

All Areas		The middle East	
Europe	⊙	Southeast Asia	
Australia		Africa	
Others (50Hz areas)			

ADVANCED PRODUCT NEWS

SUBJECT

Advanced Product News. Launching of new ventilation systems 3E Series: KPI and Active KPI

DATE: Feb-12

PAGE 1/39

Summary

This Advanced Products News introduces the updating of Hitachi Ventilation systems, by the launching of new Active KPI (Energy Recovery Ventilation units including a direct expansion coil) and the new series of already existing KPI (Energy/Heat Recovery Ventilation units).

The details are indicated in the description.

Index

1. Unit Codes & Description
2. System Description
3. Features & Benefits
 - 3.1. Harmonized fans with new EuP Lot11 regulation **NEW**
 - 3.2. Noise reduction **NEW**
 - 3.3. EC fans: Reduced fan power input **NEW**
 - 3.4. High-efficiency filter accessory **NEW**
 - 3.5. Insulations classified as M1 **NEW**
 - 3.6. Automatic ventilation by CO₂ sensor **NEW**
 - 3.7. Suitable fan pressure setting **NEW**
 - 3.8. Electric-heater installation **NEW**
 - 3.9. Three different ventilation modes
 - 3.10. Un-balancing of the ventilation for room pressurization
 - 3.11. Fan stoppage delay function **NEW**
 - 3.12. Energy Recovery series vertical installation **NEW**
4. Active KPI combinability
5. Control specification
 - 5.1. Active KPI capacity demand control
 - 5.2. Main optional functions
6. Specifications
 - 6.1. General Data
 - 6.2. Electrical Data
 - 6.3. Fan Performance
 - 6.4. Dimensional Drawings
 - 6.5. Electrical Wiring Diagram

HITACHI

Distributed to C Areas:

All Areas		The middle East	
Europe	⊙	Southeast Asia	
Australia		Africa	
Others (50Hz areas)			

ADVANCED PRODUCT NEWS

SUBJECT

Advanced Product News. Launching of new ventilation systems 3E Series: KPI and Active KPI

DATE: Feb-12

PAGE 2/39

1. Unit Codes & Description

Discontinued models

Series	Model Code	Description	Date of Terminate
Energy Recovery	70601000	KPI-252E2E	May '12 (Units available under special request till Dec'12)
	70601001	KPI-502E2E	
	70601002	KPI-802E2E	
	70601003	KPI-1002E2E	
	70601004	KPI-1502E2E	
	70601005	KPI-2002E2E	
Heat Recovery	70601101	KPI-502H2E	
	70601102	KPI-802H2E	
	70601103	KPI-1002H2E	
	70601104	KPI-1502H2E	
	70601105	KPI-2002H2E	
	70601107	KPI-3002H2E	Dec'12

New models

Series	Model Code	Description	Date of Sales
Energy Recovery	70602000	KPI-252E3E	Jun '12
	70602001	KPI-502E3E	
	70602002	KPI-802E3E	
	70602003	KPI-1002E3E	
	70602004	KPI-1502E3E	
	70602005	KPI-2002E3E	
Heat Recovery	70602101	KPI-502H3E	
	70602102	KPI-802H3E	
	70602103	KPI-1002H3E	
	70602104	KPI-1502H3E	
	70602105	KPI-2002H3E	
Active (Energy Recovery +Dx section)	70602201	KPI-502X3E	
	70602202	KPI-802X3E	
	70602203	KPI-1002X3E	

Hitachi Air Conditioning Products Europe, S. A.
Barcelona (Spain)

No

APN-2011027

All Areas		The middle East	
Europe	⊙	Southeast Asia	
Australia		Africa	
Others (50Hz areas)			

ADVANCED PRODUCT NEWS

SUBJECT

Advanced Product News. Launching of new ventilation systems 3E Series: KPI and Active KPI

DATE: Feb-12

PAGE 3/39

Sound Attenuator Accessory

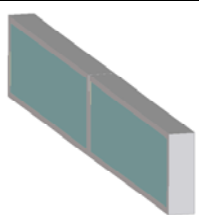
For installations where a reduction of the sound level is required, it is offered a sound attenuator to be connected directly on the unit duct adapter. An average reduction of 5 dB(A) is obtained in the discharge section (sound attenuation level in the field may vary depending on real installation specifications).

	Model Description	Code	
KPI-502	SLT-30-200-L600	70550200	
KPI-802	SLT-30-250-L600	70550201	
KPI-1002	SLT-30-300-L600	70550202	
KPI-1502	SLT-30-355-L600	70550203	
KPI-2002			

Note: Sound attenuator accessory is not available for KPI-252E3E model.

High Efficiency Filter Accessory

This filter, classified as F7 based on EN779, is available for installations where an additional filtration section is necessary to ensure a high quality air indoors, reducing the effects of external pollution.

	Model Description	Code	
KPI-252E3E	HEF-252	70552201	
KPI-502(E/H/X)3E	HEF-502	70552202	
KPI-802(E/H/X)3E	HEF-802	70552203	
KPI-1002(E/H/X)3E	HEF-1002	70552204	
KPI-1502(E/H)3E	HEF-1502	70552205	
KPI-2002(E/H)3E	HEF-2002	70552206	

Celluloid Heat Exchanger

Once installed the transformation from a Heat Recovery unit to an Energy Recovery unit is allowed by the direct change of the heat exchanger element. The change can be done by the main service cover without uninstalling the unit.

Note: The change from an Energy Recovery series unit to its Heat Recovery series equivalent unit is not allowed.

ADVANCED PRODUCT NEWS

SUBJECT

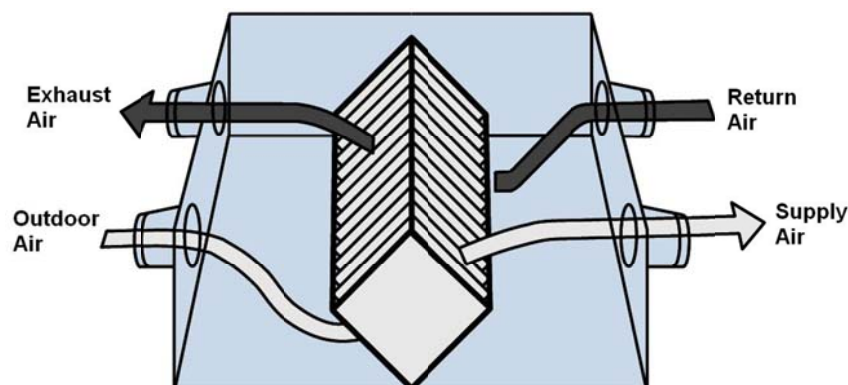
Advanced Product News. Launching of new ventilation systems 3E Series: KPI and Active KPI

DATE: Feb-12

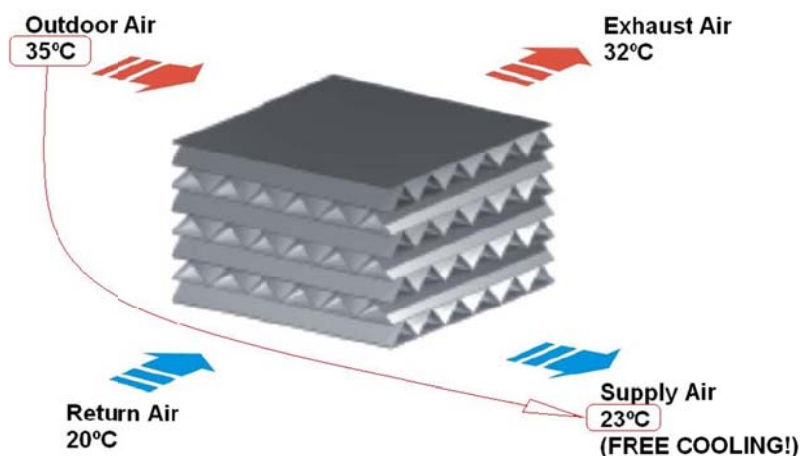
PAGE 4/39

2. System Description

A KPI is a ventilation unit designed to renew the air from a room or area taking out the exhaust air and supplying fresh outdoor air, increasing then the indoor air quality. To reduce the effect of supplying outdoor air in a conditioned room where a big temperature gap exists between indoors and outdoors, the KPI exchanges temperature and humidity between inlet and outlet air streams, approaching supply air conditions to indoor conditions. The result is an indoor air renovation with a significant reduction of the refrigeration load that would be necessary to compensate the outdoor air supply.



The responsible part of the exchange between both streams is the heat exchanger. The heat exchanger is a cross-flow sheet made of ultra-thin celluloid material (Energy Recovery) or of aluminium (Heat Recovery) that allows an energy exchange (temperature and humidity in case of Energy Recovery; only temperature in case of Heat Recovery) by crossing both streams. The air streams are never mixed.



The main benefit of a KPI unit versus other ventilation systems is the free conditioning of fresh air, reducing the air conditioning system demand.

HITACHI

Distributed to C Areas:

All Areas		The middle East	
Europe	⊙	Southeast Asia	
Australia		Africa	
Others (50Hz areas)			

ADVANCED PRODUCT NEWS

SUBJECT

Advanced Product News. Launching of new ventilation systems 3E Series: KPI and Active KPI

DATE: Feb-12

PAGE 5/39

On the other hand, the Active KPI, based in a KPI structure, includes an additional air treatment stage before SA section. This section includes a direct expansion valve coil, what makes possible the adaptation of the supply air to indoor air conditions, avoiding the inconvenient effect of air supply at a different temperature.

2.1. Energy Saving by KPI free-cooling/heating performance

Next example considers a KPI-1002E3E working at its nominal air flow:

Cooling Season calculation

Cooling season calculation															
	Supply air without KPI		Working hours per year (based on EN14825)	Indoor nominal temperature (°C-DB)	Indoor nominal RH	Capacity demand to recover ventilation effect without KPI	Sensible cooling capacity demand to recover ventilation effect without KPI	Supply air with KPI		Capacity demand to recover ventilation effect with KPI	Sensible cooling capacity demand to recover ventilation effect with KPI				
	OA Temp. (°C-DB)	OA Enthalpy (kJ/kg)						SA Temp (°C-DB)	SA Enthalpy (kJ/kg)						
COOLING SEASON	40	88,6	0	27	47%	10,78	4,09	29,9	67,2	4,28	0,94				
	39	84,9	1			9,67	3,79	29,6	65,8	3,83	0,87				
	38	81,4	3			8,59	3,48	29,4	64,5	3,39	0,80				
	37	78,0	4			7,55	3,18	29,2	63,2	2,97	0,72				
	36	74,7	9			6,54	2,87	29,0	62,0	2,56	0,65				
	35	71,6	13			5,56	2,56	28,8	60,8	2,17	0,58				
	34	68,5	17			4,60	2,25	28,5	59,6	1,79	0,51				
	33	65,6	24			3,67	1,93	28,3	58,5	1,42	0,43				
	32	62,7	31			2,77	1,62	28,1	57,4	1,07	0,36				
	31	60,0	39			1,89	1,30	27,9	56,4	0,73	0,29				
	30	57,3	63			1,04	0,98	27,7	55,4	0,40	0,22				
	29	54,8	88			0,20	0,65	27,4	54,4	0,08	0,14				
	28	52,3	109			0,61	0,33	27,2	53,4	0,23	0,07				
	27	49,9	137			1,40	0,00	27,0	52,5	0,53	0,00				
	26	47,5	158			2,17	0,33	26,8	51,6	0,82	0,07				
	25	45,3	178			2,92	0,66	26,6	50,8	1,10	0,14				
	24	43,1	197			3,66	1,00	26,3	49,9	1,38	0,22				
	23	40,9	218			4,38	1,33	26,1	49,1	1,64	0,29				
	22	38,9	215			5,08	1,67	25,9	48,3	1,90	0,36				
	21	36,8	216			5,77	2,01	25,7	47,6	2,15	0,43				
	20	34,9	225			6,45	2,35	25,5	46,8	2,39	0,51				
	19	33,0	228			7,11	2,70	25,2	46,1	2,63	0,58				
	18	31,1	227			7,76	3,05	25,0	45,4	2,86	0,65				
	17	29,3	205			8,40	3,40	24,8	44,7	3,09	0,72				
						12.274	4.402	Kwh	4.575			950	Kwh		

-63% less total cooling demand
-78% less sensible cooling demand

Heating Season calculation

Heating Season Calculation																
	Supply air without KPI		Working hours per year (based on EN14825)	Indoor nominal temperature (°C-DB)	Indoor nominal RH	Capacity demand to recover ventilation effect without KPI	Sensible heating capacity demand to recover ventilation effect without KPI	Supply air with KPI		Capacity demand to recover ventilation effect with KPI	Sensible heating capacity demand to recover ventilation effect with KPI					
	OA Temp. (°C-DB)	OA Enthalpy (kJ/kg)						SA Temp (°C-DB)	SA Enthalpy (kJ/kg)							
HEATING SEASON	-10	-6,9	1	20	60%	18,19	11,20	13,4	26,4	5,25	2,22					
	-9	-5,5	25			17,63	10,79	13,6	26,9	5,10	2,35					
	-8	-4,2	23			17,07	10,38	13,8	27,3	4,96	2,07					
	-7	-2,7	24			16,50	9,98	14,1	27,8	4,81	2,00					
	-6	-1,3	27			15,92	9,58	14,3	28,2	4,65	1,92					
	-5	0,1	68			15,34	9,18	14,5	28,7	4,50	1,85					
	-4	1,6	91			14,74	8,78	14,7	29,2	4,34	1,78					
	-3	3,2	89			14,14	8,39	14,9	29,6	4,17	1,70					
	-2	4,7	165			13,53	8,00	15,2	30,1	4,01	1,63					
	-1	6,3	173			12,91	7,61	15,4	30,7	3,84	1,55					
	0	8,0	240			12,27	7,22	15,6	31,2	3,66	1,48					
	1	9,6	280			11,63	6,83	15,8	31,7	3,48	1,41					
	2	11,4	320			10,98	6,45	16,0	32,3	3,30	1,33					
	3	13,1	357			10,31	6,07	16,3	32,8	3,11	1,26					
	4	15,0	356			9,63	5,70	16,5	33,4	2,91	1,18					
	5	16,8	303			8,93	5,32	16,7	34,0	2,71	1,11					
	6	18,8	330			8,22	4,95	16,9	34,6	2,50	1,04					
	7	20,8	326			7,49	4,58	17,1	35,3	2,29	0,96					
	8	22,8	348			6,74	4,21	17,4	35,9	2,07	0,89					
	9	25,0	335			5,97	3,85	17,6	36,6	1,84	0,81					
	10	27,2	315			5,19	3,49	17,8	37,3	1,60	0,74					
	11	29,4	215			4,38	3,13	18,0	38,1	1,36	0,67					
	12	31,8	169			3,56	2,77	18,2	38,8	1,11	0,59					
	13	34,2	151			2,71	2,41	18,5	39,6	0,85	0,52					
	14	36,8	105			1,83	2,06	18,7	40,4	0,57	0,44					
	15	39,4	74			0,93	1,71	18,9	41,2	0,29	0,37					
						42.658	26.172	Kwh				12.856	5.428	Kwh		

-70% less total heating demand
-79% less sensible heating demand

Hitachi Air Conditioning Products Europe, S. A.
Barcelona (Spain)

No

APN-2011027

All Areas		The middle East	
Europe	⊙	Southeast Asia	
Australia		Africa	
Others (50Hz areas)			

ADVANCED PRODUCT NEWS

SUBJECT

Advanced Product News. Launching of new ventilation systems 3E Series: KPI and Active KPI

DATE: Feb-12

PAGE 6/39

2.2. Active KPI discharge temperature control

In addition to previous point savings, the Active KPI is able to adapt the supply air temperature to desired discharge temperature.

