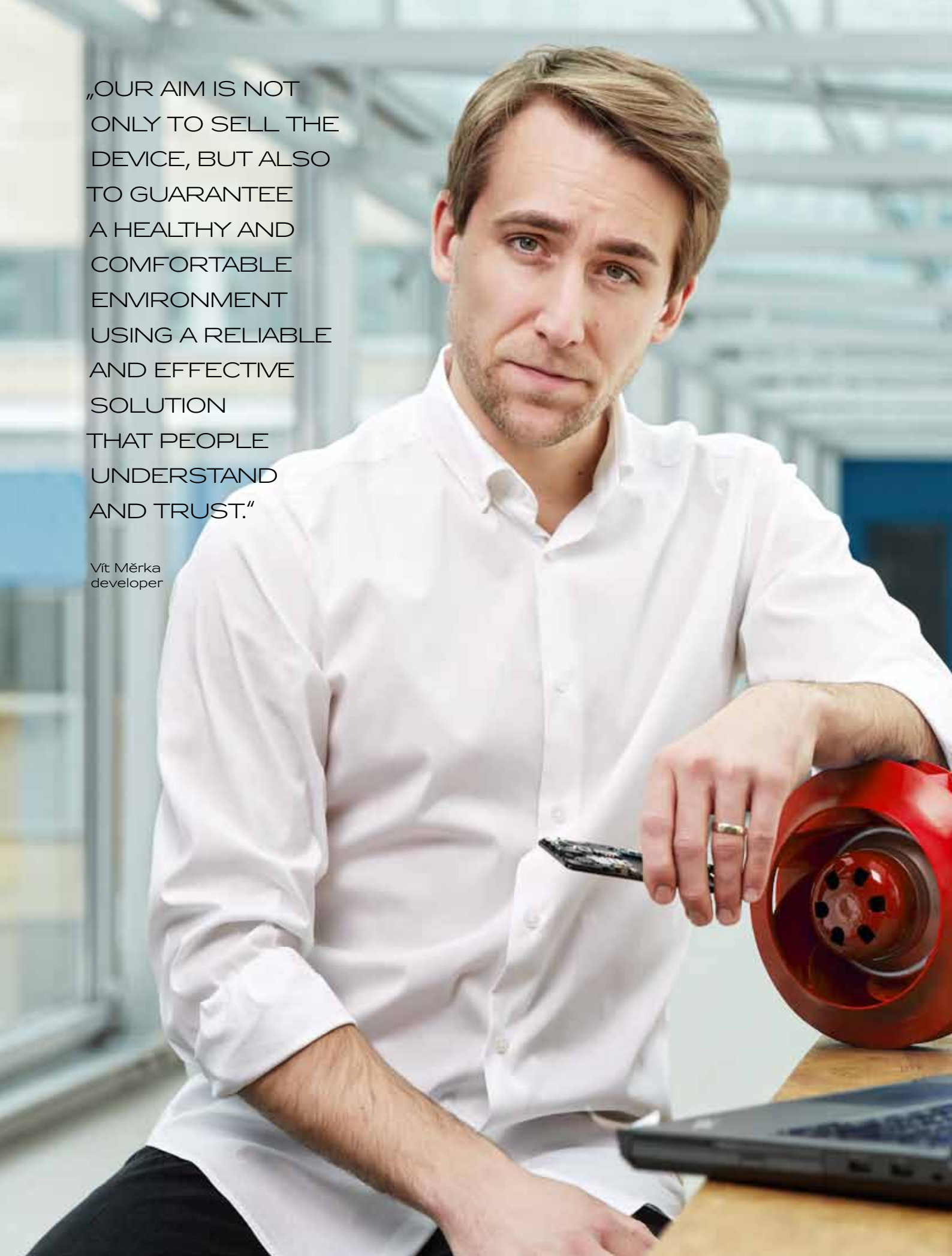


REMAK

POOL UNITS

„OUR AIM IS NOT ONLY TO SELL THE DEVICE, BUT ALSO TO GUARANTEE A HEALTHY AND COMFORTABLE ENVIRONMENT USING A RELIABLE AND EFFECTIVE SOLUTION THAT PEOPLE UNDERSTAND AND TRUST.“

Vít Měrka
developer



AND THEREFORE...

We design every swimming-pool unit to meet the needs of your business plan, technical requirements and local climatic conditions; therefore, it is always a unique unit.

Every swimming-pool unit needs to pass a type test to verify its functionality and reliability before delivery.

We exclusively cooperate with designers and installers who we trust and who prove the required qualifications during periodic training courses.

To be sure, we provide supervision over maintenance, installation and thorough operating training for every swimming-pool unit we deliver.

The measuring & control system is a key factor for operational reliability and low costs. Therefore, we deliver it with every machine.

