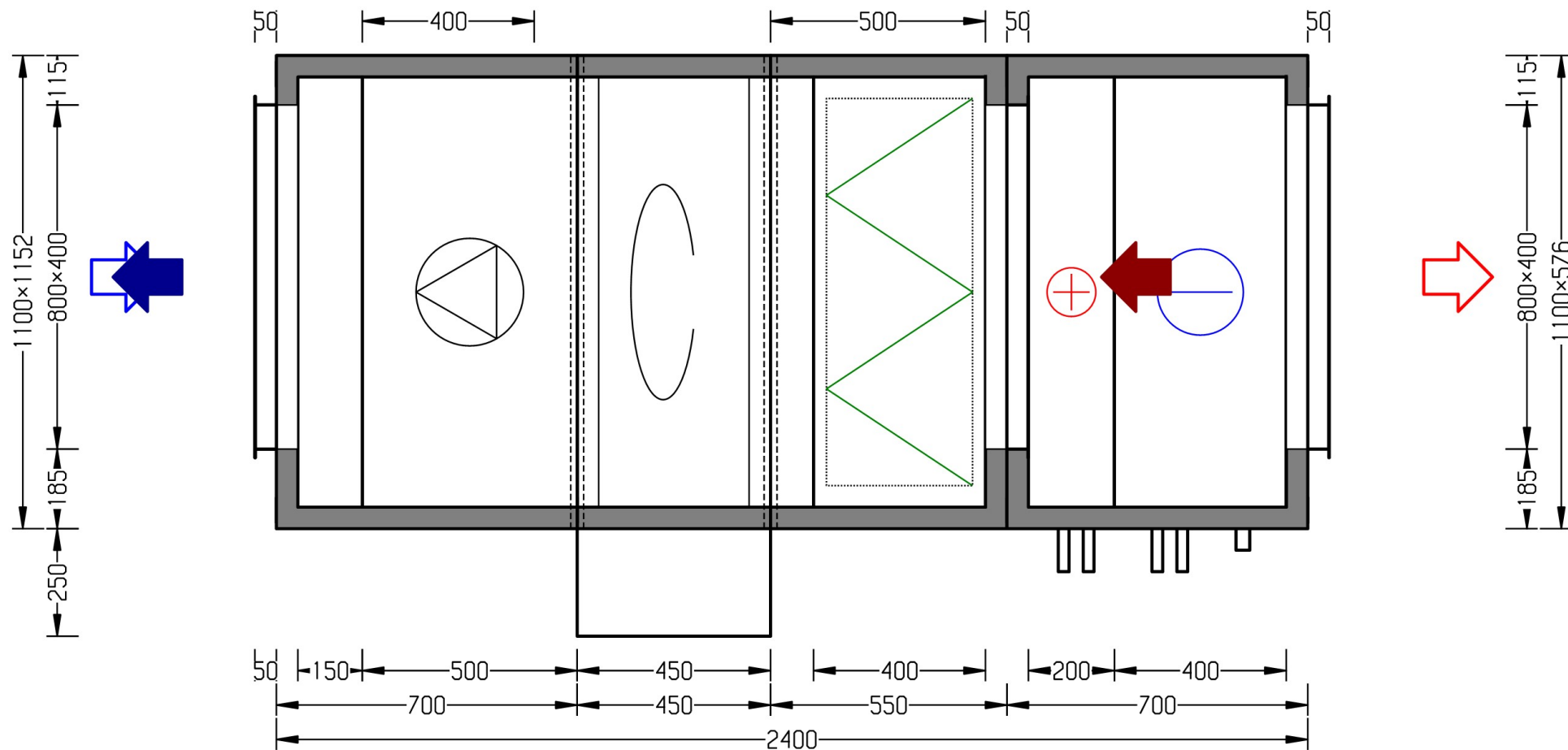


From Inspection Side

2017-02-13  
Acon 2.20.170130.2  
Page 1/13

Customer id	67174	Project name	(2016 0240) / BWD C te Leeuwarden	
Project	412	Unit name	(01) / LBK - excl. regeling	
Unit	2	Supply air	eQ Prime-008	2785 m³/h
AOC	ACON-02023810	Exhaust air	eQ Prime-008	2785 m³/h



