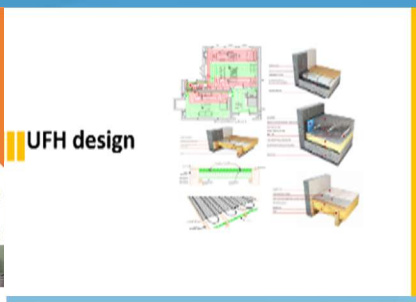
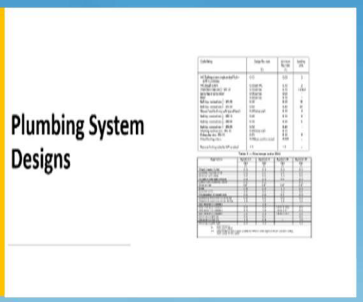
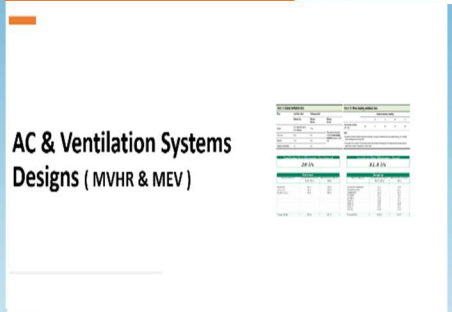
Year 2024-25

Heating, UFH, Plumbing
AC, Ventilation
Solar Systems

DESIGN, BIM & CAD CONSTRUCTION DOCUMENT SERVICES







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About us

DESIGN AND DRAWING SOLUTION offers Heating , UFH ,Plumbing , AC & Ventilation, Solar design including BIM ,CAD construction document services in UK, Ireland with other European countries including other part of the world like Australia and New Zealand.

Our Heating , Plumbing and AC & Ventilation team is having good knowledge of BS , European and other international codes & guidelines for designs

| Heating ,UFH– CIBSE , BS EN 12828 , BS EN1264-1
| Plumbing System - BS6700 , BS 12056
| AC & Ventilation- CIBSE , BS 5720

We are familiar with standard practice for design and constructions services requirement of Heating , Plumbing , AC ,Ventilation and Solar design for all type of buildings & continuously providing our design & construction services worldwide and specially with UK , Ireland including other European countries for Heating, ventilation consultant and contractors including BIM for MEP contractors.

DESIGN AND DRAWING SOLUTION
ONE STOP BIM | CAD | MEP ENGINEERING SOLUTIONS

5+ Years' Experience

300+ Completed Projects

150+ Customer world wide

Design Tools

- HAP for thermal load
- Standard Design Spread Sheet as per CIBSE and Building regulations

BIM Platform

- Autodesk Revit
- Autodesk Fabrication CAD MEP
- Navisworks

CAD Platform

- 2D AutoCAD

Heating Design

- Thermal Loads
- Heat Emitter Selections
- Heating System and Source Sections
- Heating Piping Network Design

UFH Design

Plumbing Design

- Domestic Cold Water
- Domestic Hot Water
- Sanitary drainage designs
- Storm water drainage design

AC & Ventilation (MVHR & MEP) design

Solar Systems Design

BIM Construction Services

- 3D Model
- BIM co-ordination
- Builder Works Drawing
- Shop drawing

CAD Construction Services

- Shop Drawing & As built drawings

DESIGN AND DRAWING SOLUTION
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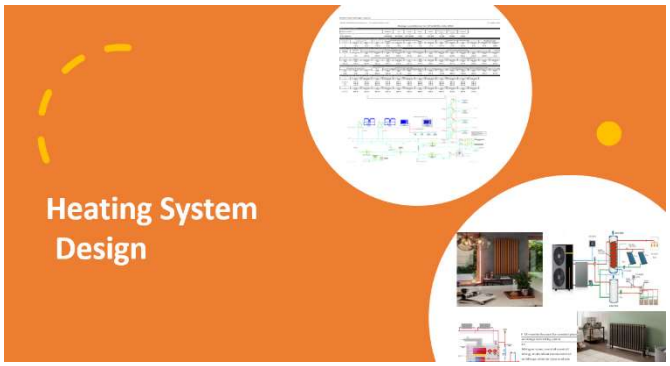


Heating Designs steps are as follows.

