*Nominal

DIMENSIONS (mm) - IXDL 90Y model shown (not to scale)

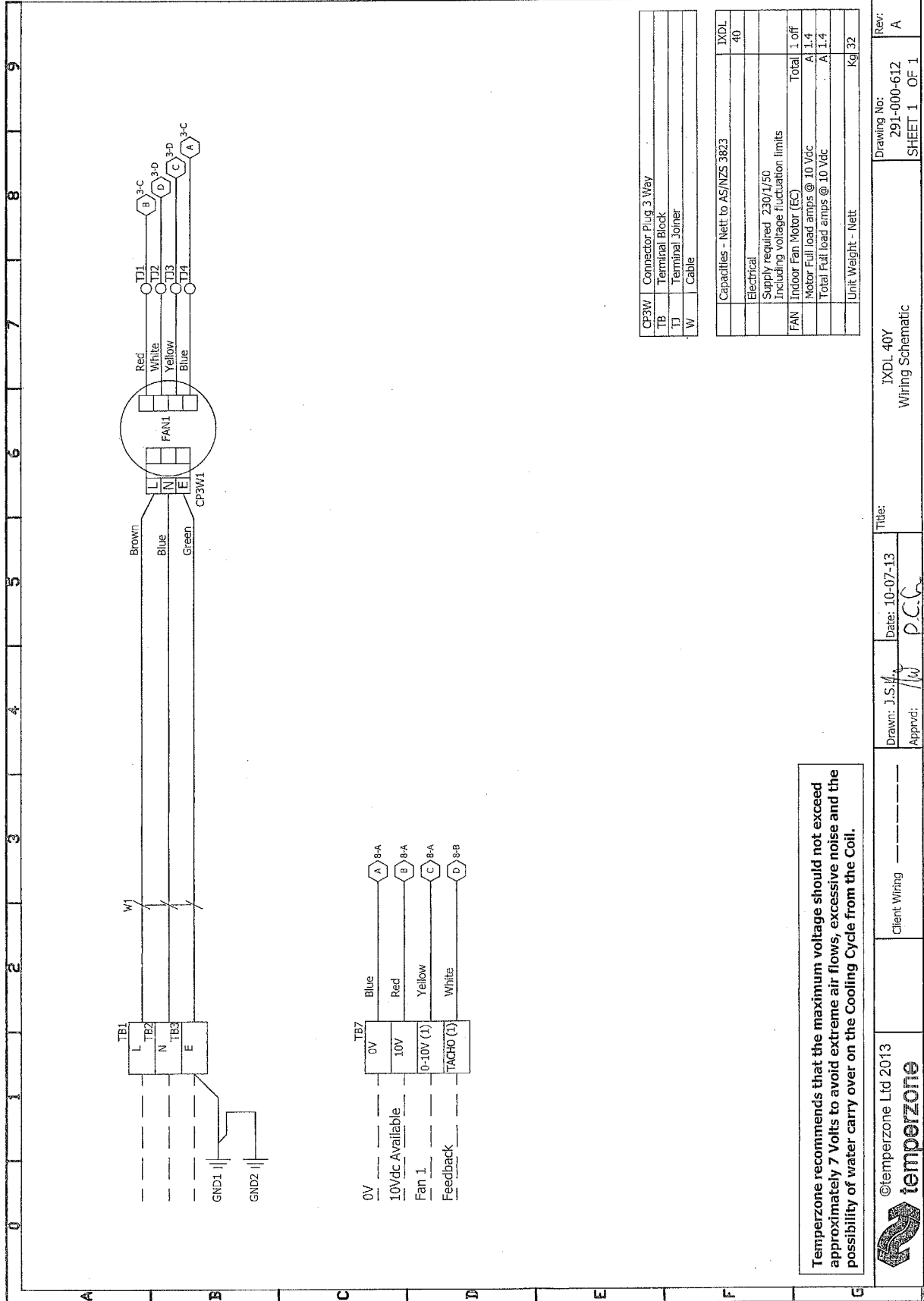


Note:

1. Allow adequate clearance for the filter (if fitted) to be removed.
2. IXDL have two half length filters except for IXDL 40Y.