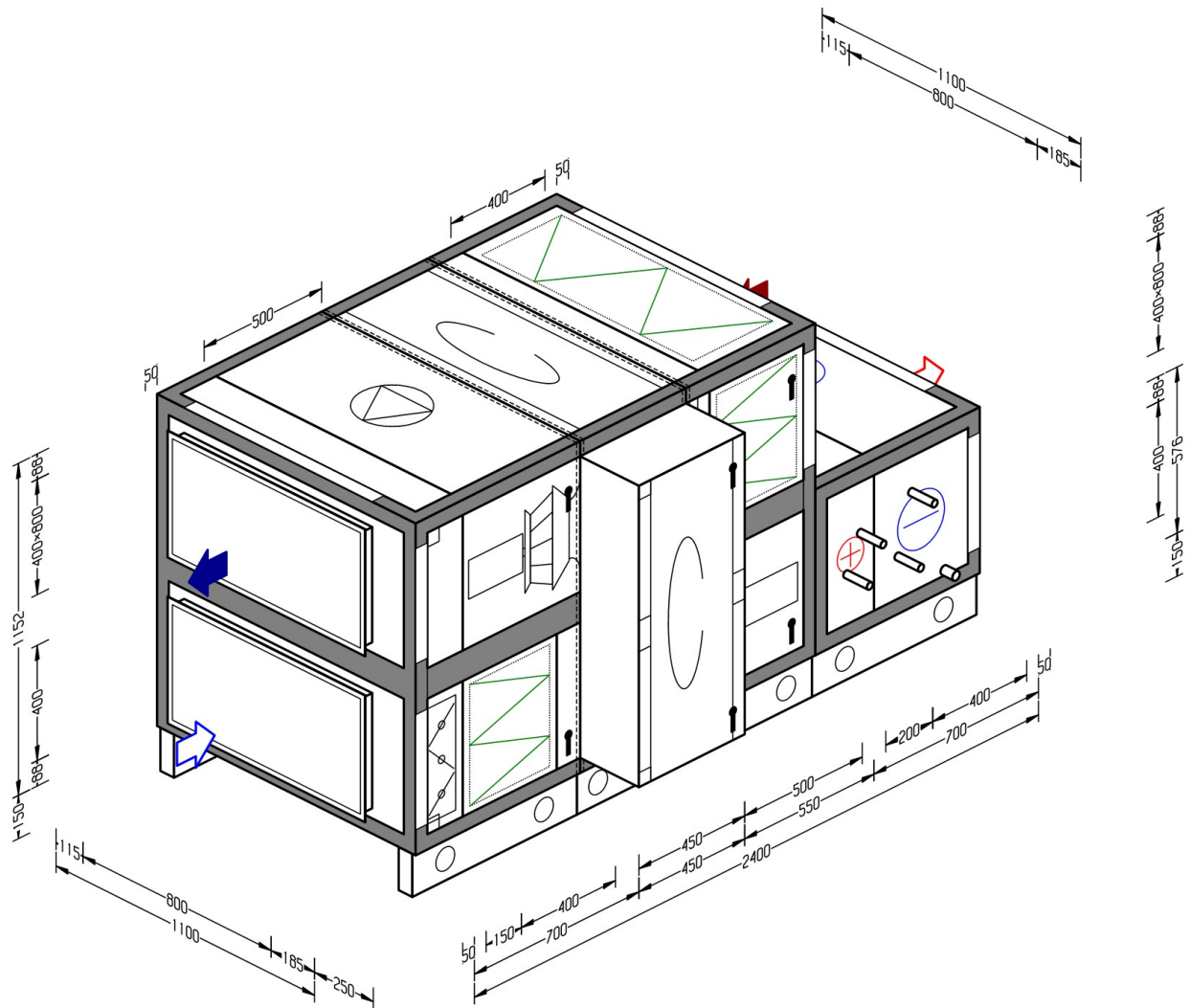


From Above

2017-02-13  
Acon 2.20.170130.2  
Page 2/13

Customer id	67174	Project name	(2016 0240) / BWD C te Leeuwarden	
Project	412	Unit name	(01) / LBK - excl. regeling	
Unit	2	Supply air	eQ Prime-008	2785 m³/h
AOC	ACON-02023810	Exhaust air	eQ Prime-008	2785 m³/h





Isometric South West

2017-02-13  
Acon 2.20.170130.2  
Page 3/13

Customer id 67174  
Project 412  
Unit 2  
AOC ACON-02023810

Project name (2016 0240) / BWD C te Leeuwarden  
Unit name (01) / LBK - excl. regeling  
Supply air eQ Prime-008  
Exhaust air eQ Prime-008

2785 m³/h  
2785 m³/h





### AIR HANDLING UNIT eQ Prime

Project	412 (2016 0240) / BWD C te Leeuwarden	Acon 2.20.170130.2
AOC	ACON-02023810	
Unit	2 (01) / LBK - excl. regeling	2017-02-13
Size	008	Page 4/13

Customer		
Customers ref.		
Our ref.	Cengiz Stiekel	
Supply air flow	2785 m <sup>3</sup> /h	Exhaust air flow 2785 m <sup>3</sup> /h
Ext. static pressure	300 Pa	Ext. static pressure 300 Pa
Voltage	3 x 400V + N, 50 Hz	Weight 487 kg
Specific electric power demand	2,05 kW/(m <sup>3</sup> /s)	Dimensioned for wet condition
Ref. density	1,2 kg/m <sup>3</sup>	Ref. altitude above sea level 0 m

### SUMMARY

Functional sections in direction of air flow	v0 (m/s)	Et (%)	tw (°C)	ts (°C)	dP* (Pa)
