Planning an Installation
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Customer needs

- Ensure you speak the right person in the organization. I.e. Establish the actual customer Consult the person who specified and ordered the work, and if possible the person who will operate the completed installation.
- Determine the required capacity
  Plan for the future (+50% recommended), as retrofitting is more expensive than initial additional capacity.
- Agree on the lay out and timing schedules
- Confirm the working area available when on site.
Planning an Installation contd.

- **Site Survey-The duct path**
  - Establish the equipment and termination locations
  - Establish a clear path between the equipment locations. (check for obstructions along the whole path)
  - Note the height of the best path.
  - Establish the method of entry to the equipment racks.
  - Note the steel-work available for duct mounting. Is it Unistrust™ (square channel), square section, circular section, ladder rack, etc?
  - Establish the best method of attaching duct to it.
Planning an Installation contd

- The duct plan
- Prepare a scale drawing of the horizontal duct path, and record the path height above the equipment racks.
- Draw the vertical paths, and entry to the racks.
Planning an Installation contd.

- Establish a Bill of Materials (BOM)
- List all the horizontal duct components.
- List all the horizontal duct brackets & the mounting brackets that they attach to.
  Allow one mounting point for each metre of duct, and a mounting for each drop off or access point.

<table>
<thead>
<tr>
<th>Description</th>
<th>Part No.</th>
<th>Qty.</th>
<th>Ref</th>
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<tbody>
<tr>
<td>Hex nut, M12, Zinc plated</td>
<td>12x612</td>
<td>345</td>
<td>21</td>
</tr>
<tr>
<td>Washer, flat, M12, Zinc plated</td>
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<td>345</td>
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<tr>
<td>Threaded rod, 6/8 inch, 150mm long, Zinc plated</td>
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<td>Lock nut, 6/8 inch, Zinc plated</td>
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<td>Under floor mounting bracket</td>
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<td>Tee, horizontal, 300mmx100mm, with lid</td>
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Planning an Installation contd.

Bill of Materials contd.

- List all the horizontal duct components. List all the duct components for drop offs and feeds into racks.
- Review the items needed, from the plan, not forgetting extra joiners (5%), duct brackets mounting hardware and extra nuts & bolts.
- Include glue for sub floor mounting brackets (if no drilling is allowed on site).
Planning an Installation contd.

- **The construction plan**
- Confirm the site availability and access.
  Establish available working hours
  (are passes required ?, are there alarms etc?)
- Agreed timing schedules
  (allow for material delivery )
- Site specific requirements ie: power tools, union tickets, induction courses required?
Planning an Installation contd.
The Quote
Costing

- Materials
  Establish the material costs from BOM and relevant price lists.

- Labour: Confirm the duct path length and allow about 5 metres of duct per manhour.

- Overheads: Include travel, motel, meals etc.
The Quote

• Agree on the final specification & cost

• Submit the quote, with a plan and parts list, and agree with the customer on its suitability or any variations or special conditions.

• Delivery: Confirm product availability and delivery schedule.
Site Preparation
On arrival at installation site

- **Status checks / Variations**
- Ensure that nothing has changed from the agreed specification.
- Confirm that access and site work areas are OK.

- **Delivery status / Parts availability**
- Have all the components arrived?
  Check the Bill of Materials against the Delivery docket / packing list.
  The packing list itemizes all the individual components supplied.
INSTALLATION

Duct path

Confirm the duct path is clear, as per the plan & that the mounting positions are OK.

Fit the appropriate mounting hardware (ensure heights are level)

Break the job into manageable sections; that can be easily assembled and lifted into place.

Start, where possible, from one end and work along duct path snapping the duct and components together.
Lay out the first section on the floor below the mounting brackets to confirm the assembly dimensions.

Measure and mark the duct lengths required and the drop out positions (remember to allow 5mm for joiners).

Cut the ducting to length. (always use a mitre box to ensure a square cut)

Cut the duct lids to length. To save time, cut lids when cutting ducting lengths, remember to add an extra 5mm to lid lengths to allow for joiners on assembly.
Installation continued:

- Slot the shortened ducting.
  (Use of slotless joiners eliminates this action.)

- Where necessary cut out the segments for the drop offs.
  (Remember for 100mm drop outs etc, the large cut out tool is used.)

- Place ducting lengths in-situ using the “C” mounting brackets.
  (Do not tighten the bolts, as this makes it easier to click the components together.)
Installation continued:

- Complete the horizontal duct installation
- Fit the break outs to the racks, and the vertical components.
- Upon completion, tighten all the bolts etc. (Ensure ducting is at correct levels all over and that drop out positions are correct.)
- Clean the Ducting
  (Use only: * Isopropyl alcohol or mild soapy detergent solution.)
Acceptance Procedures

- Complete the Quality Checklist.
- Is the ducting clean?
- Are the lids fitted securely?
- Are the mounting brackets tight?
- Are the drop offs as per plan? (Fitted in Racks)
- Is the complete site clean? (Vacuum if necessary)
- Have we obtained client acceptance!
HANDS ON

• Try to:

• Use the small and large cut out tools
• Use the mitre box
• Use various slotting tools