





GAL Industrial Ventilation Solutions

GAL has been designing, manufacturing and installing industrial ventilation systems that meet the highest standards of quality for almost 60 years.

Back in 1964, GAL built the largest streamline ventilator in Europe and, in 1974, the largest sound attenuated gravity roof ventilator in the world. Over the years, GAL has built up vast expertise in the design and manufacture of ventilation systems of all sizes: from single small ventilators to large-scale ventilation systems.

Since 2016, FORM has undertaken many successful projects as GAL's licensed manufacturer and sales partner.

Our Company

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 5 companies.

FORM Endüstri Tesisleri A.S. 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 and natural daylight systems, mostly for the roofs of industrial buildings. The second one is the OEM manufacturing of rooftops, water source heat pumps, air handling units and fancoils for the Group companies. The company also produces air purifiers.

FORM Endüstri Urunleri A.S. specializes in commercial and industrial air conditioning solutions. The products sold and serviced are either manufactured by the sister companies in the Group such as fancoils, air handling units, water source heat pumps, rooftops, or imported from the exclusive representations from world known brands; Lennox, Clivet, Climate Master. 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 Freva A.S. provides design, manufacturing and turnkey installation services of process water cooling equipment for the comfort and industrial sector. The devices subject to activity are open and closed type cooling towers, hybrid type (which can operate as semi-wet-semi-dry) cooling towers, dry and adiabatic coolers, evaporative and adiabatic condensers and industrial type fin fan dry type coolers.

FORM MHI Klima Sistemleri A.S. 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.

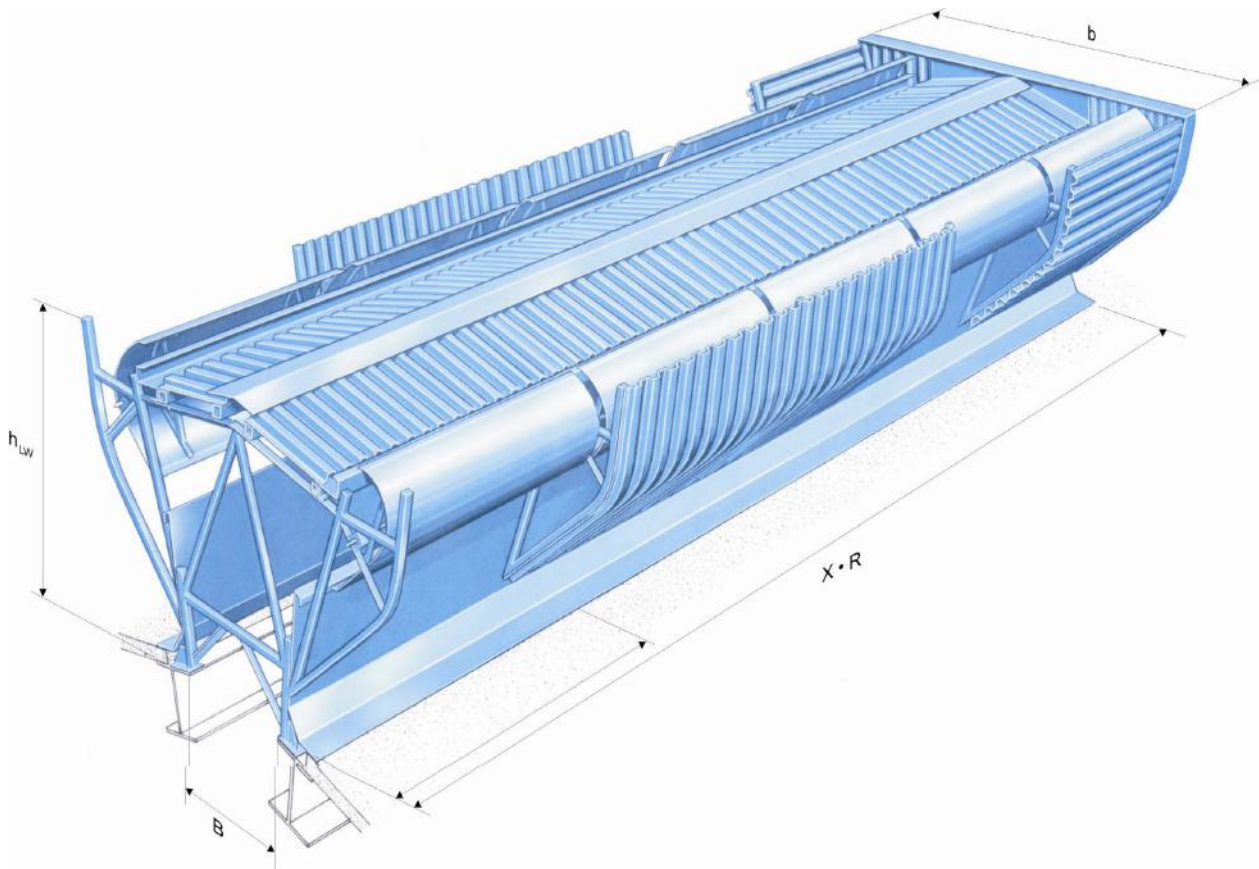
FORM Yonetim Destek A.S. is the management company that provides finance, accounting, logistics, IT, H&R and marketing services to the above five group companies, as they only comprise of manufacturing, sales and service personnel.