Even though the KPI improves the air supply conditions, supply temperature will always be a combination of indoor and outdoor air temperatures. Active KPI supplies this additional temperature gap, making possible the control of the discharge air temperature.

ADVANCED PRODUCT NEWS

SUBJECT

Advanced Product News. Launching of new ventilation systems 3E Series: KPI and Active KPI

DATE: Feb-12

PAGE 7/39

3. Features & Benefits

New 3E Energy Recovery, Heat Recovery and Active KPI will be fully compatible with CSNET WEB 3.2 version. The installation is also possible with previous versions, but with some functional limitations.

3.1. Harmonized fans with new EuP Lot11 regulation



New European product regulations regarding energy efficiency (EuP) are divided in lots. Lot 11 scope is the fans driven by motors with an electric power input between 125 W and 500 kW, and electric motors. EuP Lot11 is a component regulation that considers the component out of any appliance.

Lot 11 fixes different efficiency levels for each fan type and measuring method. The application is done in two tiers: first tier by January 2013 and second tier by January 1st 2015. Once it comes into force, any fan motor with efficiency below Lot11 requirements will be banned in European market.

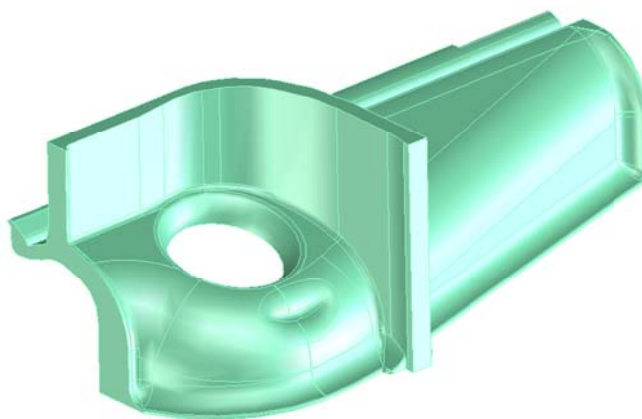
New KPI and Active KPI series fans already complies with Lot 11 second tier (2015) efficiency requirements, what means that in addition to advance the unit to future regulation requirements, their power input has been optimized and reduced to minimum values.

3.2. Noise reduction



The effect of a completely new internal structure design to reduce the air flow resistance so the flow noise through the unit, combined with the application of highly efficient EC fan motors, make possible a reduction of the noise sensed below the unit and at the air discharge section.

New internal structure is done by Expanded PolyStyrene (EPS), what in addition to reduce the unit weight makes possible an aerodynamic design reducing the air flow resistance, and consequently the air flow noise inside the unit, which is emitted around it and to the discharge air section.



3D View of internal component structure made of EPS

All Areas		The middle East	
Europe	⊙	Southeast Asia	
Australia		Africa	
Others (50Hz areas)			

ADVANCED PRODUCT NEWS

SUBJECT

Advanced Product News. Launching of new ventilation systems 3E Series: KPI and Active KPI

DATE: Feb-12

PAGE 8/39

3.3. EC fans: Reduced fan power input **NEW**

Both KPI and Active KPI series are equipped with high efficient EC fan motors. Main benefit of using this kind of motors is a direct power consumption reduction, meaning a reduction of the specific fan power input of the unit, one of the main aspects considered in new European regulation for ventilation installations.

Considering as an example the comparison between new KPI-1002E3E model and its equivalent current model, both of them at the same working point (1000 m³/h --140 Pa) the input saving is higher than the 50%!!

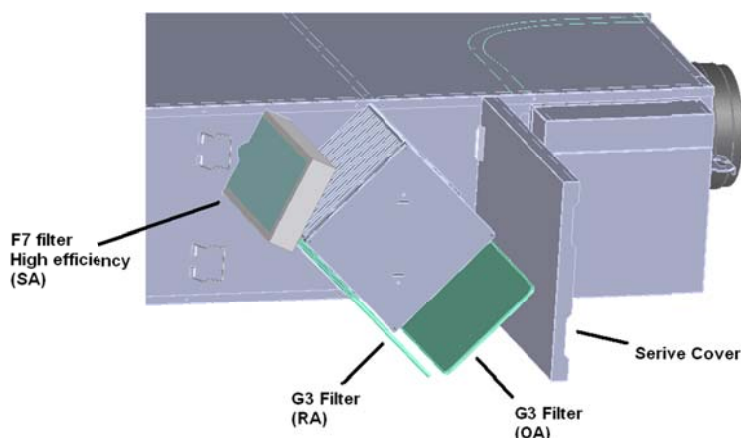
	IPT (W)
KPI-1002E2E	580
KPI-1002E3E	285

-51%

3.4. High-efficiency filter accessory **NEW**

When analysing indoor air quality control and air renovations by the supply of outdoor air, the filtering of the fresh air is a key point to consider when the installation is being designed. On the other hand, depending room final application (office, theatre, hospital...) a minimum filtering level must be guaranteed to cover the building regulations.

New KPI and Active KPI series are factory supplied with two G3(*) air filters, one for inlet air and other for outlet air. Moreover, as accessory, a high efficiency air filter classified as F7(*) is available. This filter is placed easily into the unit by the main service cover, being the last treatment section (after the heat exchanger and the fan motor) of the inlet air stream.



3D View of the main service cover, located at the side of the unit

(*) Note:

G3: Gravimetric efficiency up to 90%

F7: Dust-Spot efficiency up to 90%

Filter classification based on EN779

All Areas		The middle East	
Europe	⊙	Southeast Asia	
Australia		Africa	
Others (50Hz areas)			

ADVANCED PRODUCT NEWS

SUBJECT

Advanced Product News. Launching of new ventilation systems 3E Series: KPI and Active KPI

DATE: Feb-12

PAGE 9/39

3.5. Insulations classified as M1 **NEW**

KPI and Active KPI units require an air distribution system by ducts, what makes possible the installation of one single KPI for the air treatment of more than one room.

Some countries (i.e. France) consider the air conditioning ducted installations as "building components", forcing the elements that compose it, including the unit itself, to follow the same quality requirements. In these requirement are included the fire resistance, avoiding the unit promotes the fire spread between rooms.

For this reason, all the internal and external insulations used in new KPI and Active KPI series are certified as M1 (UNE-23727 Spain / NF P 92-501 France), fulfilling the ducted installation materials requirements.

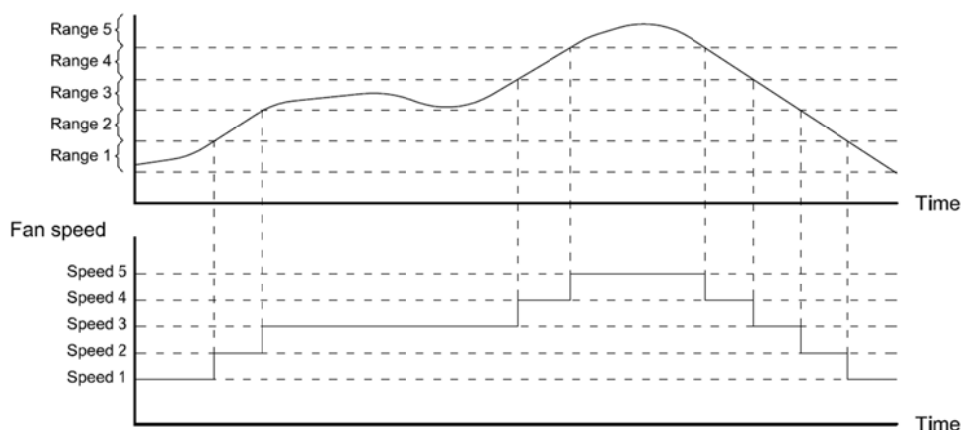
3.6. Automatic ventilation by CO₂ sensor **NEW**

The concentration of CO₂ in a room is one of the main aspects considered for indoor air quality classification. Against what happens with other gasses and pollution, the simple presence of people into a room increases the CO₂ concentration. This fact has been considered into several building regulations, which classify the indoor air quality and fix the air renovations based on CO₂ concentration.

This concept is fully integrated in the new Hitachi KPI and Active KPI series, offering to the user two options to control the fan performance following CO₂ concentration levels.

- Automatic fan speed: For CO₂ sensors with a proportional output (0~10V and 4~20mA output signals are accepted). The fan speed is automatically adjusted by the sensor output, ensuring always a high indoor air quality with minimum power input and without any action by the user.

Sensor output



Note: Number of divisions within the sensor output will depend on each unit. Previous picture must be considered only as an explanation example

Note: Power supply for sensors (24V_{DC}) is available from KPI PCB, with a maximum total power output for both sensors of 6W.

All Areas		The middle East	
Europe	⊙	Southeast Asia	
Australia		Africa	
Others (50Hz areas)			

ADVANCED PRODUCT NEWS

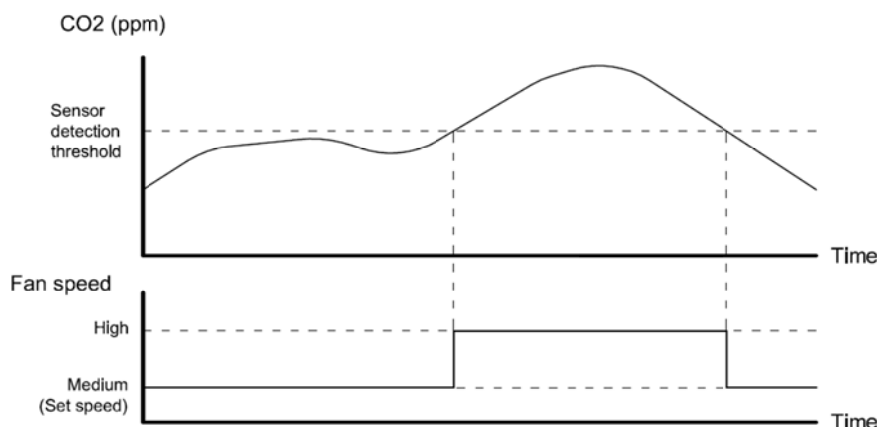
SUBJECT

Advanced Product News. Launching of new ventilation systems 3E Series: KPI and Active KPI

DATE: Feb-12

PAGE 10/39

- High concentration control: For on/off CO₂ sensors. Active KPI unit will work at set fan speed, but when the CO₂ concentration overpasses the detection threshold of the sensor, the KPI will start working at its maximum fan speed, helping to reduce the CO₂ levels. Once the sensor signal is turned off the set fan speed is recovered.



The implementation of this type of air flow control in an installation makes it to be classified as the highest performance control level.

3.7. Suitable fan pressure setting **NEW**

New KPI and Active KPI series have been designed to be suitable in any installation. This concept covers several types of installations, including the ones where the KPI is supplying to more than one area, what makes possible the KPI was installed in short duct installations or in large duct installations, and yet the KPI must cover the installation air renovations requirement.

New KPI and Active KPI range have been designed offering an easy and fast setting of the fan pressure level through its PCB, making possible the selection based on installation real requirements. This can be translated as a guarantee that the ventilation flow rate is achieved at the same time that no additional air flow is used, what means lower noise levels emitted through the duct and a lower power consumption.

3.8. Electric-heater installation **NEW**

Energy Recovery series and Active KPI series' heat exchanger element is made by a special celluloid material, similar to paper. In case the unit works with very low outdoor air temperatures, the heat exchanger element could be damaged decreasing significantly its exchange efficiency. For this reason the installation of an additional electrical heater (field supplied) in the OA section before the unit is recommended in installations where outdoor air temperatures below -5°C are possible. On the other hand, the installation of this electric heater in OA section could be also recommended where higher discharge air temperatures are required.

ADVANCED PRODUCT NEWS

SUBJECT

Advanced Product News. Launching of new ventilation systems 3E Series: KPI and Active KPI

DATE: Feb-12

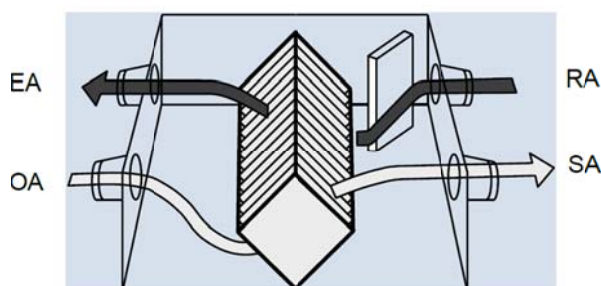
PAGE 11/39

Electric heater power supply doesn't have to be done from the Active KPI electrical box, and its installation and protections must follow electrical heater manufacturer recommendations. On the other hand, a control signal is available from the KPI electrical box to control the switching on and off of this electric heater. By the sensing of the outdoor air, the control signal will be turned on when outdoor air temperature becomes below -5°C, and will be automatically turned off when outdoor air temperature exceeds -5°C, avoiding the installation of additional sensing devices into the electric heater element. Moreover, once the KPI is set for the electric heater application through the remote controller, the stoppage of the unit will be automatically delayed for three minutes once the remote controller is switched off. During this time the unit will work at its minimum fan speed, cooling down the electrical heater element avoiding the ducts damage by the remainder heat.

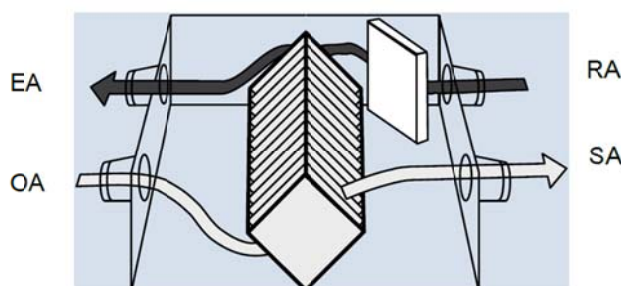
3.9. Three different ventilation modes

New KPI and Active KPI series have been designed to offer to the user the maximum comfort at the same time the indoor air quality is improved by the renovation of the indoor air. Three different ventilation modes are available for the user to adapt the ventilation mode of the system:

- Forced Energy Recovery: The exchange between inlet and outlet air streams is always performed, without any incidence of the outdoor air condition. By this ventilation mode the inlet air will always be an average of the indoors and outdoors conditions.



- Forced Free Ventilation: The damper is fixed open, what means the heat exchanger element is bypassed and no exchange is performed between inlet and outlet air streams. The air from outdoors is directly supplied to indoors.



