

12.0 Bill of quantities: Ventilation System					
Item Number	Description	Quantity	Unit	Rate € (Excluding VAT)	Total € (Excluding VAT)
	BASEMENT FLOOR LEVEL				
	Supply and install the following ventilation fans. Each fan shall be complete with 2 in No. unpodded silencers, speed controller, flexible couplings, matching flanges, backdraft damper and anti vibration mountings as specified.				
	Inline Axial Type Extractor Fan Fire Rated as specified.				
12.01	EXT 1 - In-line axial type fan, as specified [800m3/hr @ 150Pa]	1	No.		€ -
	Supply and install the following ductwork:				
	Galvanised steel ducting. This item includes any bends, offsets, reduction, flexible ducting and other fittings as required, exhaust duct with wire guard mesh and also the supports as specified.				
12.02	250x150mm	20	m		€ -
12.03	250x200mm	25	m		€ -
	Supply, deliver to site and install linear fixed blades exhaust grilles complete with opposed blade dampers:				
12.04	250x150mm	4	No.		€ -
	Supply, deliver to site and install wire mesh screen and weather louvers as specified:				
12.05	To fit over 250x200mm ducting	1	No.		€ -
	Supply, deliver to site, install, test and commission:				
12.06	Wiring including any necessary conduit, fittings etc. between the power supply point (switch disconnecter by others) and the respective fan. Quote lum sum for all fans.	1	Lump Sum		€ -
	GROUND FLOOR LEVEL				
	Supply, deliver to site, install, test and commission mechanical ventilation heat recovery units, sound attenuators, speed controllers, flexible connections, matching flanges, anti vibration mountings and filters. Filter shall be mounted on withdrawable frame and shall be of the washable type. [Each filter selection shall match duty of fresh air fan]. External break out noise level 40dBA @ 3m. Measures must be taken to attain the above captioned SPL. Alternative construction materials will be considered. Pressure drop across filters & silencers excluded from the quoted ESPs. Duty nominal and fan must be suitable of delivering +15% additional flow.				
12.07	Mechanical ventilation heat recovery unit as specified with duty at normal working speed. HRU/01 - 300m3/hr @ 150Pa.	1	No.		€ -
Total carried forward to next page					€ -

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Total brought forward from previous page					€ -
	Supply and install the following ventilation fans. Each fan shall be complete with 2 in No. unpodded silencers, speed controller, flexible couplings, matching flanges, backdraft damper and anti vibration mountings as specified.				
	Inline Axial Type Extractor Fan as specified.				
12.08	EXT 2 - In-line axial type fan, as specified [2,160m3/hr @ 150Pa]	1	No.		€ -
	Supply and install the following ductwork:				
	20mm ducting clad with 80µm embossed aluminium covering. This item includes any bends, offsets, reduction, flexible ducting and other fittings as required, exhaust duct with wire guard mesh and also the supports as specified.				
12.09	120x100mm	25	m		€ -
12.10	140x130mm	30	m		€ -
12.11	160x150mm	35	m		€ -
12.12	350x200mm	20	m		€ -
12.13	450x250mm	20	m		€ -
	Supply and install the following:				
	Linear fixed blades supply grilles complete with opposed blade dampers:				
12.14	200x100mm	1	No.		€ -
12.15	250x100mm	2	No.		€ -
	Linear fixed blades exhaust grilles complete with opposed blade dampers:				
12.16	200x100mm	1	No.		€ -
12.17	250x100mm	2	No.		€ -
12.18	600x300mm	2	No.		€ -
	Supply, deliver to site and install wire mesh screen and weather louvers as specified:				
12.19	To fit over 160x150mm ducting	2	No.		€ -
12.20	To fit over 450x250mm ducting	1	No.		€ -
	FIRST FLOOR LEVEL				
	Supply, deliver to site, install, test and commission mechanical ventilation heat recovery units, sound attenuators, speed controllers, flexible connections, matching flanges, anti vibration mountings and filters. Filter shall be mounted on withdrawable frame and shall be of the washable type. [Each filter selection shall match duty of fresh air fan]. External break out noise level 40dBA @ 3m. Measures must be taken to attain the above captioned SPL. Alternative construction materials will be considered. Pressure drop across filters & silencers excluded from the quoted ESPs. Duty nominal and fan must be suitable of delivering +15% additional flow.				
12.21	Mechanical ventilation heat recovery unit as specified with duty at normal working speed. HRU/02 - 620m3/hr @ 150Pa.	1	No.		€ -
Total carried forward to next page					€ -