- **Thermal Loads**
- **Heat Emitter Selections**
- **Heating System and Source Sections**
- **Heating Piping Network Design**
- **UFH designs**

Heat Loads

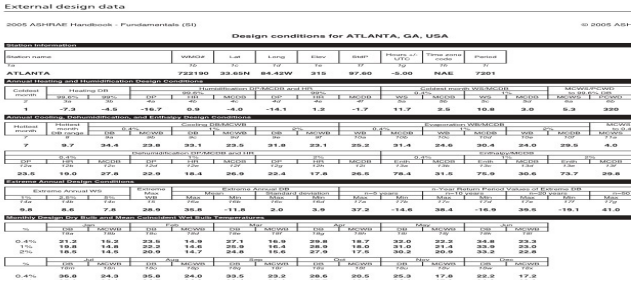
As per BS EN 12831, we do our heat load calculation to design the heating systems.

To work out the loads, we need to fix the following design consideration.

1. Location of Building (Outdoor DB)
3. Indoor design consideration
2. Building Position (i.e. Building actual North directions)
3. U values of wall, window, doors, floor, ceiling, roof etc.
4. Ventilation requirement.

1. Location of Building (Outdoor DB & WB)

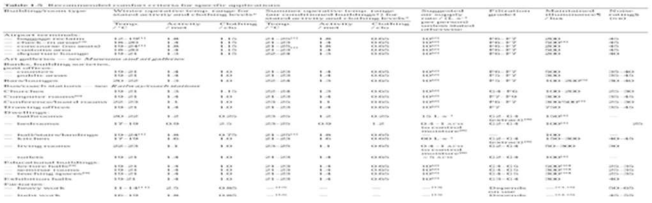
Based on the climatic data of location of the building, we will get the dry bulb (DB) and wet bulb (wb) temperature including humidity and other weather conditions. We can fix the nearby locations as well to fix this.


External design data

Design conditions for ATLANTA, GA, USA

2. Indoor design consideration

The indoor environment should be designed and controlled so that occupants' comfort and health are assured. For design any area, we have to identify



the spaces to fix the recommended design conditions as per code.

3. Building Position

Based on the survey plans or architectural building plans, we have to fix the building north and accordingly we will fix the areas as per directions .

4. U values of wall, window, doors, floor, ceiling, roof etc.

Based on the thermal properties of building material, we have to identify the U values of all areas like as follows. Wall, glass, floor, roof.

Table 3.1 Thermal conductivity of homogeneous masonry materials at 'standard' moisture content

Material	Dry density /kg.m^{-3}	Thermal conductivity /W.m^{-1}.K^{-1}		Material	Dry density /kg.m^{-3}	Thermal conductivity /W.m^{-1}.K^{-1}	
		Protected	Exposed			Protected	Exposed
Brick (fired clay)	1200	0.36	0.50	Pyro-processed colliery material concrete	1100	0.39	0.42
	1300	0.40	0.54		1200	0.41	0.44
	1400	0.44	0.60		1300	0.44	0.47
	1500	0.47	0.65		1400	0.46	0.49
	1600	0.52	0.71		1500	0.48	0.52
	1700	0.56	0.77	Pumice aggregate concrete	500	0.16	0.17
	1800	0.61	0.83		600	0.18	0.19
	1900	0.66	0.90		700	0.20	0.22
	2000	0.70	0.96		800	0.24	0.25
Brick (calcium silicate)	1700	0.77	1.05		900	0.27	0.29
	1800	0.89	1.22		1000	0.31	0.34
	1900	1.01	1.38		1100	0.36	0.38
	2000	1.16	1.58		1200	0.40	0.43
	2100	1.32	1.80		1300	0.46	0.49
	2200	1.51	2.06				
				Autoclaved aerated concrete	400	0.12	0.13
Dense aggregate concrete	1700	1.04	1.12		500	0.15	0.16
	1800	1.13	1.21		600	0.18	0.19
	1900	1.22	1.31		700	0.20	0.22
	2000	1.33	1.43		800	0.24	0.25
	2100	1.46	1.56		900	0.27	0.29
	2200	1.59	1.70				
	2300	1.75	1.87	Other lightweight aggregate concrete	600	0.20	0.22
	2400	1.93	2.06		700	0.24	0.25
					800	0.28	0.30
Blast furnace	1000	0.19	0.20		900	0.31	0.34

5. Ventilation requirement.

As per code and design criteria is the fresh air is required based on the no of people or occupancy based on the designed spaces and activities.

As per CIBZE and BS codes, min ventilation rates as follows.

Table 4.1 Ventilation and indoor air quality classification (BS EN 13779)[19]

Classification	Indoor air quality standard	Ventilation range / (L.s^{-1}/person)	Default value / (L.s^{-1}/person)
IDA1	High	> 15	20
IDA2	Medium	10–15	12.5
IDA3	Moderate	6–10	8
IDA4	Low	< 6	5

6. Lighting & Power Load

Based on the lux level and designated spaces, we fix the required lighting and power

Heat Emitter Selections

Radiators

Radiators, usually of pressed steel panel construction, are the most frequent choice of emitter. They are available in a wide variety of shapes, sizes and output ranges, making it possible to obtain a unit (or units) to match the heat requirements of almost any room or zone. Radiators can be any size based on the suitable selections and requirement.