HITACHI

Distributed to C Areas:

All Areas		The middle East	
Europe	⊙	Southeast Asia	
Australia		Africa	
Others (50Hz areas)			

ADVANCED PRODUCT NEWS

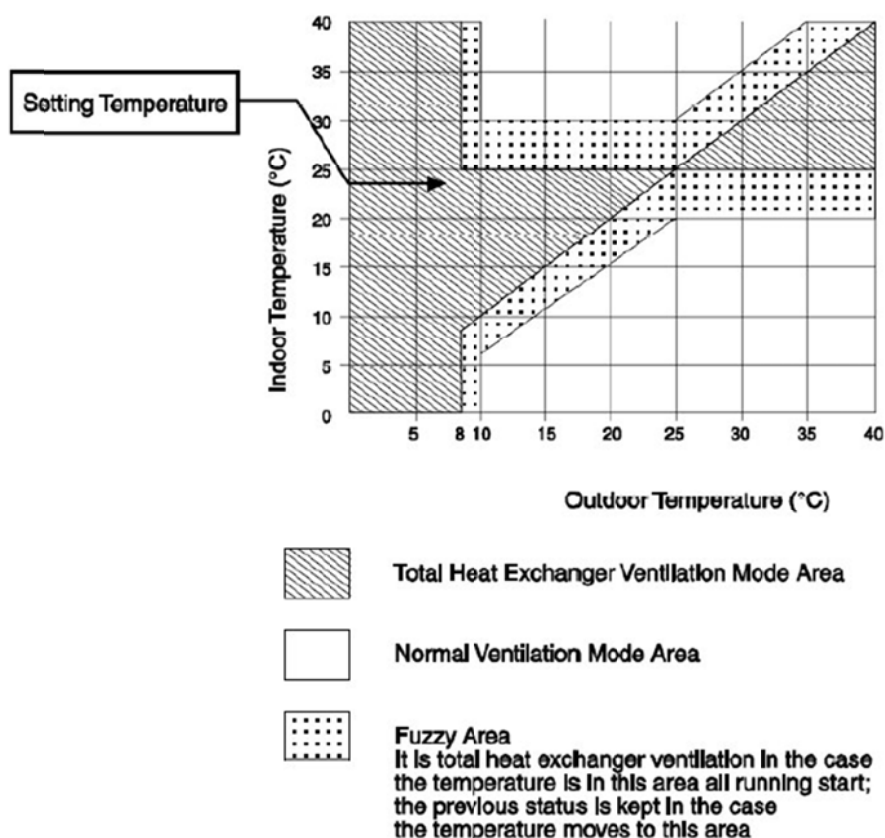
SUBJECT

Advanced Product News. Launching of new ventilation systems 3E Series: KPI and Active KPI

DATE: Feb-12

PAGE 12/39

- Automatic ventilation (default setting): An advanced temperature control is performed deciding automatically if the damper must be close or open, based on indoor and outdoor temperatures and the setting temperature of the remote controller. The target is to have the maximum efficiency during the ventilation.



All Areas		The middle East	
Europe	⊙	Southeast Asia	
Australia		Africa	
Others (50Hz areas)			

ADVANCED PRODUCT NEWS

SUBJECT

Advanced Product News. Launching of new ventilation systems 3E Series: KPI and Active KPI

DATE: Feb-12

PAGE 13/39

3.10. Un-balancing of the ventilation for room pressurization

As explained before, KPI unit works with two air streams: fresh air coming from outdoors and, on the hand, the indoor air to be renewed. As default setting the unit will supply the same quantity of air that it extracts, so the areas (if there is more than one) under the effect of the KPI will be balanced.

Depending the activities of the areas could be interesting to cause an over-pressure/depression in one of them,,i.e. to avoid the smoke and smells to be transferred from one area to another. KPI offers the possibility to un-balance the two air-streams by the setting of the remote controller:

Remote Control speed	Normal operation		Supply fan set		Exhaust fan set	
	OA Fan -Supply air-	RA Fan -Exhaust fan-	OA Fan -Supply air-	RA Fan -Exhaust fan-	OA Fan -Supply air-	RA Fan -Exhaust fan-
High	High	High	High	High	High	High
Medium	Medium	Medium	High	Medium	Medium	High
Low	Low	Low	Medium	Low	Low	Medium
			Prevent smoke and contamination to enter into the room and compensate the effect of auxiliary extraction devices		Helps to evacuate smoke and contamination from the room.	

3.11. Fan stoppage delay function

Even though the ventilation system works for the whole day, while the installation is full of people doing any activity the indoor air won't be as fresh as it would be in case the facility is empty. This means that at the end of the day some pollution could remain in the air. If the ventilation system is stopped at the end of the activity, the remaining pollution wouldn't be extracted and the indoor air won't be completely fresh at the starting of the next day.

KPI series offer to the user the option to delay the stoppage of the unit, keeping the unit switched on when the conditioning / ventilation system is switched off during a specific time. In case of Active KPI, during this time the unit will work as an energy recovery ventilation unit (outdoor unit compressor off, without any cooling / heating load to save energy). The result will be a completely fresh air of high quality at the starting of the next activity.

3.12. Energy Recovery series vertical installation

Vertical installation is allowed for Energy Recovery series' units. The unit should be properly fixed to avoid its movement once installed. Must be guaranteed that any liquid can't flow into the unit

Even though vertical installation is allow, transportation must follow handling instructions to avoid the damage of any component.

Vertical installation is not allowed in case of Active KPI or Heat Recovery series.

All Areas		The middle East	
Europe	⊙	Southeast Asia	
Australia		Africa	
Others (50Hz areas)			

ADVANCED PRODUCT NEWS

SUBJECT

Advanced Product News. Launching of new ventilation systems 3E Series: KPI and Active KPI

DATE: Feb-12

PAGE 14/39

4. Active KPI Combinability

Active KPI units have been prepared for the combination with both Utopia and Set Free systems.

	CAPACITIES (KW)		Equivalent HP Capacity	COMBINABILITY	
	Cooling (1*)	Heating (2*)		Utopia (3*)	Set Free (4*)
KPI-502X3E	5,3 (1,8)	6,9 (2,1)	1,5 HP	-	√
KPI-802X3E	8,0 (2,9)	9,8 (3,5)	2,0 HP	RAS-2HVRN2	√
KPI-1002X3E	10,8 (3,7)	12,9 (4,4)	2,5 HP	RAS-2,5HVRN2	√

Notes:

(1*) Cooling capacity is based on the following conditions: OA= 35°C_{DB}/24°C_{WB}; IA= 27°C_{DB}/19°C_{WB} with the unit working at its nominal air flow (high speed).

Figure between brackets represents the capacity contribution of the heat exchanger element.

(2*) Heating capacity is based on the following conditions: OA= 7°C_{DB}/6°C_{WB}; IA= 20°C_{DB}/14°C_{WB} with the unit working at its nominal air flow (high speed).

Figure between brackets represents the capacity contribution of the heat exchanger element.

(3*) Only the single combination is allowed with 2/2.5HP Series.

In case of connecting the KPI-802X3E and KPI-1002X3E with 2/2.5HP outdoor units the capacity would be reduced as follows:

	CAPACITIES (KW)	
	Cooling	Heating
KPI-802X3E	7,4 (2,9)	9,1 (3,5)
KPI-1002X3E	9,7 (3,7)	11,4 (4,4)

(4*) Installation with next Set Free series is allowed: FS(V)N(Y)2E, FSXN, FSNM, FSN2

For installations into SF systems, standard indications and selection methods used for SF outdoor units must be followed considering the Active KPI as a standard indoor unit of the equivalent HP capacity. The total capacity of installed Active KPIs can never exceed the 30% of the total system capacity.

For further information about SF selection method, please refer to Set Free Technical Catalogue.

(5*) Actual system performance may vary depending on the specific installation conditions.

ADVANCED PRODUCT NEWS

SUBJECT

Advanced Product News. Launching of new ventilation systems 3E Series: KPI and Active KPI

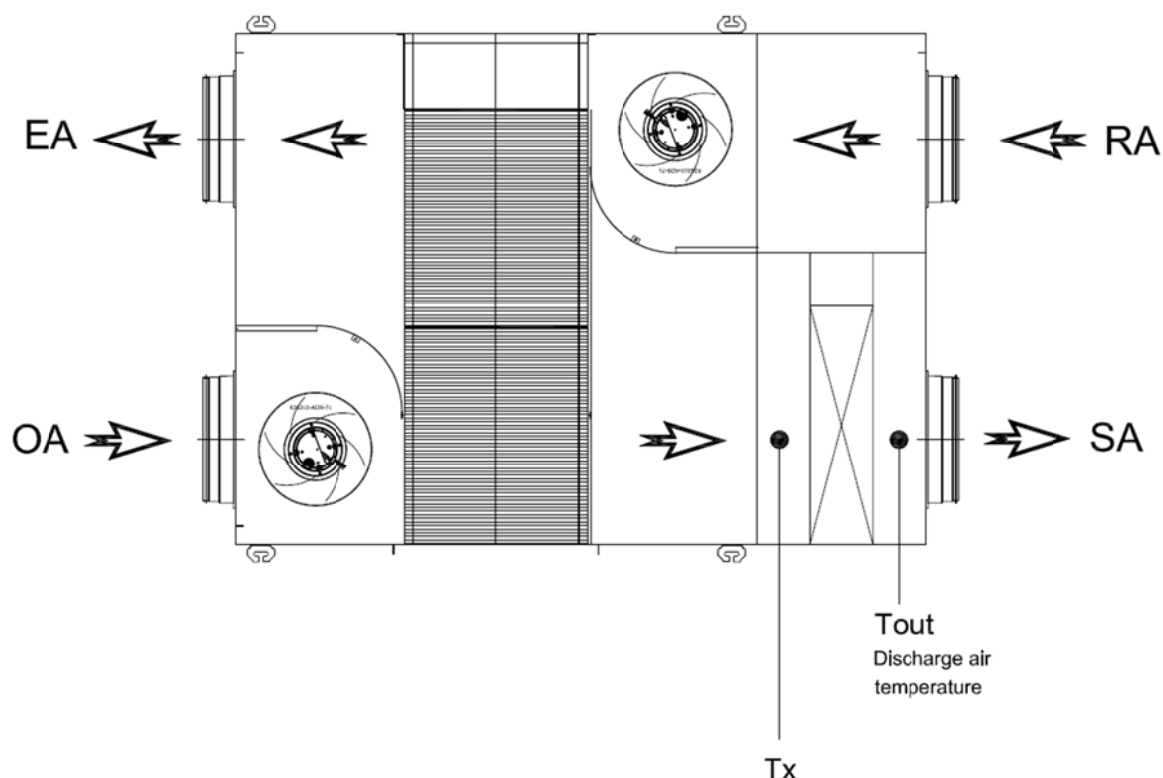
DATE: Feb-12

PAGE 15/39

5. Control Specification

5.1. Active KPI capacity demand control

Active KPI demand control is based on the control of the discharge air temperature. Set temperature on the remote controller or equivalent centralized controller will be understood by the control as the desired discharge temperature.



The capacity demand is adjusted by the continuous sensing of Tx and Tout temperatures. In case Tx becomes close to set temperature, the control could decide to stop the heat pump, saving energy and achieving the heat demand just by the effect of the heat exchanger element. Must be considered that return air (RA) is not supplied again to the room. It is extracted from indoors and replaced by fresh air (from OA to SA), changing typical considerations of conditioning indoor units.

It could be possible that due to refrigerant cycle limitations, Tx temperature, setting temperature and the whole system working conditions, Tout cannot be adjusted to match the setting temperature. In this case, by the continuous sensing of Tout, the unit will cycle on/off in order to match as much as possible the setting temperature. During this on/off cycling the ventilation is never stopped in order to guarantee the air renovations.

All Areas		The middle East	
Europe	⊙	Southeast Asia	
Australia		Africa	
Others (50Hz areas)			

ADVANCED PRODUCT NEWS

SUBJECT

Advanced Product News. Launching of new ventilation systems 3E Series: KPI and Active KPI

DATE: Feb-12

PAGE 16/39

5.2. Main Optional Functions

- Thermo-off input: thermo-off control will be drove by an input signal, not considering Tx temperature.
- Defrost setting: It is possible to set the fan performance of the unit while the system is in defrost condition:
 - + Fan stoppage: ventilation is stopped
 - + Fan at lowest speed: for installations where minimum ventilation rate must be kept
 - + Fan speed kept: ventilation rate is not affected during the defrost time

During the defrost time, for those installations where the ventilation rate is kept (or reduced), even though when the unit is set in heating mode it will supply cold air. The installation of an auxiliary device to compensate the effect of defrost during this time is possible in SA section.

From the Active KPI e-box an output signal is available, which will be turned on during the defrost time.
- Filter sign: After a suitable number of hours of operation a servicing sign will be showed on the remote controller or the centralised system advising the filters cleaning or replacement.
- Remote on/off: It is possible to control the switching on and off of the unit by an external input.
- Remote heat/cool: Setting of the mode operation is possible by an external input
- Operation delay: Considering the Active KPI as a ventilation unit, could be useful to delay the starting of the unit to the starting of the A/C system. This setting of this time is available by the remote controller.
- Electric heater application: The installation of an electric heater before the unit in OA section is necessary for installations working with outdoor temperature below -5°C. Besides of having a control signal for this electric-heater control available from the KPI PCB, the unit stoppage will be delayed for three minutes after the switching off of the remote controller to cold down the heater element avoiding the installation damage by the remaining heat.
- Fan stoppage delay: It is possible to set the time for which the Active KPI will remain operating when the system has been switched off. With this function it is possible to complete the air renovation of the installation, removing the remaining pollution and contamination. The installation will be completely fresh for the next starting of the activity. During this time the heat pump will be off to save energy.
- CO₂ sensor: Fan performance control is possible by the output of a CO₂ sensor. Both sensors, all on/off and proportional output sensors are accepted. In case of on/off sensors, the fans will work at their highest speed when the signal was turned on to help reducing the CO₂ concentration on the air. On the other hand, by proportional output sensors (0~10V or 4~20mA output) the fan speed will be automatically adjusted by the CO₂ concentration, what will help to keep low the CO₂ concentration on the air with the minimum possible energy input.
- Fan high at starting: By this setting, always the KPI unit is switched on both fans will start at highest possible speed, helping to the air renovation.