Model	A	B	C	D	S/A Spigots	Water Conn's BSP Male		No. Fans / Outlets / Zones
						Cold	Hot	
IXDL 40Y	706	473	332	529	250 dia (x1)	25	13	1
IXDL 90Y	1250	973	820	1030	250 dia (x2)	25	13	2
IXDL 130Y	1605	1373	1252	1430	250 dia (x3)	25	13	3
IXDL 160Y	1954	1722	1630	1780	250 dia (x4)	25	13	4
IXDL 200Y	2355	2122	2037	2178	250 dia (x5)	25	13	5

WIRING DIAGRAM: IXDL 40Y



CP3W	Connector Plug 3 Way
TB	Terminal Block
TJ	Terminal Joiner
W	Cable

Capacities - Net to AS/NZS 3823	IXDL	40
Electrical		
Supply required	230V/50	
Including voltage fluctuation limits		
FAN	Indoor Fan Motor (EC)	Total 1.0
	Motor Full load amps @ 10 Vdc	A 1.4
	Total Full load amps @ 10 Vdc	A 1.4
Unit Weight - Nett		Kg 32

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Client Wiring

Drawn: J.S.H. Date: 10-07-13

Approved: P.C.G.

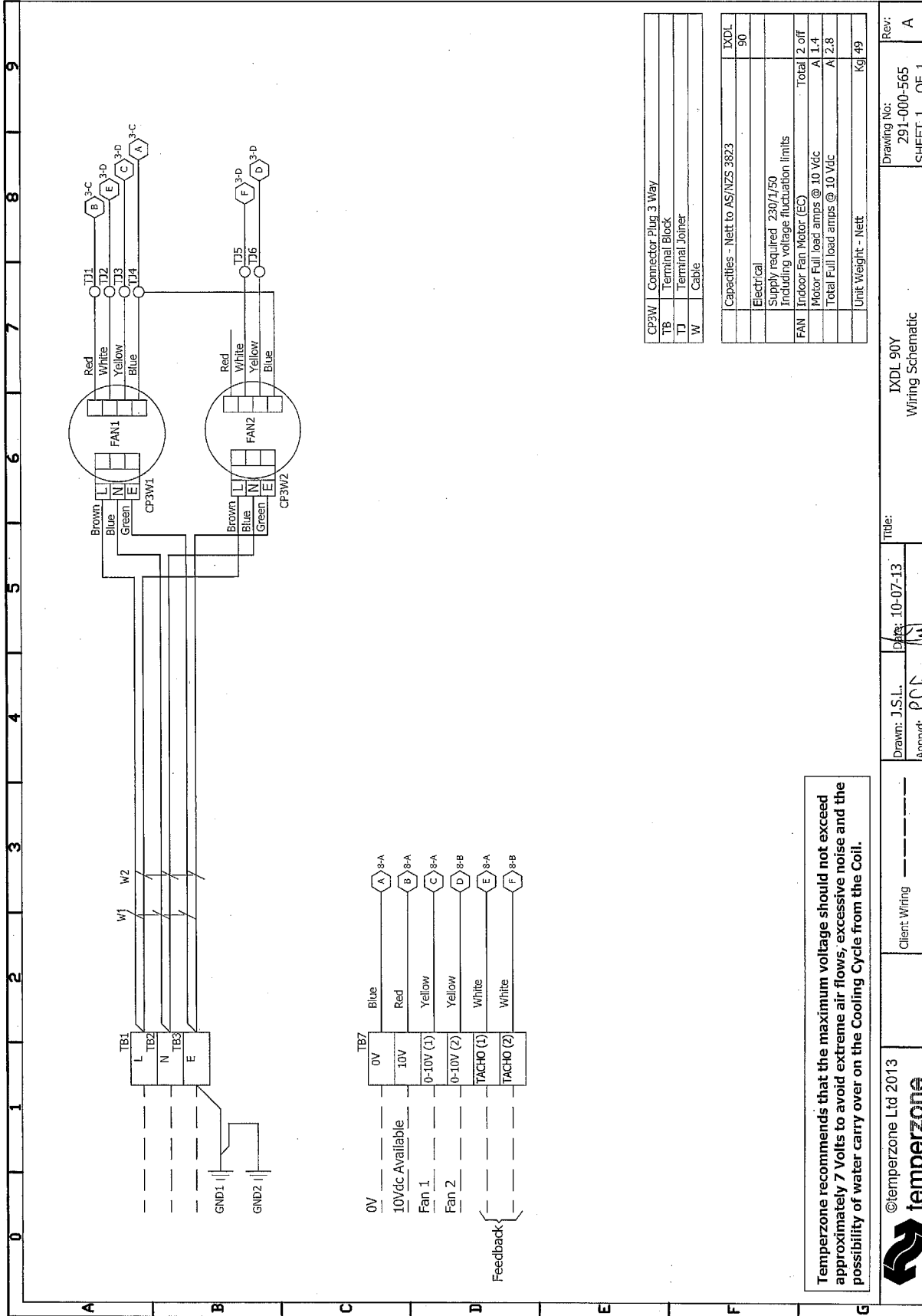
Title: IXDL 40Y Wiring Schematic

Drawing No: 291-000-612 SHEET 1 OF 1

Rev: A

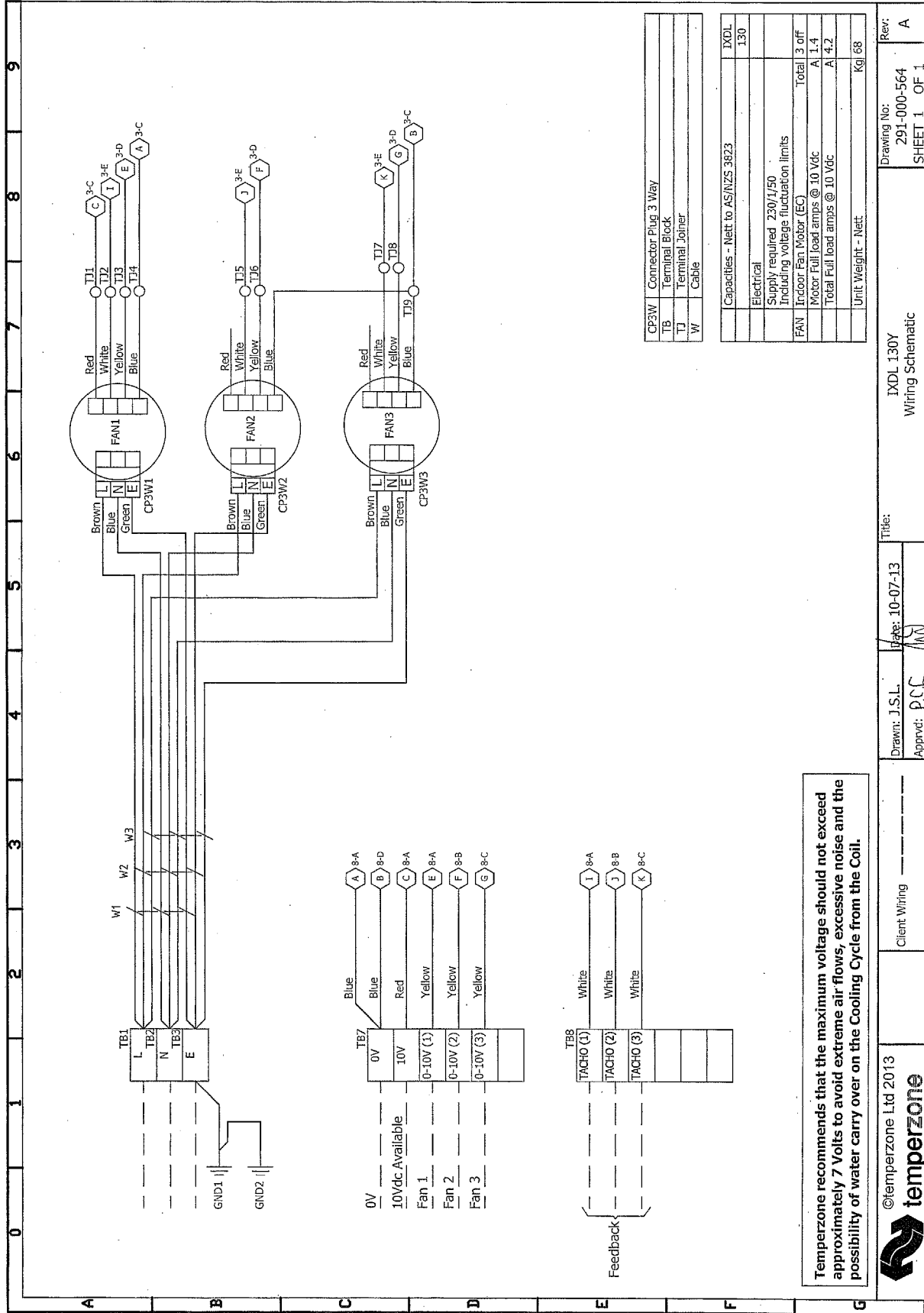
Temperzone recommends that the maximum voltage should not exceed approximately 7 Volts to avoid extreme air flows, excessive noise and the possibility of water carry over on the Cooling Cycle from the Coil.