Fan Coil Unit

Fan coil units produce high heat outputs from compact units using forced air circulation. Their output may be considered to be entirely convective and is approximately proportional to temperature difference. Where systems contain a mixture of natural and forced air appliances, the different output characteristics of the two types should be taken into account, particularly with regard to zoning for control systems.

Heating System & Source Selections.

Heating plant is the combination of heating units with the piping network of primary circuit which usually up to the eat exchanger.

Basically, heating systems are classified in two types**.**

- **Direct heating systems**
- **Indirect heating systems**

As per our standard practice, we found mainly indirect heating system are using in current heating designs worldwide which can be with storage or without storage.

System Selections

Systems use to finalize based on client approval with considering following factors.

- Determine room heat emitter sizes
- Initial and maintenance cycles cost
- Energy Efficiency
- Operating Temperature
- Assess heat losses from the distribution system,
- where appropriate assess diversity factor for central plant
- Select central plant diversity & Equipment's

Table 5.18 Diversity factors for central plant (continuous heating)

Space or buildings served by plant	Diversity factor
Single space	1.0
Single building or zone, central control	0.9
Single building, individual room control	0.8
Group of buildings, similar type and use	0.8
Group of buildings, dissimilar uses†	0.7

Heat Source Selections

Heating sources based on the local demand and optimized design. As per standard practice, now a days for energy efficient prospective, below are choice of heat sources are used for heating system.

- Traditional Boiler
- Heat Pump
- Solar Panels

Boiler

Boilers are most commonly used heat source and designed to provide heat for homes in winter season and they small furnaces that heat the water passed through them. This hot water can then be distributed to your central heating system or used to supply hot water on demand or stored for later use.

Condensing gas boilers are by far the most common boiler type in UK homes.

Heat Pump

Heat pumps offer an energy-efficient alternative to furnaces and air conditioners for all climates.

A heat pump is basically a heat engine run in the reverse direction. In other words, a heat pump is a device that is used to transfer heat energy to a thermal reservoir. They are often used to transfer thermal energy by absorbing heat from a cold space and releasing it to a warmer one.

Solar water heating panels

Solar water heating panels are widely used around the world to provide domestic hot water, particularly where sunshine is plentiful and fuel is relatively expensive. In the UK, the great majority of installed systems are in dwellings.

Solar water heating (or solar thermal) uses sunlight to heat the water you'll then use in your bathroom or kitchen. Even in cloudy Britain, solar energy can meet more than half of your annual hot water demand.

Piping Network

The layout and sizing of pipework for hydronic heating systems is a vital aspect of system design.

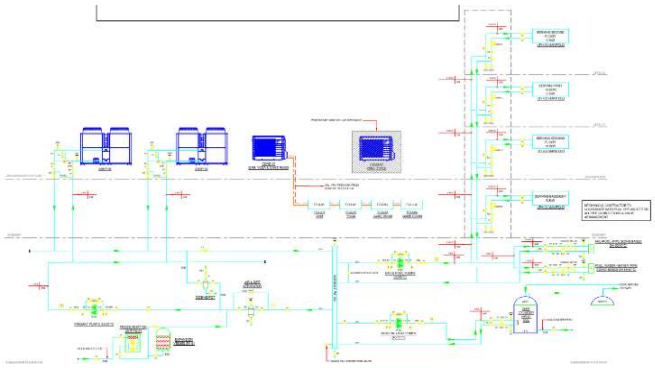
For Heating Systems, piping network consist with following parts.

1.Piping

2.Pumps

3.Controls – Temperature, Pressure Sensors,

4. Valves



Piping Design – Heating

Once the emitters have been selected and the design flow and return temperatures decided, the circulation requirements in each part of the circuit can be determined. Pipe sizes for individual parts of each circuit will be selected to give acceptable pressure drops and flow velocities based on requirement and standard CIBZE guidelines.

Piping Design – Plumbing

Additional piping network for plumbing fixture also to be integrated in this network to include Domestic hot water tank and from tank, we use to design supply & return piping networks as per the requirement of plumbing fixtures.

Controls

A typical control system for a hydronic heating system in a building consists of a programmer, which may incorporate a time switch or optimum start/stop functions, a room thermostat for each zone, motorized valves to control the flow to each zone and, if necessary, a frost protection thermostat.