Our web application is a tool that can be used, apart from other things, for effective and immediate analysis of service cases as a quick reaction is essential for this demanding operation.

We offer a paid service, so-called long-term technical care, to owners of buildings resulting in permanent improvement in the internal environment quality while at the same time reducing operating costs.

ACCURATE TEMPERATURE
AND HUMIDITY CONTROL WITH
OPTION OF REMOTE ADMINISTRATION
BY THE MANUFACTURER

The unit controls the *humidity and temperature* inside the swimming-pool hall, ensures the exchange of air containing dangerous chloramines with fresh air, blows the building structures with hot and dry air to avoid moisture condensation and cold radiation while partly covering building heat losses and gains, and warming the swimming-pool water. This is all performed *automatically*. If the user has no experience in operating swimming-pool technology, we offer our customers remote administration using a *remote web interface*. Naturally, there is the option to connect the device to the building management system (BMS).

85%

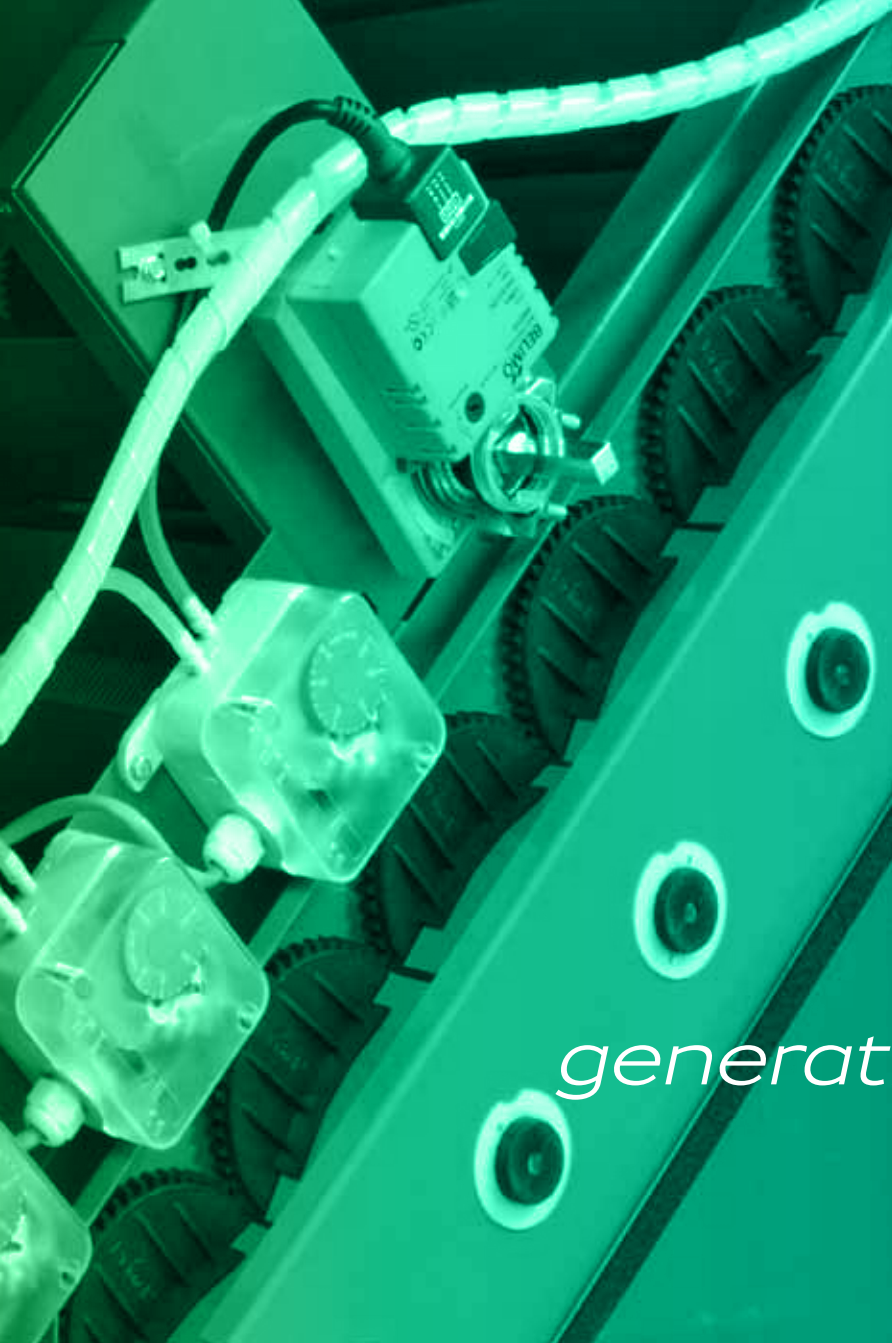
MINIMUM HEAT AND ELECTRICAL
POWER CONSUMPTION

Covered halls are operationally demanding applications where inefficiency can cost hundreds of thousands. Therefore, our technology is based on *custom oriented access, advanced technology* and a unique management and *control system*.

