

12.0 Bill of quantities: Ventilation System

Item Number	Description	Quantity
	BASEMENT FLOOR LEVEL	
	<i>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.</i>	
	Inline Axial Type Extractor Fan Fire Rated as specified.	
12.01	EXT 1 - In-line axial type fan, as specified [800m ³ /hr @ 150Pa]	1
	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
12.03	250x200mm	25
	Supply, deliver to site and install linear fixed blades exhaust grilles complete with opposed blade dampers:	
12.04	250x150mm	4
	Supply, deliver to site and install wire mesh screen and weather louvers as specified:	
12.05	To fit over 250x200mm ducting	1
	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
	GROUND FLOOR LEVEL	
	<i>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.</i>	
12.07	Mechanical ventilation heat recovery unit as specified with duty at normal working speed. HRU/01 - 300m ³ /hr @ 150Pa.	1
	<i>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.</i>	

	Inline Axial Type Extractor Fan as specified.	
12.08	EXT 2 - In-line axial type fan, as specified [2,160m ³ /hr @ 150Pa]	1
	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
12.10	140x130mm	30
12.11	160x150mm	35
12.12	350x200mm	20
12.13	450x250mm	20
	Supply and install the following:	
	Linear fixed blades supply grilles complete with opposed blade dampers:	
12.14	200x100mm	1
12.15	250x100mm	2
	Linear fixed blades exhaust grilles complete with opposed blade dampers:	
12.16	200x100mm	1
12.17	250x100mm	2
12.18	600x300mm	2
	Supply, deliver to site and install wire mesh screen and weather louvers as specified:	
12.19	To fit over 160x150mm ducting	2
12.20	To fit over 450x250mm ducting	1
	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 - 620m ³ /hr @ 150Pa.	1
	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.	
12.22	160x120mm	25.00
12.23	200x140mm	35.00
12.24	200x150mm	25.00
12.25	250x180mm	35.00
	Linear fixed blades supply grilles complete with opposed blade dampers:	
12.26	200x100mm	1.00
12.27	250x150mm	3.00
	Linear fixed blades exhaust grilles complete with opposed blade dampers:	
12.28	200x100mm	1.00
12.29	250x150mm	3.00
	Supply and install the following volume control dampers	
	VCD of the opposed blade type complete with indicator	
12.30	160x120mm	2.00
12.31	200x150mm	2.00
	Supply, deliver to site and install wire mesh screen and weather louvers as specified:	
12.32	To fit over 250x180mm ducting	2.00
	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

	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.	
12.34	160x120mm	25.00
12.35	200x140mm	35.00
12.36	200x150mm	25.00
12.37	250x180mm	35.00
	Linear fixed blades supply grilles complete with opposed blade dampers:	
12.38	200x100mm	1.00
12.39	200x150mm	1.00
12.40	250x150mm	2.00
	Linear fixed blades exhaust grilles complete with opposed blade dampers:	
12.41	200x100mm	1.00
12.42	200x150mm	1.00
12.43	250x150mm	2.00
	Supply and install the following volume control dampers	
	VCD of the opposed blade type complete with indicator	
12.44	160x120mm	2.00
12.45	200x150mm	2.00
	Supply, deliver to site and install wire mesh screen and weather louvers as specified:	
12.46	To fit over 250x180mm ducting	2.00
	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 - 850m ³ /hr @ 320Pa.	1

	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.	
12.48	200x140mm	35.00
12.49	200x150mm	25.00
12.50	200x180mm	35.00
12.51	300x200mm	35.00
	Linear fixed blades supply grilles complete with opposed blade dampers:	
12.52	200x100mm	1.00
12.53	200x150mm	2.00
12.54	450x200mm	1.00
	Linear fixed blades exhaust grilles complete with opposed blade dampers:	
12.55	200x100mm	1.00
12.56	200x150mm	2.00
12.57	450x200mm	1.00
	Supply and install the following volume control dampers	
	VCD of the opposed blade type complete with indicator	
12.58	200x150mm	2.00
12.59	200x180mm	2.00
	Supply, deliver to site and install wire mesh screen and weather louvers as specified:	
12.60	To fit over 300x200mm ducting	2.00
	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 - 550m ³ /hr @ 150Pa.	1

	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.	
12.62	200x200mm	25.00
	Linear fixed blades supply grilles complete with opposed blade dampers:	
12.63	500x200mm	1.00
	Linear fixed blades exhaust grilles complete with opposed blade dampers:	
12.64	500x200mm	1.00
	Supply, deliver to site and install wire mesh screen and weather louvers as specified:	
12.65	To fit over 200x200mm ducting	2.00
	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 100m ³ /hr at 100Pa. Max.noise level: 45dB(A) @ 1m.	4
	Supply, deliver to site, install, test and commission:	
12.67	Wiring including any necessary conduit, fittings etc. between the power supply point (switch disconnecter by others) and the repsective fan. Quote lum sum for all fans.	1
	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
	GENERAL	
	Electrical supply	
12.69	Wiring including any necessary conduit, fittings etc. between the power supply points and the equipment.	1
	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
	Finishing/commissioning/documentation	
12.71	Test and commission the entire ventilation system	1
12.72	Provide 'As fitted drawings' in the form of three sets of prints and one copy on CD-ROM.	1