Following are different type of sensors to control the systems

Thermostats

Analog, Status, Intelligent Sensors

Temperature Sensors

Humidity sensors

Pressure Sensors

Valves

As required Pressure, Flow, we use to choose our valves for piping network.

As per standard Practice following valves are used.

1. Ball Valve
2. Motorized control Valve
3. Two Way Valves with sensor control

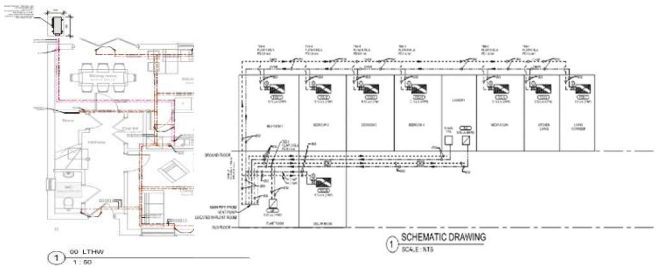
Pump

Online centrifugal pumps are used for the central heating system piping network in the flow and return**.**

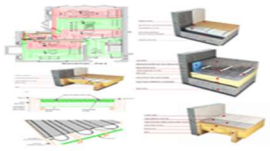
Heating Design Drawings

Heating Design drawing After selections of heat sources, Emitter and design of networks, we are good to prepare the heating design drawing sets which will includes as follows.

1. Legend & Notes
2. Plans shows the networks
3. Plant room Details
4. Detailed Schematic
5. Standard details



UFH design



Underfloor heating is the most comfortable form of heating. It is unobtrusive, economical, safe, hygienic and virtually maintenance-free. It offers the best long-term method of heating a building because it uses low-temperature water, which in future can be provided without having to burn fossil fuels.

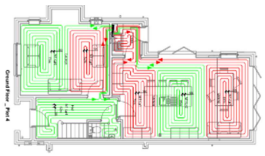
We use following pattern of designs.

Bifilar

Linear

Double Meander

Joist



Design Consideration

- In standard practice, systems are usually designed to operate at flow temperatures of between 40 and 50 "C, with a temperature drop of between 5 and 10 K across the system.
- Maximum heat output is limited by the maximum acceptable surface temperature to around 100 W.m-2 for occupied areas.
- The Surface temperature is controlled by the spacing between pipes and the flow water temperature.
- Floor construction, floor covering and the depth of the pipes beneath the floor surface is a design factor.
- Detailed design we produce based on the selections of tubes and space designs.

Underfloor heating design systems based on following floor system consideration.

1.Screed Floor System

2. Floating Floor Systems

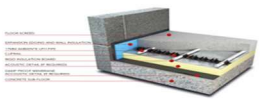
3. Suspended/ Joist Floor Systems

4. Structural Floor Systems

6. Low Profile Systems

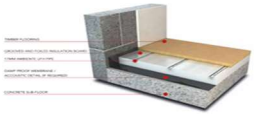
7. Other Special Design systems

Screed Floor



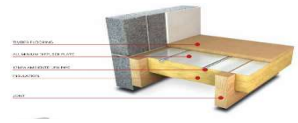
> LOW COST SYSTEMS
> MAXIMUM OUTPUT
> QUICK INSTALLATION
> SUIT IRREGULARLY SHAPED ROOMS
> VERSATILE PIPE LAYOUT PLAN

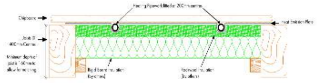
Floating Floor



> CAN BE USED IN EXISTING FLOOR CONSTRUCTIONS
> PANELS MANUFACTURED TO SUIT LAYOUT PLAN
> NO WET TRADES
> WIDE RANGE OF APPLICATIONS

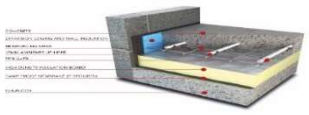
Joist Floor /Suspended



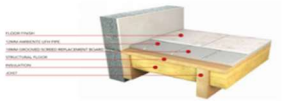


Structural Floor

> DESIGNED FOR HIGH LOAD APPLICATIONS
> LOW COST AND FAST INSTALLATION
> HEATING IS APPLIED EVENLY ACROSS LARGE FLOOR AREAS
> VERSATILE PIPE LAYOUT

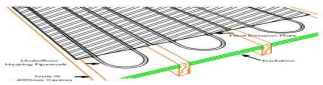


Low Profiles

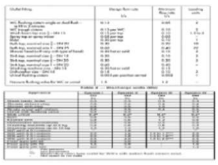


> ULTRA SLIM FLOOR BUILD UP
> SUITABLE FOR BOTH NEW AND REFURBISHMENT APPLICATIONS
> QUICK RESPONSE TIMES
> COMPATIBLE OVER EXISTING FLOORS

Other Special as per demand



Plumbing System Designs



Plumbing System

Plumbing System design covers for internal buildings.