All Areas		The middle East	
Europe	⊙	Southeast Asia	
Australia		Africa	
Others (50Hz areas)			

ADVANCED PRODUCT NEWS

SUBJECT

Advanced Product News. Launching of new ventilation systems 3E Series: KPI and Active KPI

DATE: Feb-12

PAGE 17/39

- Ventilation mode: By the Remote Controller setting, it is possible to choose between three different ventilation modes:
 - + Automatic ventilation: The damper is driven by the KPI control, selecting if the damper must be open or closed looking for the highest efficiency based on the set temperature and indoors and outdoors temperatures.
 - + Forced exchange: The damper is always closed, so the exchange between inlet and outlet air streams is always performed.
 - + Bypass ventilation: The damper is always opened, what means that the heat exchanger is bypassed and the exchange between inlet and outlet air streams is never performed. (This option is not able in case of Active KPI units)
- Un-balanced ventilation: It is possible to set the fan speeds individually, promoting a room pressurization to avoid the smoke and pollution transfer from one room to another:
 - + Normal operation: Both fans working at same air flow, so the air flow rate supply is the same one than extracted.
 - + Supply fan set: Supply fan rate is increased one step while exhaust fan keeps running at set air flow.
 - +Exhaust fan set: Exhaust fan rate is increased one step while supply fan keeps running at set air flow

HITACHI

Distributed to C Areas:

All Areas		The middle East	
Europe	⊙	Southeast Asia	
Australia		Africa	
Others (50Hz areas)			

ADVANCED PRODUCT NEWS

SUBJECT

Advanced Product News. Launching of new ventilation systems 3E Series: KPI and Active KPI

DATE: Feb-12

PAGE 18/39

6. Specifications

6.1. General Data

6.1.1. KPI Energy Recovery Series

			KPI-252E3E	KPI-502E3E	KPI-802E3E
Electrical power supply			1~ 230V 50Hz		
Air flow rate	Hi/Me/Lo	m³/h	250/208/180	500/420/360	800/700/597
Static pressure (1*)	Hi/Me/Lo	Pa	60/40/30	77/50/47	100/75/55
Maximum external pressure (nom. air flow)		Pa	200	277	200
Heat Exchanger Element			Air to Air cross flow - Celluloid material		
Temperature exchange efficiency	High	%	75	75	75
Enthalpy exchange efficiency for heating	High	%	66	65	65
Enthalpy exchange efficiency for cooling	High	%	60	61	62
Sound pressure level (2*)	Hi/Me/Lo	dB(A)	27/26/24	30/28/27	32/31/30
External dimensions	Height	mm	270	330	385
	Width		900	1130	1210
	Depth		750	920	1015
Duct Connection diameter		mm	ø150	ø200	ø250
Nominal power input	Hi/Me/Lo	W	47/32/24	83/54/40	213/149/95
Specific Fan Power input (SFP)	High	W/(m³/s)	677	598	959
Nominal current consumption	High	A	0,2	0,4	1,0
Fan	Quantity	-	2	2	2
	Type	-	EC Fan		
Working Range (3*)			-20°C (DB) ~ 46 °C (DB)		
Supplied Air Filter classification (acc. EN779) (4*)			G3	G3	G3
Remote controller (Optional)			PC-ART / PC-ARF		

Notes:

1. Default fan pressure setting.
2. Sound pressure level has been measured in an anechoic chamber, with the measuring point 1.5m below the center of the unit, with no ceiling under the unit and using a sound insulated duct
Reflected sound must be considered when installing the unit in the field. Because of it the sound pressure level measured in an installation could be higher than the specification.
3. The installation of an electric heater is necessary when temperature becomes lower to -5°C(DB).
4. High efficiency filter classified as F7 (acc. EN779) is available as accessory

Hitachi Air Conditioning Products Europe, S. A.
Barcelona (Spain)

No

APN-2011027

HITACHI

Distributed to C Areas:

All Areas		The middle East	
Europe	⊙	Southeast Asia	
Australia		Africa	
Others (50Hz areas)			

ADVANCED PRODUCT NEWS

SUBJECT

Advanced Product News. Launching of new ventilation systems 3E Series: KPI and Active KPI

DATE: Feb-12

PAGE 19/39

			KPI-1002E3E	KPI-1502E3E	KPI-2002E3E
Electrical power supply			1~ 230V 50Hz		
Air flow rate	Hi/Me/Lo	m³/h	1000/800/620	1500/1250/970	2000/1560/1240
Static pressure (1*)	Hi/Me/Lo	Pa	120/80/50	132/90/60	135/84/60
Maximum external pressure (nom. air flow)		Pa	195	246	180
Heat Exchanger Element			Air to Air cross flow - Celluloid material		
Temperature exchange efficiency	High	%	78	78	78
Enthalpy exchange efficiency for heating	High	%	68	68	66,5
Enthalpy exchange efficiency for cooling	High	%	62	62,5	61,5
Sound pressure level (2*)	Hi/Me/Lo	dB(A)	35/32/30	37/35/33	39/38/35
External dimensions	Height	mm	385	525	525
	Width		1600	1800	1800
	Depth		1295	1130	1430
Duct Connection diameter		mm	ø300	ø355	ø355
Nominal power input	Hi/Me/Lo	W	262/110/79	422/202/129	582/295/179
Specific Fan Power input (SFP)	High	W/(m³/s)	943	1013	1048
Nominal current consumption	High	A	1,2	1,9	2,7
Fan	Quantity	-	2	2	2
	Type	-	EC Fan		
Working Range (3*)			-20°C (DB) ~ 46 °C (DB)		
Supplied Air Filter classification (acc. EN779) (4*)			G3	G3	G3
Remote controller (Optional)			PC-ART / PC-ARF		

Notes:

1. Default fan pressure setting.
2. Sound pressure level has been measured in an anechoic chamber, with the measuring point 1.5m below the center of the unit, with no ceiling under the unit and using a sound insulated duct
Reflected sound must be considered when installing the unit in the field. Because of it the sound pressure level measured in an installation could be higher than the specification.
3. The installation of an electric heater is necessary when temperature becomes lower to -5°C(DB).
4. High efficiency filter classified as F7 (acc. EN779) is available as accessory

Hitachi Air Conditioning Products Europe, S. A.
Barcelona (Spain)

No

APN-2011027

HITACHI

Distributed to C Areas:

All Areas		The middle East	
Europe	⊙	Southeast Asia	
Australia		Africa	
Others (50Hz areas)			

ADVANCED PRODUCT NEWS

SUBJECT

Advanced Product News. Launching of new ventilation systems 3E Series: KPI and Active KPI

DATE: Feb-12

PAGE 20/39

6.1.2. KPI Heat Recovery Series

			KPI-502H3E	KPI-802H3E	KPI-1002H3E
Electrical power supply		-	1~ 230V 50Hz		
Air flow rate	Hi/Me/Lo	m³/h	500/420/360	800/700/597	1000/800/620
Static pressure (1*)	Hi/Me/Lo	Pa	77/50/47	100/75/55	120/80/50
Maximum external pressure (nom. air flow)		Pa	277	200	195
Heat Exchanger Element			Air to Air cross flow - Aluminium material		
Temperature exchange efficiency	High	%	53	50	50
Enthalpy exchange efficiency for heating	High	%	35	34	33
Enthalpy exchange efficiency for cooling	High	%	30	28	28
Sound pressure level (2*)	Hi/Me/Lo	dB(A)	33/31/30	35/34/33	38/35/33
External dimensions	Height	mm	330	385	385
	Width		1130	1210	1600
	Depth		920	1015	1295
Duct Connection diameter		mm	ø200	ø250	ø300
Nominal power input	Hi/Me/Lo	W	83/54/40	213/149/95	262/110/79
Specific Fan Power input (SFP)	High	W/(m³/s)	598	959	943
Nominal current consumption	High	A	0,4	1,0	1,2
Fan	Quantity	-	2	2	2
	Type	-	EC Fan		
Working Range			-20°C (DB) ~ 46 °C (DB)		
Supplied Air Filter classification (acc. EN779) (3*)			G3	G3	G3
Remote controller (Optional)			PC-ART / PC-ARF		

Notes:

1. Default fan pressure setting.
2. Sound pressure level has been measured in an anechoic chamber, with the measuring point 1.5m below the center of the unit, with no ceiling under the unit and using a sound insulated duct
Reflected sound must be considered when installing the unit in the field. Because of it the sound pressure level measured in an installation could be higher than the specification.
3. High efficiency filter classified as F7 (acc. EN779) is available as accessory

Hitachi Air Conditioning Products Europe, S. A.
Barcelona (Spain)

No

APN-2011027

HITACHI

Distributed to C Areas:

All Areas		The middle East	
Europe	⊙	Southeast Asia	
Australia		Africa	
Others (50Hz areas)			

ADVANCED PRODUCT NEWS

SUBJECT

Advanced Product News. Launching of new ventilation systems 3E Series: KPI and Active KPI

DATE: Feb-12

PAGE 21/39

			KPI-1502H3E	KPI-2002H3E
Electrical power supply		-	1~ 230V 50Hz	
Air flow rate	Hi/Me/Lo	m³/h	1500/1250/970	2000/1560/1240
Static pressure (1*)	Hi/Me/Lo	Pa	132/90/60	135/84/60
Maximum external pressure (nom. air flow)		Pa	246	180
Heat Exchanger Element			Air to Air cross flow - Aluminium material	
Temperature exchange efficiency	High	%	49	48
Enthalpy exchange efficiency for heating	High	%	31	31
Enthalpy exchange efficiency for cooling	High	%	27	28
Sound pressure level (2*)	Hi/Me/Lo	dB(A)	40//35/36	42/41/38
External dimensions	Height	mm	525	525
	Width		1800	1800
	Depth		1130	1430
Duct Connection diameter		mm	ø355	ø355
Nominal power input	Hi/Me/Lo	W	422/202/129	582/295/179
Specific Fan Power input (SFP)	High	W/(m³/s)	1013	1048
Nominal current consumption	High	A	1,9	2,7
Fan	Quantity	-	2	2
	Type	-	EC Fan	
Working Range		°C	-20°C (DB) ~ 46 °C (DB)	
Supplied Air Filter classification (acc. EN779) (3*)			G3	G3
Remote controller (Optional)			PC-ART / PC-ARF	

Notes:

1. Default fan pressure setting.
2. Sound pressure level has been measured in an anechoic chamber, with the measuring point 1.5m below the center of the unit, with no ceiling under the unit and using a sound insulated duct
Reflected sound must be considered when installing the unit in the field. Because of it the sound pressure level measured in an installation could be higher than the specification.
3. High efficiency filter classified as F7 (acc. EN779) is available as accessory

Hitachi Air Conditioning Products Europe, S. A.
Barcelona (Spain)

No

APN-2011027

HITACHI

Distributed to C Areas:

All Areas		The middle East	
Europe	⊙	Southeast Asia	
Australia		Africa	
Others (50Hz areas)			

ADVANCED PRODUCT NEWS

SUBJECT

Advanced Product News. Launching of new ventilation systems 3E Series: KPI and Active KPI

DATE: Feb-12

PAGE 22/39

6.1.3. Active KPI Series

			KPI-502X3E	KPI-802X3E	KPI-1002X3E
Electrical power supply			-	1~ 230V 50Hz	
Nominal cooling capacity (1*)			kW	5,32 (1,81)	7,96 (2,94) 10,83 (3,73)
Nominal heating capacity (1*)			kW	6,92 (2,12)	9,79 (3,49) 12,93 (4,43)
Air flow rate	Hi/Me/Lo	m³/h	500/430/380	800/700/590	1000/820/740
Static pressure (2*)	Hi/Me/Lo	Pa	150/120/100	125/95/70	120/85/70
Maximum external pressure (nom. air flow)			Pa	235	125 125
Temperature exchange efficiency	Hi	%	75	75	78
Enthalpy exchange efficiency for heating	Hi	%	65	65	68
Enthalpy exchange efficiency for cooling	Hi	%	61	62	62
Sound pressure level (3*)	Hi/Me/Lo	dB(A)	29/27/26	31/30/29	34/33/31
External dimensions	Height	mm	330	385	385
	Width		1630	1710	2100
	Depth		920	1015	1295
Duct Connection diameter			mm	ø200	ø250 ø300
Refrigerant			-	R410	
Refrigerant piping connection			-	Flare nuts	
Size	Liquid piping	mm	ø6,35	ø6,35	ø9,53
		(in.)	1/4	1/4	3/8
	Gas piping	mm	ø12,7	ø15,88	ø15,88
		(in.)	1/2	5/8	5/8
Condensate drain connection			mm	ø32	ø32 ø32
Nominal power input			Hi/Me/Lo	W	159/99/72 272/190/122 335/195/150
Specific Fan Power input (SFP)			High	W/(m³/s)	1145 1224 1206
Nominal current consumption			High	A	0,7 1,2 1,5
Fan	Quantity		-	2	2 2
	Type		-	EC Fan	
Working Range (4*)			-20°C (DB) ~ 40 °C (DB)		
Supplied air filter classification (ecc EN779) (5*)			G3	G3	G3
Remote control (Optional)			PC-ART / PC-ARF		

Notes:

- The nominal cooling and heating capacity is the combined capacity of the outdoor and indoor units of the system and is based on Standard EN14511, with the following operating conditions:

Hitachi Air Conditioning Products Europe, S. A.
Barcelona (Spain)

No

APN-2011027

HITACHI

Distributed to C Areas:

All Areas		The middle East	
Europe	⊙	Southeast Asia	
Australia		Africa	
Others (50Hz areas)			

ADVANCED PRODUCT NEWS

SUBJECT

Advanced Product News. Launching of new ventilation systems 3E Series: KPI and Active KPI

DATE: Feb-12

PAGE 23/39

	Cooling	Heating
Indoor Air Inlet Temperature	27°C DB / 19°C WB	20°C DB / 14°C WB
Outdoor Air Inlet Temperature	35°C DB / 24°C WB	7°C DB / 6°C WB

Pipe length: 7.5m; Pipe height: 0m

Active KPI unit working at its nominal air flow

- Default fan pressure setting
- Sound pressure level has been measured in an anechoic chamber, with the measuring point 1.5m below the center of the unit, with no ceiling under the unit and using a sound insulated duct
Reflected sound must be considered when installing the unit in the field. Because of it the sound pressure level measured in an installation could be higher than the specification.
- The installation of an electric heater is necessary when temperature becomes lower to -5°C(DB).
Cooling and heating performance may vary depending on working conditions because of control protections.
- High efficiency filter classified as F7 (acc. EN779) is available as accessory

6.2. Electrical Data

Model	Main unit power supply			Applicable voltage		Fan Motor			
	U (V)	PH	f (Hz)	Max. U (V)	Min. U (V)	IPT (kW)	RNC (A)	Max. IPT (kW)	MC (A)
KPI-252E3E	230	1	50	253	207	0,05	0,2	0,87	4,0
KPI-502E3E						0,08	0,4	0,87	4,0
KPI-802E3E						0,21	1,0	0,87	4,0
KPI-1002E3E						0,26	1,2	0,87	4,0
KPI-1502E3E						0,42	1,9	1,09	5,0
KPI-2002E3E						0,58	2,7	1,31	6,0
KPI-502H3E						0,08	0,4	0,87	4,0
KPI-802H3E						0,21	1,0	0,87	4,0
KPI-1002H3E						0,26	1,2	0,87	4,0
KPI-1502H3E						0,42	1,9	1,09	5,0
KPI-2002H3E						0,58	2,7	1,31	6,0
KPI-502X3E						0,16	0,7	0,87	4,0
KPI-802X3E						0,27	1,2	0,87	4,0
KPI-1002X3E						0,34	1,5	0,87	4,0

Key:

- U: Power supply.
- PH: Phase.
- f: Frequency.
- IPT: Total input power.
- RNC: Operating current.
- MC: Maximum current.