- Three-stage heat recovery from the air featuring an efficiency of 85 % and heat recovery from superheated coolant vapours.
- Maximum heat pump efficiency which can be optimised up to the COP7 value. The compressors are designed with two or three power stages, and/or with step-less power modulation.
- The fans are made of composite material and come with backward bent impeller blades only. Air flow rate control is based on the system's static pressure change measuring and evaluation.
- Accurate humidity and temperature control comes with additional functions such as adaptive air flow rate control and night cooling.







generation 2

COMPACT MODULAR TECHNOLOGY

When designing the unit, we choose from *hundreds* of available pieces of equipment the ideal heat exchanger, compressor, etc. Each heat-exchanger is unique, thus we minimise the *coolant volume* in the circuit, prolong the service life of the heat pump elements and maximise the efficiency of the entire system. The customer always gets the *technically most optimised* and dimensionally minimised equipment for their money. *High reliability and quality* of all installed components is ensured. Using different timing of *tight dampers*, differential *pressure sensors*, *deflectors*, special water-proof and air-tight components and *insulating materials*, we create *3 zones* with different corrosive loads within the unit.

Each zone requires a specific composition of the basic materials and different thicknesses of surface finishes. We especially use hot-dip galvanized steel 51 Z270, *polychlorides* with a thickness of 120 microns, *epoxy* or polyurethane coating with a thickness of 50 microns and special wet paints. In places where air humidity condenses, the water is immediately trapped and drained into the sewage system in compliance with the strictest hygiene regulations. The smoothness of all surfaces by having a *minimum of connections and seams* is as well ensured.



efficiency and power
air-handling unit control
corrosive proof
modularity

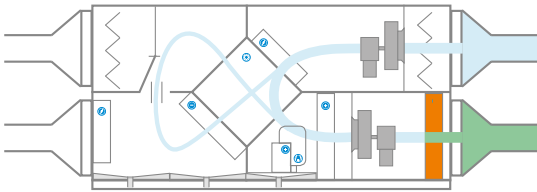
LONG SERVICE LIFE AND HIGH
RELIABILITY OF THE STRUCTURE

Swimming-pool technology has to combat high concentrations of *chlorides* and other chemicals, which in combination with high humidity results in highest corrosive loading of the C5 – CX stage.

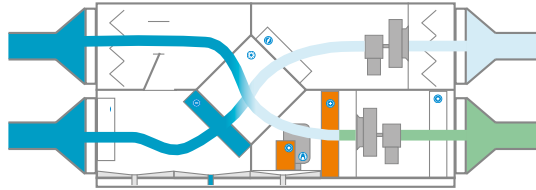
In reality, this means that a structure that would last for dozens of years in a normal environment will fail within two months when operated in a swimming pool environment. Therefore, we pay extraordinary attention to this area and prolong the equipment *service life as much as possible*.

ART OF CONTROL

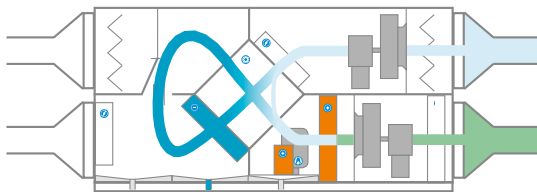
In full circulation mode, the unit ensures air heating in the swimming-pool hall using the water heater.



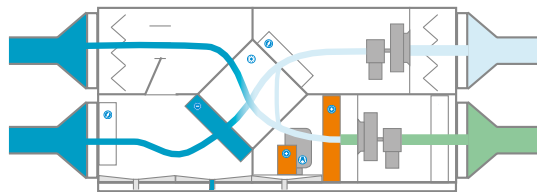
If humidity increases, the circulation damper is closed and the ventilation air volume is increased to the maximum. The heat pump is switched depending on the requirement for air or swimming-pool water heating.



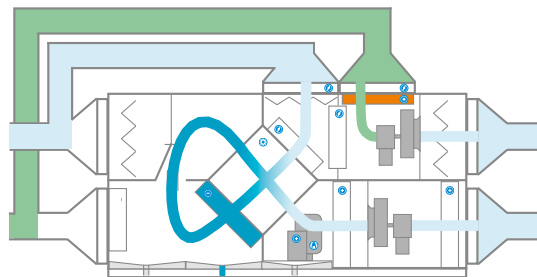
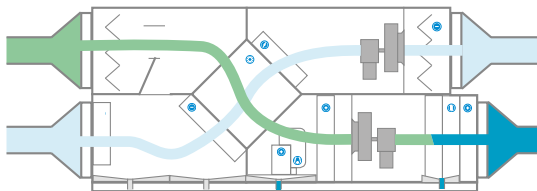
Dehumidification in the setback mode is ensured by the heat pump evaporator in combination with pre-cooling in a highly efficient heat recovery exchanger. After-heating of air to the required temperature is ensured by the heat-recovery exchanger and condenser while the heat surplus can be used to heat the swimming-pool water. Inlet/outlet dampers are controlled depending on the temperature and humidity in the swimming-pool hall.