- Domestic Cold Water
- Domestic Hot Water
- Drainage designs
- Storm water drainage design

Water supply designs

As per BS 6700 Standard, we use to take care of water requirement and design of water supply piping network upto each pluming fixture as follows.

Water closet, Urinal, wash basin and kitchen sink and appliances. For piping designs, we follow the Fixture Unit loads and equivalent flow as per BS 6700 For hot water network use to integrate with heating system.

Outlet fitting	Design flow rate l/s	Minimum flow rate l/s	Loading units
WC flushing cistern single or dual flush – to fill in 2 minutes	0.13	0.05	2
WC trough cistern	0.15 per WC	0.10	2
Wash basin tap size ½ – DN 15	0.15 per tap	0.10	1.5 to 3
Spray tap or spray mixer	0.05 per tap	0.03	–
Bidet	0.20 per tap	0.10	1
Bath tap, nominal size ¾ – DN 20	0.30	0.20	10
Bath tap, nominal size 1 – DN 25	0.60	0.40	22
Shower head (will vary with type of head)	0.20 hot or cold	0.10	3
Sink tap, nominal size ½ – DN 15	0.20	0.10	3
Sink tap, nominal size ¾ – DN 20	0.30	0.20	5
Sink tap, nominal size 1 – DN 20	0.60	0.40	–
Washing machine size – DN 15	0.20 hot or cold	0.15	–
Dishwasher size – DN 15	0.15	0.10	3
Urinal flushing cistern	0.004 per position served	0.002	–
Pressure flushing valve for WC or urinal	1.5	1.2	–

Plumbing Drainage designs

We use to follow BS-EN 12056 .2 for drainage piping designs. We use table 2,3 & 11 to design the flow and for pipe sizing

Table 2 — Discharge units (DU)

Appliance	System I DU l/s	System II DU l/s	System III DU l/s	System IV DU l/s
Wash basin, bidet	0,5	0,3	0,3	0,3
Shower without plug	0,6	0,4	0,4	0,4
Shower with plug	0,8	0,5	1,3	0,5
Single urinal with cistern	0,8	0,5	0,4	0,5
Urinal with flushing valve	0,5	0,3	-	0,3
Slab urinal	0,2*	0,2*	0,2*	0,2*
Bath	0,8	0,6	1,3	0,5
Kitchen sink	0,8	0,6	1,3	0,5
Dishwasher (household)	0,8	0,6	0,2	0,5
Washing machine up to 6 kg	0,8	0,6	0,6	0,5
Washing machine up to 12 kg	1,5	1,2	1,2	1,0
WC with 4,0 l cistern	**	1,8	**	**
WC with 6,0 l cistern	2,0	1,8	1,2 to 1,7***	2,0
WC with 7,5 l cistern	2,0	1,8	1,4 to 1,8***	2,0
WC with 9,0 l cistern	2,5	2,0	1,6 to 2,0***	2,5
Floor gully DN 50	0,8	0,9	-	0,6
Floor gully DN 70	1,5	0,9	-	1,0
Floor gully DN 100	2,0	1,2	-	1,3

* Per person.
** Not permitted.
*** Depending upon type (valid for WC's with siphon flush cistern only).
\- Not used or no data.

Plumbing Storm water drainage

We use to follow BS-EN 12056 .3 for storm eater piping designs which is depending on the following major criteria. Rainfall Intensity Catmint area with Flow Required Piping Size , Gutter designs.

AC & Ventilation Systems Designs (MVHR & MEV)

Airconditioning (AC) System Design

We work on thermal load to start the concept design and After receive go ahead with basic concept design, we prepare the detail design drawing and our standard execution process to execute the Air conditioning design works as follows.

Stage- 1 Working on thermal loads: We have worked out the thermal cooling and heating loads zone wise as per design requirement and complete floor or building loads for heat source designs.

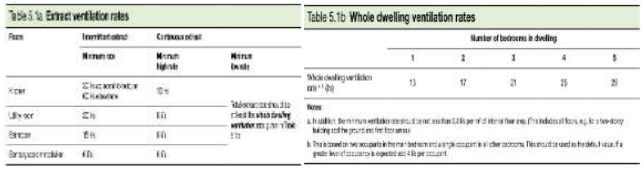
Stage- 2 Selections of AC units, Based on zonal thermal loads , we use to select the AC unis like Heat Pumps for cooling or heating sources .

