



FORM

Fancoil Units





About Form

Founded in 1965, the main activity of Form Group companies is the Production, Sales & After Sales Services of Commercial and Residential air conditioners, in order to improve the quality of life. The Group is active in the sectors of hotels, hospitals, shopping malls, commercial buildings, schools, factories and homes. The Group consists of 4 companies.

FORM Endüstri Ürünleri A.Ş. specializes in commercial and industrial air conditioning solutions. The products sold and serviced are either manufactured by the sister companies in the Group; fancoils, air handling units, water source heat pumps, rooftops, or imported from the exclusive representations from world known brands; Lennox, Clivet, Climate Master, Dunhambush, Montair. The main products are rooftops, chillers, fancoils, heat pump units, air handling units, cooling towers and other commercial air conditioning products. The company is one of the top commercial sales and service providers in the Turkish A/C market.

FORM Endüstri Tesisleri A.Ş. is the manufacturing company of the Group and maintains its activities in 20,000 m² factory in Izmir. The company has two main activities. The first one is the manufacturing and sales of natural smoke and heat extraction systems, evaporative coolers, natural daylight systems and air purifier devices mostly for the roofs of industrial buildings. The second one is rooftops, air handling units, water source heat pumps and fancoils for the Group companies.

FORM MHI Klima Sistemleri A.Ş. is a Joint Venture company with Mitsubishi Heavy Industries. The company provides sales and After Sales Services for commercial and Residential applications, with VRF and Split – Multi Split air conditioners. The company is one of the three biggest suppliers in the Turkish market for VRF equipment.

FORM Yönetim Destek A.Ş. is the management company that provides finance, accounting, logistics, IT, H&R and marketing services to the above three group companies, as they only comprise of manufacturing, sales and service personnel.

The head office of FORM Group is located in Istanbul, Maslak business district. There are regional offices in Ankara, Antalya, Izmir, Adana and Bursa for each sales company separately, with the factory in Izmir.

FORM Group is a founding member of ISKID Turkish HVAC Association and ISKAV Turkish HVAC Foundation. The group believes in professional organization and work ethics, by being a serious, reliable, technical and trustworthy provider, depending on the ethical values.

FORM Fancoil units preferred for high performance, efficiency, special design, quiet operation, durability, ergonomic dimensions and low maintenance costs. Application areas are hotels, offices, hospitals, business centers, administrative buildings, public buildings, residences, villas, residences and shopping malls.

