



# INDUSTRIAL DEHUMIDIFIERS

# FD TCR SERIES

The FD TCR series fixed dehumidifiers are high-performance appliances. This version is equipped with external condenser which enables dehumidification coupled with cooling, controlling humidity and temperature at the same time. They feature a washable air filter and must be connected to a fixed drain. They are equipped with an onboard mechanical dehumidostat. It should always be associated with a temperature control: digital thermostat. The dehumidifiers of the series TCR can be equipped with an optional HOT GAS defrosting system, with electronic and thermostatic control, and can work with temperatures close to 0 °C.

## FEATURES

### FRAME

#### *MODELS FD240TCR*

Structure with panels made of sturdy galvanized steel, painted with epoxy powder ensuring high resistance to atmospheric agents and aggressive environments.

The panels are removable to allow a quick inspection and maintenance of the internal parts.

#### *MODELS FD360TCR - FD980TCR*

Structure with aluminium profiles and panels in sturdy galvanised sheet, painted with epoxy powder ensuring high resistance to atmospheric agents and aggressive environments.

### COMPRESSOR

Scroll compressor mounted on vibration dampers. Provided with resistance on the housing and thermal safety.

### REFRIGERANT CIRCUIT

**Evaporator and condenser:** the coil is made of copper pipes and aluminium fins. Drying filter, Shrader valves, minimum and maximum pressure switch. Defrosting thermostat and solenoid valve in version S.

### CONDENSATE COLLECTION TANK

#### *MODELS FD240 TCR*

The tank is in plastic non-corrosive, the dehumidifier should be connected to a fixed drain, preventing the formation of double siphons. Attach a tube with ¾" F coupling to the welded fitting of the tank.

#### *MODELS FD360 TCR - FD980 TCR*

The tank is in non-corrosive stainless steel, the dehumidifier should be connected to a fixed drain, preventing the formation of double siphons. Attach a tube with ¾" F coupling to the welded fitting of the tank.

### CONDENSATE LIFTING PUMP (optional)

Pump on request.

### IP

Standard IP21. On request IP44 (optional).

### OUTSIDE UNIT

The remote condensers are made of copper pipes and aluminium fins. The diameter of the copper pipes is 3/8" and the thickness of the aluminium fins is 0,1 mm. The tubes are mechanically expanded into the aluminium fins to improve the heat exchange factor. The geometry of these condensers guarantees a low air side pressure drop and then the use of low rotation (and low noise emission) fans. The fans are axial type with aluminium aerofoil blades complete of the safety fan guard. The protection class of the motors is IP 54.

### FAN

Centrifugal double suction fan, built with sturdy blades in galvanized sheet, statically and dynamically balanced.

Protection degree: Three-speed fan.

### HOT GAS DEFROST

Enables to use the dehumidifier in environments with temperature up to 3 °C. It is a special hot gas injection system to accelerate the defrosting of the ice formed in the evaporator.

### AIR SUPPLY

The air supply is supplied as standard on the side opposite to the air inlet, but you may require the dehumidifier in TOP version (with delivery on the top side of the machine).

### AIR FILTER

The air filter, supplied as standard with the unit, is washable and easily replaceable. It is in Polyurethane and High-efficiency filter.

### MICROPROCESSOR

Controls the defrosting cycles, the compressor timer and the alarm card. The dehumidifier is equipped with step sequence control and electronic control 0-10 V (optional) or on/off of the outside unit.

### CONTROL PANEL AND ELECTRICAL CONTROL PANEL

Located in the side area of the machine. IP protection degree.

Made in compliance with the European standards 73/23 and 89/336.

### TESTING

Tests are performed to check the tightness of the refrigeration circuit. Electrical discharge tests and functional tests are performed as well.

### TECHNICAL STANDARDS

This dehumidifier meets the essential requirements included in the Directives of the European Community 2006/95/EC of 12 December 2006 on the safety of electrical products for use in Low Voltage; 2004/108/EC of 15 December 2004 in the field of electromagnetic compatibility; 2006/42/EC of 17 May 2006 in the fields of machinery safety.

The conformity is declared with reference to the following harmonized technical standards:

CEI-EN 60335-2-40, CEI-EN 55014-1, CEI-EN 55014-2.