Stage 3 Duct & piping design to produce design drawings. After finalizations of cooling, heating devices Duct use to design based on the airflow and piping network design use to carried out the detail design drawing for units

Ventilation System Design We work on the MVHR & MEV ventilation design based on the standard extract and supply ventilation design rates inline with building regulations and code requirement.

Stage- 1 Fixing the basic Extract and supply air flow rates: We use to follow building regulations to fix the extract and supply rates for MVHR systems.

Standard tables are as follows.



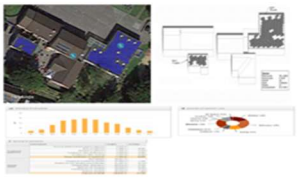
Stage- 2 Selections of MVHR, MEV units and ducting networks

Working out the total flow rates of extract and supply ventilation, MVHR and MEV units are used to select. And we follow the duct design based on the building regulations to complete the design drawings.

Ventilation Rate (Minimum - Continuous)		
29 l/s		
Extract		
Room Name	Continuous Flow Rate (l/s)	Boost Flow Rate (l/s)
Kitchen	9.7	10.5
Shower	9.7	10.5
Bathroom	9.7	10.5
Total (l/s)	29.0	31.5

Ventilation Rate (Maximum - Boost)		
31.5 l/s		
Supply		
Room Name	Continuous Flow Rate (l/s)	Boost Flow Rate (l/s)
SITTING ROOM	3.3	3.5
WORKSHOP	8.4	9.1
LIBRARY	2.2	2.4
STUDY	3.3	3.5
DINER	1.9	2.1
BED 1	3.8	4.1
BED 2	3.5	3.8
BED 3	1.9	2.1
BATH	0.8	0.9
Total (l/s)	29.0	31.5

Solar System Design



Solar systems cover with

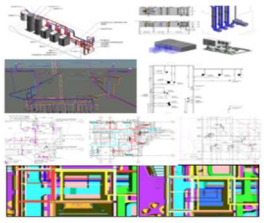
1. PV solar Panel
2. Inverter and Batteries
3. Circuit for Changeover

Solar Design.

Solar system's capacity design with the help of Simulation software like Helioscope to design the total available space and capacity of Plant can be worked out. Accordingly, we use to generate the array design to integrate with load requirement of Building.

Inverter use to integrate to store the excess energy and will be use in the night.

BIM Construction Document Services



BIM Services

- **3D Modelling & Equipment Modelling**
- **BIM Co-ordination**
- **Shop Drawing**

3D Modeling

We specialize in the virtual construction of 3D BIM Heating, AC, Ventilation, Plumbing, Electrical system models of duct, pipe, cable tray with fitting, accessories, along with all the associated equipment.

We produce design and construction drawing based on the project requirement and project phase .

We do our Models all Leve based on the client and construction Phase Requirement

LOD LEVELS

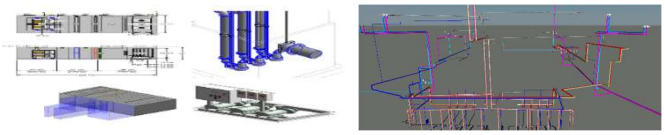
LOD 300 - Design Phase (Design and tender Drawing)

LOD 400 - Construction Phase (Shop Drawing , Installation Drawing

LOD 500 - Post Construction As built Model – LOD 500

Equipment Modeling

From the manufacturer's 2D drawings, and in line with project specifications, we create a 3D model of all the ME equipment such as PUMPS , AHU, RTU, CU, FCU, VAV, pumps, chiller fans, DG, panels, etc.

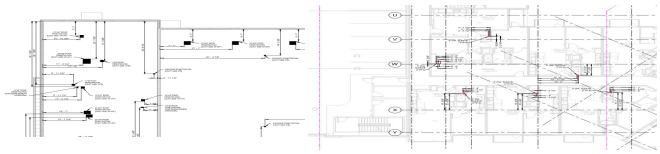


BIM co-ordination covers

1. **Clash co-ordination**
2. **Generation of Report**
3. **Resolution**

Builder Works Drawing

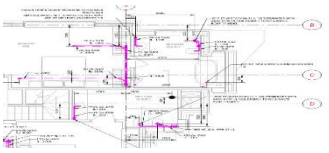
Builder works Penetration & Sleeve Drawings are required before a contractor can start pouring concrete on the site. Penetration Drawings are created from the coordinated BIM model after alignment with the architectural grids. Our experienced team keeps the necessary clearances for the penetration as per the contract documents and Specification.

