

Project data																			
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Handled by																			
Additional info																			
Unit code	Size	qT	qP	Heat recovery section			Coils			Sounds					Electric motor		Spec. input power		
				Heat	etaTs	etaT	v	qLP	qJP	qLTO	LWP	LWI	PN	IN	SFPv	Clean filter			
				recovery	%	%	m/s	l/s	l/s	l/s	dB(A)	dB(A)	kW	A	kW/(m³/s)	kW/(m³/s)			
3: PN-3	2A	1350	m3/h	LG	62.0		1.28	0.09			0.16	64	56	1.00	1.80	2.39			
3: PN-3	2A		1350	LG			1.28				0.16	68	55	1.00	1.80	2.03	4.41		
Total		1350	1350											2.00					

Total electric supply, clean filters 1.66 kW

Common SFP figure of units, clean filters 4.41 kW/(m³/s)

Abbreviations used:		Unit
qT	Supply air flow	m³/h
qP	Exhaust air flow	m³/h
LL	Plate-type exchanger heat recovery	
LG	Water-glycol heat recovery	
LR	Rotor heat recovery	
etaTs	Entering air temperature efficiency with even air flows	%
etaT	Entering air temperature efficiency with designed air flows	%
v	Coil face velocity	m/s
qLP	Water flow of heating coil	l/s

Abbreviations used:		Unit
qJP	Water flow of cooling coil	l/s
qLTO	Fluid flow of heat recovery coil	l/s
LWP	Sound power level at unit's pressure side	dB(A)
LWI	Sound power level at unit's suction side	dB(A)
PN	Fan motor's nominal capacity	kW
IN	Fan motor's nominal current (3~400V)	A
SFPv	Single unit's nominal input power, clean filter	kW/(m³/s)
SFP	Supply-exhaust unit's nominal input power, clean filter	kW/(m³/s)

Unit: PN-3

Project data

Handled by

Unit : 1 PN-3

Summary data

Altitude	0	m
Air pressure	1013	mbar
Air density	1.20	kg/m3

	Supply unit			Exhaust unit		
Unit size	Recair 2A			Recair 2A		
Air flow	1350	m3/h		1350	m3/h	
External static pressure of the unit	120	Pa		120	Pa	
Motor power	0.21	kW		0.18	kW	
Coil face velocity	1.3	m/s		1.3	m/s	
Face velocity of the unit	1.3	m/s		1.3	m/s	
Temp. efficiency of the heat recovery	62.00	%				
SFP, specific fan power	4.41	kW/(m³/s)				

Calculation of the SFP figure includes frequency converter's efficiency 97%

Unit equipped with T-handles

The noise performances in accordance with ISO 3741, ISO 5136 and ISO 7235.

Sound power levels in the unit connections

Supply unit

Octave band Hz	63	125	250	500	1k	2k	4k	8k		Tot.
Pressure side of the unit	46	50	60	55	60	59	55	48	dB	64 dB(A)
Suction side of the unit	54	51	60	55	51	40	28	18	dB	56 dB(A)
Through the casing	40	39	45	36	43	44	34	23	dB	48 dB(A)

Exhaust unit

Octave band Hz	63	125	250	500	1k	2k	4k	8k		Tot.
Pressure side of the unit	46	50	62	56	62	62	62	57	dB	68 dB(A)
Suction side of the unit	53	50	59	54	50	39	27	17	dB	55 dB(A)
Through the casing	39	38	44	35	42	43	33	22	dB	47 dB(A)

