

## since 1973

Tecnoclima SpA is a leading Italian company that operates on the Warm Air market for more than 40 years offering solutions and products for the livestock farming and agriculture.

Our products are entirely designed and manufactured in Italy at our manufacturing facilities, certified according to current regulations in various international markets and subjected to the most rigorous quality and reliability controls. Innovation, technology and customer focus have always been the hallmarks of our proposal.

Tecnoclima sales organization supports the Client in identifying the best heating solutions. Our technical service assures a timely and competent assistance after installation.

The heaters developed by Tecnoclima for poultry applications have been designed considering the needs of the farmers and the experience gained from thousands of successful installations:

- quick and easy installation
- accessories to meet any requirement of different types of installations
- reliable and durable operation
- ideal heating level for the different stages of growth
- fuel saving thanks to the high efficiency
- choice of the highest quality materials suitable for use in poultry farms
- technical assistance service.

Direct air heater **Supercikki** has a great success on the Italian and international markets due to its reliability, efficiency, safety and simplicity of use. Updated over the years, today's Supercikki offers an output of 80 kW and installation solutions to fit any type of poultry building. Thousands of units sold each year confirm farmers trust around the world.



International Poultry Exhibition of Forli, 2013

Besides the direct heating technology, Tecnoclima offers many products with the sealed combustion technology to ensure heating with a clean warm air in the farms that require it. **Ekocikki** is just the latest product of the family of warm air heaters with heat exchanger that meets growing farmers need in clean heated air and healthier environment for animals.

Tecnoclima's wide range of products is constantly updated to meet the peculatiries of technical standards and installation types of the different export countries.

Tecnoclima actively participates in all major events of the farming world, for example International



Poultry Exhibition of Forlì, Eurotier Germany, Viv Asia Bangkok, Viv Europe Netherlands, Viv Turkey, Viv Russia, Ferma Poland, Space France, Figan Spain, Saudi Agriculture Saudi Arabia, British Pig & Poultry Fair etc.

Tecnoclima distinguishes itself from competitors by its ability to offer solutions to meet all requirements in the poultry world. Versatility, flexibility and reliability, combined with long term internationally recognized experience, are the hallmarks of our proposal.

Viv Europe Utrecht, 2014

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# SERIES EKOCIKK 130



New indirect warm air heater for poultry. Ecological, economic, eco-friendly.

**EKOCIKKI** responds to the growing breeders need to have air heating systems with clean air. The increased power (**130 kW**) compared to SUPERCIKKI and less need of ventilation to assure air renewal thanks to the indirect heat exchange technology allow to install less **EKOCIKKI** heaters with obvious **advantages from the point of view of efficiency and energy consumption**.

Totally sealed combustion chamber reduces excess of humidity in the environment, **eliminates completely the supply** of CO<sub>2</sub>, CO and NO<sub>X</sub> resulting from the combustion residues, reduces the need of ventilation and ensures a healthy growth environment for animals. The combustion chamber and smoke tubes of EKOCIKKI are entirely made of stainless steel AISI 430.

**EKOCIKKI** heater provides direct air distribution (does not require air ducts). It can be configured for external or internal installation and allows to mix the necessary amount of internal return air with fresh outside air.

**EKOCIKKI** can be installed outdoors without any additional protection saving precious inside spaces for breeding. The combustion is made with a blown burner: **extremely reliable technology** that ensures a stable operation of the heater even in the most demanding conditions. The adoption of this technology allows the use of **gas and oil** burners (no need to modify the product) and to have prompt competent assistance.

#### **MAIN COMPONENTS**



- 1. Alarms inspection panel.
- 2. Blown burner.
- 3. Electric board.
- 4. Safety thermostat.
- 5. Heat exchanger.
- 6. Axial fan.
- 7. Heat exchanger inspection door.
- 8. Combustion air intake.
- 9. Flue gas connection.