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.

High-Performance Gravity Roof Ventilator Series RIF-P

High-performance gravity roof ventilator for medium to high specific heat loads.



Series RIF-P - an innovative ventilation system that sets standards for the future

This high-performance gravity roof ventilator Series RIF-P is distinguished by the following features:

- The Series RIF-P roof gravity ventilator offers twice the capacity of conventional ventilators with the same constructional dimensions.
- The structural weight of the Series RIF-P gravity roof ventilator has been reduced by approximately 30% through improved design loads which have been verified in wind tunnel tests.
- The positive guide roof and the vertical corrugated cladding enables to a very efficient self-cleaning effect.

The high coefficient of discharge $C_{vo} = 0.70$ makes the Series RIF-P ventilator ideal for buildings with extreme heat loads resulting from technological processes. As the efficient self-cleaning effect prevents build-up of corrosive deposits, the Series RIF-P is especially suited for applications with high corrosion protection requirements.

Technical Data

Type	B (mm)	b (mm)	hLW (mm)	R (mm)	R'w (dB) DIN 52210, Part 4	Cv0 DIN 18232	Weight (Kg/m) Frames Aluminium Cladding Aluminium	Weight (Kg/m) Frames Steel Cladding Aluminium	Weight (Kg/m) Frames Steel Cladding Steel
1000	1000	3040	1500	max. 4500	10	0.70	30	58	75
1500	1500	4560	2200	max. 4500	10	0.70	43	86	112
2000	2000	6080	2900	max. 4500	9	0.70	60	114	148

Technical data for throat sizes above 2000 mm on request.

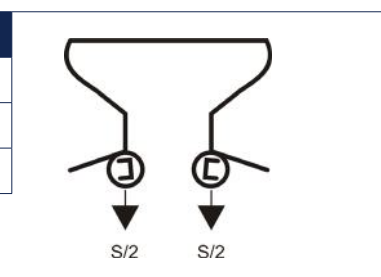
Material of cladding			Material of frame structure						
Galvanized steel sheet, coated	Aluminium, uncoated or coated	Aluzinc Steel Sheet	Aluminium hollow sections		Steel				
					Hollow sections		Rolled sections		
			Uncoated	Coated	Galvanized	Galvanized and coated	Galvanized	Galvanized and coated	
X	X	X	X	X	X	X	X	X	X

Operation of dampers			Options							
Manual	Pneumatic	Electric	Transparent roof	Trapezoidal sheets		Certified smoke extraction function	Bird screen	Pressure relief function for potentially explosive applications	Sealings	Ladder
				Horizontal	Corrugated					
X	X	X	X	X	X	N/A	X	N/A	X	X

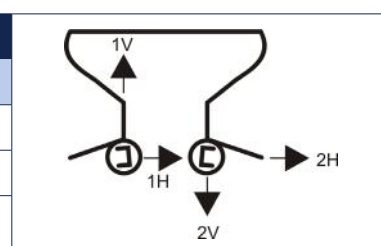
Specification of the coating system according to customer request and required corrosion protection.

