HERCULES

Condensation dehumidifiers for industrial environments or pools

IMV/PMV 270÷950

TFT
DRY AIR SOLUTIONS

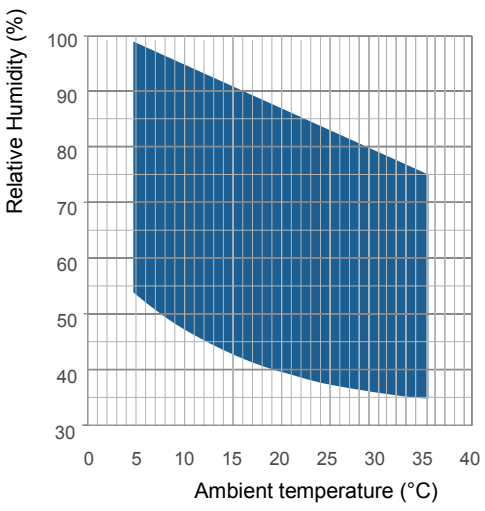
UNIT DESCRIPTION

IMV/PMV series dehumidifiers are high performance devices designed specifically for use in industrial environments and pools where it is necessary to control the humidity level, preventing condensation phenomena and ensuring optimum environmental comfort. Suitable for small pools or hot tubs. It is planned to install these appliances in a technical room adjacent to the pool. The series consists of six models and covers a range of potential ranging from 263 to 940L/24h.

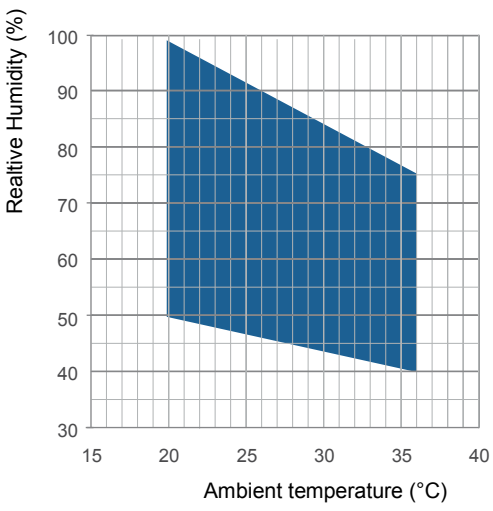
TECHNICAL DATA							
MODEL	**IMV/PMV**	**270**	**350**	**450**	**550**	**750**	**950**
Performance							
Dehumidification capacity at 30°C 80% (1)	L/24h	263,1	340,2	418,8	566,8	751,1	939,3
Dehumidification capacity at 30°C 60% (1)	L/24h	185,1	262,3	336,3	425,0	596,4	759,7
Dehumidification capacity at 27°C 60% (1)	L/24h	161,4	233,5	302,0	375,7	534,3	680,3
Dehumidification capacity at 20°C 60% (1)	L/24h	111,4	168,5	223,9	267,1	391,0	501,0
Dehumidification capacity at 10°C 70% (2)	L/24h	75,6	118,3	160,9	180,2	269,8	349,6
Fans							
Air flow	m^3/h	3500	4200	4200	5500	7000	8500
Available static pressure	Pa	50÷150	50÷150	50÷150	50÷150	50÷150	50÷150
Refrigerant							
Type		R410a	R410a	R410a	R410a	R410a	R410a
Refrigerant charge	Kg	3,0	2,5	2,5	9,0	8,0	8,0
Global Warming Potential (GWP)		2088	2088	2088	2088	2088	2088
Load equivalent CO_2	t	6,26	5,22	5,22	18,79	16,70	16,70
Electrical characteristics							
Power Supply	Volt/Ph/Hz	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50
Total absorbed power at 30°C 80%	KW	4,90	6,26	8,59	8,00	11,60	15,50
Maximum absorbed power	KW	6,60	7,99	9,85	13,00	16,00	21,00
Maximum absorbed current (3)	A	12,0	14,2	17,9	22,0	27,0	39,0
Starting current (3)	A	53,6	66,9	103,9	97,9	121,3	178,3
Integrations for pool PMV version							
Supplementary electrical Heater	KW	6	6	6	12	12	12
Supplementary hot water coil (5)	KW	22,8	24,0	24,0	42,0	49,0	56,0
Noise							
Sound pressure level (4)	dB (A)	70	71	71	73	73	73
Sound power level (4)	dB (A)	63	64	64	66	66	66

(1) Industrial version IMV and pool PMV
(2) Industrial version IMV
(3) No electrical resistance, only for PMV swimming pool version
(4) Sound pressure level calculated in free field, 1 meter from unit, direction factor Q=2, according to ISO 9614
(5) Ambient temperature 30°C, water temperature 80°/70°C, compressor switched off

Operating Limits (IMV)



Operating Limits (PMV)



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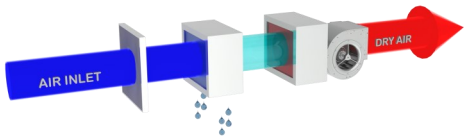
FRAME

All units are made of hot dip galvanized sheet and painted with polyurethane powders in oven at 180°C to ensure the best weather resistance. The carpentry is self-supporting with removable panels to facilitate the inspection and maintenance of the internal components. All screws and rivets are made of stainless steel. The color of the carpentry is RAL 9018.



REFRIGERANT CIRCUIT

The refrigerant circuit is made by using international primary brands components and according to ISO 97/23 concerning welding procedures. The refrigerant gas used in these units is R410A. The refrigerant circuit includes: capillary tube, Schrader valves form maintenance and control, pressure safety device (according to PED regulation).