#### **EKOCIKKI:** outside and inside installation example





#### DIMENSIONS



## TECHNICAL SPECIFICATIONS EKOCIKK SERIES

Model	Unit	ЕКОСІККІ 130
Heating conscient input	kW	130,0
Heating capacity input	kcal/h	111.800
Heating and site autout	kW	120,0
Heating capacity output	kcal/h	103.200
Efficiency	%	92,0
Nominal air flow	m³/h	8.000
Air temperature deviation ( $\Delta$ T)	К	45,0
Electrical power	kW	1,0
Electrical supply	three-phase	400V - 50Hz 3N

⚠ On request INOX casing and customized technical features are available.

# SERIES EKOCIKKI 80

New indirect gas warm air heater for poultry: compact, efficient, eco-friendly

**EKOCIKKI** series responds to the growing breeders need to have air heating systems with clean air. The innovative model **EKOCIKKI 80** is an excellent alternative to direct-fired gas heaters that were traditionally used until today on poultry farms. Thanks to the heat exchanger technology of **EKOCIKKI 80**, emissions of CO<sub>2</sub>, CO and NOx are totally excluded from warm air supplied to the environment, providing healthy conditions for poultry growth and decreasing necessity in ventilation.

Warm air heater **EKOCIKKI 80** includes **special innovative and internationally patented heat exchanger** that permits to keep compact dimensions of the heater, reaching very high thermal efficiency. The combustion chamber and the heat exchanger are completely made of stainless steel inox AISI 430.

Warm air heater **EKOCIKKI 80 supplies warm air directly into the environment** without air ducts. It can be configured for outside or inside installation and allows to use fresh or internal return air as well as to mix the necessary amount of them. Thanks to the pre-painted stainless steel external case with IP 44 protection degree, **EKOCIKKI 80** is resistant to any weather conditions and **can be installed outdoors** without additional protection, saving precious space inside the farm for poultry breeding.

**EKOCIKKI 80** is equipped with the atmospheric burner and provides high efficiency working with natural gas, propane or butane. The flame is completely inside the combustion chamber made of materials resistant to thermal loads and corrosion. Thanks to clean warm air supplied by EKOCIKKI 80 and descreased humidity level in the environment, less ventilation and lower air exchange rate are required, ensuring important advantages in terms of **energy savings and the quality of the environment for healthy birds growth**.

#### **MAIN ADVANTAGES**

#### EKOCIKKI 80 high efficiency, reliability, safety

High quality materials possibility of outdoor and indoor installation

Innovative heat exchanger compact warm air heater, high efficiency

Atmospheric burner operating with natural gas or liquid gas safe and reliable technology even in tough environment conditions

Capacity output 70kW, air temperature deviation 32 °C clean air at a mild temperature

#### EKOCIKKI 80 installation flexibility

Outdoor installation more precious place inside for poultry breeding, gas line is totally outside

Partial intake of outside fresh air dual function: heating and air renewal

Plug and Play easy and fast installation, factory settings do not require any additional intervention of highly qualified personnel

Maintenance friendly no complex disassembly operations required during regular maintenance and cleaning EKOCIKKI 80 well-being of birds, high productivity, significant savings

High efficiency savings by reducing fuel consumption

Clean warm air energy savings due to reduced need in ventilation

Outdoor installation costs savings for insurance, zero risk of fire inside the poultry farm

No combustion products inside the farm best quality environment for the healthy growth of birds

#### **EKOCIKKI:** outside and inside installation example



#### DIMENSIONS



Width (A), mm	Lengh (B), mm	Hight (C),mm	ØA, mm	ØB, mm	Weight, kg
900	1130	1600	100	100	300

## TECHNICAL SPECIFICATIONS EKOCIKK SERIES

Model	Unit	ЕКОСІККІ 80
Heating conseits input	kW	77,8
Heating capacity input	kcal/h	66.900
Heating conscitute autout	kW	70
Heating capacity output	kcal/h	60.200
Efficiency	%	90,0
Nominal air flow	m³/h	6.500
Air temperature deviation ( $\Delta$ T)	К	32
Electrical power	kW	1
Electrical supply		230 V – 50 Hz N

⚠ On request INOX casing and customized technical features are available.

# SERIES SUPERCIKK 80



Direct-fired gas heater: high efficiency, safety, convenience.

