

REFERENCE LIST HVAC IMPLEMENTATIONS, VENTILATION SYSTEMS

SKANSKA MAGYARORSZÁG INGATLAN KFT BUDAPEST	MILL Park complete ventilation system Mill Park (located in Budapest, Soroksári street) offers a 36.000 m ² office space. We made the Shell&Core implementation in case of building "A". For the complete HVAC system implementation (water supply, heating, cooling and ventilation) we used our own produced air duct -, and ventilation elements. The handover will be in the second quarter of 2018.
SKANSKA MAGYARORSZÁG INGATLAN KFT BUDAPEST	Nordic Light Offices HVAC system production and implementation. This project won the "Most Eco-Friendly Project of the Year" award.
FLEX - Flextronics International Kft	<u>Sárvár</u> 94 m ² -rack cabinet clean room implementation <u>Zalaegerszeg</u> Renewal the HVAC system. Hall "ZALA A" reconstruction of the ventilation-, cooling-, and stencil-washer technological exhaust system. The automatic system review and reconstruction, ensures the overpressure and tempering. <u>Páty</u> Roof-top equipment and 20 db FFUunit production and implementation. <u>Budapest</u> We implemented 12 pcs of FFU unit the Huawei manufacturing facility located on Hangár street Building „E”. <u>Sárvár</u> We implemented 2 pcs of high-performing roof-fan in the Moulding Building,
GEICO Taikisha Europe Ltd Hungarian Branch Budapest	<u>Hoya Mátészalka</u> We got a new mandate from Geico Taikisha Europe Ltd. - Hungarian Branch about the HVAC works of Hoya Mátékszalka. We made the technological connections (exhaust, compressed air, cooling water). We relocated the exhaust boxes. During the production of the plastic and glass lenses indispensable to ensure the clean room circumstances. Radel&Hahn Zrt has professional experience of planning, producing and implementing clean rooms. In this case we





	<p>needed these experience, because during the relocation we had to pay particular attention for the strict purity requirements.</p> <p>DENSO Clean room DENSO Manufactory Hungary Kft (located in Székesfehérvár) producing fuel injector-, and powertrain systems. We get mandatory for special cleanroom implementation from Geico Taikisha Europe Ltd. - Hungarian Branch. We installed 24 pcs of our own produced mini air handling units along with our own produced ventilation system. The air handling units have 6000 m³/h air volume capacity per equipment, with 31,7kW cooling-, and 54kW heating capacity. We used special oil-filters and F7 class filters.</p> <p>IBIDEN Dunavarsány IHU-3 H13 plugging line Our company has planned, produced and implemented for the 2nd time a 32.000m³/h air volume capacity air handling unit, built-in direct gas-heater module with 437kW capacity and 238kW/289kW heater/cooler exchangers for Plugging product line extensions.</p> <p>Nissin Food Kecskemét We continue to increase our cooperation with Geico Taikisha Europe Ltd – Hungarian Branch. Our Japanese business partners certificated our company, based on a factory visit for the upcoming projects in the future. After the awarded certificate we got a new mandatory for 8 pcs of new air handling unit production, implementation (between 1.000 m³/h – 27.000 m³/h air volume capacity) and water-, waste water-, and fire water system implementation in Nissin Food Kecskemét (instant pasta factory).</p>
Extractum Pharma Zrt Kunfehértó	<p>Clean room</p> <p>We have a new mandatory for a 10m² special climate chamber installation from company Kontroll Doctor Kft. The established climate hall (walk-in stability chamber) allows a long-term solution for the standard circumstances ensuring. (25 °C / 60 % RH)</p>