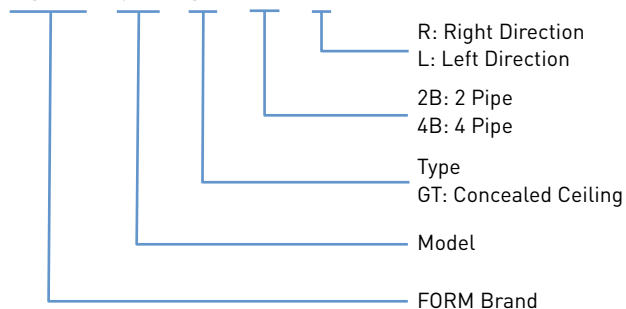


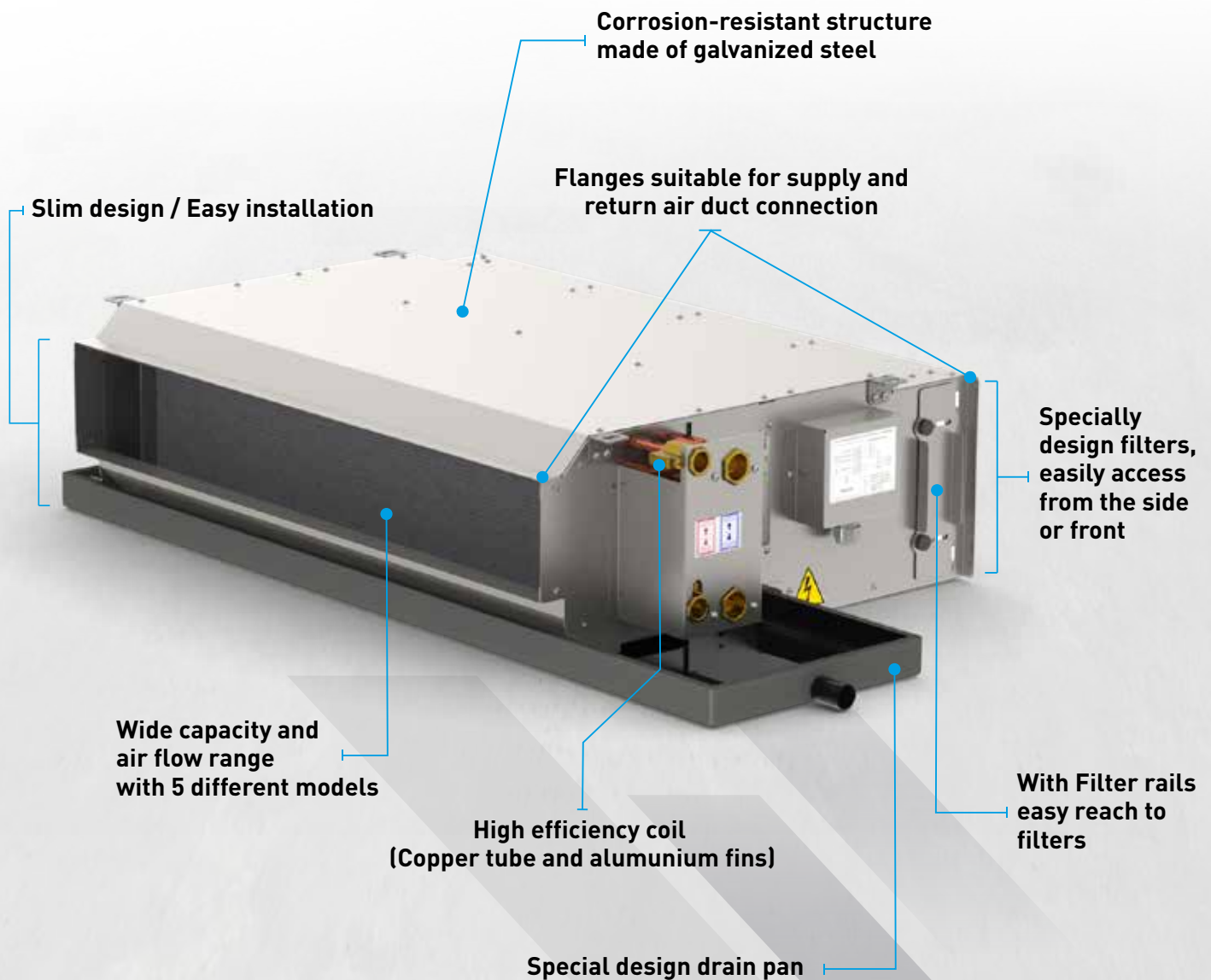
Features

- FORM Fan-Coil Units are available in 2 or 4 pipes configuration with 5 different models in each configuration.
- All units have CE certification.
- Special heat exchanger structure, it produces high efficiency solutions and low operating cost.
- In order to meet customer needs, a Windows operating system based selection software is used to determine the appropriate model for the desired indoor climate conditions and the capacity requirements.
- Form fancoils have elegant design thanks to their ergonomic dimensions and provide easy installation.
- It has flanges suitable for supply and return air duct connection.
- Silent operation with 3-speed adjustable fan and high-efficiency motor.
- Specially designed filters are offered as standard. It can be easily reach from the side or front, cleanable and long life.
- Drain pan is painted and there is 6 mm insulation. with Optionel extended drain pan for easy installation.
- The drain pan has bevel to prevent water from filling.
- Special air vent design that allows the air in the coil to be removed.
- The electrical connection is enclosed in a special box to prevent electrical leakage. All CE electrical tests of the units are done by factory.

Nomenclature

FORM - 021- GT - 2B - R

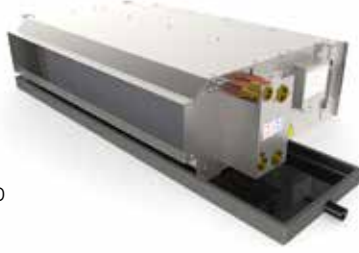




Technical Specifications

STRUCTURE

- The structure consists of 0.8 - 1 mm thick galvanized steel and is resistant to corrosion.
- The interior of the unit is covered with 3 mm thick polyethylene based insulation material. This material is it also provides sound insulation.
- The unit have factory installed mounting brackets.



EXTENDED DRAIN PAN (Optional)

- Extended drain pan accessory should be used to ensure that condensation on the installation elements such as valves and strainers is collected into the drain pan.
- The width of extended drain pan is the same as the width of the original pan and its length is 24 cm.