Direct-fired gas air heater SUPERCIKKI 80 with 100% thermal efficiency. A special atmospheric anti-dust gas burner assures high performance either with methane, propane or butane gas. High safety level is guaranteed thanks to hot surface ignition and flame control by ionisation, double thermostats and flow switch. The flame is completely inside the heater and is protected by combustion circuit with aluminium steel plate, resistant to high temperature and corrosion.

Solid external casing is made of pre-painted galvanized steel or in stainless steel with IP 44 protection degree which makes the heater totally weather-proof and can be either **installed indoor or outdoor**. The external cabinet can be easily disassembled without disconnecting wires, for very quick and simple accessibility and maintenance operations.

Special radial fan assures a high air throw speed from the air duct for the **perfect distribution of the heat**. **SUPERCIKKI 80** has been designed for heating poultry, livestock buildings and intensive breeding.

#### SUPERCIKKI 80 application example with T-diffuser for cage system



#### **SUPERCIKKI 80 inside or outside installation example**









#### ACCESSORIES



Dii	Weight		
Length	Width	Height	kg
706	492	800	63

- 1. Standard support brackets.
- 2. Special long support brackets.
- **3.** Outlet extension with gravity damper (50 or 70 cm).
- 4. Isolation kit for outlet extension (50 o 75 cm).
- 5. Air recirculation plenum with damper.
- 6. Electronic thermostat.
- 7. Electronic thermostat with digital display.
- 8. Gas connection kit.

## TECHNICAL SPECIFICATIONS SUPERCIKE 80 SERIES

Model	Unit	SUPERCIKKI 80
Heating conscitu ounut	kW	80,0
Heating capacity ouput	kcal/h	68.800
Air flow rate	m³/h	2.000
Air temperature deviation ( $\Delta$ T)	К	145
Air throw	m	30
Monophase electric supply	L+N+E	230V - 50 Hz

⚠ On request INOX casing and customized technical features are available.

# SERIES **NIX 80**



Direct-fired gas heater with air mixing section: perfect heat distribution, more air quality.

Direct-fired gas air heater **MIXI 80** with 100% thermal efficiency. A special atmospheric anti-dust gas burner assures high performance either with methane, propane or butane gas. **High safety level** is guaranteed thanks to hot surface ignition and flame control by ionisation, double thermostats and flow switch. The flame is completely inside the heater and is protected by combustion circuit with aluminium steel plate, **resistant to high temperature and corrosion**.

Solid external casing is made of pre-painted galvanized steel or in stainless steel with IP 44 protection degree which makes the heater suitable for the inside installation in dusty and corrosive environments. The external cabinet can be easily disassembled without disconnecting wires, for **very quick and simple accessibility and maintenance operations**.

Axial fan providing high flow rate at medium temperature for **very efficient air distribution in big farms** even with only one or two heaters installed.

MIXI 80 has been designed for heating poultry, livestock buildings and intensive breeding.

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#### **MIXI 80 application example for broiler houses**

#### Front and rear detail of the MIXI 80 gas heater





#### **OVERALL DIMENSIONS**



#### **TECHNICAL SPECIFICATIONS**



Model	Unit	MIXI 80
Heating capacity ouput	kW	80,0
Air flow rate	m³/h	11.300
Air temperature deviation ( $\Delta$ T)	K	20
Axial fan motor power	kW	1,4
Threephase electric supply	V - 50Hz	400 3N ~

⚠ On request INOX casing and customized technical features are available.

# SERIES AGR



### Gas or diesel indirect air heater: versatile installation, clean air for healthy growth.

Suspended or standing, vertical or horizontal warm air heaters **AGRI** series with highly efficient and patented **heat exchanger**, working with blown diesel or gas burner. Combustion chamber and heat exchanger **are completely made in stainless steel** allowing installations in aggressive environments, like poultry farms. Available with high performance axial or centrifugal fans, the heater is provided with electric box and safety devices for a safe and reliable functioning all over the year. Solid external casing is made of pre-painted galvanized steel panels with radiant sheet insulation. **Clean warm air**, less humidity, no CO<sub>2</sub> are the main features that make AGRI a **best heating solution for poultry**. Less ventilation is needed reducing the costs, drier litter for better animals' conditions.