TEVA Pharmacy Zrt Gödöllő	Eye Drops Factory LAF We planned, produced and implemented a special laminar tent, type BV-17x11/KO, vertical and suspended execution for ensuring the clean room requirements of the eye drop's production. This laminar tent is CLASS 5 based on the EN ISO 14644 standards.
TRANZITKER Hortobágy	Hatchery Building B; C; D; E; F and the social blocks complete HVAC reconstruction. During this project the heating-, cooling-, water-, waste water and ventilation system has been renewed. We planned, produced and implemented 6 pcs of air handling units with air volume capacity between 15.000 m3/h - 37.500 m3/h.
ContiTech Magyarország Kft Nyíregyháza	Ventilation system implementation After a successfully general factory extension in Makó we got an order for the reconstruction ContiTech factory in Nyíregyháza. During the ventilation system product and implementation, we placed 2 pcs of roof-top equipment, type RT-M24-27-C500-WP. The products have 50.000 m3/h air volume capacity individually, heat-pump function (270 kW capacity) and 504 kW cooling capacity.
CONTITECH FLUID AUTOMOTIVE HUNGÁRIA KFT	ContiTech Makó factory extension as general contractor
SHINWA Miskolc	Clean room We implemented a 61m ² cleanroom with an internal 6m ² entry air-shower sluice-execution for 3 person. The implemented clean room is CLASS 8 based on the EN ISO 14644 standard.
Fluart Innovative Vaccines Kft Pilisborosjenő	We implemented air flow equipment for to ensure special requirements in case of vaccines production. This air flow units are in CLASS 4 and CLASS 5 based on the EN ISO 14644 standard.
KEMP & LAURITZEN BILLUND – DENMARK	Toy factory Jiaxing – China Planning, producing and implementing clean cabins
KEMP & LAURITZEN BILLUND – DENMARK	Toy factory Monterrey – Mexico Planning, producing and implementing clean cabins



DIEHL AIRCABIN HUNGARY KFT. I-II HALL NYÍRBÁTOR	German airplane component manufacturing company's site reconstruction, extension in Nyírbátor. The complete HVAC works of the completely constructed areas transformation to office space in the Hall II with electrical system. For the production unit we produced and implemented a special "Frekote" cabin and 2 pcs of special exhaust table.
RUAG Aerostructures EGER	Production Hall transformation by Elektro Energy Kft During the project we renewed the complete HVAC system (water, wastewater drainage, central heating, ventilation, central cooling, compressed air, gas supply).
Richter Gedeon Nyrt Budapest	LAF RGK VI. IPC Labour In 2017 we produced and installed one 4m2 BV-1200 SM1/ KO measuring cabin and for the storage of the solvent, we made a BV-20x12/KO/EX type explosion-proof UDF tent.
CEVA Phylaxia Budapest	2nd Virus-facility LAF In this year we produced and implemented a vertical airflow laminar box, type BV-1200-2/KO in closed area execution for the "Virus-facility". This box is suitable for operations with special high-purity requirements. This equipment is CLASS 5 based on the EN ISO 14644 standard.
MERCEDES BENZ MANUFACTURING KFT. KECSKEMÉT	Complete ventilation system implementation and MSR (building automatic) for Building no. 30. (Lacquer factory).
COLOPLAST HUNGARY KFT NYÍRBÁTOR	Main building ventilation-, and toilet facility system implementations CHM VI. Building The factory hall in Building CHM VI., office areas and service areas complete HVAC implementation (ventilation, water, wastewater, rainwater, sanitary) under the mandate of KÉSZ Zrt. For the ventilation system we produced 20 pcs of air handling unit (the biggest AHU's air volume capacity is 36.000 m ³ /h), special dehumidifiers, air ducts and elements. For the cooling system's ensuring we implemented 2 pcs of free cooling air handling unit with 33.000m ³ /h air volume capacity/AHU. The handover will be in the second quarter of 2018.





Shinheung Eu Sec Kft Monor	Air show cabin LD 32x21 RAL Air shower cabin production and implementation for 6 people
MB-SZER KFT MISKOLC	Avalon ****SUPERIOR Hotel Miskolc/Tapolca Production of Air handling units and swimming pool dehumidifiers
AKTUAL BAU KFT BUDAPEST	PHOENIX MECANO Kecskemét Production and implementation of Air shower cabinet and sluices
GEICO-TAI-KISHA – DENSO COATING SZÉKESFEHÉRVÁR	In the workpiece's final monitoring's laboratory ISO 8 class cleanrooms planning and implementation.
GE HUNGARY KFT. BUDAPEST	Building Nr.77 – mechanical system implementation Building Nr.70 - mechanical system implementation Ceramic factory smell handling unit reconstruction VFG dopant and exhaust modernization Mechanical system implementation of 75 floor building and II. floor building
GE HUNGARY KFT. HAJDÚBÖSZÖRMÉNY	Building Nr.5 – mechanical system modernization Building Nr.20 – mechanical system modernization Building Nr.21 – mechanical system modernization
SOUTH BUDA BUSINESS PARK OFFICE BUILDING, BUDAPEST	Office building of 25000 m2 floor area – complete HVAC system implementation
KIKA Department store Budapest Lehel út	Complete HVAC system. Air curtain production and implementation.
KIKA Department store DEBRECEN	Complete HVAC system implementation (ventilation, exterior watering and fire water, drinking water and sewage, heating, cooling, chiller and cooler block, heating and cooling centre, natural gas supply, sprinkler)
KIKA Department store KASSA	Complete HVAC system implementation (ventilation, exterior watering and fire water, drinking water and sewage, heating, cooling, chiller and cooler block, heating and cooling centre, natural gas supply, sprinkler)
Thermal Spa és Hotel Debrecen DEBRECEN	Swimming pool area: 2 pcs of RA M21-12 ZAPM airhandling unit with performance 24000 m3/h/ each unit Massage, treatment rooms, gym: 3 pcs of RA M6-3 airhandling unit with performance of 1000 m3/h/each unit Modernizing the whole air conditioning system
Icehall of Debrecen DEBRECEN	RA M6-4 ZAP airhandling unit; airflow capacity: 3500 m3/h and RA M6-6 ZAP airhandling unit;