We also declare that the product is manufactured in compliance with the RoHS Directive in force, that is 2002/95/EC, transposed with the Legislative Decree of 25 July 2005 no. 151 (article 5).

## TECHNICAL SPECIFICATIONS

	FD 240 TCR	FD 360 TCR	FD 520 TCR	FD 750 TCR	FD 980 TCR
Rated Average Power Consumption (20 °C - 60% R.H.)	3,150 W	4,550 W	5,700 W	8,150 W	10,650 W
Maximum power consumption (35 °C - 95% R.H.)	4,250 W	6,200 W	7,750 W	11,050 W	14,400 W
Max. Current Consumption (35 °C - 95% R.H.) F.L.A.	9.6 A	15.0 A	17.9 A	18.5 A	24.3 A
Start up current L.R.A.	48.0 A	63.0 A	63.0 A	63.0 A	96.0 A
Sound Pressure Level (at 3 mts in free field)	56 db (A)	61 db (A)	65 db (A)	67 db (A)	70 db (A)
Refrigerant	R410a	R407c	R407c	R407c	R407c
Fitting on the machine for condensate drain	¾"	¾"	¾"	¾"	¾"
Operating range (temperatures)	7÷35 °C	7÷35 °C	7÷35 °C	7÷35 °C	7÷35 °C
Temperature operating range with optional hot gas defrosting system	3÷35 °C	0.5÷35 °C	0.5÷35 °C	0.5÷35 °C	0.5÷35 °C
Temperature operating range with optional under 0°C defrost system	-0.5÷35 °C	-0.5÷35 °C	-0.5÷35 °C	-0.5÷35 °C	-0.5÷35 °C
Operating range (relative humidity)	45÷99%	45÷99%	45÷99%	45÷99%	45÷99%
Rated Average Power Consumption (20°C, 60% R.H.) with 4 kW resistances	7,150 W	8,550 W	9,700 W	12,150 W	14,650 W
Hot water coil heating capacity (environment 27°C, water 60/70 °C)	5,000 W	9,000 W	12,000 W	20,000 W	24,000 W
Available voltage	400/3N~/50	400/3N~/50	400/3N~/50	400/3N~/50	400/3N~/50
Refrigerating capacity (26 °C indoor – 30 °C outdoor)	6.5 kW	12 kW	17 kW	26 kW	31.5 kW

## TECHNICAL SPECIFICATIONS OUTSIDE UNIT

Maximum input current	0.54 A	1.35 A	1.35 A	1.89 A	2.4 A
Power supply - V/ph/Hz	230/1/50	400/3/50	400/3/50	400/3/50	400/3/50
Air flow	2,700 m³/h 0.75 m³/s	7,200 m³/h 2 m³/s	7,200 m³/h 2 m³/s	8,000 m³/h 2.2 m³/s	8,000 m³/h 2.2 m³/s
Sound pressure level	36 db (A)	45 db (A)	45 db (A)	48 db (A)	48 db (A)

## ACCESSORIES

■ STANDARD
 □ OPTIONAL
 ☒ NOT AVAILABLE

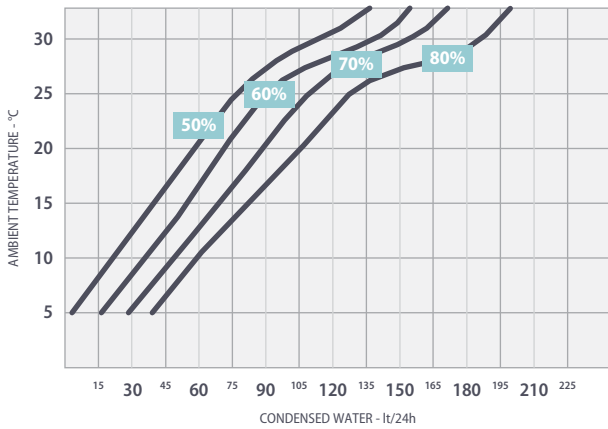
Hot gas defrost	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Under 0°C defrost	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Mechanical humidistat	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
Hot water coil with three-way valve	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Electric resistances	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Condensate lifting pump	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Digital dehumidostat	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Digital thermostat	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Evaporator cataphoresis treatment	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Stainless steel AISI 316 version	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Version with modulating control 0-10 V	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

