

# MURAL PX



Compact high efficiency recovery  
units with plate heat exchanger



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Als het om lucht gaat.



# MAIN ADVANTAGES

## MURAL PX RANGE

P.LEMMENS has since 1997 specialised in the design and production of double flow ventilation units with energy recovery. The aim from the outset was to focus on efficiency. Brochures of that period stressed that "it is absurd to want to recover heat energy when electric energy was being wasted..." That is why first generation TAC technology was already applied to this product. Accordingly, direct current Electronically Commutated Motor (ECM) fans with permanent magnets were selected systematically for the development of the range. With this decision, the MURAL PX range anticipated the most exacting levels of electricity consumption to come such as the ErP2015 standards, simply by a philosophical choice...

The motors have been further improved since as have the control systems which are now open to MODBUS communication and all its advantages.

## PLUG & PLAY

All the MURAL PX range units are supplied as 'Plug&Play'. The standard settings are pre-programmed in the factory, so it suffices to connect the power supply and the control signals and/or the remote control, and to enter the specific settings for the application.

Putting the units into use becomes a breeze...

## ACCESSIBILITY OF COMPONENTS

The units are designed to give the user easy access to the different components. The doors are largely sized and fitted with handles. They can be withdrawn, for easy access, even when installed in limited space. The control panel is likewise easy to access and centralises all the wiring.

## COUNTERFLOW EXCHANGERS

The same focus on efficiency led us to opt for counterflow exchangers. These are far superior to other types of exchanger (96%). They ensure flawless tightness between the 2 airflows, thereby constituting great advantage in terms of hygiene compared with rotary exchangers.

The exchangers are in "salt-air resistant" aluminium and are suitable for temperatures up to 80°C. They are compliant with the DIN1946 tightness standard and are Eurovent approved according to the EN 308 standard (measurement of heat efficiency and validity of technical data)

## HIGH EFFICIENCY FANS

The TAC fans are equipped with high efficiency DC motors at the cutting edge of the latest technologies. They can achieve sizeable external pressure levels, whilst guaranteeing low consumption throughout the entire operating range.

The TAC control system guarantees the known precision from the operating point of view and makes an active contribution to optimising consumption. The efficiency levels are naturally compliant with the ErP2015 standards.

## TAC5 REGULATION COMPLETES THE SYSTEM

The MURAL PX units are fitted with a complete electronic regulation system used to operate the fans, the bypass, the anti-freeze protection of the exchanger, the valves (option), the pre-heating coil (option) and the external hot and/or cold exchangers (option).

It is equipped with a MODBUS communication bus used for its interfacing and complete integration with a standard centralised control system (option).

## FIRE ALARM MANAGEMENT

The TAC5 regulation is provided with complete management of supply and exhaust airflow in case of fire alarm: for setting the airflow rate if the alarm is activated and for stopping or starting the supply and exhaust airflow independently via external contacts, intended for the fire brigade.

## FREE COOLING FOR SUMMER NIGHTS

The MURAL range is equipped with a 70% bypass. Operated entirely by regulation, this system cools the rooms during the night when the differences of indoor and outdoor temperature permit. This system can be connected to a ground-coupled heat exchanger to improve efficiency even more. The control settings can be adjusted by the operator.

## NON-RETURN VALVES (OPTION CT)

non-return valve can be mounted to avoid undesirable (natural) draughts on the incoming and outgoing airflows when the unit is stopped. It can be operated by the TAC regulation. A delay is provided when starting the fans.

## AIR FILTERS

The MURAL PX are supplied as a standard with oversized air filters (to reduce the pressure drop) that protect the exchanger and improve the quality of the incoming air. All the MURAL 450 are equipped with coarse filters on the fresh air suction (outdoor air) and coarse filters on the room suction(indoor air). Filters type ePM10 50 % are factory mounted on MURAL PX sizes 600/800/1200. Replacement filter kits are also available.