COIL

- The coil consisting of copper pipes and aluminum fins is designed for 2 and 4 pipe systems and has high thermal efficiency.
- Coils are tested at 35 bar pressure.
- Water inlet-outlet connections are suitable for 3/4" pipe connection for cooling and 1/2" pipe connection for heating.
- There is a protection plate on the collector side of the coils to prevent damage to copper pipes.



FAN

- In FORM Fancoil, double suction, forward curved blades, high efficiency fans are used.
- Depending on the unit size, 1 to 4 fans are used in one unit.



MOTOR

- Monophase and 3 speed motors are used in all units.
- Sound level is low, energy efficiency is high.
- The shafts of the motors are specially coated against corrosion.



YOĞUŞMA TAVASI

- The "inside" of the condensation tray, which is manufactured as a single piece by pressing in a press made of 1 mm thick sheet metal material, is coated in a way to prevent rust.
- The interior of the "U" shaped ceiling is inclined to prevent water accumulation and provides easy evacuation of the accumulated water.
- The bottom of the ceiling is completely covered with 6mm thick rubber-based insulation material to prevent condensation to form on the outer surface.



FILTER

- Specially designed slider filters can be easily removed and installed from the side covers or the front by applying them through the slides.
- In large models, 2 or 3 pieces of filters are used and they are attached to each other by special interlocking pieces.



2 Pipe Duct Type Fancoil



MODEL			FORM-011	FORM-021	FORM-032	FORM-042	FORM-062	FORM-083	FORM-094	FORM-104
Total Cooling Capacity		kW	1,63	2,45	3,18	4,57	5,45	7,52	8,65	11,18
Sensible Cooling Capacity			1,51	2,03	2,67	3,79	4,37	6,14	7,07	9,32
Total Heating Capacity			4,55	5,95	7,96	11,06	12,83	17,63	21,26	27,42
Power Usage		W	64,5	64,5	113	113	137	160,8	226	259
Air volume	L	m³/h	396	396	752	752	908	1119	1610	1768
	M		500	500	966	966	1168	1443	1800	2260
	H		598	598	1160	1160	1400	1660	2360	2640
Water Flow	Cooling	m³/h	0,28	0,42	0,55	0,78	0,93	1,29	1,48	1,92
	Heating		0,40	0,52	0,70	0,97	1,13	1,55	1,87	2,41
Sound Pressure Level	L	db(A)	35,3	35,3	37,9	37,9	40,5	42,1	45,5	45,9
	M		42,7	42,7	45,1	45,1	47,2	49,3	51,7	52,2
	H		47,4	47,4	49,7	49,7	52,2	54,1	57,3	57,9
NR	L		30	30	29	29	30	32	36	37
	M		35	35	38	38	39	40	43	43
	H		38	38	42	42	44	45	48	49
NC	L		27	27	27	27	29	31	36	36
	M		34	34	36	36	38	39	42	43
	H		37	37	40	40	43	45	49	50
Water Pressure Drop	Cooling	kPa	4,22	12,82	19,69	20,59	31,34	28	17,9	28,73
	Heating		6,88	16,15	25,51	25,76	30,61	31,69	22,47	29,5
Number of Rows			2	3	2	3	3	3	3	3
Water Connection Size			3/4"	3/4"	3/4"	3/4"	3/4"	3/4"	3/4"	3/4"
Voltage / Frequency /Phase			230 V/ 50 Hz / 1 ph							
Weight		kg	14,4	14,8	21,3	22,1	23,6	33,4	45,1	46,2

L : Fan Low

M: Fan Medium

H: Fan High

* All air volumes according to 0 PA External Pressure.