## WEIGHTS

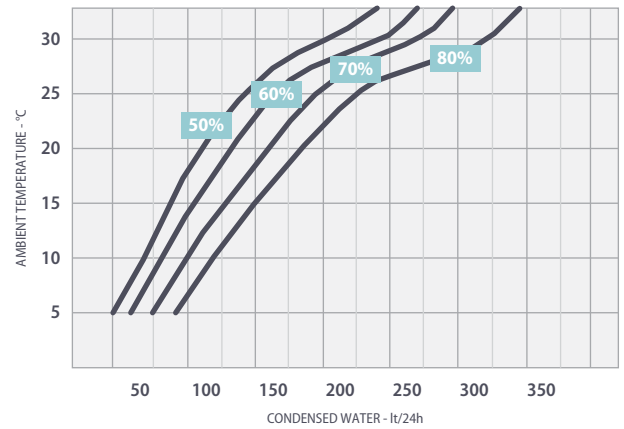
Weight	111 kg	147 kg	165 kg	230 kg	320 kg
Weight (outside unit)	16 kg	69 kg	69 kg	71 kg	71 kg

# CONDENSED WATER AT DIFFERENT AMBIENT TEMPERATURE AND HUMIDITY CONDITIONS (lt/24h)

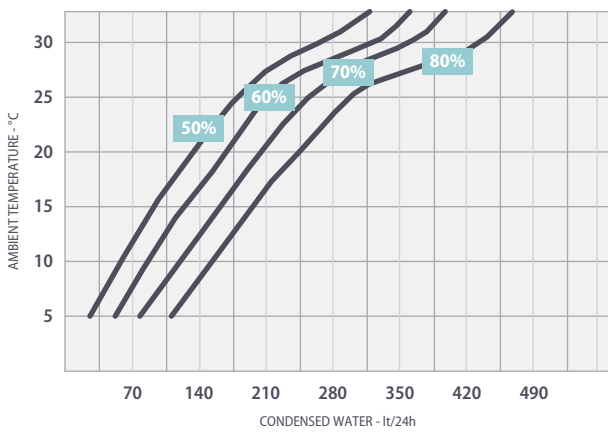
FD 240 TCR



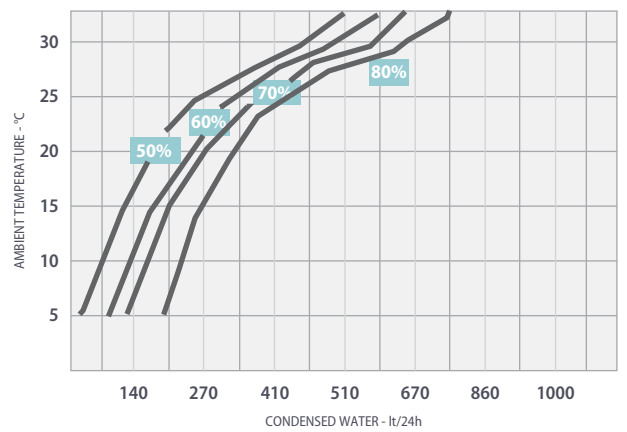
FD 360 TCR



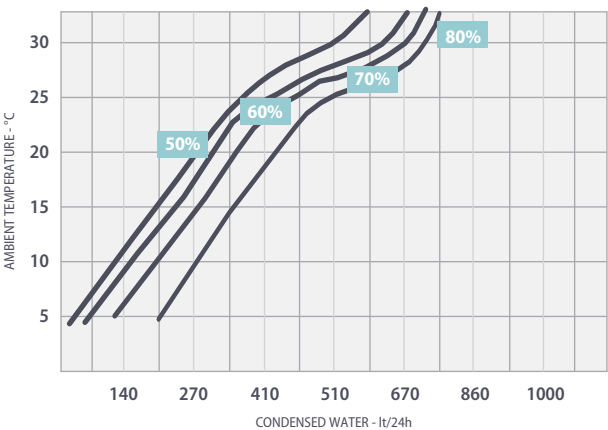
FD 520 TCR



FD 750 TCR



FD 980 TCR



	10 °C 60%	10 °C 80%	15 °C 60%	15 °C 80%	20 °C 60%	20 °C 80%	25 °C 60%	25 °C 80%	27 °C 60%	27 °C 80%	30 °C 80%	32 °C 90%
FD 240 TCR	35	60	55	79	70	105	90	125	103	135	188	240
FD 360 TCR	55	95	80	125	140	160	145	200	170	230	300	360
FD 520 TCR	80	145	115	200	170	250	210	290	250	340	440	520
FD 750 TCR	110	200	160	270	240	350	290	400	340	480	620	750
FD 980 TCR	150	270	215	370	320	470	395	545	470	640	830	980