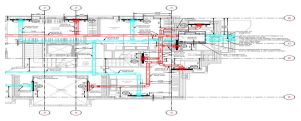


Shop Drawing

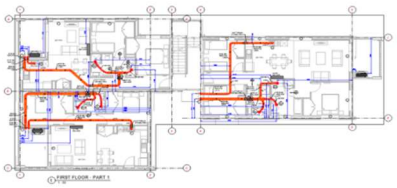
We produce Shop drawing after Co-ordination with utilizing coordinated BIM model drawings which are detailed enough for workshop fabrication and incorporated with sleeves and penetrations.

We provide the dimensions, BOD, COP & BOP, annotations inline with client standard & requirement as per standard practice





CAD Construction Document Services



Shop Drawing

Our cad team produce the shop drawing from CAD design drawing to incorporate the details of all fitting, accessories, details including as follows.

Drawings shall be indicative of actual equipment purchased and shall show all offsets, transitions, fittings, dampers, valves, hanger locations

Co-ordination:- Co-ordination with architectural , structural along with other services to fix the BOP , BOD with proper dimension and annotation .

Dimension and Annotation: - Providing proper dimensions and annotation inline with client standard or as per general standard shop drawing.

As built Drawing

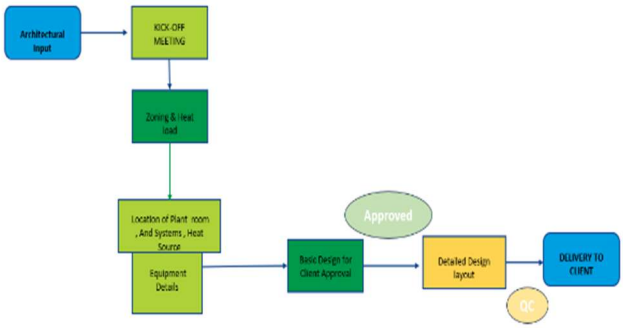
Our cad team draft the CAD drawing from redline mar-ups and Our As-built/Redline Markup Service is ideal for creating your as-builts drawings or design modifications in AutoCAD.

Markups:

RED ink for drawing changes

Execution Process

Design Execution



We use to implement our standard Design execution process to deliver each and every project.

Stage 1: - We do kickoff meeting with our client for better understanding of the project to start.

Stage- 2 Working on thermal loads: We have worked out the heating loads zone wise as per design requirement and complete floor or building loads for heat source designs.

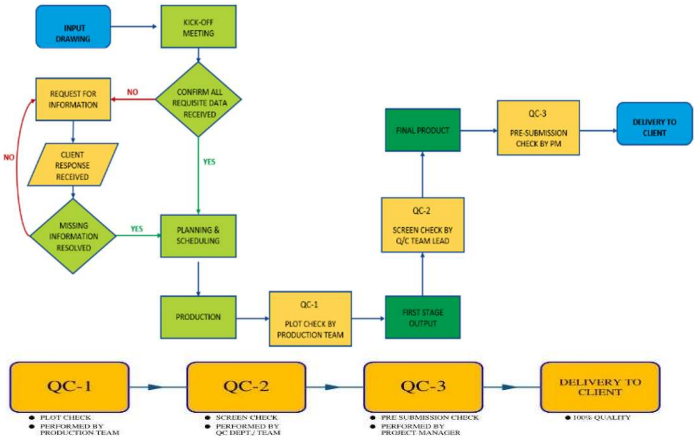
Stage- 3 Selections of Heat Emitters UFH, Radiators or FCU based on the zonal heating loads and selection of Heat source based on the complete floor or building heating source requirements.

Stage 4 Design piping network with piping design and production of design drawings.
After finalizations of heating devices and heating sources, piping network design is used to carried out for final preparation if heating design drawings.

QC (Quality Check): - We follow QC process in the execution process before delivered to the client.

Out project Lead or Managers use to check the final design drawings with the proper checklist to ensure the drawings are to be same inline with the benchmark of level of technical information which use to discuss in kick off meeting or client sample or standard samples mutually agreed with client.

BIM/CAD Execution



We use to implement our standard BIM/CAD execution process to deliver each and every project.
Stage 1: - We do kickoff meeting with our client for better understanding of the project to start.

Stage2: - We do project review, planning and prepare project specification checklist and delivery schedule and share with client.

Stage3: - We allocate our dedicated Team lead with team member inline with the services to start the production activities as per delivery schedule.

Final Stage: - We follow QC process in the execution process before delivered to the client.
With the above process, we deliver the high-quality product to client.
Quality Check – 1
The model check is done comparing it with the original contract documents through Team Member.
Quality Check – 2
Team performs a more detailed comparison with specific checklist and project checklist the deliverables and main objective check the following Clashes (Old/New), Elevation, Routing, Fittings, etc. Construction point of view.
Quality Check – 3
The Project manager conducts the pre- shipment check before sending them to client.