Hitachi Air Conditioning Products Europe, S. A.
Barcelona (Spain)

No

APN-2011027

All Areas		The middle East	
Europe	⊙	Southeast Asia	
Australia		Africa	
Others (50Hz areas)			

ADVANCED PRODUCT NEWS

SUBJECT

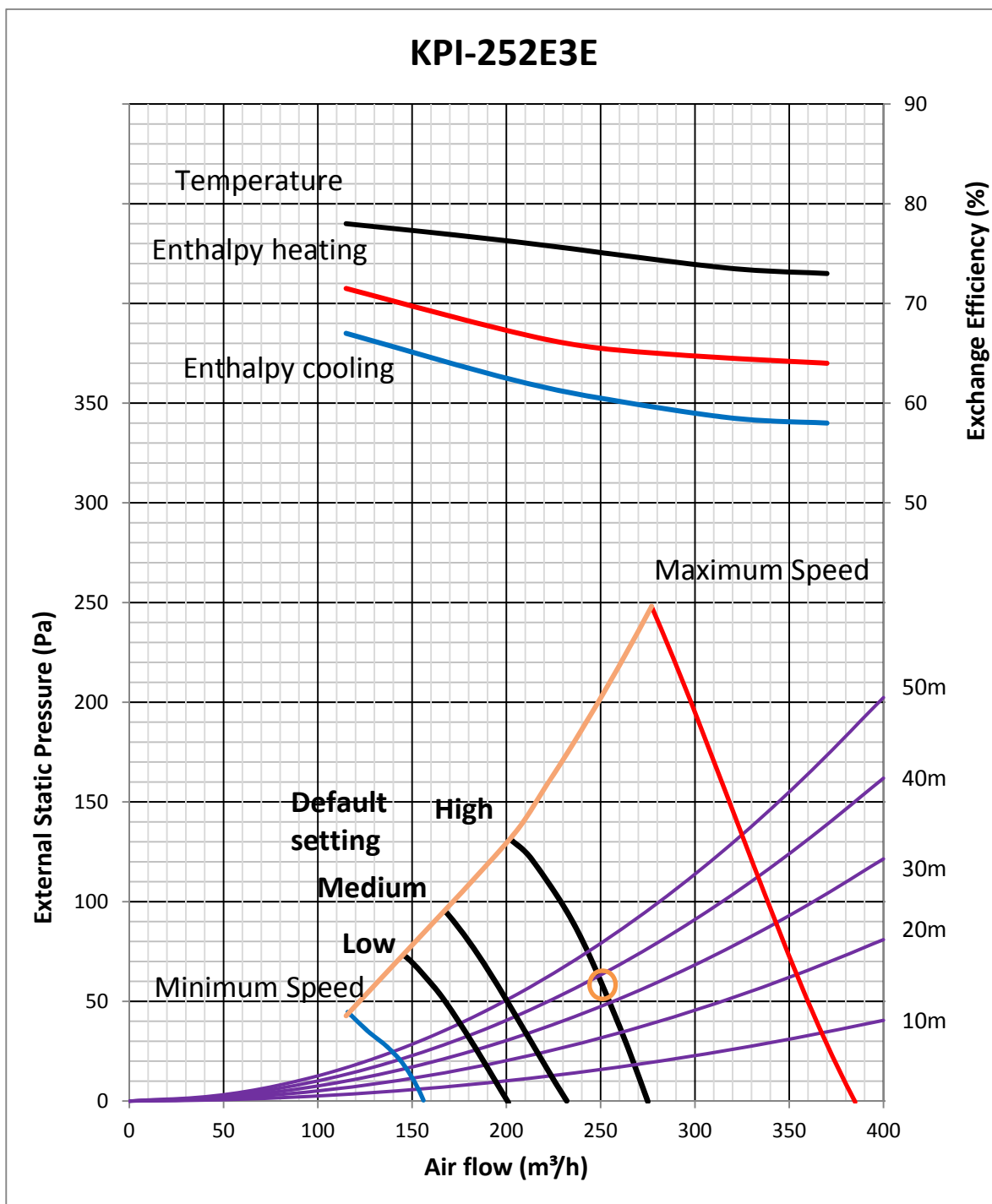
Advanced Product News. Launching of new ventilation systems 3E Series: KPI and Active KPI

DATE: Feb-12

PAGE 24/39

6.3. Fan Performance

6.3.1. Energy Recovery Series



All Areas		The middle East	
Europe	⊙	Southeast Asia	
Australia		Africa	
Others (50Hz areas)			

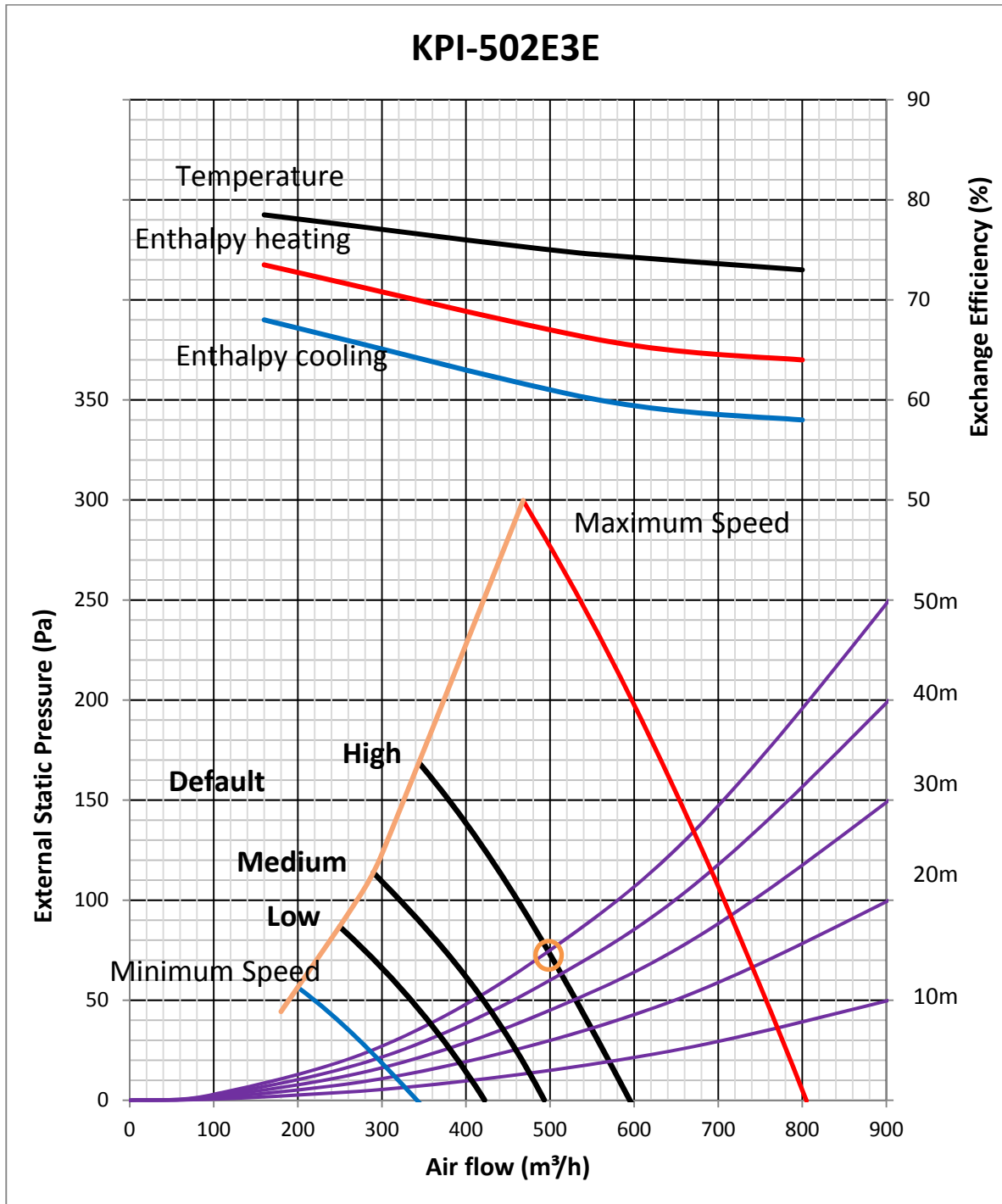
ADVANCED PRODUCT NEWS

SUBJECT

Advanced Product News. Launching of new ventilation
systems 3E Series: KPI and Active KPI

DATE: Feb-12

PAGE 25/39



All Areas		The middle East	
Europe	⊙	Southeast Asia	
Australia		Africa	
Others (50Hz areas)			

ADVANCED PRODUCT NEWS

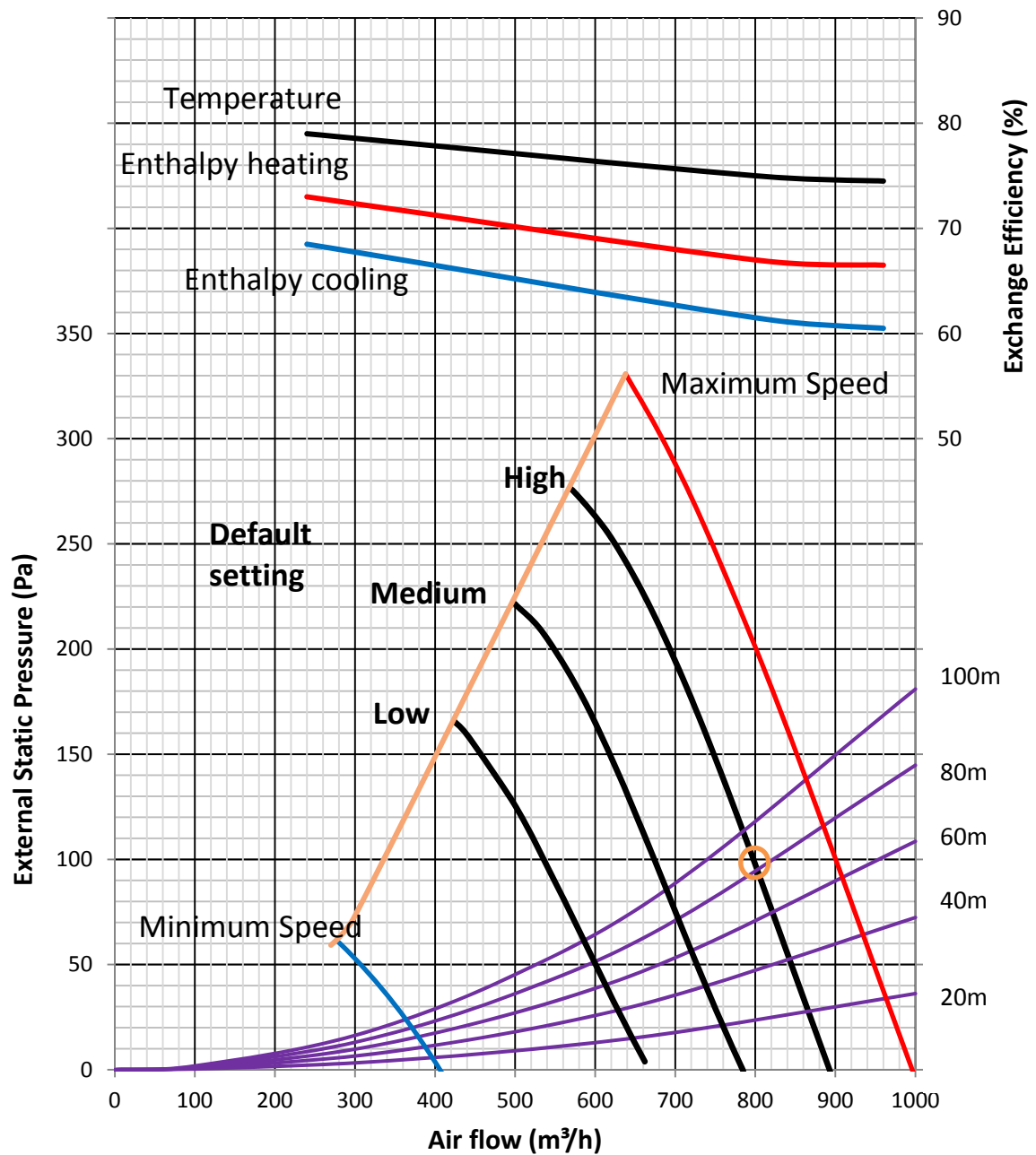
SUBJECT

Advanced Product News. Launching of new ventilation
systems 3E Series: KPI and Active KPI

DATE: Feb-12

PAGE 26/39

KPI-802E3E



HITACHI

Distributed to C Areas:

All Areas		The middle East	
Europe	⊙	Southeast Asia	
Australia		Africa	
Others (50Hz areas)			

ADVANCED PRODUCT NEWS

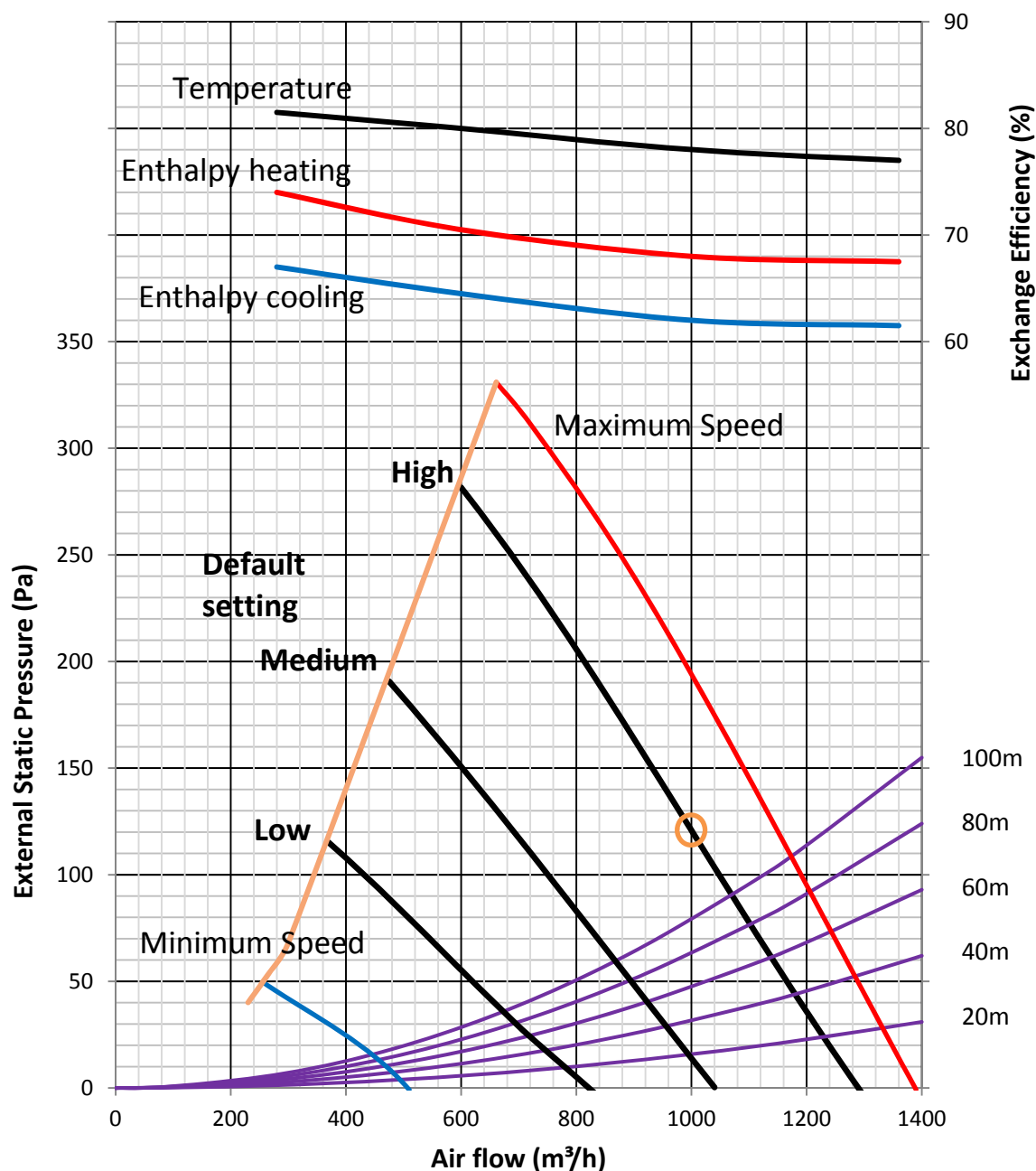
SUBJECT

Advanced Product News. Launching of new ventilation
systems 3E Series: KPI and Active KPI