The fresh inlet air volume within opening hours depends on the current swimming-pool hall occupancy and hygiene limits. Sensible and latent heat is recovered in the heat-recovery exchanger and heat pump exchanger. Surplus heat can be used to heat the swimming-pool water.



Optionally: On request, the unit configuration can be adapted for summer cooling/dehumidification in two versions.



*Note: (diagrams illustrate some selected modes only).
The unit operates automatically in comfort or setback mode.*

EACH PART OF THE AREA IS USED

Air-flow rate (thousands m ³ /h)	Units with heat exchanger and heat pump						Units with heat exchanger and no heat pump						
	U'innmost	Length	Length w/o elastic connections	Width	Height (with frame)	Height (w/o frame)	Length	Length w/o elastic connections	Width	Height (with frame)	Height (w/o frame)	Minimized length (option)	Minimized length w/o elastic connections (option)
1–2,5	04 best	3850	3550	650	1500	1200	4020	3720	650	1500	1200	3521	3221
	04 med	3600	3300	650	1500	1200	3770	3470	650	1500	1200	3271	2971
	04 low	3350	3050	650	1500	1200	3270	2970	650	1500	1200	2771	2471
3–4,6	06 best	4100	3800	800	1800	1500	4270	3970	800	1800	1500	3771	3471
	06 med	3800	3500	800	1800	1500	3970	3670	800	1800	1500	3471	3171
	06 low	3550	3250	800	1800	1500	3470	3170	800	1800	1500	2971	2671
5–6	10 best	4500	4200	960	2120	1820	4670	4370	960	2120	1820	4171	3871
	10 med	4200	3900	960	2120	1820	4370	4070	960	2120	1820	3871	3571
	10 low	3950	3650	960	2120	1820	3870	3570	960	2120	1820	3371	3071
6–9	13 best	4850	4550	1065	2330	2030	5270	4970	1065	2330	2030	4521	4221
	13 med	4410	4110	1065	2330	2030	4830	4530	1065	2330	2030	4081	3781
9–12	17 best	5100	4800	1370	2330	2030	5520	5220	1370	2330	2030	4771	4471
	17 med	4660	4360	1370	2330	2030	5080	4780	1370	2330	2030	4331	4031
12–15	22 best	5600	5300	1370	2940	2640	5770	5470	1370	2940	2640	5021	4721
	22 med	5190	4890	1370	2940	2640	5360	5060	1370	2940	2640	4611	4311
17,4–19,5	28 best	5850	5550	1675	2940	2640	6020	5720	1675	2940	2640	5271	4971
	28 med	5440	5140	1675	2940	2640	5610	5310	1675	2940	2640	4861	4561
19,5–24	74	5858	5558	2309	3018	2753	5677	5377	2309	3018	2753	5371	5071
22,5–28	84	5858	5558	2615	3018	2753	5983	5683	2615	3018	2753	5371	5071
25–32	94	5858	5558	2921	3018	2753	5983	5683	2921	3018	2753	5371	5071

Note: These are approximate dimensions to be specified in the offer.

PARAMETERS APPROVED

- Every Detail is Tested
- The accuracy of verified declared parameters is our basic principle. We have a specialised measuring and testing laboratory equipped with modern and expensive equipment. Thanks to that, we can perform continuous development, testing and measuring for the certification and verification of the parameters of launched products.
- Our testing laboratory for measuring aerodynamic, thermodynamic, electrical and acoustic parameters is equipped with automated collection of all measured data using the LabView® integrated computer system from National Instruments®.
- We also cooperate with other specialised testing laboratories in the Czech Republic and abroad.



Hhotel Bauer, Břlá



Hhotel Bauer, Břlá



SUŠ Matějčka, Ostrava



ZŠ Holcova, Brno

OUR SWIMMING-POOL
UNITS REPRESENT TOP-
QUALITY SWIMMING-POOL
AIR-HANDLING EQUIPMENT
WITH AN AUTONOMOUS
CONTROL SYSTEM AND
DEHUMIDIFICATION
REGULATION, VENTILATION
AND HEATING OF INDOOR
SWIMMING POOLS WITH
A WATER LEVEL AREA OF
25 TO 700 M².