7 models and more than 50 execution options have been designed by Tecnoclima for the applications in zootechnical and agricultural buildings. A wide range of accessories is available for **AGRI** series heaters.



#### AGRI application example with air duct for cage systems

#### AGRI application example for broiler houses



Vertical suspended version



Version with circular air outlet



#### **TECHNICAL SPECIFICATIONS**



Version with two-ways air outlet plenum



Horizontal suspended version



## AGRI SERIES

Model AGRI		Unit	60	85	120	135	150	175	240
		kW	60,0	85,0	115,9	137,0	148,0	175,0	240,0
Heating capacity in	put	kcal/h	51.600	73.100	99.700	117.800	127.280	150.500	206.400
		kW	52,2	73,9	100,8	120,6	128,8	152,3	216,2
	Heating capacity OUTPUT		44.890	63.590	86.680	103.716	110.734	130.930	185.930
Air flow rate		Nm³/h	4.100	5.700	8.300	9.500	9.600	12.500	18.400
Electrical motor	axial fan	kW	0,40	0,54	1,00	1,30	1,30	1,30	2,60
Electrical motor centrifugal fan	centrifugal fan	kW	0,75	0,75	1,50	1,50	1,50	2,20	-
	single-phase	V - 50Hz	230 ~	230 ~	230 ~	-	-	-	-
Electrical supply	three-phases	V - 50Hz	-	400 3N~					

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# SERIES



### Cabinet indirect air heaters: clean air, universal configurations limitless performances.

Cabinet high efficiency warm air heaters TC-SP series are available with gas or diesel burners, one or double stage, modulating in condensing version (Energy series). The heating output range goes from 54 kW till 1044 kW to satisfy any request in heating. With vertical or horizontal configuration, inside or outside the building, TC-SP series give limitless opportunities to heat any kind of zootechnical buildings. Clean warm air is directly distributed or canalized by mean of a variety of accessories and patented solutions for air distribution and air intake. The possibility to work with 100% fresh air gives the possibility to match both functions: heating and ventilation of the zootechnical buildings. Particularly solid flame-inversion combustion chamber made of stainless steel featuring low thermal load, as well as specially designed heat exchanger allows to reach high level of thermal efficiency and to cut off operating costs. The centrifugal fans are driven by a variable gear transmission belt.

**Clean warm air**, less humidity, no CO<sub>2</sub> inside the building are the main features that make **TC-SP** a best heating solution for poultry environments. Less ventilation is needed reducing operating costs, drier litter improves animals' health conditions. **Outside installation** leaves free the precious space inside the building. **Modulating versions** give the possibility to adapt the heating power in accordance with the real necessity of the environment which can change also within the day, allowing more fuel economy.

**TC-SP** series heaters are available in condensing, low NOx versions, with variable air flow rate, with high static pressure, with low outside temperature installation kit and a wide range of accessories to assure customized solutions for installation and air distribution.



#### **TC-SP** application example for broiler houses

### TC-SP application example for broiler houses



#### **TC-SP** application example for cage systems



#### **TECHNICAL SPECIFICATIONS**

## TC-SP SERIES

		1			1				
Model TC-SP	Unit	45	75	80	100	125	150	175	200
	kW	60,0	94,0	103,2	122,3	161,2	190,0	225.8	258,8
Heating capacity input	kcal/h	51.600	80.850	88.790	105.150	138.600	163.400	194.225	222.600
	kW	54,0	82,2	93,0	107,0	145,0	168,0	204,0	230,0
Heating capacity OUTPUT	kcal/h	46.450	70.700	80.000	92.000	125.000	144.600	175.000	198.100
Air flow rate	m³/h	4.300	6.000	7.600	7.600	9.600	11.500	13.400	15.300
Useful static pressure	Pa	160	160	160	160	220	200	200	180
Electrical motor	kW	0,55	1,10	1,50	1,50	2,20	3,00	3,00	4,00
Electrical supply	V - 50Hz	230 ~	400 3N ~	400 3N ~	400 3N ~	400 3N ~	400 3N ~	400 3N ~	400 3N ~
Model TC-SP	Unit	250	300	375	450	500	600	800	1000
Heating consolity input	kW	322,6	391,0	460,6	590,0	645,3	769,0	1.000,0	1.160,0
Heating capacity input	kcal/h	277.470	336.250	396.160	507.300	554.940	661.500	860.000	997.600
	kW	291,0	348,0	415,0	523,0	581,0	683,0	884,0	1.044,0
Heating capacity OUTPUT	kcal/h	250.000	298.950	356.900	450.000	500.000	587.400	760.000	897.840
Air flow rate	m³/h	19.000	23.000	28.700	34.500	40.200	49.000	67.000	70.000
Useful static pressure	Pa	200	170	280	220	220	180	200	200
		1				44.00	45.00		
Electrical motor	kW	4,00	5,50	7,50	9,20	11,00	15,00	2 x 9,20	2 x 11,0