Supply air:					
Connection section	0,0				4
Filter	2,8				179
Heat exchanger	2,2	84,6	-10 / 15,4	28 / 25,5	142
Plenum fan		60,1	15,4 / 16,3	25,5 / 26,5	716
Connection section	0,0				0
Air heater	2,4		16,3 / 20		25
Air cooler	2,3			26,5 / 16	54
Connection section	0,0				0
Fan system effect					12
Supply outlet					300
Exhaust air:					
Exhaust inlet					300
Connection section	0,0				0
Filter	2,5				91
Heat exchanger	2,2		20 / -5,4	25 / 27,5	142
Plenum fan		54,3			549
Connection section	0,0				0
Fan system effect					16

\*Refers to the fan design case

### SOUND POWER LEVELS (standard: EN13053 ISO/CD 13347-2)

Octave band (Hz)	Lw per octave band (dB)								LwA
	63	125	250	500	1k	2k	4k	8k	dB(A)
Fresh air connection	68	56	66	63	56	58	52	51	65
Supply air connection	61	68	70	70	70	68	62	59	74
Extract connection	62	58	69	69	61	62	57	54	70
Exhaust connection	62	70	73	75	76	76	73	71	82
To surroundings	62	55	59	49	39	49	43	33	55

### TOLERANCE

According to EN 13053 the LwA tolerance is 4dB. Octave band tolerances are presented in the tolerance table

Octave band (Hz)	Lw per octave band (dB)								LwA
	63	125	250	500	1k	2k	4k	8k	dB(A)
TOLERANCE	8	6	6	6	6	4	4	7	4

Frequency converters and motors mounted external are not included in the sound power levels