Core Team

Irshad Ali Shaikh
CE0 – Co-Founder

Mr. Irshad Ali is the co-owner & founder of DESIGN AND DRAWING SOLUTION. He is having more than 15 years of experience in Building services in construction Industry throughout AEC project execution process from Pre-construction, construction processes like MEP engineering consulting, Heating , AC & Ventilation Designing, installation and handover process of the project.

He has completed BE in Mechanical Engineering from Pune University with Post Graduation in Project Management (PGPPM) from NICMAR Pune, India. In his small journey, he has successfully delivered the more than hundred BIM/CAD project for his satisfied client with the best quality and unique team effort.

He has experienced in all kinds of projects i.e., starting from Residential township, Commercial IT buildings and parks, Malls, High rise building, Hotel, Hospital & Institutional building. Including building Infrastructure projects like metro, airports, globally i.e. USA, Australia, New Zealand & India.

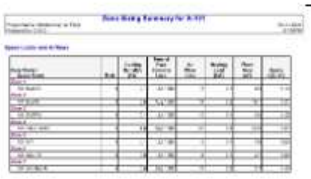
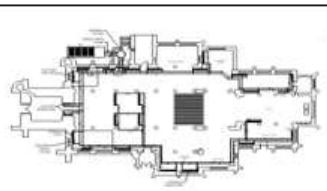
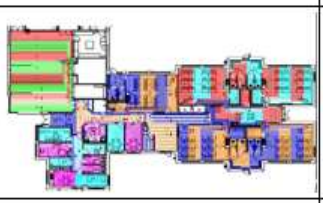
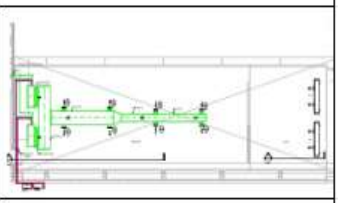
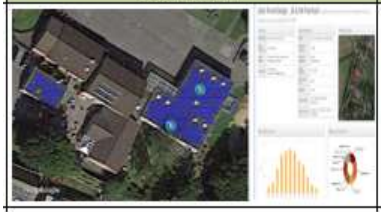
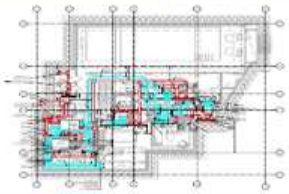
Karishma Bibi
Sales Head

She is the co-owner of DESIGN AND DRAWING SOLUTION and well experienced in offshore sales development initiatives. She is having a good knowledge of result-oriented sales development processes and customer retention. She is leading the complete sales team for B2B sales within the company and managing and monitoring the effectiveness of the entire sales cycle. She has implemented her interior design expertise to improve the technical expertise for client communication for offshore sales which helps her build a long-term relationship with new and existing clientele.

Rupam Mondal
Production Manager

He holds a Mechanical Engineering diploma form WBSCTE, India and having more than 7 years' experience in Building construction Industry for MEP engineering, Drafting, of 3D , 4D , 5D & 6D BIM service . He is having expertise in Heating , AC ,Ventilation including MEP engineering calculation, with all Autodesk BIM/CAD tools like Revit , Fabrication, AutoCAD MEP ,Navis works and AutoCAD and has complete knowledge of engineering and drafting services for all stages (Pre/post) of construction process .
He is working in DESIGNING AND DRAWING SOLUTION since from starting period of the company. With a short period of time , He has gained the managing process of the company , client communication, project management process and assisting with innovative (R & D) solution of new process , tools for new requirement of clients.

Project References

Thermal Load	Heating & Plumbing Design	UFH Design	AC & Ventilation
			
25 High Street	**House Type AFH**	**Gary Thomas New House**	**Apartment Project , London**
London - Heathrow, UK	Ystradgynlais, UK	Carmarthenshire, UK	London, UK
Bunglow	House	House	Appartment
			
Middlecress Apartment	**St cuthberths Wells**	**Primary school**	**Noppon**
Leeds, UK	Bristol, UK	Waringshown , UK	Noppon, UK
Apartment	House	School	Commercial Building
Solar Design	**BIM & CAD Construction Document Services**		**BIM Services (Equipment Modeling)**
			
Broadmagne School Project	**38 Frognal Lane**	**Porthcawl Hotel**	**EV - Air Exhaust**
Kingston, UK	London - Camden, UK	17 Caemawr, UK	Rochester UK
School	Residencial	Apartment	Heat Pump

Contact US

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