FINAL PROTOCOL WORKSHEET for Ventilation Systems: DESIGN
Supply- / Extract-Air Ventilation System with Heat Recovery

Project		Ventilation Planning	
Object:	Martin Residence	Company:	Sustainable Engineering Ltd
Location Street, No.:		Person in Charge:	Jason Quinn
Location Postcode, Town		Street, No.:	
Building Owner Name:		Postcode, City:	
Building Owner Phone No.:		Phone No.:	
Year of Construction	2020	Date:	
		Signature:	

Standard use or special requirements:

Dimensioning of the ventilation system according to standard use conditions

2. Criteria for dimensioning the airflow volumes

	reference values			number			resulting starting values	
fresh air demand:								
per person:	30	m³/h	x	2	=	60.0 m³/h	60.0	m³/h
extract air demand:								
kitchens:	60	m³/h	x	1	=	60.0 m³/h		
bathrooms, utility rooms etc.:	40	m³/h	x	2	=	80.0 m³/h		
WC, storage, etc.:	20	m³/h	x	1	=	20.0 m³/h		
					sum:	m³/h	160.0	m³/h

starting value nominal airflow (standard operation): 60.0 m³/h

3. Distribution of the airflow volume flow rate

Nr.	Room (each valve individually)	Area A m²	Clear Height h m	Room Volume A x h m³	V_{SU} m³/h	V_{EX} m³/h	$V_{THROUGH}$ m³/h	Air Change Rate n 1/h	Type of Flow-Off Vent (door gap, grid in door leaf door frame, valve …)
1	Dining Room	12.88	2.50	32.2	10			0.31	
2	Master Bedroom	16.42	2.50	41.1	20			0.49	door gap
3	Bedroom 1	16.41	2.50	41.0	20			0.49	door gap
4	Bedroom 2	16.41	2.50	41.0	20			0.49	door gap
5	Living Room	21.51	2.50	53.8	18			0.33	door gap
6	Lobby	3.51	2.50	8.8			10	1.14	
7	Kitchen	12.88	2.50	32.2		30		0.93	
8	Bath 1	6.98	2.50	17.5		25		1.43	door gap
9	Bath 2	4.53	2.50	11.3		20		1.77	door gap
10	Laundry	5.00	2.50	12.5		17		1.36	door gap
11	Entry	5.23	2.50	13.1	4			0.31	door gap
12									
13									
14									
15									
16									
17									
18									
19									
20									
	sum:	121.76	---	304.40	92.0	92.0	---	0.30	

4. Adjusted airflow volumes, control range

base ventilation:	70.8	m³/h	at least 30% below nominal airflow volume
nominal airflow volume:	92.0	m³/h	fresh air demand, at least 0.3-fold air change rate
peak ventilation:	119.6	m³/h	at least 30% above nominal airflow volume
ventilated area:	121.8	m²	
ventilated volume:	304.4	m³	
nominal airflow volume, sum:	0.3	1/h	

5. Efficiency requirements

ventilation unit (manufacturer, product):	02ud-Zehnder ComfoAir Q350		
efficiency of heat recovery:	90	%	(according to PHI testing method for the PHPP)
max. power consumption in nominal operating mode:	0.24	W	(for fans and control)

6. Requirements for noise protection

A-weighted noise pressure level of the unit in the living space:	25	dB(A)
A-weighted noise pressure level of the unit in the installation room:	35	dB(A)

7. Hygienic requirements

fresh air filter:	**F7**	first link in the chain, if applicable before subsoil heat exchanger
extract air filter:	**G3**	at least bathroom and laundry rooms; recommendation: all extract

FINAL PROTOCOL WORKSHEET for Ventilation Systems: Initial Start-up
Supply- / Extract-Air Ventilation System with Heat Recovery

Project		Initial Start-up		Ventilation System	
Object:	Martin Residence	Company:	Sustainable Engineering Ltd	Manufacturer:	
Location Street, No.:	0	Person in Charge:	Jason Quinn	Product Name:	
Location Postcode, Town	0	Street, No..:		Unit No.:	
Building Owner Name:	0	Postcode, City:		Control No.:	
Building Owner Phone No.:	0	Phone No.:			
Year of Construction	2020	Date:			

1. Record of the air flow volumes, supply and extract air

Nr.	Room	Design			Measurement 1		Measurment 2		Measurement 3		Type of Valve	Adjustment	Flow-Through	Noise	Filter Grade	Filter Clean?
		V_{SU}	V_{EX}	$V_{THROUGH}$	V_{SU}	V_{EX}	V_{SU}	V_{EX}	V_{SU}	V_{EX}			$V_{THROUGH}$			
		m³/h	m³/h	m³/h	m³/h	m³/h	m³/h	m³/h	m³/h	m³/h			m/s	dB(A)		
1	Dining Room	10														yes / no
2	Master Bedroom	20														yes / no
3	Bedroom 1	20														yes / no
4	Bedroom 2	20														yes / no
5	Living Room	18														yes / no
6	Lobby			10												yes / no
7	Kitchen		30													yes / no
8	Bath 1		25													yes / no
9	Bath 2		20													yes / no
10	Laundry		17													yes / no
11	Entry	4														yes / no
12																yes / no
13																yes / no
14																yes / no
15																yes / no
16																yes / no
17																yes / no
18																yes / no
19																yes / no
20																yes / no
	sum:	92.00	92.00	---									---	---	---	---

2. Balance of airflow volume

				Measurement 1		Measurement 2		Measurement 3		Disbalance	Type of Control	Adjustment	Noise	Filter Grade	Filter Clean?
				V_{AUL}	V_{FOL}	V_{AUL}	V_{FOL}	V_{AUL}	V_{FOL}				Measurement		
				m³/h	m³/h	m³/h	m³/h	m³/h	m³/h				dB(A)		
1	fresh air inlet			92	---		---		---	0%					yes / no
2	exhaust air outlet			---	92	---		---						–	yes / no

3. Initial start-up accomplished according to manufacturer's specifications:

yes / no

Signature: ……………………………………………………………………………………..