## EXTERNAL PRE-HEATING (OPTION KWin)

The MURAL PX range can be equipped with an electric pre-heating System to be placed in the ducting. The purpose is to avoid the risk of frosting of the exchanger when the temperatures are too low. The capacity of the exchanger is modulated automatically by the TAC regulation. It is delivered "ready to use."

## EXTERNAL POST-HEATING (OPTION BA+/-)

The MURAL PX range can be equipped with external post-heating and/or cooling exchangers. These exchangers are fitted outside the unit, but designed to be assembled harmoniously. The TAC regulation is provided to manage this option fully. It is delivered "ready to use."

## OPTIONAL CONTROL MODULES

- TacTouch touchscreen controller
- SAT ethernet communication satellite
- SAT3 relay satellite
- SAT WIFI communication satellite
- SAT TAC5 Modbus RTU
- SAT TAC5 KNX



## AVAILABLE OPTIONS

- MURAL PX VEX designed for outdoors installation, delivered with roof, base, air inlet protection and air outlet protection
- The MURAL PX 600 & 800 can be installed horizontally or vertically
- Pre-heating coils (KWin), water heating coils (BA+) , water coolings coils (BA-)
- Filters replacement kits

# PERFORMANCES & DIMENSIONS

## OVERVIEW

Size	CID	Fan type	L (mm)	W (mm)	H (mm)	Weight (kg)	Ø (mm)	□ (mm)	Min.		Max.		Ecodesign LOT6		Filter type (EN16890)		⚡
									m³/h	l/s	m³/h	l/s	Effic. (EN308) *	LWA dB(A)	Supply	Extract	
450 FW	884291	Steel	712	500	500	70	200	na	50	14	450	125	81%	58	coarse	coarse	1 x 230V / 2.9A
450	884309	Comp	1012	500	500	82	200	na	100	28	450	125	80%	51	coarse	coarse	1 x 230V / 2.9A
450 BE	884307	Comp	1012	500	500	82	200	na	100	28	450	125	80%	51	coarse	coarse	1 x 230V / 2.1A
450 FW TOP	884295	Steel	784	500	675	78	200	na	50	14	450	125	81%	58	coarse	coarse	1 x 230V / 2.9A
600 FW	884120	Steel	860	500	860	109	250	na	100	28	600	166	80%	62	ePM10 50 %	ePM10 50 %	1 x 230V / 3.1A
800 FW	884277	Steel	860	500	960	126	315	na	100	28	800	222	78%	65	ePM10 50 %	ePM10 50 %	1 x 230V / 5.3A
1200 FW	884322	Steel	1000	860	860	177	355	na	100	28	1200	333	79%	68	ePM10 50 %	ePM10 50 %	1 x 230V / 5.8A

FW : Forward fans / TOP : Vertical connections / BE : Belgian market only / Fan type : Composite or Steel

Controls : All units are equipped with the smart control system TAC5 with optional connectivity by BACNET, Modbus RTU, TCP IP over Ethernet, TCP IP over Wifi, KNX.

Hardware : All units have a casing in RAL 9002 and are insulated with 15mm rockwool. Operating temperatures are from -20°C to +50°C.