* Cooling Air Inlet Conditions 27°C/19 °C KT/YT, Water Inlet at 7°C/12 °C

* Heating Air Inlet Conditions 20°C/15 °C KT/YT, Water Inlet at 70°C/60 °C

4 Pipe Duct Type Fancoil



MODEL			FORM-011	FORM-021	FORM-032	FORM-042	FORM-062	FORM-083	FORM-094	FORM-104
Total Cooling Capacity		kW	1,6	2,41	3,09	4,42	5,33	7,36	8,47	10,85
Sensible Cooling Capacity			1,48	1,99	2,59	3,65	4,27	5,99	6,91	9
Total Heating Capacity			2,6	2,52	4,25	4,63	4,96	7,76	8,49	11,71
Power Usage		W	64,5	64,5	113	113	137	160,8	226	259
Air volume	L	m³/h	383	383	720	720	872	1050	1592	1652
	M		488	488	926	926	1126	1338	1904	2128
	H		580	580	1100	1100	1350	1604	2280	2510
Water Flow	Cooling	m³/h	0,27	0,41	0,53	0,76	0,91	1,26	1,45	1,86
	Heating		0,23	0,22	0,37	0,41	0,44	0,68	0,75	1,03
Sound Pressure Level	L	db(A)	35,3	35,3	37,9	37,9	40,5	42,1	45,5	45,9
	M		42,7	42,7	45,1	45,1	47,2	49,3	51,7	52,2
	H		47,4	47,4	49,7	49,7	52,2	54,1	57,3	57,9
NR	L		30	30	29	29	30	32	36	37
	M		35	35	38	38	39	40	43	43
	H		38	38	42	42	44	45	48	49
NC	L		27	27	27	27	29	31	36	36
	M		34	34	36	36	38	39	42	43
	H		37	37	40	40	43	45	49	50
Water Pressure Drop	Cooling	kPa	4,07	12,37	18,65	19,42	30,1	26,94	17,24	27,17
	Heating		7,75	7,32	25,99	30,47	6,53	17,53	25,57	46,41
Number of Rows			2+1	3+1	2+1	3+1	3+1	3+1	3+1	3+1
Water Connection Size			3/4"+1/2"	3/4"+1/2"	3/4"+1/2"	3/4"+1/2"	3/4"+1/2"	3/4"+1/2"	3/4"+1/2"	3/4"+1/2"
Voltage / Frequency /Phase			230 V/ 50 Hz / 1 ph							
Weight		kg	15	15,3	22,1	22,9	24,7	34,3	46,8	48,1