### AIR HANDLING UNIT eQ Prime

Project 412 (2016 0240) / BWD C te Leeuwarden Acon 2.20.170130.2  
 AOC ACON-02023810  
 Unit 2 (01) / LBK - excl. regeling 2017-02-13  
 Size 008 Page 6/13

Customer  
 Customers ref.  
 Our ref. Cengiz Stiekel

---

Supply air flow 2785 m<sup>3</sup>/h Exhaust air flow 2785 m<sup>3</sup>/h  
 Ext. static pressure 300 Pa Ext. static pressure 300 Pa  
 Voltage 3 x 400V + N, 50 Hz Weight 487 kg  
 Specific electric power demand 2,05 kW/(m<sup>3</sup>/s) Dimensioned for wet condition  
 Ref. density 1,2 kg/m<sup>3</sup> Ref. altitude above sea level 0 m

Air heater	3,51	16,3/45	20/35,6	35/25		0,08	1,8	25
Air cooler	12,6	26,5/49,2	16/84,1	5/11		0,5	11,8	25

#### Motor data

Voltage 3 x 400V + N, 50 Hz  
 Power, supply flow 1,1 kW Power, extract flow 1,1 kW  
 Current, full load, supply flow 2 A Current, full load, extract flow 2 A

### SOUND POWER LEVELS (standard: EN13053 ISO/CD 13347-2)

Octave band (Hz)	Lw per octave band (dB)								LwA dB(A)
	63	125	250	500	1k	2k	4k	8k	
Fresh air connection	68	56	66	63	56	58	52	51	65
Supply air connection	61	68	70	70	70	68	62	59	74
Extract connection	62	58	69	69	61	62	57	54	70
Exhaust connection	62	70	73	75	76	76	73	71	82
To surroundings	62	55	59	49	39	49	43	33	55

### TOLERANCE

According to EN 13053 the LwA tolerance is 4dB. Octave band tolerances are presented in the tolerance table

Octave band (Hz)	Lw per octave band (dB)								LwA dB(A)
	63	125	250	500	1k	2k	4k	8k	
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Frequency converters and motors mounted external are not included in the sound power levels



AIR HANDLING UNIT eQ Prime

Project	412 (2016 0240) / BWD C te Leeuwarden	Acon 2.20.170130.2
AOC	ACON-02023810	
Unit	2 (01) / LBK - excl. regeling	2017-02-13
Size	008	Page 7/13

TECHNICAL SPECIFICATION  
(components listed in direction of air flow)

SUPPLY AIR

Intake air section

Size: 008	
Material: AZ sheet steel	
Inspection side: right	
Pressure drop, dimensioning	4 Pa
Damper	
Width cm : 080	
Height in cm : 040	
Tightness class : CEN 3	
Connection: Flange	
Function : Outdoor air	
Location: internally end wall	
Damper type: 100 mm blade	
Material : galvanized sheet steel	
Duct connection piece	
Connection: Flange	
Material, frame: galvanized sheet steel / AlZn	

Filter

Size: 008	
Filter length: Short bag (vertical pockets only)	
Filter class: F7	
Filter type: glass fibre, standard	
Filter frame : Plastic or metal	
Inspection side: inlet in end wall	
Location: negative pressure	
Prefilter: without	
Drain tray: without	
Material: AZ sheet steel	
Inspection side: right	
Number of filters	1x792x392
Pressure drop, start	129 Pa
Pressure drop, dimensioning	179 Pa
Pressure drop, end	229 Pa
Face area	0,3 m <sup>2</sup>
Face velocity	2,8 m/s

Rotary heat exchanger

Size: 8	
Rotor type: SEMCO sorption rotor	
Output variant: output variant 8 (1.8, 270mm wheel)	
Function lenght: rotary with fan section before and after	
Delivery version: Assembled rotor unit, max. face area	
Material: galvanized sheet steel	
Inspection side: right	
Voltage: 1 x 230 V	
Control connections: no	
Efficiency	
Temperature efficiency according to standard EN 308	84,6 %
Temperature efficiency at 0°C outdoors	84,6 %
Cooling recovery	83,6 %
Temperature Efficiency	84,6 %