Unit: PN-3

Unit code PN-3

Unit size 2A

Supply air flow 1350 m³/h

Exhaust air flow 1350 m³/h

Tot. (dry) weight of the unit 350 kg

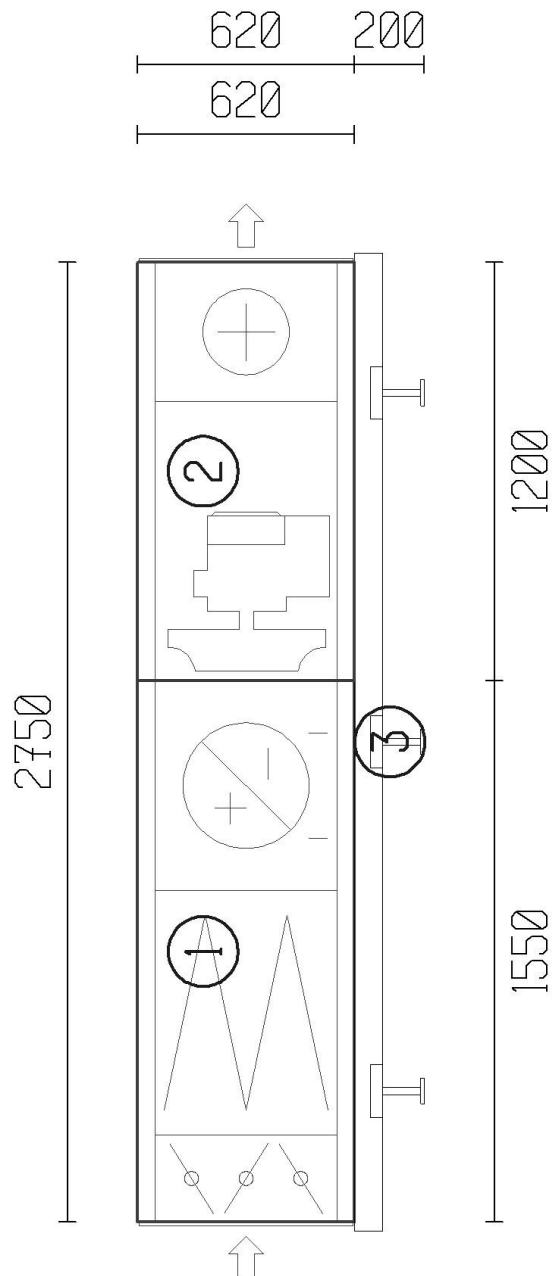
Additional info

Duct connections supplied with connection flange

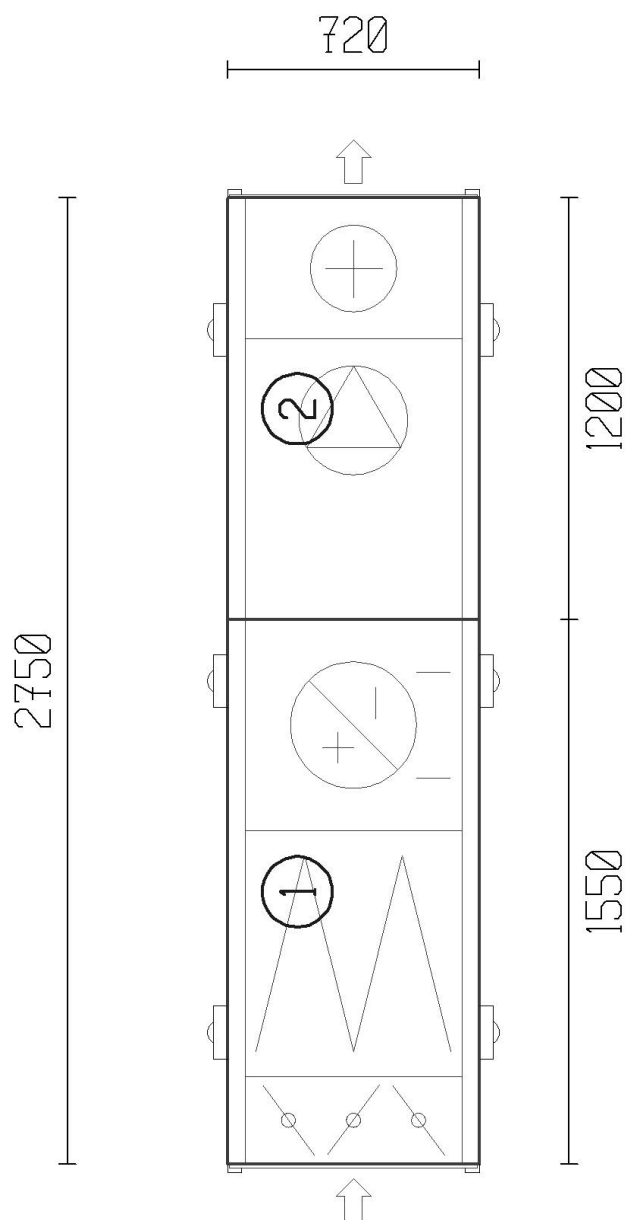
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Scale