## AIR FLOW AT DIFFERENT BACK PRESSURES (mc/h)

	0 Pa	25 Pa	50 Pa	75 Pa	100 Pa	125 Pa	150 Pa
FD 240 TCR	2,300	2,200	2,200	2,000	1,900	1,800	1,600
FD 360 TCR	3,500	3,400	3,300	3,100	3,000	3,000	-
FD 520 TCR	4,600	4,500	4,400	4,300	4,300	4,000	3,800
	180 Pa	200 Pa	220 Pa	240 Pa	260 Pa	280 Pa	300 Pa
FD 750 TCR	6,200	6,100	6,000	6,000	6,000	5,900	5,800
FD 980 TCR	8,500	8,300	8,200	8,100	8,100	8,000	8,000

## OPTIONAL ACCESSORIES

### HOT WATER COIL (optional)

Post-heating coil, which can be connected through a three-way valve to a hot water circuit. The valve is operated by a relay connected to the thermostat. The heating function can also be operated in the absence of a request on the part of the humidistat.

### ELECTRIC RESISTANCE (optional)

The post heating electric resistances are operated by a relay connected to the thermostat. The post heating function can also be operated in the absence of a request on the part of the dehumidostat.

### REMOTE DIGITAL HUMIDISTAT (optional)

Device that can be installed in an environment equipped for humidity control, which can be easily connected to the electrical system of the dehumidifier.

### REMOTE DIGITAL THERMOSTAT (optional)

Device that can be installed in an environment for temperature control. It controls the power resistances (OPZ) or the 3-way valve that allows the passage of the hot water inside the post heating coil.

### UNDER 0°C DEFROST

Kit that allows the dehumidifier to be installed in particularly cold environments, such as refrigerating rooms, with temperatures of up to 0 °C.

### CATAPHORESIS TREATMENT (optional)

Surface treatment capable of giving the evaporator a considerable resistance to corrosion.