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Item Number	Description	Quantity	Unit	Rate € (Excluding VAT)	Total € (Excluding VAT)
Total brought forward from previous page					€ -
	Supply and install the following ductwork:				
	<i>20mm ducting clad with 80µm embossed aluminium covering. This item includes any bends, offsets, reduction, flexible ducting and other fittings as required, exhaust duct with wire guard mesh and also the supports as specified.</i>				
12.22	160x120mm	25.00	m		€ -
12.23	200x140mm	35.00	m		€ -
12.24	200x150mm	25.00	m		€ -
12.25	250x180mm	35.00	m		€ -
	Linear fixed blades supply grilles complete with opposed blade dampers:				
12.26	200x100mm	1.00	No.		€ -
12.27	250x150mm	3.00	No.		€ -
	Linear fixed blades exhaust grilles complete with opposed blade dampers:				
12.28	200x100mm	1.00	No.		€ -
12.29	250x150mm	3.00	No.		€ -
	Supply and install the following volume control dampers				
	VCD of the opposed blade type complete with indicator				
12.30	160x120mm	2.00	No.		€ -
12.31	200x150mm	2.00	No.		€ -
	Supply, deliver to site and install wire mesh screen and weather louvers as specified:				
12.32	To fit over 250x180mm ducting	2.00	No.		€ -
SECOND FLOOR LEVEL					
	Supply, deliver to site, install, test and commission mechanical ventilation heat recovery units, sound attenuators, speed controllers, flexible connections, matching flanges, anti vibration mountings and filters. Filter shall be mounted on withdrawable frame and shall be of the washable type. [Each filter selection shall match duty of fresh air fan]. External break out noise level 40dBA @ 3m. Measures must be taken to attain the above captioned SPL. Alternative construction materials will be considered. Pressure drop across filters & silencers excluded from the quoted ESPs. Duty nominal and fan must be suitable of delivering +15% additional flow.				
12.33	Mechanical ventilation heat recovery unit as specified with duty at normal working speed. HRU/03 - 600m ³ /hr @ 150Pa.	1	No.		€ -
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Total brought forward from previous page					€ -
	Supply and install the following ductwork:				
	<i>20mm ducting clad with 80µm embossed aluminium covering. This item includes any bends, offsets, reduction, flexible ducting and other fittings as required, exhaust duct with wire guard mesh and also the supports as specified.</i>				
12.34	160x120mm	25.00	m		€ -
12.35	200x140mm	35.00	m		€ -
12.36	200x150mm	25.00	m		€ -
12.37	250x180mm	35.00	m		€ -
	Linear fixed blades supply grilles complete with opposed blade dampers:				
12.38	200x100mm	1.00	No.		€ -
12.39	200x150mm	1.00	No.		€ -
12.40	250x150mm	2.00	No.		€ -
	Linear fixed blades exhaust grilles complete with opposed blade dampers:				
12.41	200x100mm	1.00	No.		€ -
12.42	200x150mm	1.00	No.		€ -
12.43	250x150mm	2.00	No.		€ -
	Supply and install the following volume control dampers				
	VCD of the opposed blade type complete with indicator				
12.44	160x120mm	2.00	No.		€ -
12.45	200x150mm	2.00	No.		€ -
	Supply, deliver to site and install wire mesh screen and weather louvers as specified:				
12.46	To fit over 250x180mm ducting	2.00	No.		€ -
	THIRD FLOOR LEVEL				
	Supply, deliver to site, install, test and commission mechanical ventilation heat recovery units, sound attenuators, speed controllers, flexible connections, matching flanges, anti vibration mountings and filters. Filter shall be mounted on withdrawable frame and shall be of the washable type. [Each filter selection shall match duty of fresh air fan]. External break out noise level 40dBA @ 3m. Measures must be taken to attain the above captioned SPL. Alternative construction materials will be considered. Pressure drop across filters & silencers excluded from the quoted ESPs. Duty nominal and fan must be suitable of delivering +15% additional flow.				
12.47	Mechanical ventilation heat recovery unit as specified with duty at normal working speed. HRU/04 - 850m3/hr @ 320Pa.	1	No.		€ -
Total carried forward to next page					€ -

