## Pipework & Associated Equipment

- Service in suspended ceiling / roof void
- Service at high level
- Service at low level
- Service within duct / trench / floor void
- Drop in service
- Rise in service
- Trace heating
- Isolating valve ( globe / butterfly )
- Lockshield valve ( globe / butterfly )
- Ball valve
- Lockshield ball valve
- Double regulating valve ( globe or butterfly )
- Commissioning station ( globe or butterfly )
- Pressure tapped valve ( globe or butterfly )
- Globe valve
- Needle valve
- Orifice valve
- Stop-cock
- Non-return valve ( globe or wafer )
- Double check valve
- 3 Way vent cock
- Pressure relief valve
- Differential pressure control valve
- Pressure reducing valve
- 4-Port motorised valve
- 3-Port motorised valve
- 2-Port motorised valve ( glode or butterfly )
- 3-Port motorised rotating valve
- 2-Port motorised rotating valve
- Gas plug valve
- Gas solenoid valve
- Free-fall gas valve
- Strainer
- Strainer with drain cock
- Hose union drain cock
- Drain-off cock
- Metering station / Flow measurement device
- Test point

## Pipework & Associated Equipment

- Automatic air vent
- Flexible connection
- Expansion bellow (sleeved)
- Union
- Pipework anchors
- Pipework guide
- Puddle flange
- Safety valve
- Double safety valve
- Air bottle with manual vent
- Air purger (separator) with automatic air vent
- Air separator
- Air / dirt separator
- Pump
- Centrifugal pumps (twinhead)
- Single panel radiator
- Double panel radiator
- Trench / skirting heating
- Temperature gauge
- Pressure gauge
- Altitude gauge
- Differential pressure gauge
- Differential pressure switch
- Pressure switch
- Energy / heat meter
- Trapped tundish
- Running trap
- Integral pump changeover valve
- Float switch

## Ductwork & Associated Equipment

| Schematic Layout | Floor Plan Layout | |
|---|---|---|
| | | Attenuator |
| | | Fan coil unit — Model / No. of spigots depending on the manufacturer size / type |
| | | Toilet twinfan extract unit — Model depending on the manufacturer size / type |
| | | Centrifugal fan unit (supply or extract) — Model depending on the manufacturer size / type |
| | | Axial fan unit (supply or extract) — Model depending on the manufacturer size / type |
| | | Plenum box section |

## Ductwork & Associated Equipment

| Schematic Layout | Floor Plan Layout | |
|---|---|---|
| | | Volume control damper |
| | | Manual opposed blade damper |
| | | Fire damper |
| | | Motorised damper |
| | | Motorised smoke / fire damper |
| | | Non-return damper / back draft damper |
| | | Access panel |
| | | Flexible connection |
| fire rated | fire rated | 2 hr Fire rated ductwork (Where 4 hr rated or requirement for insulation this is noted on layout drawings) |
| lining acoustic | lining acoustic | Lining acoustic ductwork |
| | | Rectangle / square thermal insulation ductwork |
| | | Rectangle / square thermal insulation ductwork |
| | | Ductwork rise/drop to/from above |
| | | Ductwork drop/rise from/to below |
| | | Break or continuation of rectangle ductwork |
| | | Break or continuation of circular ductwork |
| set up | set up | Duct sets up (in direction of the air flow) |
| set down | set down | Duct sets down (in direction of the air flow) |
| | | Square bend with turning vanes |
| | | Twin bend with turning vanes |
| | | Supply grille |
| | | Extract / return air grille |
| | | Supply grille — Depending on the manufacturer grille/diffuser pattern |
| | | Extract / return air grille — Depending on the manufacturer grille/diffuser pattern |
| | | Circular diffuser (supply or extract) — Depending on the manufacturer grille/diffuser pattern |
| | | Extract valve diffuser — Depending on the manufacturer grille/diffuser pattern |
| | | Linear slot diffuser (supply or extract) — Depending on the manufacturer linear No. of slot diffuser pattern |
| | | Existing rectangle ductwork |
| | | Existing circular ductwork |