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## SERIES AQUACIKK



### Water air heaters specific for poultry building applications: clean and dry warm air for better growth.

**AQUACIKKI** water air heater is specially designed to heat poultry buildings. Special **high efficiency water heat exchanger** is made in anticorrosive heat resistant materials with wide distanced fins to avoid coil choke and simplify its cleaning with water also at high pressure. High performance axial fan **IP 66 protection** degree suitable for high temperature air, large throw ensures **efficient air distribution**, at the same time, at a moderate air speed, avoiding to create too much air movement into the building and disturbing the birds. **Book opening system** of the coil makes it quick and easy for cleaning and maintenance operations.

AQUACIKKI is supplied with the hot water produced by a separate boiler.

No combustion inside the building, no  $CO_2$  is produced, clean and dry warm air ensures healthy environment for the best growth of the birds.

#### **AQUACIKKI** application example for broiler houses



#### **AQUACIKKI installation example for broiler houses**



#### **MAIN COMPONENTS**



#### **TECHNICAL SPECIFICATIONS**



#### 1. Heat exchanger

- 2. Axial fan
- 3. Circular outlet
- **4.** Water inlet pipe
- 5. Water outlet pipe
- 6. Electrical connection
- for fan electric motor
- 7. Latch to open/close

**Maintenance friendly** opening system

Fins distance 4,2 mm



## **AQUACIKKI** SERIES

Model AQUACIKKI			Unit	53	63	93
Water IN/OUT °C Air inlet °C	Ain in lat 90	Air flow	m³/h	3.200	3.700	11.000
	Electrical supply	V-Hz	400-50	400-50	400-50	
	Water flow	l/h	1.100	1.310	3.580	
	35	Water pressure drop	kPa	14,2	61,7	67,7
00/70		Heating capacity	kW	25,1	29,7	81,2
90/70		Water flow	l/h	1.240	1.470	4.020
	30	Water pressure drop	kPa	17,5	76,0	83,5
		Heating capacity	kW	28,2	33,3	91,2
		Water flow	l/h	1.220	1.450	4.000
	35	Water pressure drop	kPa	17,4	75,6	83,0
80/65		Heating capacity	kW	20,9	24,7	67,6
		Water flow	l/h	1.400	1.650	4.530
	30	Water pressure drop	kPa	22,3	96,6	106,0
		Heating capacity	kW	23,9	28,3	77,4

 $m \Lambda$  On request INOX casing and customized technical features are available.

# SERIES



### Water air heaters suitable for poultry and agricultural applications.

**AZN-X water air heaters** have a wide range of models with the capacity going **from 13 kW to 114 kW**, made of **stainless steel casing**, self-supporting stainless steel structure, copper tubes with aluminium fins exchange coil, water connections both with blow-off valves and both fixed on anti-break clamp bracket and special low noise fan with a two or three speed electrical motor.

AZN-X water air heaters are supplied with the hot or cold water produced by a separate boiler or chiller. AZN-X water air heaters are particularly indicated for animal production buildings because there is no combustion inside the building, no  $CO_2$  is produced, clean and dry warm air ensures healthy environment for the best growth of the animals.