DATE: Feb-12

PAGE 27/39

KPI-1002E3E



ADVANCED PRODUCT NEWS

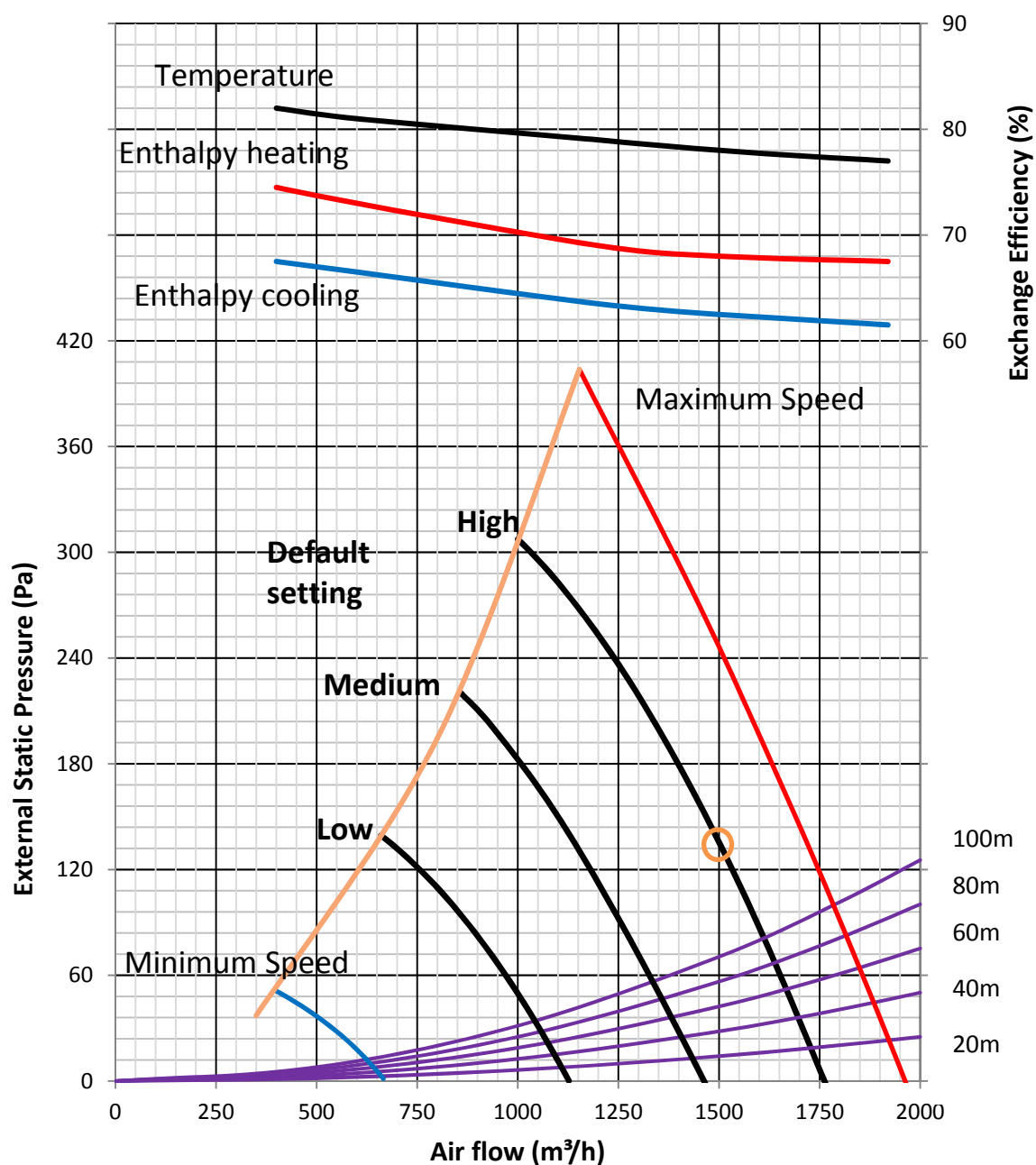
SUBJECT

Advanced Product News. Launching of new ventilation
systems 3E Series: KPI and Active KPI

DATE: Feb-12

PAGE 28/39

KPI-1502E3E



HITACHI

Distributed to C Areas:

All Areas		The middle East	
Europe	⊙	Southeast Asia	
Australia		Africa	
Others (50Hz areas)			

ADVANCED PRODUCT NEWS

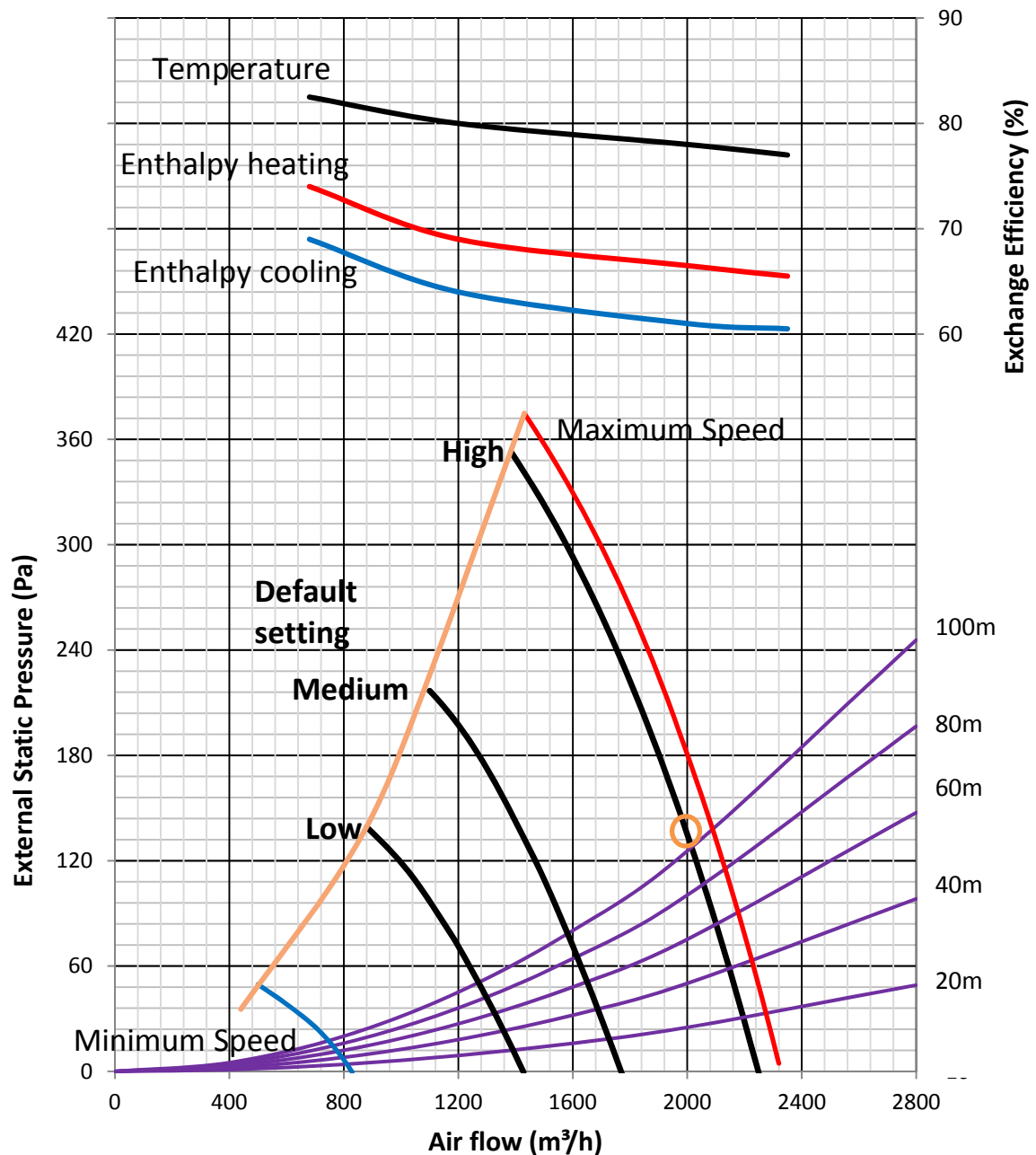
SUBJECT

Advanced Product News. Launching of new ventilation
systems 3E Series: KPI and Active KPI

DATE: Feb-12

PAGE 29/39

KPI-2002E3E



All Areas		The middle East	
Europe	⊙	Southeast Asia	
Australia		Africa	
Others (50Hz areas)			

ADVANCED PRODUCT NEWS

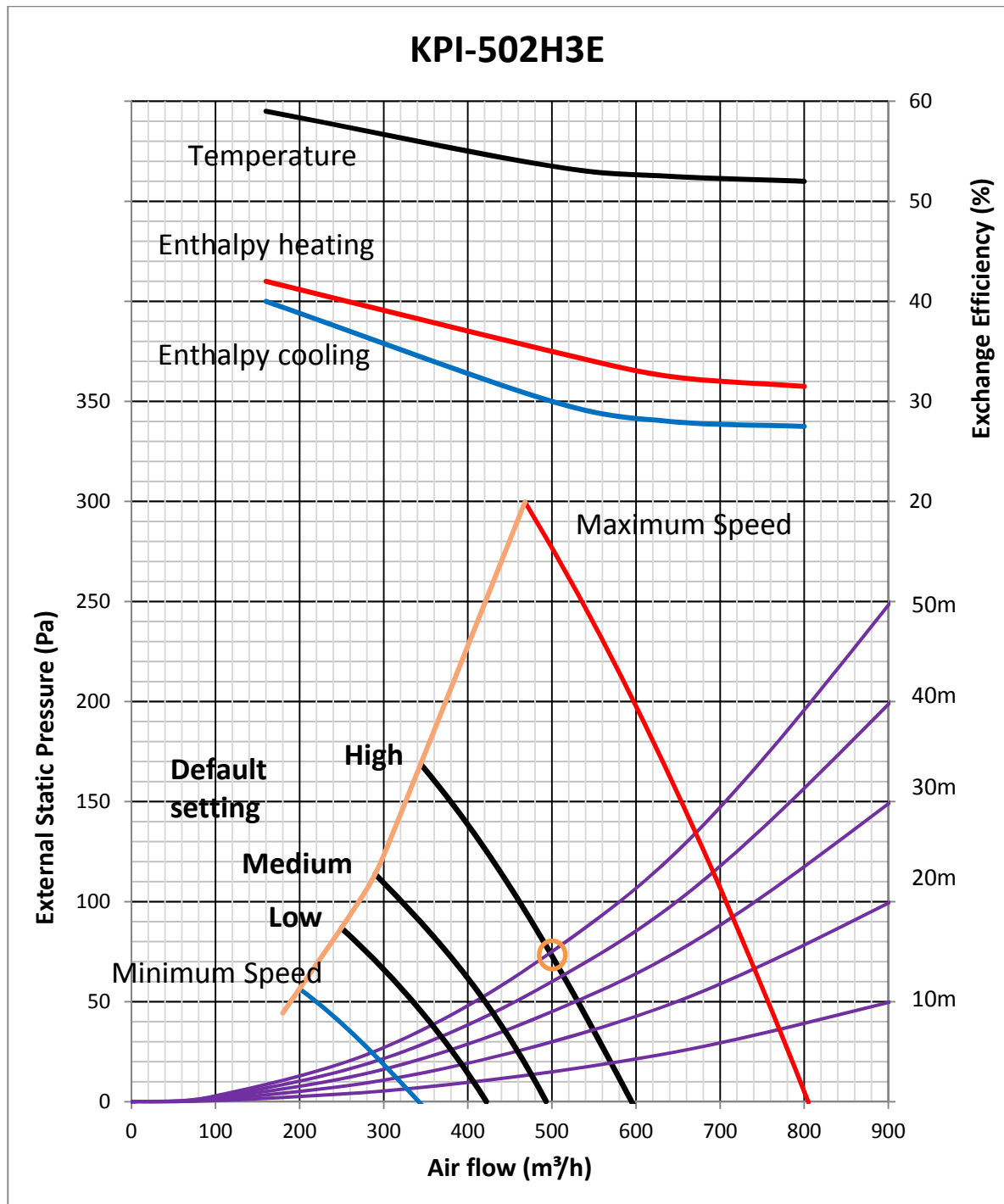
SUBJECT

Advanced Product News. Launching of new ventilation
systems 3E Series: KPI and Active KPI

DATE: Feb-12

PAGE 30/39

6.3.2. Heat Recovery Series



HITACHI

Distributed to C Areas:

All Areas		The middle East	
Europe	⊙	Southeast Asia	
Australia		Africa	
Others (50Hz areas)			

**ADVANCED
PRODUCT NEWS**

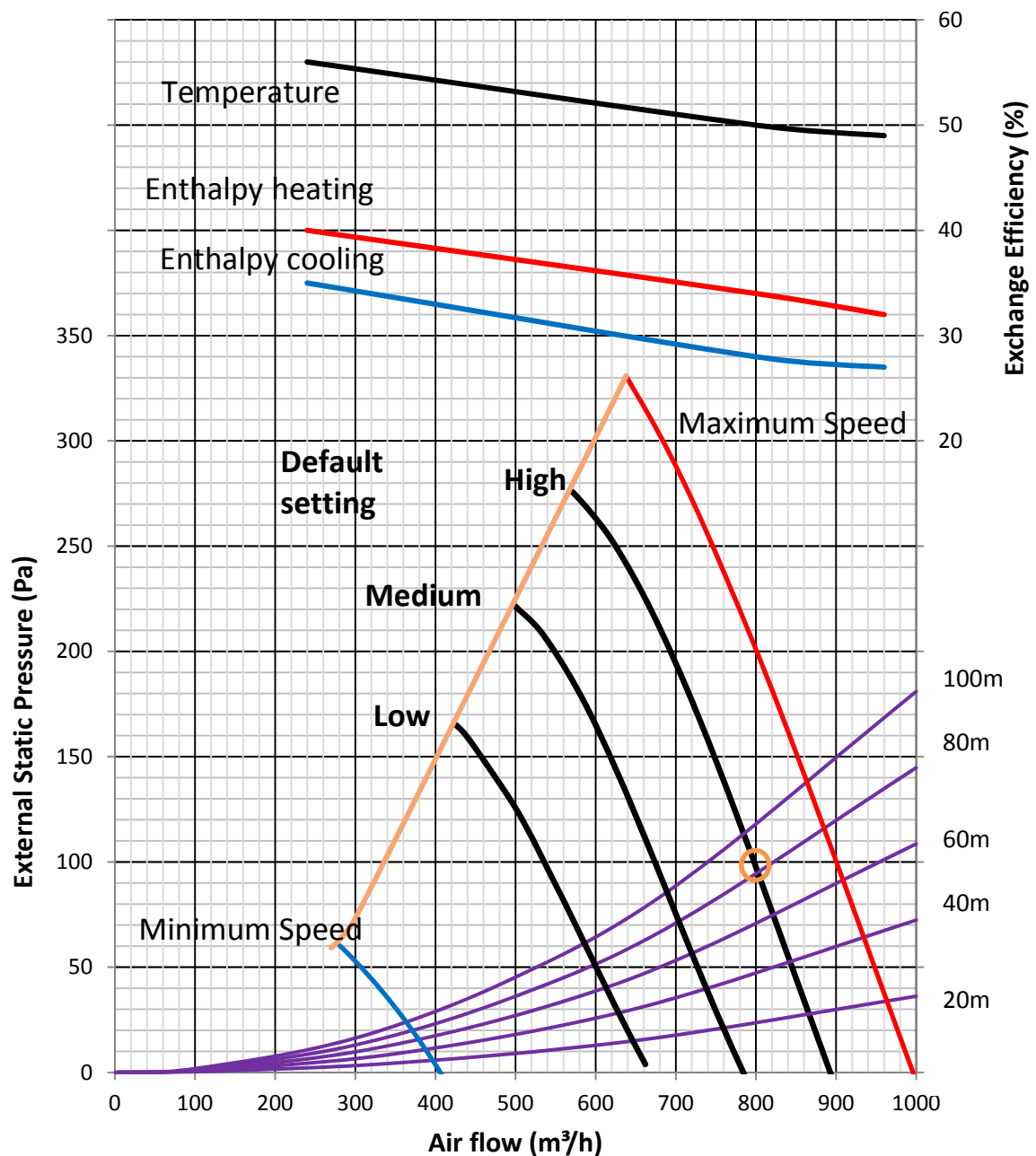
SUBJECT

Advanced Product News. Launching of new ventilation
systems 3E Series: KPI and Active KPI