AIR HANDLING UNIT eQ Prime

Project	412 (2016 0240) / BWD C te Leeuwarden	Acon 2.20.170130.2
AOC	ACON-02023810	
Unit	2 (01) / LBK - excl. regeling	2017-02-13
Size	008	Page 8/13

Humidity efficiency		85,2 %
Supply air	Summer	Winter
Pressure drop	142	124 Pa
Air temperature	28 / 25,5	-10 / 15,4 °C
Relative humidity	60 / 52,2	90 / 47,7 %
Capacity reduction	11	32 kW
Air flow transfer	336	346 m³/h
Face velocity	2,3	2,2 m/s
Exhaust air	Summer	Winter
Pressure drop	142	128 Pa
Air temperature	25 / 27,5	20 / -5,4 °C
Relative humidity	50 / 58,6	40 / 86,8 %
Additional throttling	0	0 Pa
Face velocity	2,3	2,2 m/s

Plenum fan

Inspection side: right

Fan selection

Fan size: size 2

Anti-vibration mountings: wall mounted

Motor selection

Motor type: EC motor IE4

Motor control

Manufacture, type: Fläkt Woods EC-motor

Housing protection: IP54

Design: on motor

Delivery options: mounted on current sub

Dimensioning data

Speed 3564 Rpm

Max speed 3800 Rpm

Total efficiency 60,1 %

Fan static pressure, dimensioning 716 Pa

Absorbed electrical power 0,945 kW

Temperature rise 1 °C

K factor 54,4

Fan wheel size 028

SFP Calculation

Absorbed electrical power according to SFP 0,837 kW

Pressure rise 641 Pa

Speed 3400 Rpm

Motor

Motor output 1,1 kW

Electric current 2,0 A

Calculated capacity margin 16 %

Doorstop (for doors on pressurized units)

Pressure-/flow sensor

Location: Supply air

Type: Pressure linear

Pressure range: 0-3000 Pa

Delivery options: Enclosed

Frequency converter

Motor cable

Centriflow 3D fan unit + EC motor

Intake air section

Size: 008

Material: AZ sheet steel





AIR HANDLING UNIT eQ Prime

Project	412 (2016 0240) / BWD C te Leeuwarden	Acon 2.20.170130.2
AOC	ACON-02023810	
Unit	2 (01) / LBK - excl. regeling	2017-02-13
Size	008	Page 9/13

Inspection side: right  
 Pressure drop, dimensioning 0 Pa

**Air heater for hot water**

Size: 8  
 Calculation principle: flow control, input data  
 Output variant: 2  
 Design: normal face area  
 Fin spacing: 3 mm  
 Fluid passes: 10  
 Material, coil: Cu/Al, MS header  
 Material: galvanized sheet steel  
 Inspection side: right  
 Nom. pipe size 25  
 Liquid volume 2,9 l  
 Pressure drop, dimensioning 24 Pa  
 Output 3,51 kW  
 Air temperature 16,3 / 20 °C  
 Face velocity 2,4 m/s  
 Control principle for water heater flow control  
 Water temperature 35 / 25 °C  
 Water flow 0,08 l/s  
 Water velocity 0,3 m/s  
 Pressure drop water 1,8 kPa  
 Manual air purging valve