#### **MAIN COMPONENTS**



- **1.** Electric fan with safety protection grid.
- 2. Fan panel.
- **3.** Exchange battery in copper with aluminium fins.
- 4. Collector with upper and bottom air vent and anti-torsion plate.
- 5. Removable front panel with horizontal or bidirectional diffusion fins.

#### AZN SERIES IS ALSO AVAILABLE IN FOLLOWING VERSIONS:

AZN: with casing in galvanized painted steel; AZN-F: for heating and cooling, with condensate tray; AZN-CT: with cataphoresis treated coil.

▲ On request customized technical features are available.

#### **AZN-X installation example in broiler houses**





#### **OVERALL DIMENSIONS**



Model	Dime	<b>W</b> .		
wouer	A	В	С	kg
AZN-X 12	555	280	390	14
AZN-X 13	555	280	390	15
AZN-X 22	605	280	440	16
AZN-X 23	605	280	440	18
AZN-X 32	655	280	490	19
AZN-X 33	655	280	490	21
AZN-X 42	705	280	540	23
AZN-X 43	705	280	540	24
AZN-X 52	755	280	590	25

Model	Dime	<b>Dimensions mm</b>						
Model	A	В	С	kg				
AZN-X 53	755	280	590	28				
AZN-X 62	805	280	640	29				
AZN-X 63	805	280	640	32				
AZN-X 72	855	280	690	40				
AZN-X 73	855	280	690	43				
AZN-X 82	1.205	280	690	58				
AZN-X 83	1.205	280	690	63				
AZN-X 92	1.405	280	690	70				
AZN-X 93	1.405	280	690	76				

#### **TECHNICAL SPECIFICATIONS**



Model		heating output <sup>(1)</sup>	Ranks N°	N° Fan rpm max-med-min	Fan N°	Max. air flow	Air throw <sup>(2)</sup>	Water pressure drop	Water flow rate	Electr. supply	Electrical power	Sound p [dB (	oressure (A)] <sup>(3)</sup>
	kW	kcal/h		V/min		m³/h	m	KPa	l/h	V - 50Hz	W	max speed	min speed
AZN-X 12	13,3	11.450	2		1	1.750	22	26	785		73	50	41
AZN-X 13	17,3	14.900	3		1	1.550	17	20	1.020		73	50	41
AZN-X 22	17,7	15.250	2		1	2.450	25	17	1.044		105	51	45
AZN-X 23	23,8	20.450	3		1	2.300	19	20	1.401		105	51	45
AZN-X 32	22,0	18.950	2		1	2.800	31	30	1.296		110	52	43
AZN-X 33	28,5	24.550	3	1.400 900	1	2.550	25	17	1.680	230 ~	110	52	43
AZN-X 42	27,4	23.550	2	700	1	3.600	31	24	1.612	230~	130	53	43
AZN-X 43	35,4	31.300	3	700	1	3.400	25	19	2.141		130	53	43
AZN-X 52	31,9	27.400	2		1	3.950	32	20	1.876		160	53	43
AZN-X 53	42,7	36.750	3		1	3.900	24	13	2.514		160	53	43
AZN-X 62	39,1	33.600	2		1	5.200	33	13	2.300		200	53	47
AZN-X 63	52,4	45.100	3		1	4.900	26	16	3.086		200	53	47
AZN-X 72	47,4	40.800	2		1	6.700	39	14	2.793		245	52	46
AZN-X 73	63,0	54.150	3		1	6.200	37	12	3.707	]	245	52	46
AZN-X 82	67,7	58.200	2	900	2	8.500	38	11	3.985	400 3N ~	260	54	49
AZN-X 83	87,8	75.550	3	700	2	7.700	32	9	5.173	400 311 ~	260	54	49
AZN-X 92	88,8	76.400	2		2	12.550	40	21	5.229	]	500	53	48
AZN-X 93	114,9	98.800	3		2	10.900	38	17	6.764		500	53	48

Heating: air inlet temperature 15°C, water temperature 85-70 °C, relative humidity 50%, atmospheric pressure 1013 mbar, at maximal fan speed.
 Distance from the equipment where with remaining air speed of 0,2 m/s.