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Total brought forward from previous page					€ -
	Supply and install the following ductwork:				
	<i>20mm ducting clad with 80µm embossed aluminium covering. This item includes any bends, offsets, reduction, flexible ducting and other fittings as required, exhaust duct with wire guard mesh and also the supports as specified.</i>				
12.48	200x140mm	35.00	m		€ -
12.49	200x150mm	25.00	m		€ -
12.50	200x180mm	35.00	m		€ -
12.51	300x200mm	35.00	m		€ -
	Linear fixed blades supply grilles complete with opposed blade dampers:				
12.52	200x100mm	1.00	No.		€ -
12.53	200x150mm	2.00	No.		€ -
12.54	450x200mm	1.00	No.		€ -
	Linear fixed blades exhaust grilles complete with opposed blade dampers:				
12.55	200x100mm	1.00	No.		€ -
12.56	200x150mm	2.00	No.		€ -
12.57	450x200mm	1.00	No.		€ -
	Supply and install the following volume control dampers				
	VCD of the opposed blade type complete with indicator				
12.58	200x150mm	2.00	No.		€ -
12.59	200x180mm	2.00	No.		€ -
	Supply, deliver to site and install wire mesh screen and weather louvers as specified:				
12.60	To fit over 300x200mm ducting	2.00	No.		€ -
	FOURTH FLOOR LEVEL				
	Supply, deliver to site, install, test and commission mechanical ventilation heat recovery units, sound attenuators, speed controllers, flexible connections, matching flanges, anti vibration mountings and filters. Filter shall be mounted on withdrawable frame and shall be of the washable type. [Each filter selection shall match duty of fresh air fan]. External break out noise level 40dBA @ 3m. Measures must be taken to attain the above captioned SPL. Alternative construction materials will be considered. Pressure drop across filters & silencers excluded from the quoted ESPs. Duty nominal and fan must be suitable of delivering +15% additional flow.				
12.61	Mechanical ventilation heat recovery unit as specified with duty at normal working speed. HRU/05 - 550m3/hr @ 150Pa.	1	No.		€ -
Total carried forward to next page					€ -

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Total brought forward from previous page					€ -
	Supply and install the following ductwork:				
	<i>20mm ducting clad with 80µm embossed aluminium covering. This item includes any bends, offsets, reduction, flexible ducting and other fittings as required, exhaust duct with wire guard mesh and also the supports as specified.</i>				
12.62	200x200mm	25.00	m		€ -
	Linear fixed blades supply grilles complete with opposed blade dampers:				
12.63	500x200mm	1.00	No.		€ -
	Linear fixed blades exhaust grilles complete with opposed blade dampers:				
12.64	500x200mm	1.00	No.		€ -
	Supply, deliver to site and install wire mesh screen and weather louvers as specified:				
12.65	To fit over 200x200mm ducting	2.00	No.		€ -
	BATHROOMS				
	Supply, deliver to site and install the following:				
12.66	In-line axial extractor complete with ducting, one in number 100mm diameter circular grille and weather louver. Fan shall have a duty of 100m3/hr at 100Pa. Max.noise level: 45dB(A) @ 1m.	4	Lump Sum		€ -
	Supply, deliver to site, install, test and commission:				
12.67	Wiring including any necessary conduit, fittings etc. between the power supply point (switch disconnector by others) and the repsective fan. Quote lum sum for all fans.	1	Lump Sum		€ -
	Supply, install, test and commission:				
12.68	Control Panel to control all the fans and HRUs. All fans and HRUs shall come complete with speed controllers housed in a common control panel having: - Start Stop buttons; - Run/Trip Indications; - Overload; - Pot for speed control adjustment. [All wiring for the control panel to be included in this bill item]	1	Lump Sum		€ -
	GENERAL				
	Electrical supply				
12.69	Wiring including any necessary conduit, fittings etc. between the power supply points and the equipment.	1	Lump Sum		€ -
	Civil works				
12.70	This item includes drilling of holes through walls, floors and ceilings, chasing if and when required and support of equipment including the installation of RSJ's for the outdoor units. Contractor is expected to allow for a contingency sum for such works.	1	Lump Sum		€ -
	Finishing/commissioning/documentation				
12.71	Test and commission the entire ventilation system	1	Lump Sum		€ -
12.72	Provide 'As fitted drawings' in the form of three sets of prints and one copy on CD-ROM.	1	Lump Sum		€ -
Total carried forward to Item 12.0 in Summary Page					€ -