Wind and Snow Loads

Type	Snow loads S [kN] (S0 = 0.75 kN/m²)
1000	3.09
1500	4.39
2000	5.68



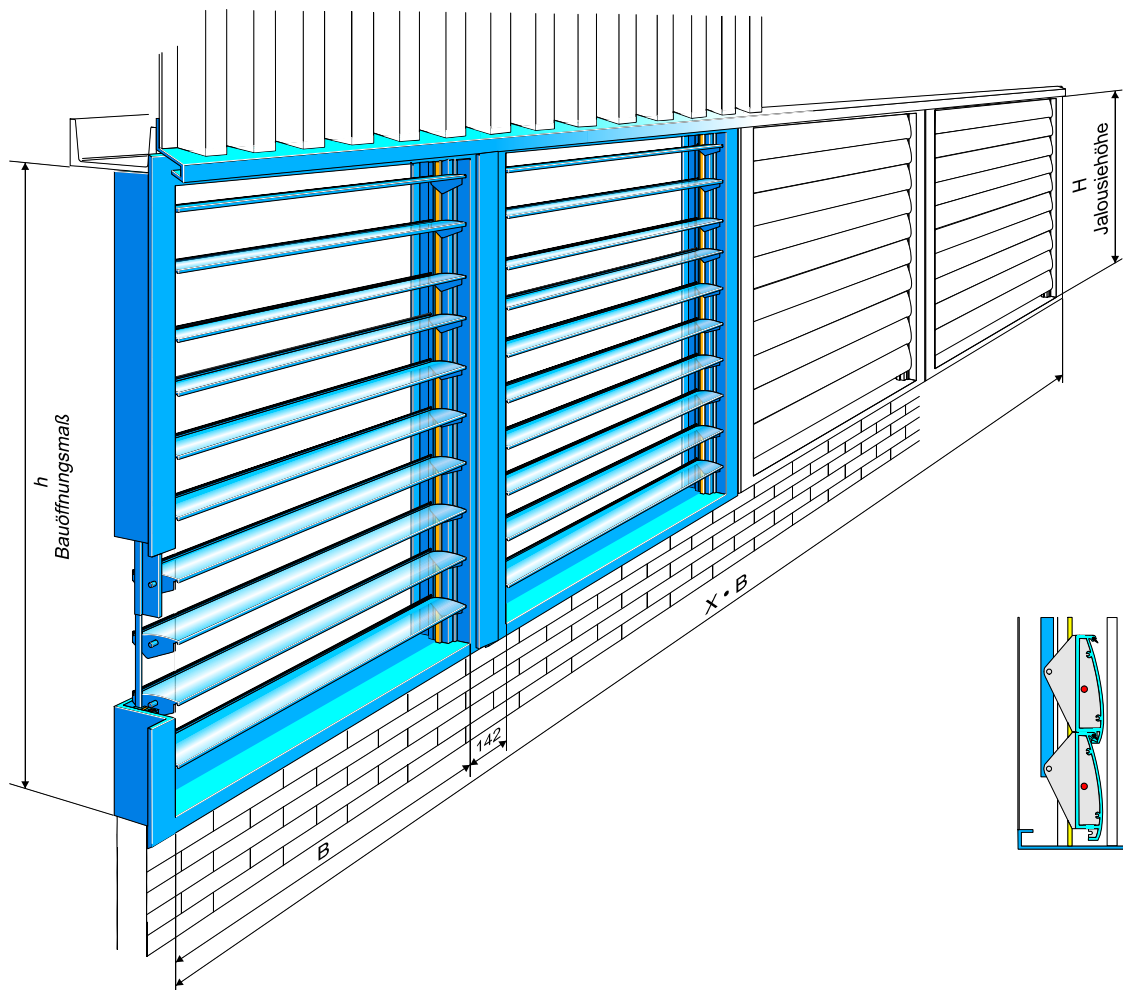
Type	Wind loads for buildings up to 100m height [kN]			
	1V	1H	2V	2H
1000	-10.21	-2.83	6.62	-3.11
1500	-15.32	-4.24	9.93	-4.66
2000	-20.42	-5.65	13.24	-6.21



Loads for buildings >100 m on request.