**Air cooler for chilled water**

Use as: Cooling Coil  
 Size: 8  
 Coil Calculation Variant: Configure Friterm  
 Calculation principle: flow control, input data  
 Output variant: 3  
 Design: normal face area  
 Fin spacing: 2.5 mm  
 Fluid passes: 08  
 Droplet eliminator: with, plastic  
 Material, coil: Cu/Al, MS header  
 Material: galvanized sheet steel  
 Inspection side: right  
 Design variant: version 3  
 Shunt control: without  
 Nom. pipe size 25  
 Liquid volume 4,5 l  
 Pressure drop, dimensioning 54 Pa  
 Pressure drop 54 Pa  
 Pressure drop, dry coil 36 Pa  
 Output 12,6 kW  
 Air temperature 26,5 / 16 °C  
 Relative humidity 49,2 / 84,1 %  
 Face velocity 2,3 m/s  
 Water temperature 5 / 11 °C  
 Water flow 0,5 l/s  
 Water velocity 0,9 m/s  
 Pressure drop water 11,8 kPa  
 Water trap  
 Type: Positive pressure +3000 Pa  
 Manual air purging valve



AIR HANDLING UNIT eQ Prime

Project	412 (2016 0240) / BWD C te Leeuwarden	Acon 2.20.170130.2
AOC	ACON-02023810	
Unit	2 (01) / LBK - excl. regeling	2017-02-13
Size	008	Page 10/13

### Casing end wall

Pressure drop, dimensioning	0 Pa
Duct connection piece	
Width cm : 80	
Height in cm : 40	
Connection type: flange connection	
Material: galvanized sheet steel / AlZn	

## EXHAUST AIR

### Intake air section

Size: 008	
Material: AZ sheet steel	
Inspection side: left	
Pressure drop, dimensioning	0 Pa
Duct connection piece	
Connection: Flange	
Material, frame: galvanized sheet steel / AlZn	

### Filter

Size: 008	
Filter length: Short bag (vertical pockets only)	
Filter class: M5	
Filter type: synthetic	
Filter frame : Plastic or metal	
Inspection side: inlet in end wall	
Location: negative pressure	
Prefilter: without	
Drain tray: without	
Material: AZ sheet steel	
Inspection side: left	
Number of filters	1x792x392
Pressure drop, start	41 Pa
Pressure drop, dimensioning	91 Pa
Pressure drop, end	141 Pa
Face area	0,3 m <sup>2</sup>
Face velocity	2,5 m/s

### Plenum fan

Inspection side: left	
Fan selection	
Fan size: size 2	
Anti-vibration mountings: wall mounted	
Motor selection	
Motor type: EC motor IE4	
Motor control	
Manufacture, type: Fläkt Woods EC-motor	
Housing protection: IP54	
Design: on motor	
Delivery options: mounted on current sub	
Dimensioning data	
Speed	3589 Rpm
Max speed	3800 Rpm
Total efficiency	54,3 %
Fan static pressure, dimensioning	549 Pa
Absorbed electrical power	0,904 kW



AIR HANDLING UNIT eQ Prime

Project	412 (2016 0240) / BWD C te Leeuwarden	Acon 2.20.170130.2
AOC	ACON-02023810	
Unit	2 (01) / LBK - excl. regeling	2017-02-13
Size	008	Page 11/13