No scale

From the service side



Top view



Unit: PN-3

Unit code

PN-3

Unit size

2A

Supply air flow

1350

m³/h

Exhaust air flow

1350

m³/h

Tot. (dry) weight of the unit

223

kg

Additional info

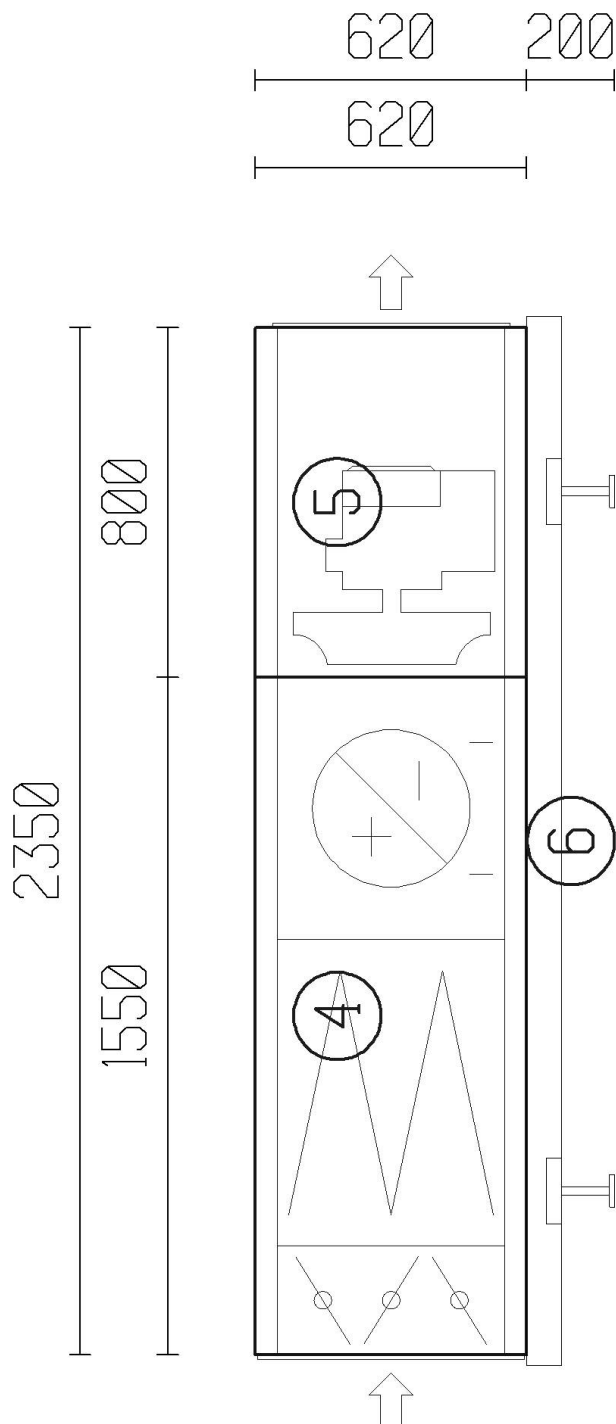
Duct connections supplied with connection flange