Operable Air Inlet Louvres Series LUD-R

Industrial air inlet louvres constructed of extruded aluminium sections



Product Description

Improving micro-climatic conditions in the working zone with GAL louvres. The optimum in function and design.

GAL has developed an absolutely new air inlet louvre, Series LUE/LUD which opens up new horizons in louvre design for both industrial and architectural applications. The newly developed and aerodynamically optimised blade section shape features highest air intake capacity, combined with optimum rain tightness. The blade profile has been derived from an aircraft wing profile and was tested at the German Aerospace Center (DLR), Göttingen with a coefficient of discharge $C_{vo} = 0.43$ at a rainproof blade position of 45° . When fully opened (90°) the coefficient of discharge is $C_{vo} = 0.65$. In this case the louvres are controlled by an electronic rain sensor.

Even in extremely exposed positions where high wind speeds can occur, this louvre type is suitable with its stormproof blades. The louvres can be adapted to suit individual needs, both, in design and colour.

Series LUD-R louvres may be fitted as an optional extra with integrated lip seals and side frame block seals (special aluminium profile with inserted brush seal), to ensure optimised air and dust tightness when closed.

The Series LUD-R is based on the successful Series LUE-R and is fitted with double-skin blades made of hollow extruded aluminium sections.

This double-skin design provides:

- Increased coefficient of discharge
- Increased torsional rigidity
- Larger louver sizes
- Sound attenuation
- Thermal insulation

It therefore suits the most ambitious requirements for engineered ventilation.

Technical Data Material Specification Options

Louvre Frame

Material: Extruded Aluminium Profile (AlMgSi 0.5 F22)
 Thickness: 2.0 mm

Louvre Blades

Material: Extruded Aluminium Profile (AlMgSi 0.5 F22)
 Thickness: 1.5 mm
 Bearing: 1.4305 Steel
 Weight: approx. 17 Kg/m²

Coefficient of Discharge

C_{vo} at 90°: 0.65 (fully opened)
 C_{vo} at 45°: 0.43 (rainproof position)

No. of blades	Height of opening	Width
5	857	Variable according to customer specification. Maximum width: 2500 mm.
6	1022	
7	1187	
8	1352	
9	1517	
10	1682	
11	1847	Intermediate size and oversized louvers are custom made to specifications.
12	2012	
13	2177	
14	2342	
15	2507	
16	2672	
17	2837	
18	3002	

Operation				Finish			Options			
Manual		Pneumatic	Elektric	Uncoated	Anodized	Coated	Certified smoke extraction function	Bird screen	Lip seal	Side frame seal
Hand lever	Teleflex									
X	X	X	X	X	X	X	N/A	X	X	X

References



FORM ENDUSTRI TESISLERI A.S.

Since 1965, Form Endustri Tesisleri has been producing environmentally friendly, highly energy efficient and innovative products. Operating in its 20,000 m² factory in İzmir, the company is the R&D and production base of Form Group, not only with the high energy saving OEM air conditioning products it produces, but also with zero energy consumption, high quality, solution-oriented products and services for industrial facilities. The company is the producer of Turkey's first daylighting products and first CE certified and conforming EN12101-2 standards NSHEV for industrial facilities. The main fields of activity of the company are; design and manufacture of evaporative coolers, NSHEV's, natural ventilation systems, natural lighting systems, pre-cooling system to increase efficiency of chillers.

FORM ENDUSTRI TESISLERI SANAYI A.S.

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FORM GROUP COMPANIES

Founded in 1965, FORM Group of Companies produce, import, sell and service Air Conditioning and Industrial system equipments to ensure the improvement of lifespan and production quality of people and products.

FORM Group of Companies is one of the leading companies in its field that respects the environment and ethical values, offering high energy efficiency and environmentally friendly system solutions.

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