### AVAILABLE STATIC PRESSURE INCREASE STAINLESS STEEL AISI VERSION

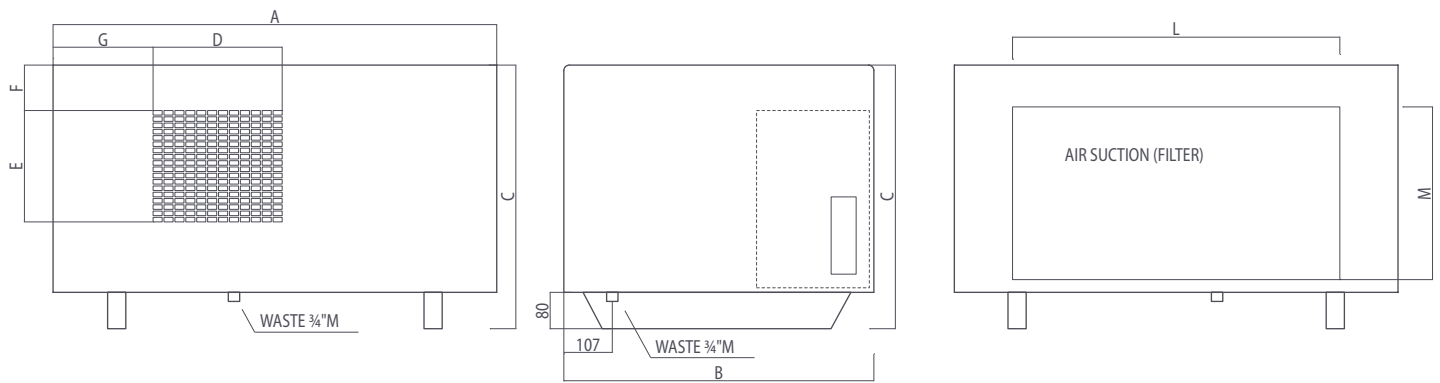
## DIMENSIONAL DATA (mm) - OUTSIDE UNIT

	WIDTH	HEIGHT	DEPTH
FD 240 TCR	1,200	220	440

	WIDTH	HEIGHT	DEPTH
FD 360 TCR	1,025	600	833
FD 520 TCR	1,025	600	833
FD 750 TCR	2,085	594	983
FD 980 TCR	2,085	594	983



# DIMENSIONAL DATA (mm) - MODELS 240



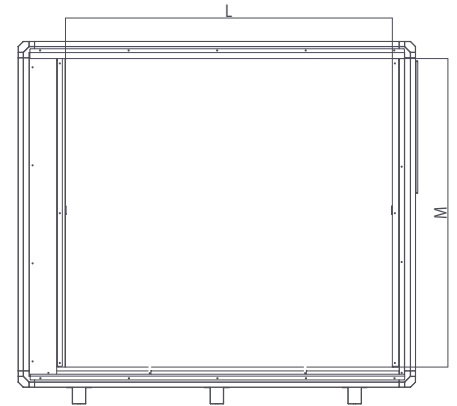
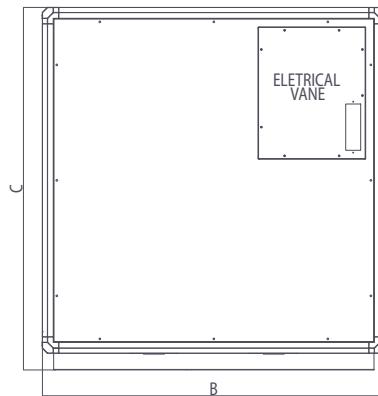
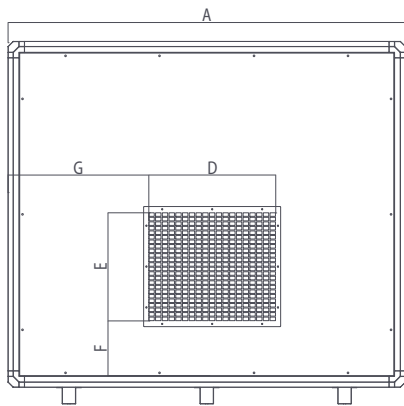
IN LINE VERSION



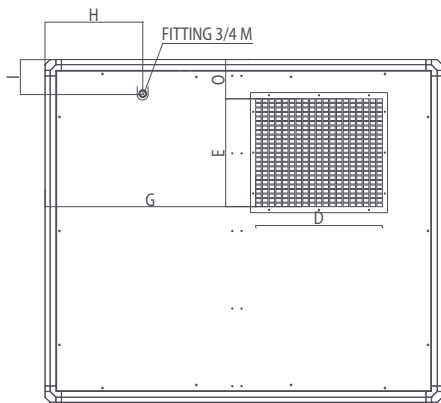
TOP SUPPLY VERSION

	A	B	C	D	E	F	G	H	I	L	M	O
FD 240 TCR	976	682	580	284	245	100	220	398	115	720	380	-
FD 240 TCR TOP VERSION	976	682	580	284	205	-	220	398	115	720	380	53

# DIMENSIONAL DATA (mm) - MODELS 360/520/750/980



IN LINE VERSION



TOP SUPPLY VERSION

	A	B	C	D	E	F	G	H	I	L	M	O
FD 360 TCR	1,180	900	920	392	330	68	228	324	171	101	822	-
FD 520 TCR	1,180	900	920	392	330	105	290	324	171	101	822	-
FD 360/520 TOP VERSION	1,180	900	920	392	330	160	-	324	171	101	822	68
FD 750 TCR	1,460	1,260	1,330	465	396	250	243	515	359	126	1,200	-
FD 980 TCR	1,460	1,260	1,330	465	396	350	243	515	359	126	1,200	-
FD 750/980 TCR TOP VERSION	1,460	1,260	1,330	465	396	470	-	773	359	126	1,200	144



APPLICATIONS

SWIMMING POOLS

ARCHIVES

GYMS

STORAGE

IRONING ROOMS

LAUNDRY

RENTAL

HOTELS

INDUSTRY