Handled by

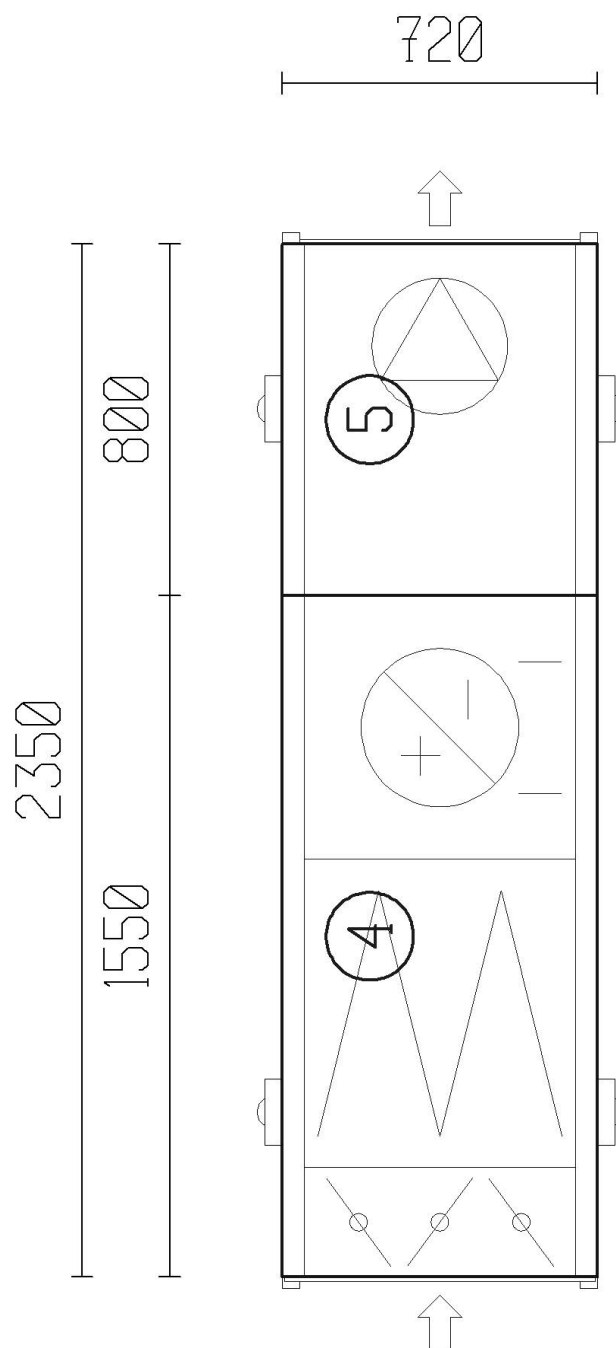
Scale

No scale

From the service side



Top view

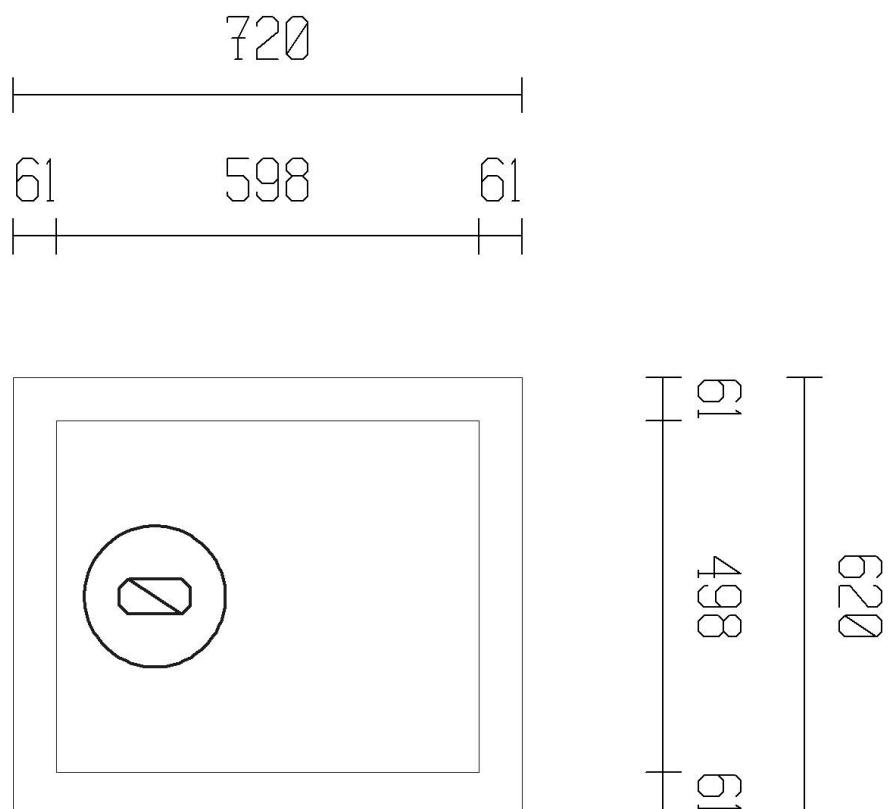


Unit: PN-3

Exhaust fan outlet

Flow direction forward

Unit size: 2A



Unit: PN-3

Unit sections and technical data

Supply unit

① CASING 2A L=1550

Dimensions (width x height x length)	720 x 620 x 1550	mm
Weight, includes the weight of the casing and parts inside the casing	127	kg

DAMPER SECTION 2A L=250

Tightness class	Leakage class 4	
Pressure loss	5	Pa
Torque demand	5	Nm

FILTER SECTION 2A L=700

Filter class	F7	
Initial pressure loss	49	Pa
Calculation pressure loss	74	Pa
Final pressure loss	98	Pa
Filter quantity and size	1x[592x442]	
Spare filter set	1	pc