L : Fan Low

M : Fan Medium

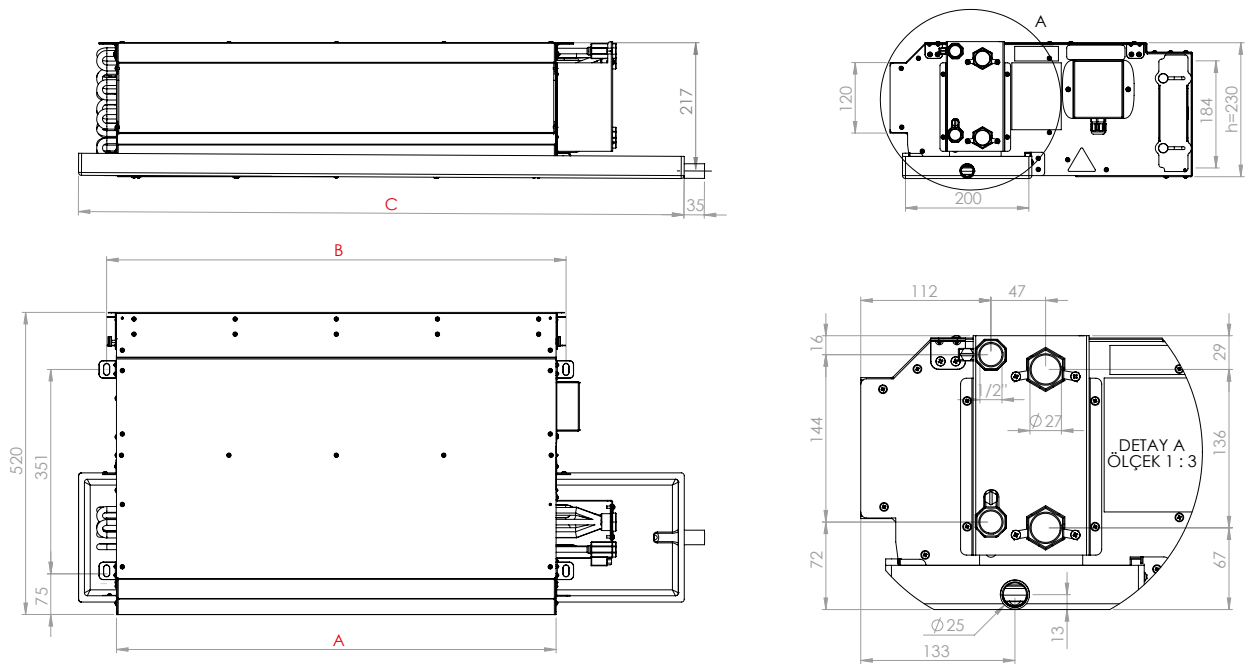
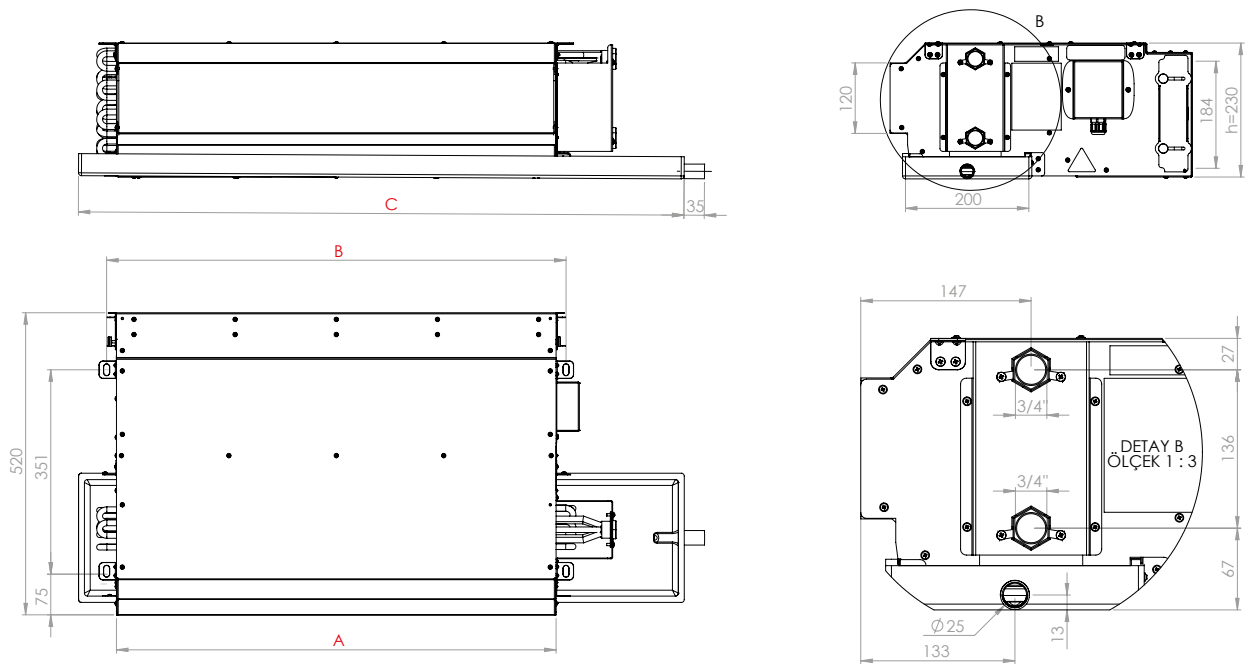
H : Fan High

* All air volumes according to 0 PA External Pressure.

* Cooling Air Inlet Conditions 27°C/19 °C KT/YT, Water Inlet at 7°C/12 °C

* Heating Air Inlet Conditions 20°C/15 °C KT/YT, Water Inlet at 70°C/60 °C

Dimensions



MODEL			FORM-011	FORM-021	FORM-032	FORM-042	FORM-062	FORM-083	FORM-094	FORM-104
Dimensions	A	mm	455		755		885	1155	1605	
	B	mm	489		789		919	1189	1639	
	C	mm	660		960		1090	1360	1810	
	h	mm	230		230		230	230	230	

Accessories

THERMOSTAT

- 220 V AC
- Temperature range from 10°C-30°C
- Cool / Heat / Off selector switch
- 3 stage fan speed
- Integrated NTC type temperature sensor
- Valve outlet suitable for 2 and 4 pipe systems
- Thermostatic fan control



DIGITAL THERMOSTAT

- 220 V AC
- Stylish design, digital LCD display
- Blue backlight
- Surface mounting
- Temperature range from 5°C to 35°C
- Cool / Heat / Auto selection setting
- Manual / Automatic 3 stage fan speed
- Valve outlet suitable for 2 and 4 pipe systems
- Continuous or thermostatic models for fan
- Low temperature protection
- Hotel card or window contact application
- Working in case the energy is cut off and coming back
- Two different working options for heating output