## Air Distribution Equipment References

| | |
|---|---|
| AHU xx/x | Air handling unit |
| ATT xx/x | Attenuator |
| CVR xx/x | Constant volume regulator |
| CB xx/x | Cooler battery |
| CC xx/x | Cooling coil |
| EG xx/x | Extract grille |
| HB xx/x | Heater battery |
| HC xx/x | Heating coil |
| LSD xx/x | Linear slot diffuser |
| MSFD xx/x | Motorised smoke / fire damper |
| MD xx/x | Motorised damper |
| PB xx/x | Plenum box |
| PRD xx/x | Pressure relief damper |
| STPR xx/x | Staircase pressurisation relief motorised damper |
| SG xx/x | Supply grille |
| VR xx/x | Variable volume regulator |

## Mechanical Equipment References

| | |
|---|---|
| B xx/x | Boiler |
| CH xx/x | Chiller |
| CU xx/x | Cooling unit |
| CT xx/x | Cooling tower |
| DU xx/x | De-aerator unit |
| DH xx/x | Door heater |
| DP xx/x | Dosing pot |
| FCU xx/x | Fan coil unit |
| FDF xx/x | Flue dilution fan |
| DS xx/x | Dirt separator |
| FCU xx/x | Fan coil unit |
| TH xx/x | Trench heating |
| PH xx/x | Perimeter heating |
| PU xx/x | Pressurisation unit |
| P xx/x | Pump |
| G xx/x | Generator (under electrical services) |
| SSF xx/x | Side stream filtration unit. |

## Mechanical Services Abbreviations

| | |
|---|---|
| HL | High level |
| LL | Low level |
| FB | From below |
| FA | From above |
| TB | To below |
| TA | To above |
| F | Flow |
| R | Return |
| OV | Open vent |
| CF | Cold feed |
| OF | Overflow |
| OV | Open vent |
| Cond | Condensate |
| HTG | Heating |
| CA | Compressed air |
| CW | Condenser water |
| CHW | Chilled water |
| G | Gas |
| LTHW | Low temperature hot water |
| LPHW | Low pressure hot water |
| CT | Constant temperature |
| VT | Variable temperature |
| HWS | Hot water services (under Public Health services) |
| fe | Feed and expansion |
| av | Air vent |
| aav | Automatic air vent |
| dc | Drain cock |
| doc | Drain off cock |
| hudc | Hose union drain cock |
| drv | Double regulating valve |
| iv | Isolating valve |
| gv | Gate valve |
| cs | Commissioning Station |
| glv | Globe valve |
| nv | Needle valve |
| ov | Orifice valve |
| bv | Ball valve (50mm dia. and under) |
| bfv | Butterfly isolating valve (65mm dia. and over) |
| mfv | Motorised fire valve |
| prv | Pressure reducing valve |
| dpcv | Differential pressure control valve |
| lav | Lockshield valve |
| lsbv | Lockshield ball valve |
| sc | Stop cock |
| sv | Safety valve |
| str | Strainer |
| dcv | Double check valve |
| fmd | Flow measurement device |
| n/c | Normally closed |
| n/o | Normally open |
| ms | Metering station |
| tp | Test point |
| 2pmv | 2 Port motorised valve |
| 3wvc | 3 Way vent cock |
| 3pmv | 3 Port motorised valve |
| 4pmv | 4 Port motorised valve |
| vcd | Volume control damper |
| tv | Turning vane |
| fc | Flexible connection |

7448/200 00

Do not scale from this drawing.

Verify dimensions by site measurement.

Read this drawing in conjunction with the latest architectural and structural drawings.

This drawing is based on the following information:-

## Notes.

1. This is a standard drawing. reference to be made to symbols as applicable.

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# TENDER DRAWING

| Revision | Date | Description | Initials | Checke |
|---|---|---|---|---|
| 00 | 26.06.09 | Tender Issue | JMacP. | MS |

HILSON MORAN

HILSON MORAN PARTNERSHIP LIMITED • CONSULTING ENGINEERS

Farnborough: T: + 44(0) 1252 550 500 F: + 44(0) 1252 550 501
London: T: + 44(0) 20 7940 8888 F: + 44(0) 20 7940 8801
Manchester: T: + 44(0) 161 876 4890 F: + 44(0) 161 877 4989

Client/Project

**Pall Mall Court, 67 King St. Manchester LTHW Radiator Pipework Replacement Phase 1.**

Title

**Mechanical Services Symbol - Legend**

| | | | |
|---|---|---|---|
| Drawn | PDEC | Checked MS | Approved SER |
| Date | June 2009 | Sheet Size A1 | Scale NTS |
| HMP Drawing Number | | File Ref: 7448-200-00.dwg | Revision |