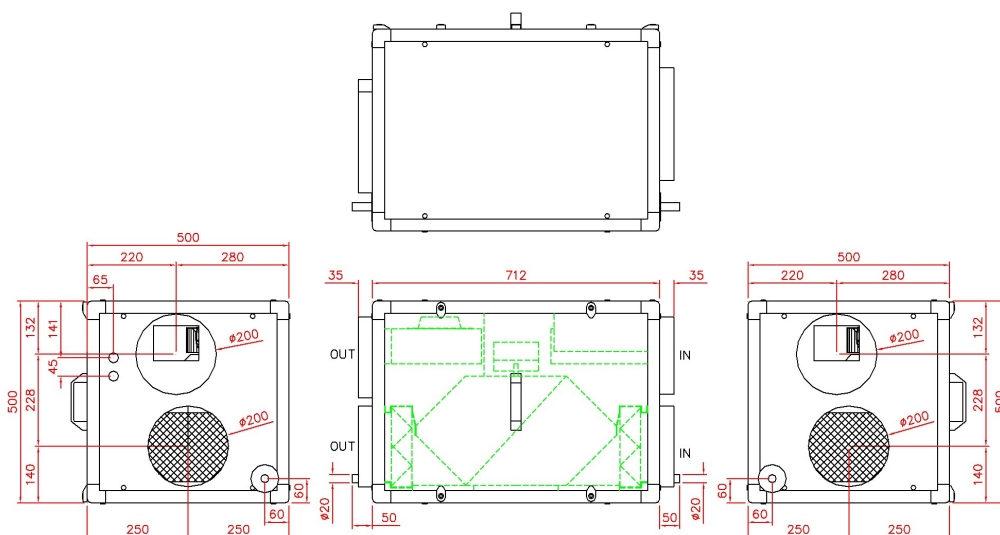


## MURAL PX 450 FW



Airflow (m³/h)	Absorbed power (W)	SFP (kW/(m³/s))	Heat exchanger efficiency (%)	Supply T° (°C)	Noise level (dBA)
100	26	0,94	87,1	20,2	24,1
200	54	0,97	83,5	19,5	27,3
300	109	1,31	81,5	19,1	31,2
400	200	1,80	80,1	18,8	37,0
450	265	2,12	79,6	18,6	39,8

Conditions : 100 Pa ext. / Micro at 3m / -10° with 90% RH & 22° with 50 % RH



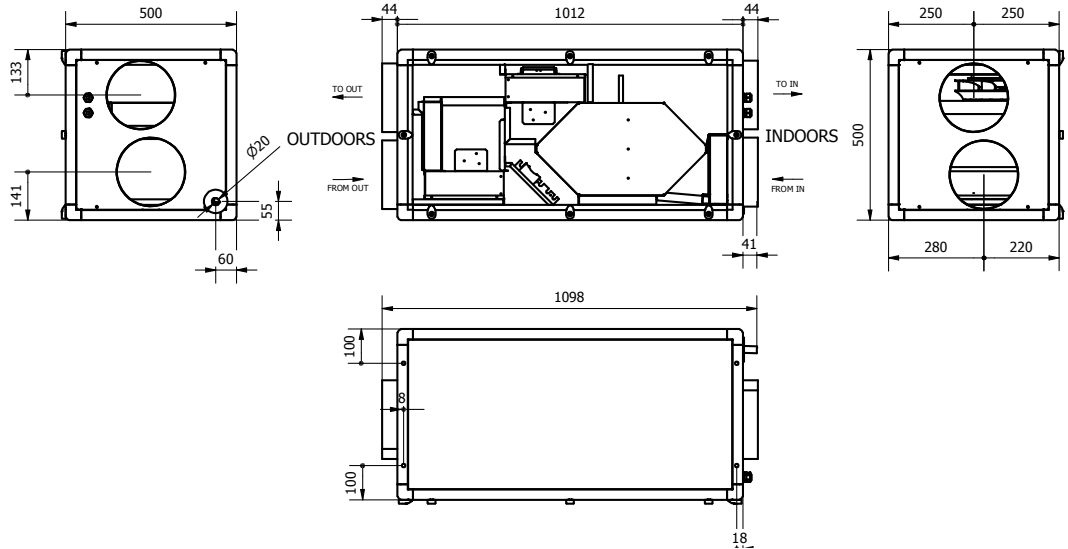
# PERFORMANCES & DIMENSIONS

## MURAL PX 450



Airflow (m <sup>3</sup> /h)	Absorbed power (W)	SFP (kW/(m <sup>3</sup> /s))	Heat exchanger efficiency (%)	Supply T° (°C)	Noise level (dBA)
100	29	1,04	87,1	20,2	27,6
200	51	0,92	83,5	19,5	29,6
300	92	1,10	81,5	19,1	31,8
400	148	1,33	80,1	18,8	34,6
450	187	1,50	79,6	18,6	36,3