WIRING DIAGRAM: IXDL 90Y



©temperzone Ltd 2013	Client Wiring	Drawn: J.S.L.	Date: 10-07-13	IXDL 90Y	Rev: A
		Apprvt: P.C.N.		Wiring Schematic	
				291-000-565	
				SHEET 1	OF 1

WIRING DIAGRAM: IXDL 130Y



CP3W	Connector Plug 3 Way
TB	Terminal Block
TJ	Terminal Joiner
W	Cable

Capacities - Nett to AS/NZS 3823	
IXDL	130
Electrical	
Supply required 230V/50	
Including voltage fluctuation limits	
FAN	Indoor Fan Motor (EC)
	Total 3 off
	Motor Full load amps @ 10 Vdc
	A 1.4
	Total Full load amps @ 10 Vdc
	A 4.2
	Unit Weight - Nett
	Kg/ 68

Temperzone recommends that the maximum voltage should not exceed approximately 7 Volts to avoid extreme air flows, excessive noise and the possibility of water carry over on the Cooling Cycle from the Coil.



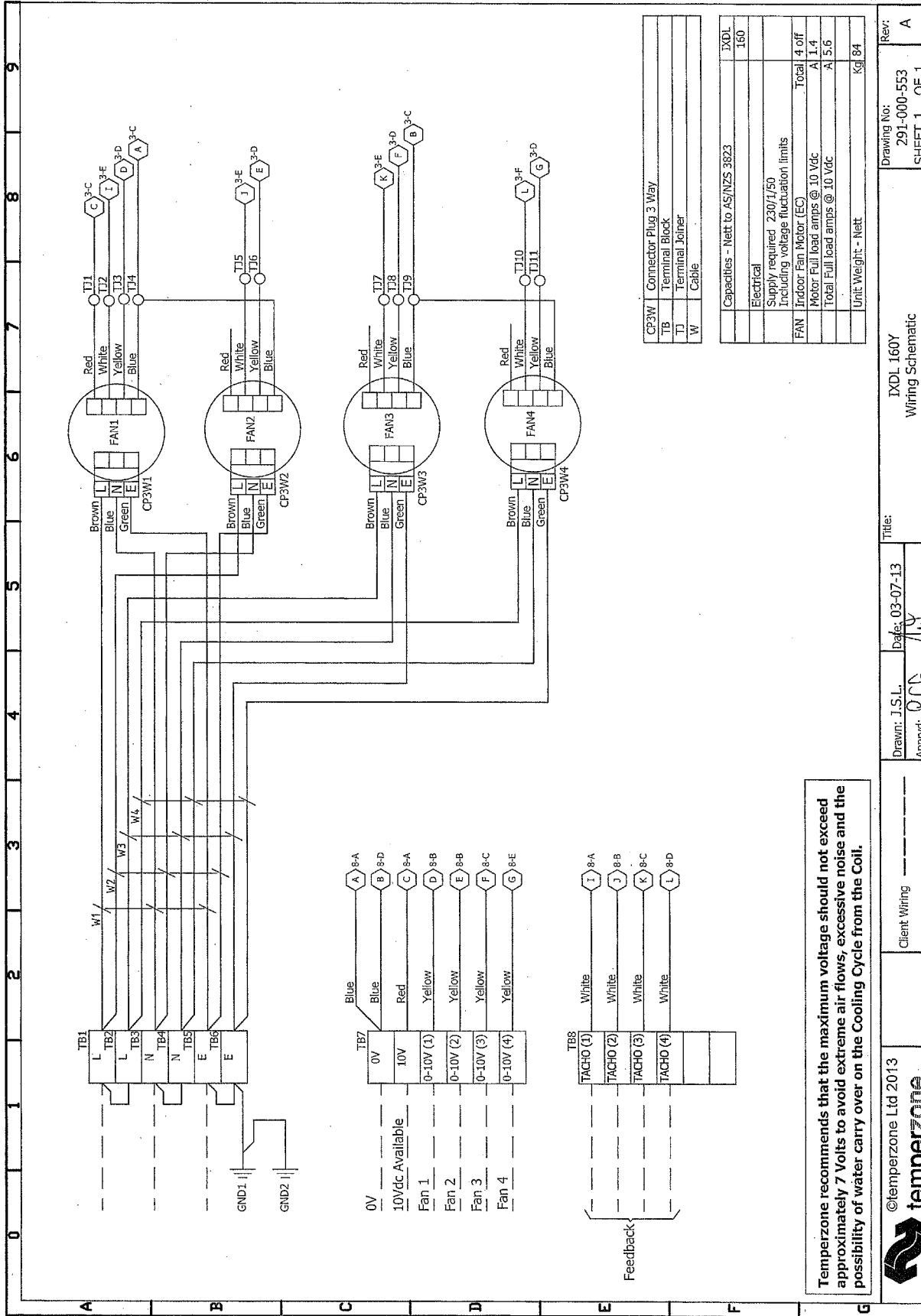
©temperzone Ltd 2013
Client Wiring

Drawn: J.S.L. Date: 10-07-13
Approved: P.C.C. (Signature)

Title: IXDL 130Y
Wiring Schematic

Drawing No: 291-000-564
SHEET 1 OF 1
Rev: A

WIRING DIAGRAM: IXDL 160Y



Temperzone recommends that the maximum voltage should not exceed approximately 7 Volts to avoid extreme air flows, excessive noise and the possibility of water carry over on the Cooling Cycle from the Coil.



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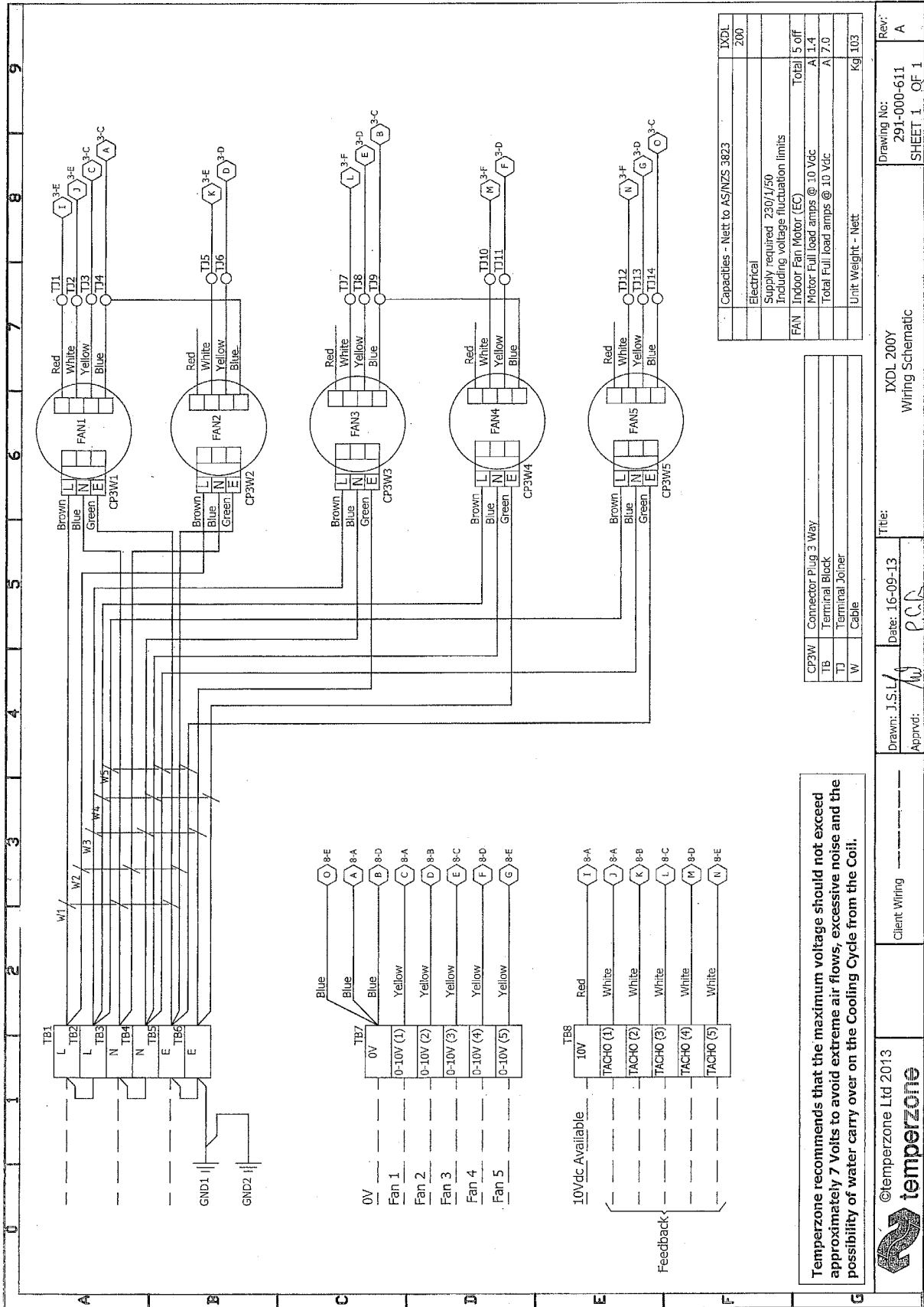
Client Wiring