HEAT RECOVERY SECTION 2A Z=12 SUPPLY

Air flow	1350	m ³ /h
Heating capacity	12.6	kW
Row number / fin spacing	12 / 2.0	mm
Face velocity / Pressure loss	1.3 m/s / 52	Pa
Entering air: temperature / humidity / enthalpy	-23.0 °C / 70 % / -22.1	kJ/kg
Leaving air: temperature / humidity / enthalpy	4.9 °C / 0 % / 0.0	kJ/kg
Fluid type	Ethylene glycol 30	%
Entering / leaving fluid	13 / -7	°C
Fluid flow / fluid velocity / pressure loss	0.16 l/s / 0.48 m/s / 16.6	kPa
Fluid volume	11	l
Tube connections, flange	DN25	

② CASING 2A L=1200

Dimensions (width x height x length)	720 x 620 x 1200	mm
Weight, includes the weight of the casing and parts inside the casing	199	kg

FAN SECTION 2A 280 ARRANGEMENT1 DIRECT DRIVE

Performance value tolerance DIN 24166		
Manufacturer	Fläkt Woods	
Blade type/diameter	Backward curved / D280	
Air flow	1350	m ³ /h
Connection type	To a chamber	
Fan total pressure	273	Pa
Electrical total efficiency	50	%
Motor speed	1890	1/min
Maximum speed of revolution	3400	1/min
Motor maximum power	1.07	kW
Air flow measurement pressure difference / K value	$(q = k \sqrt{\Delta p})$ 240 Pa / 87.2	

DIRECT DRIVEN FAN GPEB280 EC MOTOR

Voltage	400V/3-v/50Hz	
Nominal capacity	1.00	kW
Nominal current	1.80	A
Motor speed	3400	1/min
Motor input power in working point	0.21	kW
Motor control voltage in the operating point	5	V
Inspection window as standard		

Light IP 44

Switch and cable for light

Air flow meter, analog

LG-2A-01-S

Air flow	1350	m ³ /h
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Unit: PN-3

Heating capacity	6.8	kW
Row number / fin spacing	1 / 2.0	mm
Face velocity / Pressure loss	1.3 m/s / 8	Pa
Air temperature, entering / leaving	4.9 / 20.0	°C
Fluid type	Propylene glycol 35	%
Entering / leaving fluid	80 / 60	°C
Fluid flow / fluid velocity / pressure loss	0.09 l/s / 0.52 m/s / 2.6	kPa
Fluid volume	1	l
Tube connections, flange	DN10	

③ UNIT BASE 1A-3A L=2800 B=720 H=200

Adjustable feets with synthetic rubber pad

Weight 24 kg

Exhaust unit

④ CASING 2A L=1550

Dimensions (width x height x length)	720 x 620 x 1550	mm
Weight, includes the weight of the casing and parts inside the casing	133	kg

DAMPER SECTION 2A L=250

Tightness class	Leakage class 4	
Pressure loss	5	Pa
Torque demand	5	Nm

FILTER SECTION 2A L=700

Filter class	F5	
Initial pressure loss	26	Pa
Calculation pressure loss	39	Pa
Final pressure loss	52	Pa
Filter quantity and size	1x[592x442]	
Spare filter set	1	pc

HEAT RECOVERY SECTION 2A Z=14 EXHAUST

Air flow	1350	m3/h
Cooling capacity	12.6	kW
Row number / fin spacing	14 / 2.0	mm
Face velocity / Pressure loss	1.3 m/s / 64	Pa
Entering air: temperature / humidity / enthalpy	22.0 °C / 45 % / 41.4	kJ/kg
Leaving air: temperature / humidity / enthalpy	2.0 °C / 100 % / 13.0	kJ/kg
Fluid type	Ethylene glycol 30	%
Entering / leaving fluid	-7 / 13	°C
Fluid flow / fluid velocity / pressure loss	0.16 l/s / 0.48 m/s / 19.4	kPa
Fluid volume	13	l
Tube connections, flange	DN25	

⑤ CASING 2A L=800

Dimensions (width x height x length)	720 x 620 x 800	mm
Weight, includes the weight of the casing and parts inside the casing	71	kg

FAN SECTION 2A 280 ARRANGEMENT1 DIRECT DRIVE

Performance value tolerance DIN 24166

Manufacturer

Blade type/diameter

Fläkt Woods
Backward curved / D280

Air flow	1350	m3/h
Connection type	To a chamber	
Fan total pressure	243	Pa
Electrical total efficiency	49	%
Motor speed	1820	1/min
Maximum speed of revolution	3400	1/min
Motor maximum power	1.07	kW
Air flow measurement pressure difference / K value	$\left(q = k \sqrt{\Delta p} \right)$ 240 Pa / 87.2	