Conditions : 100 Pa ext. / Micro at 3m / -10° with 90% RH & 22° with 50 % RH

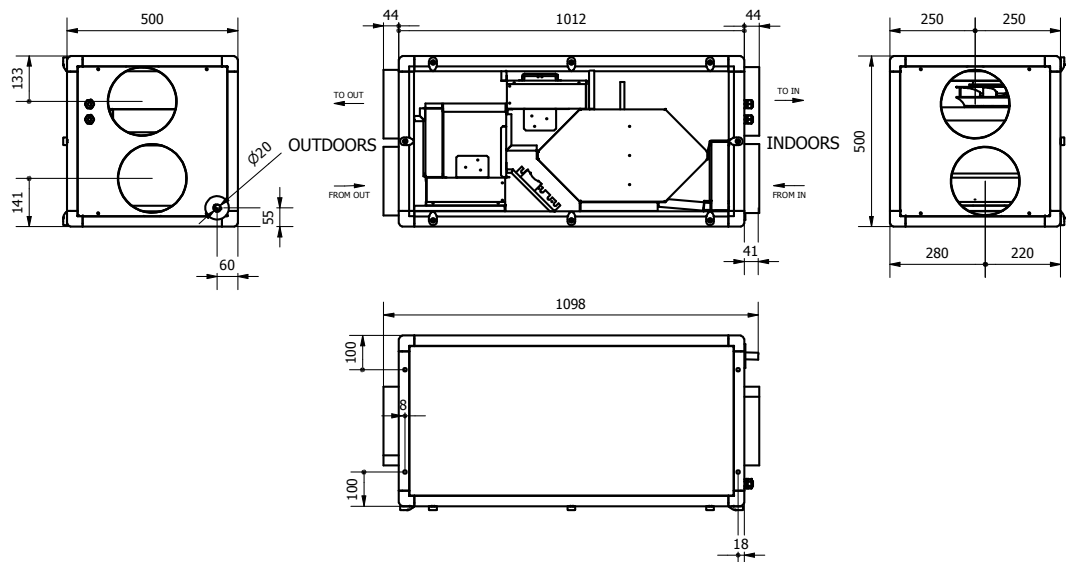


## MURAL PX 450 BE (for Belgium only)



Airflow (m <sup>3</sup> /h)	Absorbed power (W)	SFP (kW/(m <sup>3</sup> /s))	Heat exchanger efficiency (%)	Supply T° (°C)	Noise level (dBA)
100	28	1,10	87,1	20,2	27,6
200	55	0,99	83,5	19,5	29,6
300	97	1,16	81,5	19,1	31,8
400	160	1,44	80,1	18,8	34,6
450	204	1,63	79,6	18,6	36,3

Conditions : 100 Pa ext. / Micro at 3m / -10° with 90% RH & 22° with 50 % RH



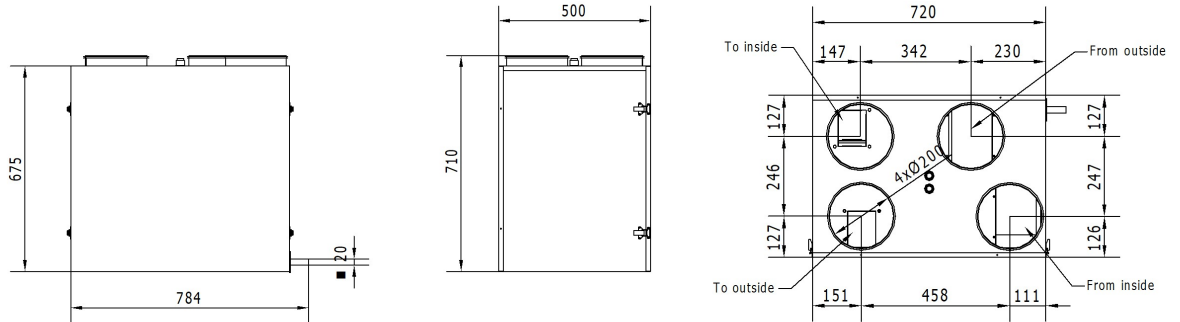
# PERFORMANCES & DIMENSIONS

## MURAL PX 450 FW TOP



Airflow (m <sup>3</sup> /h)	Absorbed power (W)	SFP (kW/(m <sup>3</sup> /s))	Heat exchanger efficiency (%)	Supply T° (°C)	Noise level (dBA)
200	49	0,88	85,7	20	27,8
300	75	0,90	83,6	19,5	29,4
400	114	1,03	82,2	19,2	31,9
500	164	1,18	81,1	19	34,0
600	228	1,37	80,2	18,8	35,9