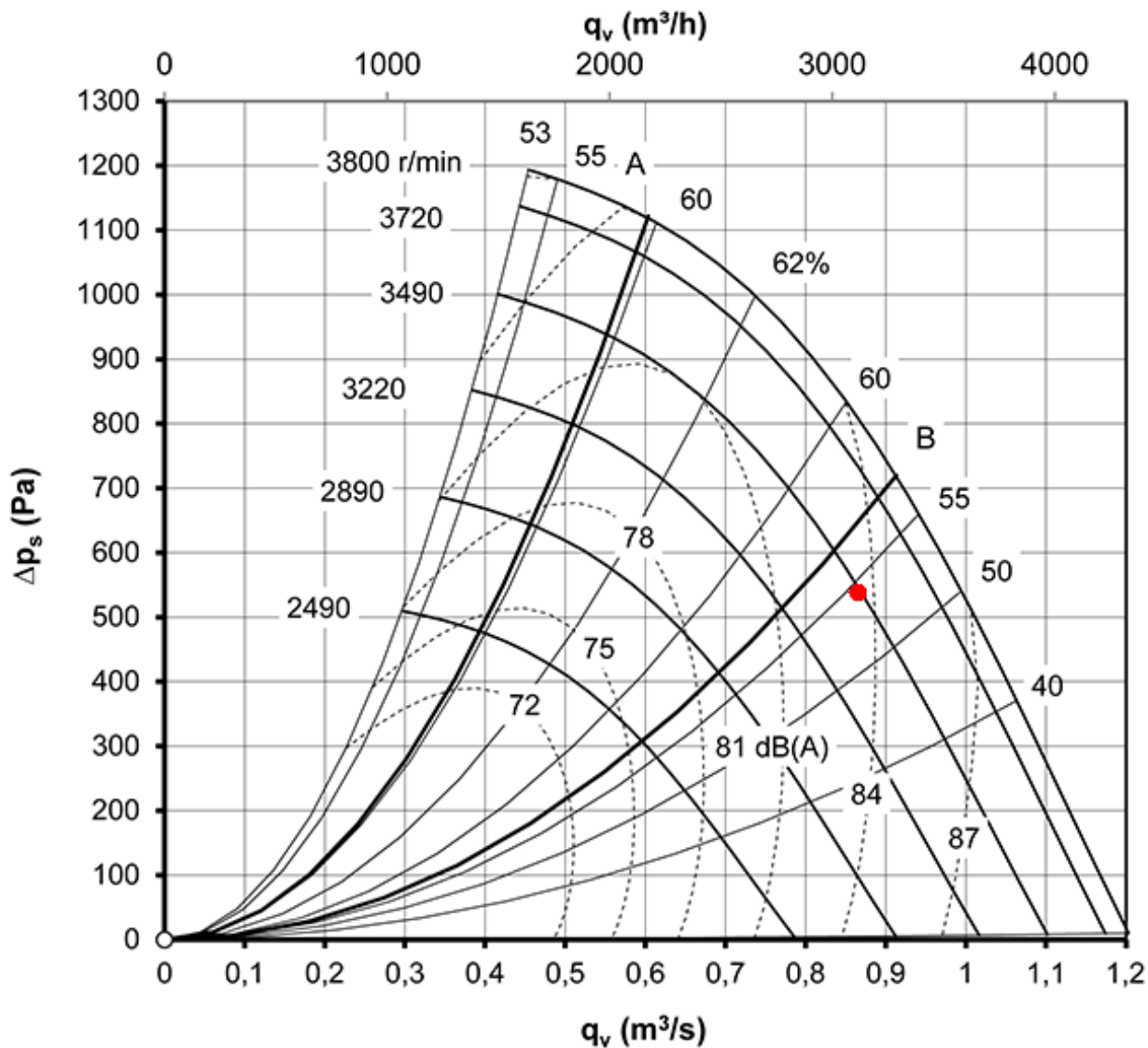
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Temperature rise	0,9 °C
K factor	54,4
Fan wheel size	028
SFP Calculation	
Absorbed electrical power according to SFP	0,756 kW
Pressure rise	491 Pa
Speed	3338 Rpm
Motor	
Motor output	1,1 kW
Electric current	2,0 A
Calculated capacity margin	22 %
Doorstop (for doors on pressurized units)	
Pressure-/flow sensor	
Location: Exhaust air	
Type: Pressure linear	
Pressure range: 0-3000 Pa	
Delivery options: Enclosed	
Frequency converter	
Motor cable	
Centriflow 3D fan unit + EC motor	

Intake air section

Size: 008	
Material: AZ sheet steel	
Inspection side: left	
Pressure drop, dimensioning	0 Pa
Duct connection piece	
Connection: Flange	
Material, frame: galvanized sheet steel / AlZn	

Fan chart - Exhaust air inlet - EQLP-008-2-0-1-3-4-3-2-2-1-2-1



Fan chart - Supply air - EQLP-008-2-0-1-3-4-3-1-2-1-1-1