COMPRESSOR

The compressors are Scroll type with crank resistance and thermal protection relay drowned in electric windings. The compressors are installed on rubber vibration dampers. Compressor inspection is possible through the front panel of the unit which allows maintenance even with units in operation.

CONDENSER AND EVAPORATOR

Condensing and evaporating batteries are made of copper tubes and aluminum fins. All evaporators are painted with epoxy powders to prevent problems when used in aggressive environments. The copper tubes have a diameter of 3/8", the thickness of the aluminum fins is 0.1mm. The tubes are mechanically mandrined in the aluminum fins to increase the heat exchange factor. The geometry of these exchangers allows a low loss of air leakage and therefore the possibility of using low speed fans (resulting in reduced noise levels in the machine). All units, mounted on the base of the heat exchangers, are fitted with painted steel condensate drainage basins. Each evaporator is also supplied with a temperature probe used as an automatic defrost probe.

FANS

The fans are made of galvanized steel, centrifugal type. It is statically and dynamically balanced and supplied. The electric motors are directly connected to the fan; they are all at 3 speeds, with integrated therma protection. The protection class of the motors is IP 54.

AIR FILTER

It is made of synthetic filtering media, ondulated type, without electro-static charge; they are all removable for differential disposal. Efficiency class G2, accordino to EN 779:2002.

MICROPROCESSORS

All units are equipped with a microprocessor to control compressor timing, defrost cycles and alarms. A special bright LED display indicates the operating status of the unit and the presence of any faults.

ELECTRICAL PANEL

The electric panel is made in compliance with European regulations 73/23 and 89/336. Access to the power cabinet is possible by opening the front panel of the unit protected by a main gate switch. All units are installed as standard: Gateway door switches, magnetic circuit breakers for fan and compressor protection, fan relays, auxiliary circuit breaker, compressor relay. The panel is also equipped with a terminal block with clean contacts for remote ON-OFF.

CONTROL AND PROTECTION DEVICES

All units are supplied with the following control and protection devices: defrost thermostat, which signals to the microprocessor control that a defrost cycle is needed and controls its termination, high pressure switch with automatic reset, compressor thermal overload protection, fans thermal overload protection.

TEST

All the units are fully assembled and wired at the factory, carefully evacuated and dried after leak tests under pressure and then charged with refrigerant R410A. They are all fully operational tested before shipment. They all conforms to European Directives and are individually marked with the CE label and provided with Conformity Declaration.

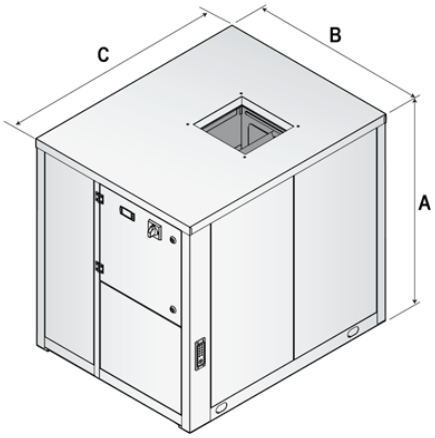
VERSION

IMV… Industrial version
PMV… swimming pool version

Model IMV	Code	270	350	450	550	750	950
Fans A.C. ≤ 150Pa		●	●	●	●	●	●
Defrosting hot gas		●	●	●	●	●	●
Thermostatic valve		●	●	●	●	●	●
Main power switch		●	●	●	●	●	●
Silent version	LS00	○	○	○	○	○	○
RS485 serial interface card	INSE	○	○	○	○	○	○
Built-in electronic sensor temperature and humidity	RGDD	○	○	○	○	○	○
Remote mechanical humidistat	HYGR	○	○	○	○	○	○
Remote control panel	PCRL	○	○	○	○	○	○
Fans E.C. high efficiency ≤ 300Pa	V1CE	○	○	○	○	○	○
Rubber vibration dampers	KAVG	○	○	○	○	○	○
Pivoting wheels	TROL	○	○	○	○	○	○
Stainless steel frame	INOX	○	○	○	○	○	○
Air filter with canalized chassis frame	FARC	○	○	○	○	○	○
Model PMV	**Code**	**270**	**350**	**450**	**550**	**750**	**950**
Fans A.C. ≤ 150Pa		●	●	●	●	●	●
Thermostatic valve		●	●	●	●	●	●
Main power switch		●	●	●	●	●	●
Silent version	LS00	○	○	○	○	○	○
Cu-Ni Desuperheater	RP01	-	○	○	○	○	○
Hot water coil	HOWA	○	○	○	○	○	○
Kit electrical heaters 9KW	HOEL	○	○	○	○	○	○
Kit electrical heaters 18KW	HOEL	-	-	-	○	○	○
3-way modular valve kit installed	KIVM	○	○	○	○	○	○
RS485 serial interface card	INSE	○	○	○	○	○	○
Built-in electronic sensor temperature and humidity	RGDD	○	○	○	○	○	○
Remote mechanical humidistat	HYGR	○	○	○	○	○	○
Remote control panel	PCRL	○	○	○	○	○	○
Fans E.C. high efficiency ≤ 300Pa	V1CE	○	○	○	○	○	○
Pivoting wheels	TROL	○	○	○	○	○	○
Stainless steel frame	INOX	○	○	○	○	○	○
Air filter with canalized chassis frame	FARC	○	○	○	○	○	○

● *standard*, ○ *optional*, – *not available.*

Model dimensions



Model	IMV/PMV	270	350	450	550	750	950
A	mm	990	990	990	1355	1355	1355
B	mm	850	850	850	1000	1000	1000
C	mm	1085	1085	1085	1500	1500	1500
Empty weight	Kg	210	215	220	405	410	415

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