DATE: Feb-12

PAGE 31/39

KPI-802H3E



Hitachi Air Conditioning Products Europe, S. A.
Barcelona (Spain)

No

APN-2011027

All Areas		The middle East	
Europe	⊙	Southeast Asia	
Australia		Africa	
Others (50Hz areas)			

ADVANCED PRODUCT NEWS

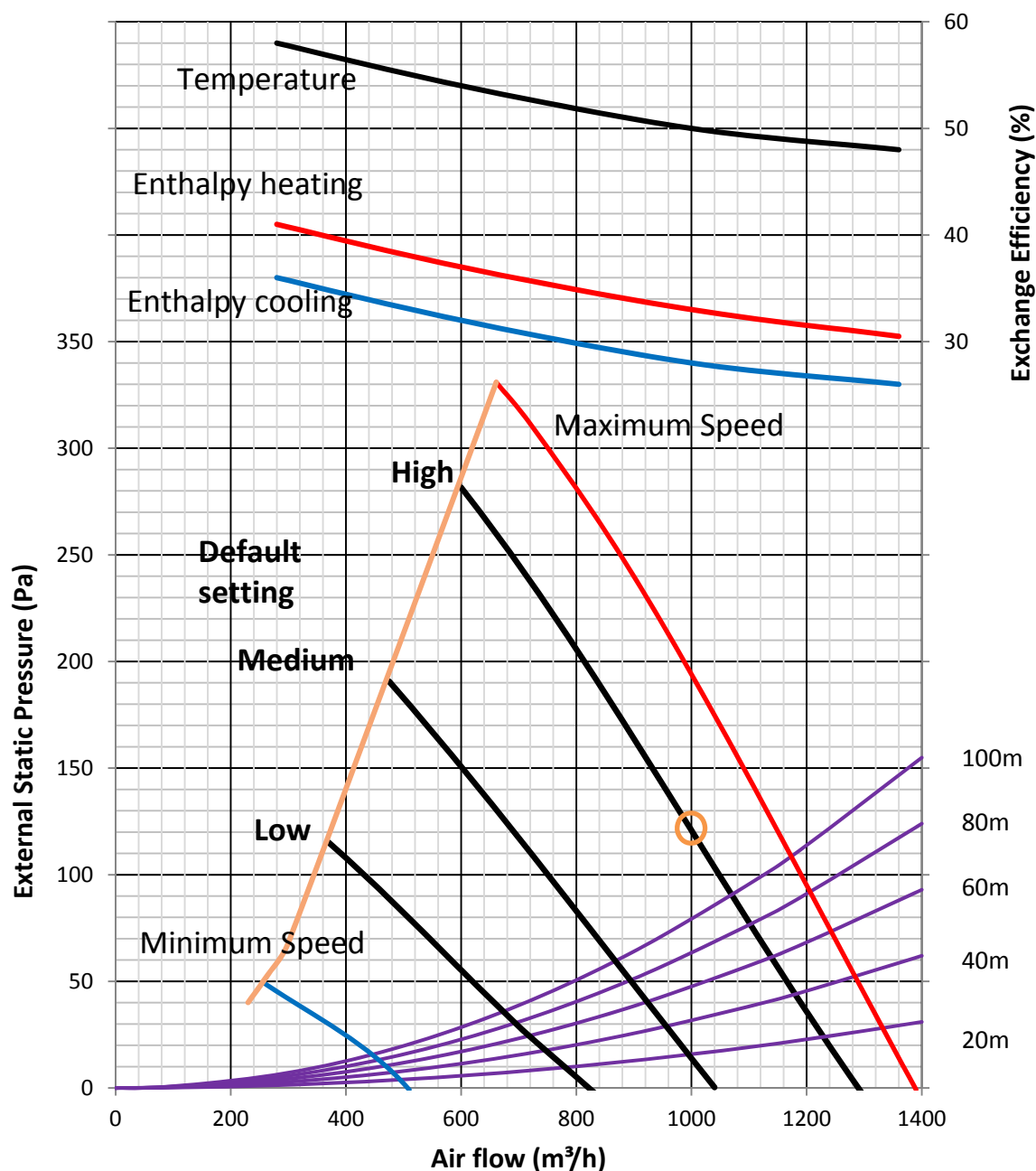
SUBJECT

Advanced Product News. Launching of new ventilation systems 3E Series: KPI and Active KPI

DATE: Feb-12

PAGE 32/39

KPI-1002H3E



All Areas		The middle East	
Europe	⊙	Southeast Asia	
Australia		Africa	
Others (50Hz areas)			

ADVANCED PRODUCT NEWS

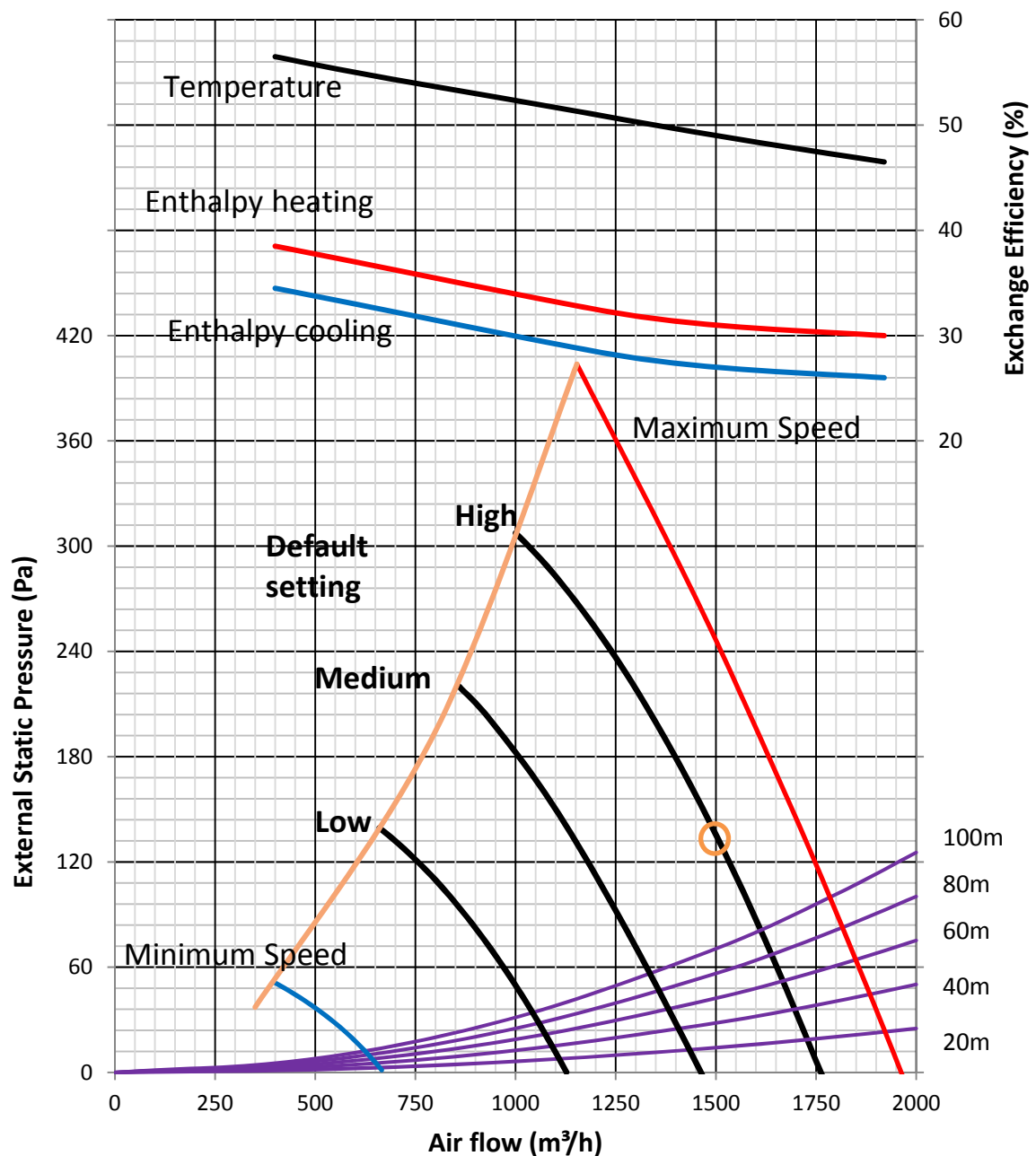
SUBJECT

Advanced Product News. Launching of new ventilation
systems 3E Series: KPI and Active KPI

DATE: Feb-12

PAGE 33/39

KPI-1502H3E



HITACHI

Distributed to C Areas:

All Areas		The middle East	
Europe	⊙	Southeast Asia	
Australia		Africa	
Others (50Hz areas)			

**ADVANCED
PRODUCT NEWS**

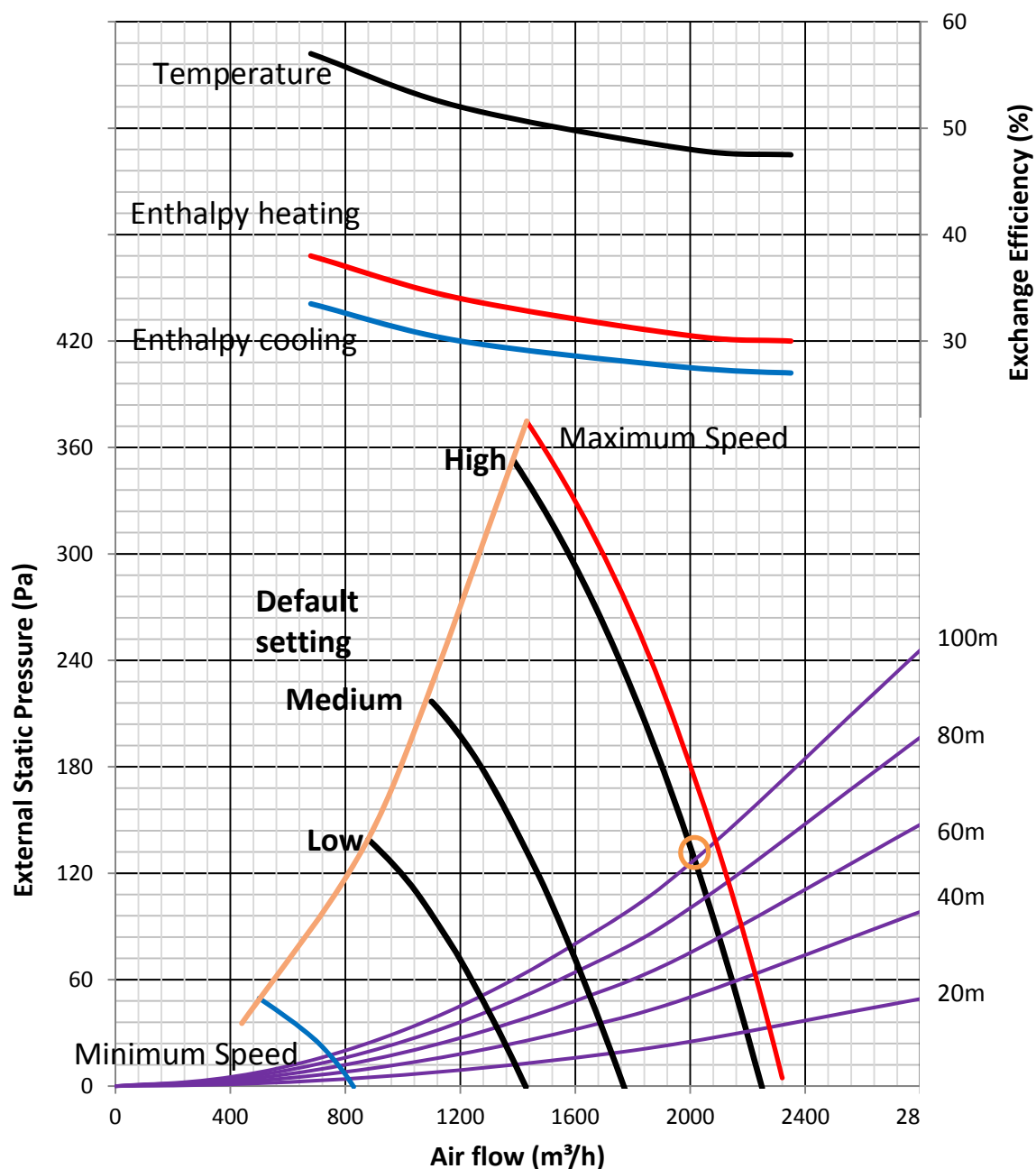
SUBJECT

Advanced Product News. Launching of new ventilation systems 3E Series: KPI and Active KPI

DATE: Feb-12

PAGE 34/39

KPI-2002H3E



Hitachi Air Conditioning Products Europe, S. A.
Barcelona (Spain)

No

APN-2011027

All Areas		The middle East	
Europe	⊙	Southeast Asia	
Australia		Africa	
Others (50Hz areas)			