(3) Equipment installed on the wall, at 3 meter distance from the floor, maximal and minimal fan speed, measured in free field.

# Heating of poultry farms

YEAR 2015 SERIES SUPERCIKKI TOTAL 1.200 kW POWER



REQUEST	Heating of poultry farms with direct gas fired heaters.
	Outdoor installation.
	Low maintenance.
SOLUTION	15 warm air heaters model Supercikki 80.
	Heating capacity of each heater 80 kW.
	Long isolated outlet extension to allow the installation of the unit at a minimum distance of 60 cm from the wall.
ADVANTAGES	Warm air heaters, combustion and gas pipes outdoor.
	No space occupied inside the farm.
	Working with fresh air with reduced production of CO <sub>2</sub> and steam.
	Maximum safety thanks to the outdoor installation.
	The possibility to install in case of the walls with features of fire- resistance less than REI 30 and class 0 of flame reaction.
	Very reliable hot surface ignition.
	Thermal efficiency 100%.

# Heating of poultry farms

2015	YEAR
SUPERCIKKI	SERIES
2.250 kW	TOTAL POWER



REQUEST	Heating of poultry farms with direct gas fired heaters. Outdoor installation. Possibility to mix indoor and outdoor air.
SOLUTION	28 warm air heaters model Supercikki 80. Heating capacity of each heater 80 kW. Indoor and outdoor air mixing plenum with regulating damper.
ADVANTAGES	Warm air heaters, combustion and gas pipes outdoor. No space occupied inside the farm. Units installed on one side of the shed. Direct air distribution. Very reliable hot surface ignition. Thermal efficiency 100%.

## Heating of poultry farms AUSTRALIA

YEAR	2009÷2016
SERIES	SUPERCIKKI
TOTAL POWER	14.400 kW



REQUEST	Heating of poultry farms with direct gas fired heaters. Outdoor installation. Conformity certification AGA according to strict Australian regulations
SOLUTION	180 warm air heaters model Supercikki 80. Heating capacity of each heater: 80 kW.
ADVANTAGES	Warm air heaters, combustion and gas pipes outdoor. Working with fresh air with reduced production of CO <sub>2</sub> and steam. Very reliable hot surface ignition. Thermal efficiency 100%. Product AGA certified.

## Heating of poultry farms RUSSIA

YEAR	2015
SERIES	SUPERCIKKI
TOTAL POWER	120.000 kW



REQUEST	Heating of poultry farms with direct gas fired heaters. Indoor installation working with natural gas. Outside temperature –25°C.
SOLUTION	1500 warm air heaters model Supercikki 80. Heating capacity of each heater: 80 kW.
ADVANTAGES	Unit installed on one side of the shed. Gas power feeding on the same side of the shed. Safe combustion with no visible flame. Very reliable hot surface ignition. Compliance with the very strict requirements of the Custom Union certification system EAC.

## Heating of poultry farms LEBANON

YEAR	2012÷2016
SERIES	AGRI
TOTAL POWER	9.000 kW



REQUEST	Heating of poultry farms with warm air heaters with diesel oil burner. Indirect system with heat exchanger. Installation on proper support placed on floor or hanged on the roof.
SOLUTION	80 warm air heaters AGRI series. Oil burner. Direct air diffusion.
ADVANTAGES	Production of hot clean air free of combustion smokes. Highly reliable heater, simple to operate and low maintenance. Plug-and-play installation.

## Heating of poultry farms SAUDI ARABIA

2013÷2016	YEAR		
тс	SERIES		
26.000 kW	TOTAL POWER		





REQUEST	Heating of poultry farms with diesel oil heaters.
	Indirect system with heat exchanger.
	Clean hot air free from combustion fumes.
	Outdoor unit.
	Reduced maintenance.
SOLUTION	90 warm air heaters with diesel oil burner TC series.
	Two-stage burner.
	Average efficiency > 92%.
	Exclusive project by Tecnoclima of the air distribution and air diffusion system.
ADVANTAGES	No use of internal space into the farm.
	Maximum safety thanks to the outdoor installation.
	Each farm has got just a single unit to maintain.
	Ideal uniformity of temperature and air diffusion in the farm.
	No consumption of oxygen into the farm and higher animal wellbeing.