	airflow capacity: 3500 m3/h
K&V Kft GYÖNGYÖS	Complete HVAC system implementation in the Storage Hall (ventilation, das supply, heating; cooling; domestic water supply and sanitation, rain water drainage)
Kirchhoff Hungaria Kft ESZTERGOM	Construction of technology engine compartments
Clarion NAGYKÁTA	Implementation of compressed air system
MOBIS Storage Hall ÉRD	Water supply, storm water drainage
Chinoin Csanyikvölgy	Vaccine Project: mechanical installation of refrigerated room
CEVA Phylaxia Budapest	Implementation of ventilation system in B1 building; room Nr. 1.0.39.
GETRAG FORD Kechnec	Manufacturing hall, technical building and office, complete implementation of HVAC system and sprinkler systems
SCHELLING Kechnec	Manufacturing hall, office building, complete implementation of HVAC system and sprinkler systems
Siemens Zrt, GÖNYÜ	Complete fire system and sprinkler system implementation
FLEXTRONICS NYÍREGYHÁZA	Complete implementation of HVAC systems 1st and 2nd stage
FLEXTRONICS SÁRVÁR	Complete implementation of HVAC systems: Microsoft Manufacturing hall
FLEXTRONICS BRNO	Complete implementation of HVAC systems 1st and 2nd stage
FLEXTRONICS ZALAEGERSZEG	Complete implementation of HVAC systems: Keytec 3+4, Zala A, Zala B, Zala C, Zala D
FLEXTRONICS, ZALALÖVŐ	Complete implementation of HVAC systems:
ROBERT BOSCH ELEKTRONIKA KFT HATVAN	BMW frame-mounting line active box 3500x2500x2870 mm
TRANZITFOOD NYÍRGELSE	Manufacturing and implementing stainless steel HVAC system in the slaughterhouse and in the technological hall
KURZ Luftführungssysteme GmbH WIEN	Special ventilation elements, slot diffusers, air dispenser manufacturing
MEDI-RADIOPHARMA ÉRD	Cleanroom implementation in the laboratory with airflow capacity of 13000 m3/h, US.Fed 209e class: 100
EYBL KÖRMEND	Hall, store-house, office building complete building services and vacuum system implementation
Dräxlmaier HUNYAD	Air duct system manufacturing
Continental TEMESVÁR	Air duct system manufacturing
Weidmüller	RA-M21-24 ZAW (41000 m3/h) and RA-M24-24





BAIA MARE	ZAKR (44 000 m3/h) airhandling units and air duct system manufacturing
Cohline LIPOVA	Air duct system manufacturing
Deutsche Botschaft BUKAREST	Air duct system manufacturing
DLR HUNYAD, TEMESVÁR, PITESTI	Implementation of complete HVAC-systems
REAL TEMESVÁR, NAGYBÁNYA, SZATMÁR, CONSTANCA	Implementation of complete HVAC-systems
B. BRAUN Hungaria GYÖNGYÖS	Cleanroom implementation in production hall of 720m2 and social block ventilation of area 720m2 US.Fed 209e class:100
INFOPARK BUDAPEST	8. storey green-roofed service building and office building, cooling, heating, ventilation, sanitary, sprinkler, rainwater drainage
IMMOROM Irodaház BUKAREST	6. storey office building, Complete HVAC system implementation: water supply, heating, ventilation, climate control, regulation etc.
PHY-COMP SZÉKESFEHÉRVÁR	Complete HVAC system implementation in Philips manufacturing hall and in social buildings which are connected to it
PLASTICON TÖKÖL	Air conditioning in Manufacturing Hall Nr. I. where airflow velocity is 25.000 m3/h and it was prepared for quality class 100.000th
MAGNETEK POMÁZ	5000 m2 assembly hall air conditioning by Radel & Hahn system
MAGNETEK POMÁZ	SMD plant clean room implementation according to US.Fed. class 100.000
PLASTICON TÖKÖL	Air conditioning in Manufacturing Hall Nr. II, Airflow velocity is 53000 m3/h and it was prepared for quality class 100.000
FLEXTRONICS SZOMBATHELY	Complete HVAC system implementation in Philips Manufacturing hall and in social buildings which are connected to it
ÁRPÁD CENTER Irodaház BUDAPEST	Complete HVAC system implementation: cooling heating, ventilation, sanitary, sprinkler, rainwater drainage
City Gate Office building stage III. BUDAPEST	Complete HVAC system implementation of the 11 storey office building: cooling, ventilation, sanitary, sprinkler, rainwater drainage
SONY CAV Assembling hall GÖDÖLLŐ	Complete HVAC system implementation: cooling, heating, ventilation, sanitary, sprinkler, rainwater drainage
DOTE Children's Surgery DEBRECEN	Sterile air conditioning system Airflow velocity: 5500 m3/h
DOTE Ear, Nose and Throat Clinic DEBRECEN	Sterile air conditioning system Airflow velocity: 5700 m3/h