Conditions : 100 Pa ext. / Micro at 3m / -10° with 90% RH & 22° with 50 % RH

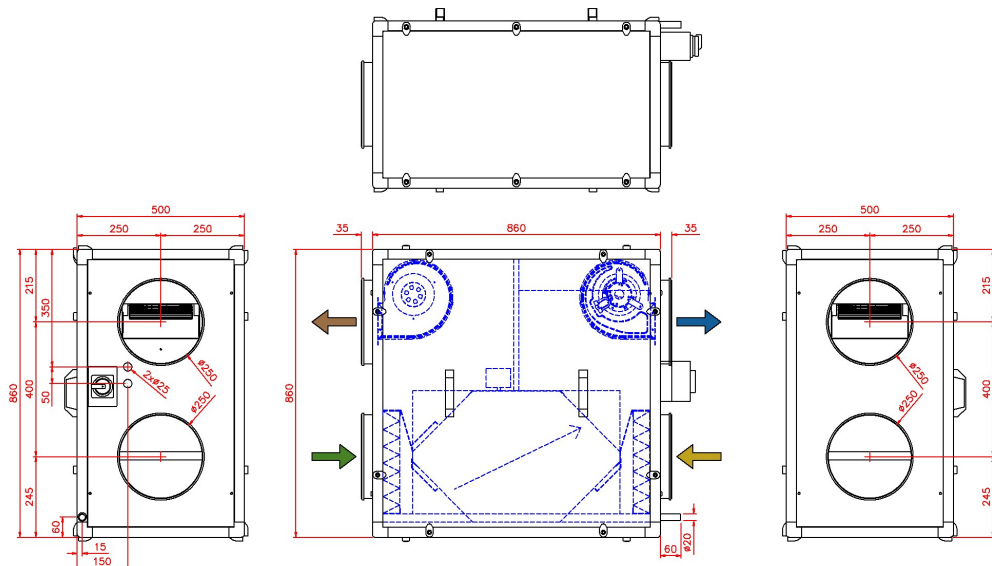


## MURAL PX 600 FW



Airflow (m <sup>3</sup> /h)	Absorbed power (W)	SFP (kW/(m <sup>3</sup> /s))	Heat exchanger efficiency (%)	Supply T° (°C)	Noise level (dBA)
200	49	0,88	85,7	20	27,8
300	75	0,90	83,6	19,5	29,4
400	114	1,03	82,2	19,2	31,9
500	164	1,18	81,1	19	34,0
600	228	1,37	80,2	18,8	35,9