## Heating of poultry farms UKRAINE

YEAR	2015
SERIES	AQUACIKKI
TOTAL POWER	3.000 kW



REQUEST	Heating of poultry farms with water heaters. Dusty and aggressive conditions. Need for washing with water at the end of each production cycle.
SOLUTION	90 water air heaters AQUACIKKI series. Water-air coil with epoxy powder coating and extra-spaced fins. Fan with electrical protection IP 66 suitable for temperatures up to +80°C. Fan is placed on hinges enabling it to be turned for easy cleaning operations.
ADVANTAGES	High resistance at corrosion. Washable with water cleaner. Coil and fan easy to clean. Efficient air distribution.

# Heating of poultry farms

2014	YEAR
AZN-X	SERIES
1.000 kW	TOTAL POWER



REQUEST	Heating of turkey farms by warm water generated by biogas plant. Withstand to aggressive and dusty atmosphere. Low maintenance.
SOLUTION	<ul> <li>25 water air heaters AZN-X series.</li> <li>Installation hanged on the roof or on the wall.</li> <li>External casing in stainless steel.</li> <li>5 rows coil with epoxy powder coating and extra-spaced fins pitch at 4,2 mm.</li> </ul>
	Front and side doors for easy cleaning.
ADVANTAGES	Heating with clean hot air. High thermal efficiency.
	Corrosion proof.
	Easy cleaning.



**TECNOCLIMA S.p.A.** 

Tecnoclima S.p.A. was founded in 1973 by Alfonso Vescovi and extends over a surface area of 50.000 square meters. Its purpose is to produce equipment for air treatment, heating and conditioning. For more than 40 years the **production takes place entirely in Italy**, in the historic production site near Trento.

#### **TECNOCLIMA GROUP:**

TECNOCLIMA S.p.A.	Pergine (Trento) Italia
EMAT S.A.	Genas (Lyon) France
000 TC Group Energia	Moscow Russia

#### **BRANDS:**

TECNOCLIMA	well-known worldwide for its high quality equipment for air heating and air treatment	
CLIMA ITALIA	prestigious brand in the air conditioning sector	
EMAT	France leader company in the warm air heating and air treatment	

#### **PRODUCTS AND TECHNOLOGIES:**

**Standard products** with more than 300 models of warm air heaters, roof top, air treatment units, heat pumps, heat recovery units and hydronic terminal units.

**Special products**: specifically designed and manufactured according to customer's specifications.

**Advanced technologies:** condensation with modulating and premix burner, variable air flow with inverter, plug-fans, static and thermodynamic recovery, regulations and controls with dedicated software internally developed.

#### **APPLICATIONS:**

#### Heating, Ventilation and

- Air Conditioning:
- Halls and warehouses for industrial and commercial use
- Greenhouses and farms
- Places of worships
- Tensostatic structures and air domes
- Temporary structures, tents and rental structures
- Residential sector

#### Clean high temperature air for process applications:

- Painting
- Drying
- Heat treatment
- Polymerization
- Food industry processes



#### **EXPORT COUNTRIES:**

Albania, Algeria, Argentina, Armenia, Australia, Austria, Azerbaijan, Belgium, Belarus, Bulgaria, Bosnia and Herzegovina, Chile, China, Cyprus, Colombia, Croatia, Czech Republic, Denmark, Egypt, Estonia, France, Finland, Georgia, Germany, Great Britain, Greece, Hungary, India, Israel, Jordan, Kazakhstan, Korea, Latvia, Lebanon, Lithuania, Malta, Mexico, Nederlands, New Zealand, Norway, Poland, Portugal, Romania, Russian Federation, Republic of Moldova, Serbia, Slovenia, Slovakia, Spain, Sweden, Switzerland, South Africa, San Marino, Taiwan, Tunisia, Turkey, Ukraine, Uruguay, Uzbekistan.



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#### INTERNATIONALLY RECOGNIZED QUALITY



Since the Company is constantly focused on products' improvements, all equipment and accessories may be subjected to alterations and modifications without notice.