ADVANCED PRODUCT NEWS

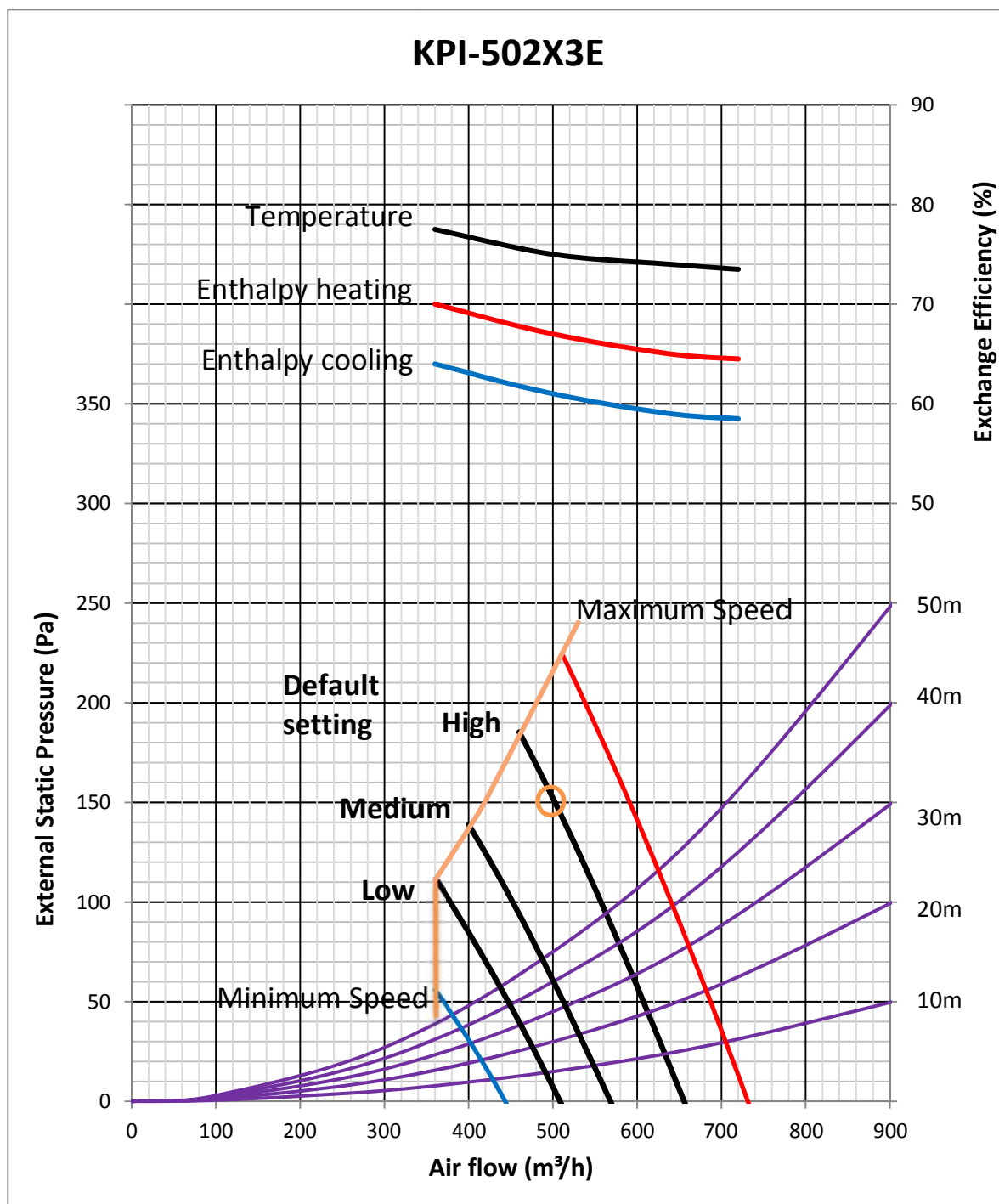
SUBJECT

Advanced Product News. Launching of new ventilation
systems 3E Series: KPI and Active KPI

DATE: Feb-12

PAGE 35/39

6.3.3. Active Series



All Areas		The middle East	
Europe	⊙	Southeast Asia	
Australia		Africa	
Others (50Hz areas)			

ADVANCED PRODUCT NEWS

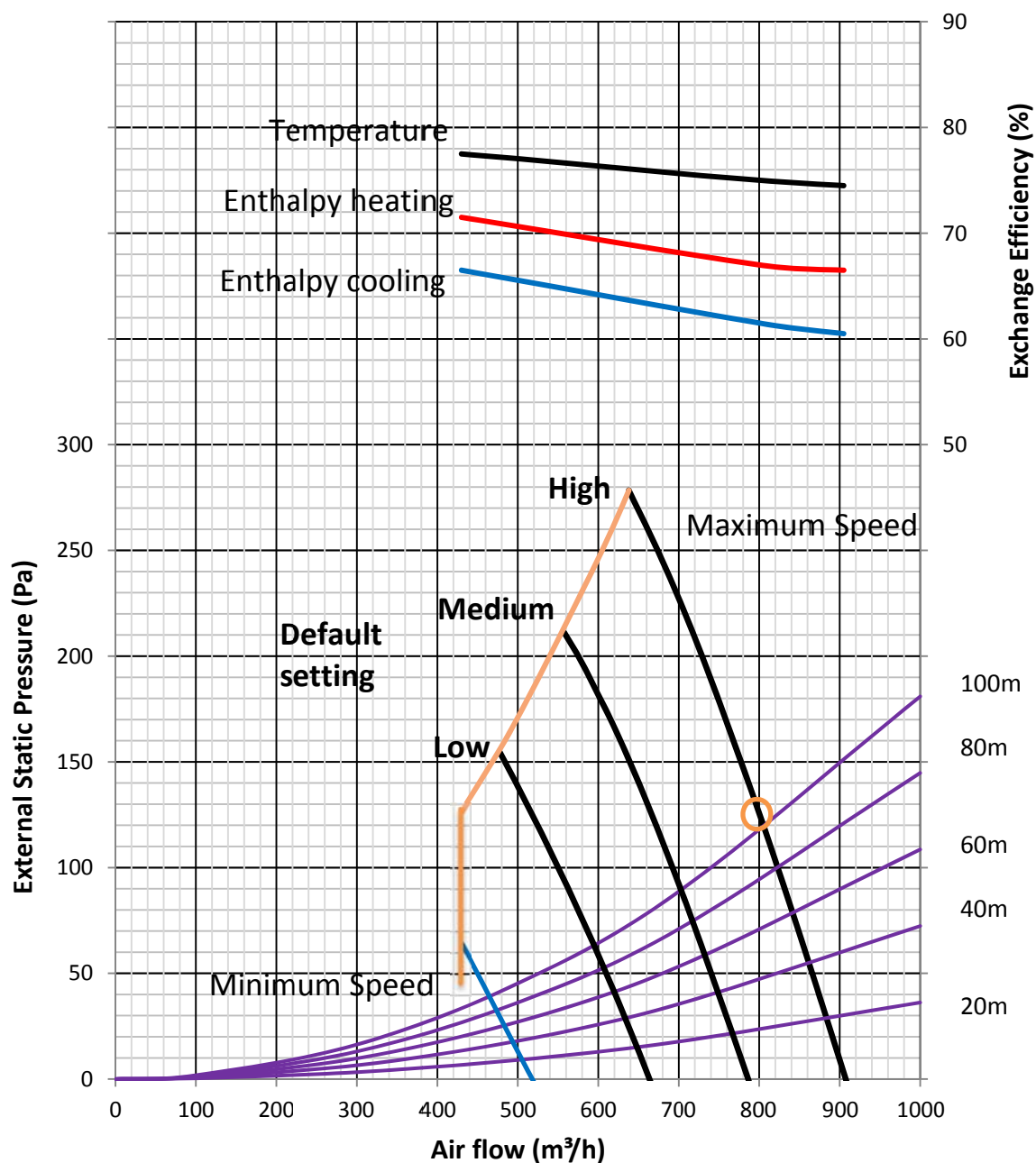
SUBJECT

Advanced Product News. Launching of new ventilation
systems 3E Series: KPI and Active KPI

DATE: Feb-12

PAGE 36/39

KPI-802X3E



All Areas		The middle East	
Europe	⊙	Southeast Asia	
Australia		Africa	
Others (50Hz areas)			

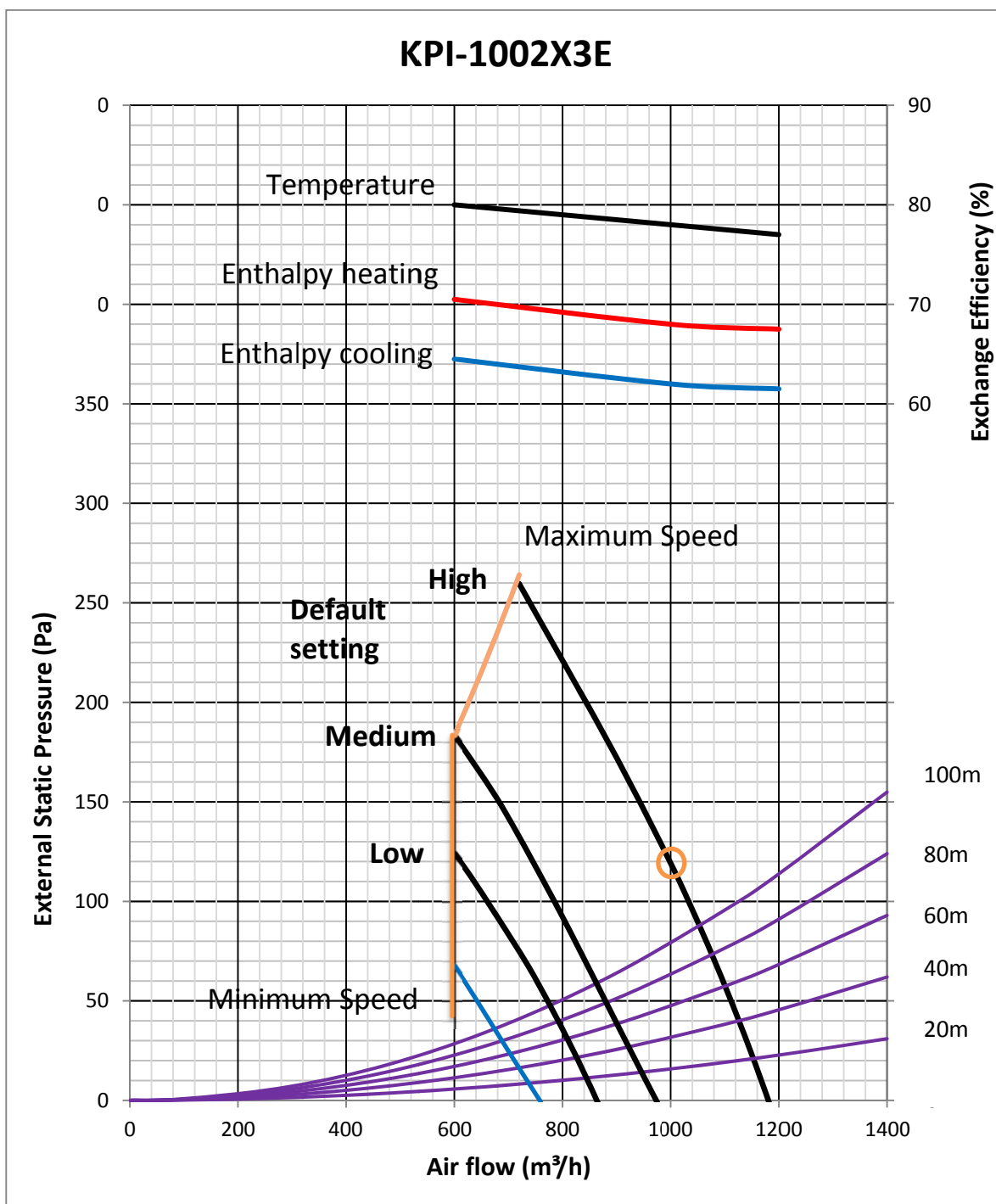
ADVANCED PRODUCT NEWS

SUBJECT

Advanced Product News. Launching of new ventilation
systems 3E Series: KPI and Active KPI

DATE: Feb-12

PAGE 37/39



All Areas		The middle East	
Europe	⊙	Southeast Asia	
Australia		Africa	
Others (50Hz areas)			

ADVANCED PRODUCT NEWS

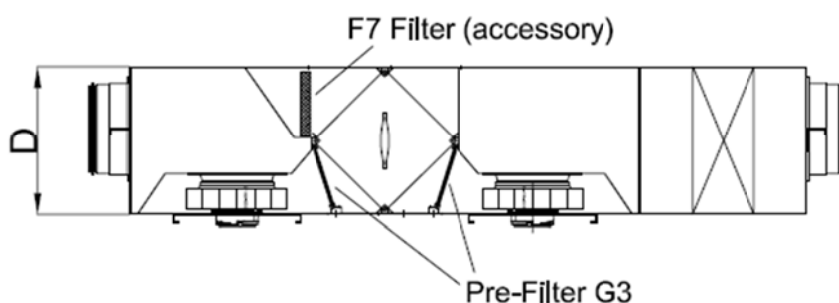
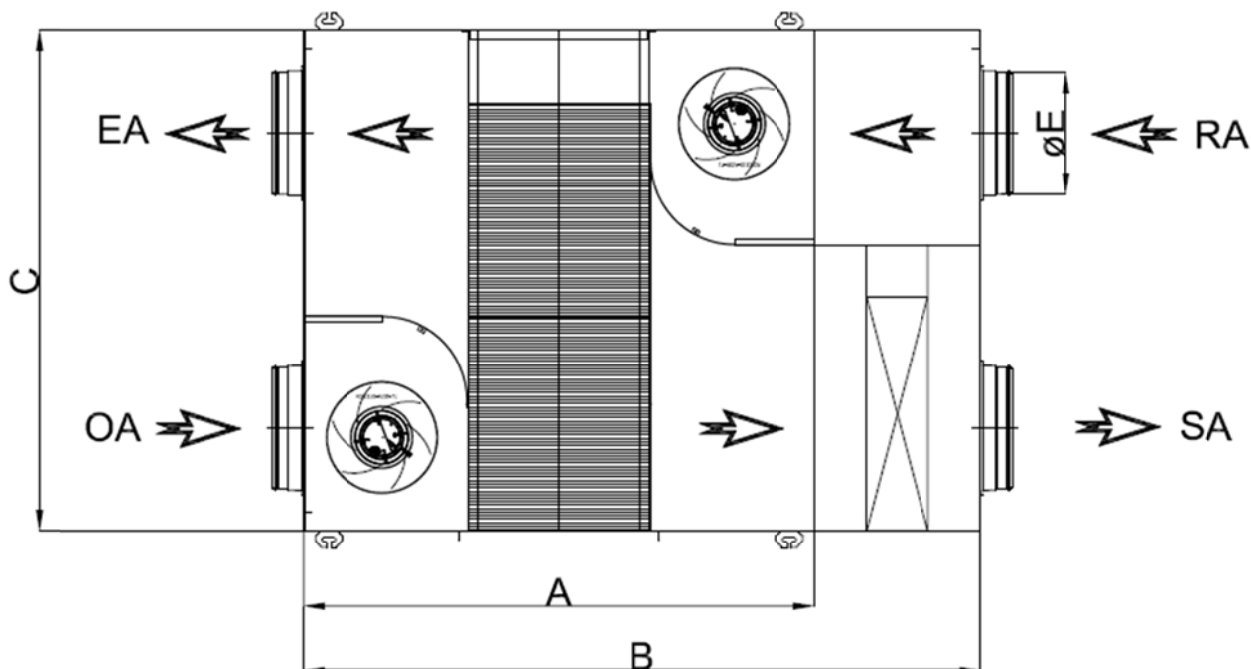
SUBJECT

Advanced Product News. Launching of new ventilation systems 3E Series: KPI and Active KPI

DATE: Feb-12

PAGE 38/39

6.4. Dimensional Drawings



(mm)	KPI-252E3E	KPI-502(E/H)3E	KPI-802(E/H)3E	KPI-1002(E/H)3E	KPI-1502(E/H)3E	KPI-2002(E/H)3E
A	900	1130	1210	1600	1800	1800
C	750	920	1015	1295	1130	1430
D	270	330	385	385	525	525
øE	150	200	250	300	355	355

(mm)	KPI-502X3E	KPI-802X3E	KPI-1002X3E
B	1630	1710	2100
C	920	1015	1295
D	330	385	385
øE	200	250	300