DIGITAL TOUCH THERMOSTAT

- 220 V AC
- Stylish design, digital LCD display
- Touch screen
- Energy saving mode
- Flush mounting
- Temperature range from 5°C to 35°C
- Cool / Heat / Auto selection setting
- Keylock
- Weekly programming feature
- Manual / Automatic 3 stage fan speed
- Valve outlet suitable for 2 and 4 pipe systems
- Working in case the energy is cut off and coming back
- Low temperature protection



DIGITAL TOUCH THERMOSTAT (MODBUS)

- 220 V AC
- Stylish design, digital LCD display
- Touch screen
- 5 digital outputs
- 1 passive input
- MODBUS communication
- NTC external sensor connection
- Door or window contact connection
- Electric heater control
- Hotel card contact
- Led lighting
- Surface mounting
- Temperature range from 5°C to 35°C
- Cool / Heat / Auto selection setting
- Keylock
- Weekly programming feature
- Manual / Automatic 3 stage fan speed
- Valve outlet suitable for 2 and 4 pipe systems
- Working in case the energy is cut off and coming back
- Low temperature protection



MOTORIZED VALVES

WT-2131

- 2 way
- DN15 connection diameter for 1/2 "
- DN20 connection diameter for 3/4 "
- External thread connection
- PN16
- Brass body
- Maximum fluid temperature 100°C
- KVS value for 1/2 "1.7
- KVS value for 3/4 "2.8



WT-3131

- 3 way
- DN15 connection diameter for 1/2 "
- DN20 connection diameter for 3/4 "
- External thread connection
- PN16
- Brass body
- Maximum fluid temperature 100°C
- KVS value for 1/2 "1.7
- KVS value for 3/4 "2.8



WT-4131

- 3-way, 4-port
- DN15 connection diameter for 1/2 "
- DN20 connection diameter for 3/4 "
- External thread connection
- PN16
- Brass body
- Maximum fluid temperature 100°C
- KVS value for 1/2 "1.7
- KVS value for 3/4 "2.8
- Bypass in itself



Vana Motoru:

- 220V
- ON / OFF control
- Valve open / closed indicator
- Thermal actuator

- Normally closed (NC)
- 1.8 Watt
- IP54



FORM ENDUSTRI URUNLERI

Form Endustri Urunleri is a sales and service company for Central Air Conditioning equipment. Form Endustri Urunleri provides equipment and also helps designers and investors in choosing the right system for their building due to long experience. The main desire is creating high efficiency and Green Certified Buildings. The company provides various different kinds of central air conditioning units for any size and type of project. The main equipment provided are Rooftops, Heat Pump units, Chillers, Cooling Towers, Fancoils, Air Handling units and Ventilation systems.

FORM ENDUSTRI URUNLERI TIC. A.S.

Eski Buyukdere Cad. Sumer Sokak No:1B
Ayazaga Ticaret Merkezi Kat:16
Maslak 34398 Istanbul
T : +90 212 286 18 38
F : +90 212 286 66 48
E : merkeziklima@formgroup.com
W : www.formmerkeziklima.com

REGIONAL DIRECTORATES

Adana : +90 322 881 00 11
Ankara : +90 312 220 10 30
Antalya : +90 242 317 11 20
Bursa : +90 224 249 95 26
Izmir : +90 232 459 42 82

FORM GROUP COMPANIES

FORM Group Companies, established in 1965, manufacture, import, sell and service Air Conditioning and Industrial systems equipment, to improve the life and manufacturing quality of people and products. FORM Group Companies, offering high energy efficiency and environment friendly system solutions, is one of the leading companies in its field, respecting the environment and the ethical values.

Form Endustri Urunleri

- Rooftop Packaged Units
- Chiller & Heat Pumps
- Water Source Heat Pump Units
- Air Handling Units & Fancoils
- Heat Recovery Units
- Cooling Towers
- Santrifuge Chillers

Form MHI Klima Sistemleri

- VRF Systems
- Split Units
- Multi Split Units
- Professional Units
- Heat Pump Units
- Air to Water Heat Pump Units
- DX Air Handling Units

Form Endustri Tesisleri

- Smoke Evacuation Systems
- Natural Ventilation Systems
- Evaporative Cooling Units
- Daylighting Systems
- Roof Access Hatches

Form Freva Sogutma Sistemleri

- Open Circuit Cooling Towers
- Close Circuit Cooling Towers
- Hybrid Cooling Towers
- Evaporative Condensers
- Adiabatic & Dry Cooling Units