Conditions : 100 Pa ext. / Micro at 3m / -10° with 90% RH & 22° with 50 % RH





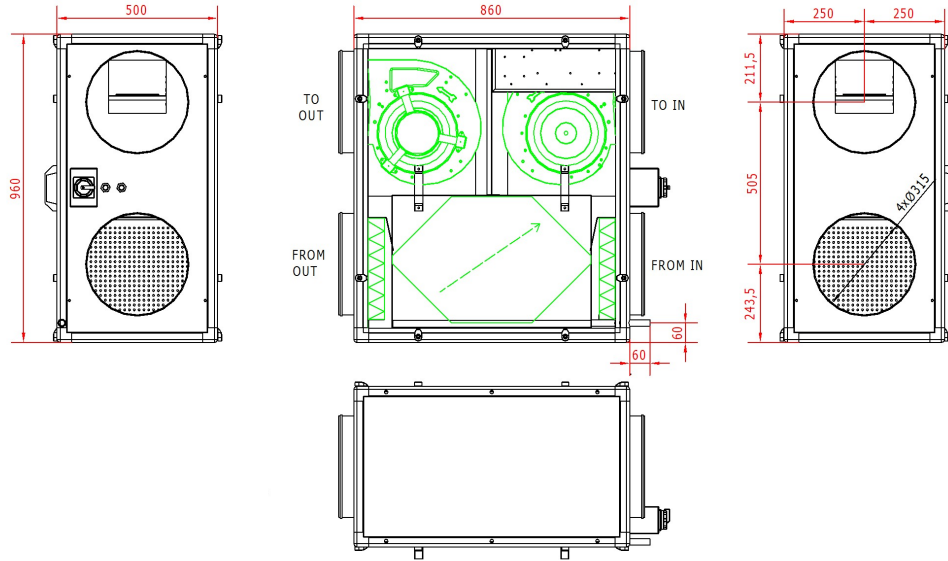
# PERFORMANCES & DIMENSIONS

## MURAL PX 800 FW



Airflow (m <sup>3</sup> /h)	Absorbed power (W)	SFP (kW/(m <sup>3</sup> /s))	Heat exchanger efficiency (%)	Supply T° (°C)	Noise level (dBA)
200	71	1,28	85,7	20	29,1
350	131	1,35	82,8	19,4	30,8
500	218	1,57	81,1	19	34,1
650	339	1,88	79,8	18,7	37,0
800	505	2,27	78,8	18,4	39,5

Conditions : 100 Pa ext. / Micro at 3m / -10° with 90% RH & 22° with 50 % RH

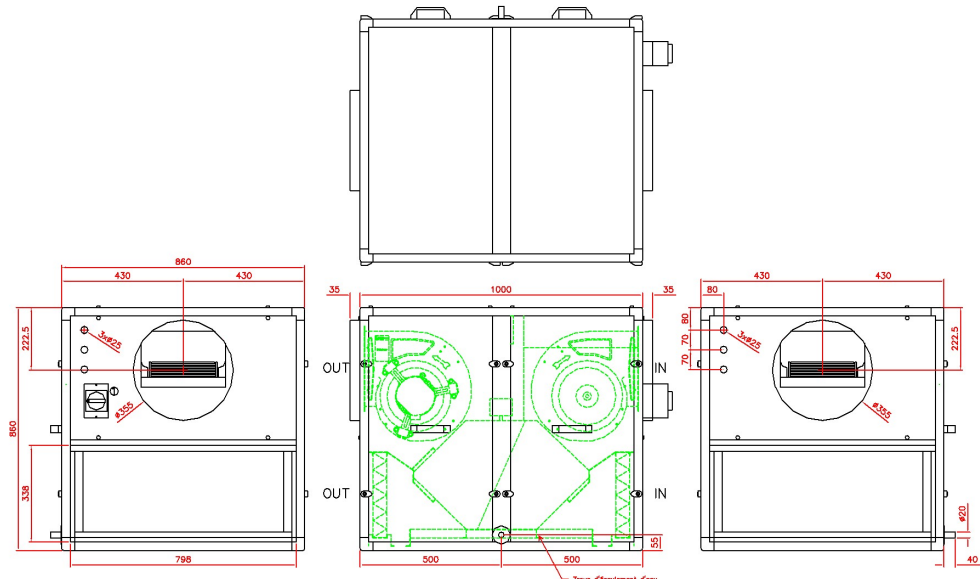


## MURAL PX 1200 FW



Airflow (m <sup>3</sup> /h)	Absorbed power (W)	SFP (kW/(m <sup>3</sup> /s))	Heat exchanger efficiency (%)	Supply T° (°C)	Noise level (dBA)
400	126	1,13	84,3	19,7	32,1
600	211	1,27	82,2	19,2	33,7
800	318	1,43	80,8	18,9	36,3
1000	457	1,65	79,7	18,7	38,7
1200	632	1,90	78,9	18,5	40,9

Conditions : 100 Pa ext. / Micro at 3m / -10° with 90% RH & 22° with 50 % RH



**We make every breath count.**