Drawn: J.S.L.
 Date: 03-07-13
 Approved: P.C.A.

Title: IXDL 160Y
 Wiring Schematic

Drawing No: 291-000-553
 SHEET 1 OF 1
 Rev: A

WIRING DIAGRAM: IXDL 200Y



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Client Wiring

Drawn: J.S.L / M
Date: 16-09-13
Approved: P.C.C

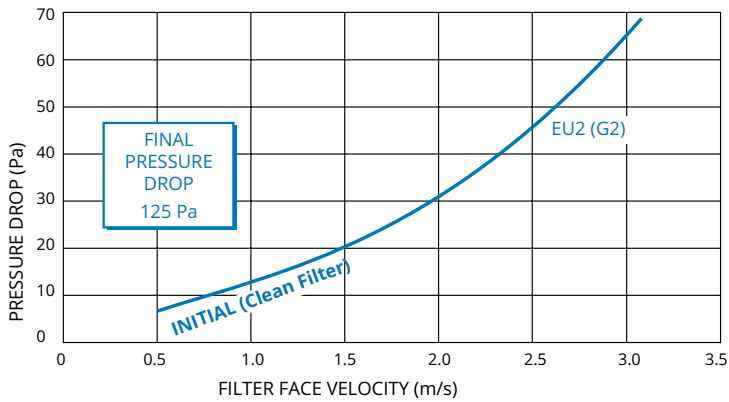
Title: IXDL 200Y
Wiring Schematic

Drawing No: 291-000-611
SHEET 1 OF 1

Rev: A

Filter Pressure Drop

G2 / EU2 rated filter media (standard)



Note:

G2 / EU2 filters do not meet Australian standards so are not to be used in the Australian market. G4 / EU4 filters, that meet the Australian standard, are best located behind return air grilles or in the ducting to reduce the velocity and therefore resistance losses.

Filter Area :

IXDL 40Y	0.075 m ²
IXDL 90Y	0.15 m ²
IXDL 130Y	0.22 m ²
IXDL 160Y	0.275 m ²
IXDL 200Y	0.34 m ²

Suggested Specification

Furnish and install temperzone fan coil units as indicated on the schedule.

- Base Unit** The base unit shall be fabricated of galvanised steel.
- Motor** Motors shall be electronically commutated (EC) type with 0-100% variable capacity using a 0-10V dc signal supplied by BMS or sophisticated controller.*
- Coils** Coils shall be comprised of die formed plate type epoxy coated aluminium fins mechanically bonded to high efficiency seamless inner rifled copper tubing. Water connections shall be male threaded. Cooling coils shall have a manual air vent.
- Drain Tray** The plastic drain tray shall have an adjustment for inducing a positive drainage with the unit level. The tray shall project under the entire length and width of the coil including headers and return bends. The entire drain tray shall be removable to enable a thorough clean.
- Filters** Filters shall be removable, 13 mm thick, washable, rated EU2, and mounted in a plastic frame. Filters may be slid out sideways when a return air duct is used.
- Insulation** The base unit shall be insulated with closed cell foam to ensure no particles are introduced into the air stream. Insulation shall be foil faced and meet fire test standards AS 1530.3 (1989) and BS 476 parts 6 & 7. Insulated with acoustic attenuation material on the discharge side of the fan.
- Noise Control** Supply air plenums shall be insulated with open cell acoustic material for noise attenuation.

* The fan/motor may also be set to a single predetermined speed using a potentiometer.

Notes

Note: The manufacturer reserves the right to change specifications at any time without notice or obligation.



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