DIRECT DRIVEN FAN GPEB280 EC MOTOR

Voltage	400V/3-v/50Hz	
Nominal capacity	1.00	kW

Unit: PN-3

Nominal current	1.80	A
Motor speed	3400	1/min
Motor input power in working point	0.18	kW
Motor control voltage in the operating point	5	V
Inspection window as standard		
Light IP 44		
Switch and cable for light		
Air flow meter, analog		

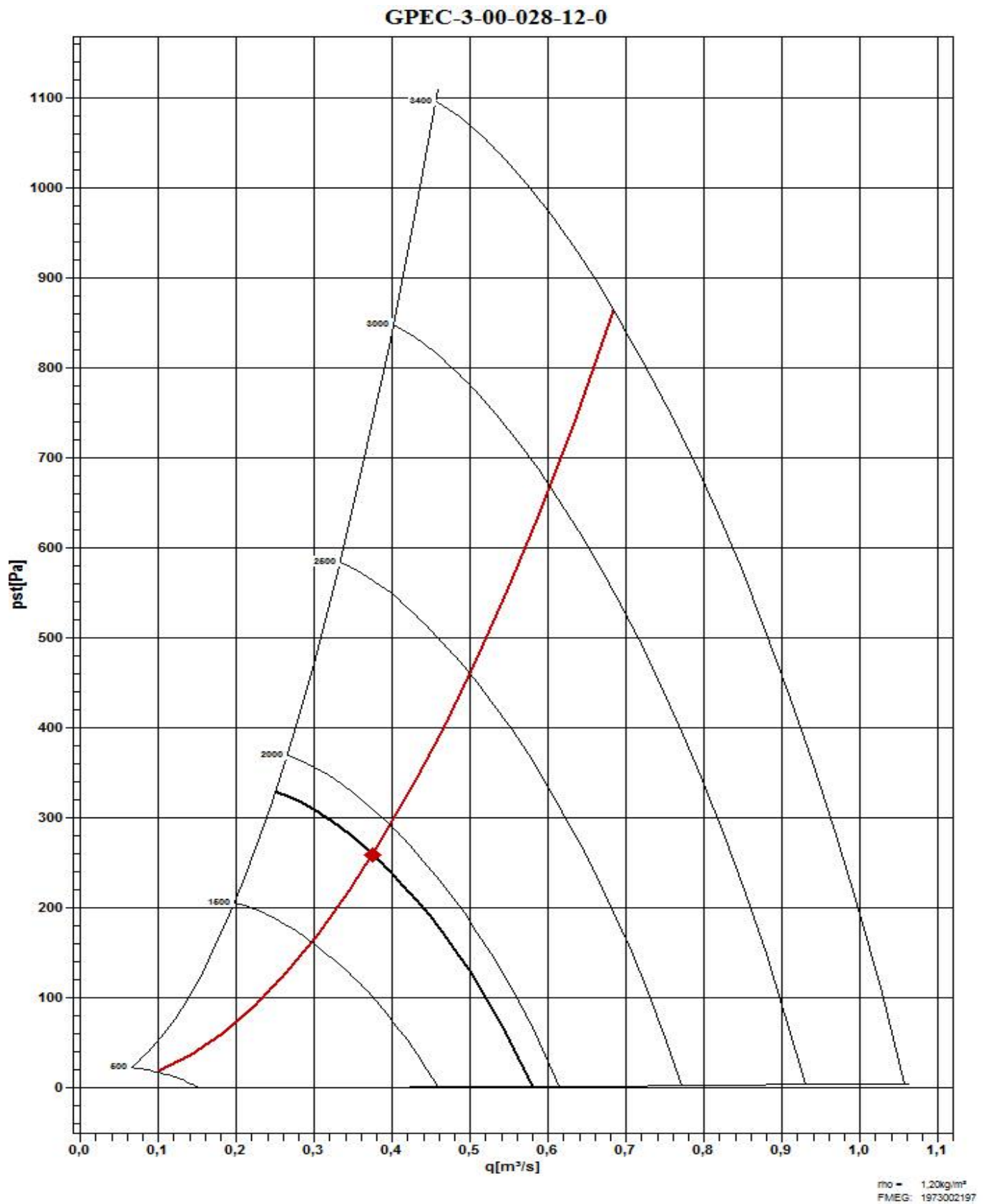
⑥ UNIT BASE 1A-3A L=2400 B=720 H=200

Adjustable feet with synthetic rubber pad

Weight	19	kg
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Unit: PN-3

Fan diagram



Unit: PN-3

Fan diagram