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City Gate Office building II. stage BUDAPEST	11. storey office building, Complete HVAC system implementation: cooling, ventilation, sanitary, sprinkler, rainwater drainage
DOTE Children's Surgery DEBRECEN	Sterile air conditioning system
DOTE Kitchen and restaurant DEBRECEN	Implementation of ventilation system in the kitchen and restaurant
HIETE Building Nr.2. BUDAPEST	Sterile air conditioning system for operating theatres 4 mechanical inlet and outlet ventilating system with airflow velocity of 4.000 m3/h – 6.000 m3/h, Sterile ventilation system in hemodynamic operating theatre of the Cardiac surgery block hemodynamic with airflow capacity of 2500 m3/h
HIETE Building Nr. 3. BUDAPEST	Cardiology sterile air conditioning system for the intensive care unit, Sterile air- conditioning system for electrophysiological operating theatre
HIETE Building Nr.6. BUDAPEST	4 sterile air conditioning system for ear, nose- and throat operating theatres with performance of 16.000 m3/h
HIETE Medical Center BUDAPEST	Half-sterile air conditioning system on the 1st floor
HIETE Medical Center	Complex ventilation system for the ground floor and the cellar
SOTE Department of Obstetrics	Sterile air handling units and supplier units connected to the air conditioning system with airflow capacity of 16.000 m3/h
CALIX Pharmaceutical Supply Company KECSKEMÉT	Sterile air handling units and supplier units connected to the air conditioning system with airflow capacity of 16.000 m3/h
TISZTATÉR Kft. Pharmacy Center BÉKÉSCSABA	Implementation air conditioning system with airflow velocity of 26000 m3/h in cleanrooms; classified into the 10000th quality class according to US.Fed 209e
Sz.Sz.B. County Pharmacy Center NYÍREGYHÁZA	Implementation air conditioning system with airflow velocity of 10000 m3/h in cleanrooms; classified into the 10000th quality class according to US.Fed 209e
Fejér County Pharmacy Center SZÉKESFEHÉRVÁR	Implementation air conditioning system with airflow velocity of 25000 m3/h in cleanrooms; classified into the 10000th quality class according to US.Fed 209e
Extractum Pharma Kft Pharmaceutical Plant KUNFEHÉRTÓ	Implementation air conditioning system with airflow velocity of 21000 m3/h in cleanrooms; classified into the 10000th quality class according to US.Fed 209e Qcool.: 150 kW; R22 Qheat.: 230 kW 90/70 C° hot water



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National "Frederic-Juliot-Curie" Radiobiology and Radiation Health Research Institute BUDAPEST	Air conditioning system in cleanrooms Classified into the 10000th quality class according to US.Fed 209e
Medicor Medical Instruments Rt DEBRECEN	Air conditioning system in cleanrooms with airflow velocity of 40000 m3/h Construction, installation of RADEL M24-21 ZAKT AHU airhandling unit Classified into the 30000th quality class according to US.Fed 209e
CEVA Phylaxia Sanofi Rt BUDAPEST	6000/8500 m3/h air conditioning system in cleanrooms, Construction, installation of RADEL M12-9 sterile filtered airhandling unit, Construction, installation of 4 pcs RADEL M6-6 ZK airhandling unit
PHARMAVIT Rt. VERESEGYHÁZ	Experimental Laboratory pure space air-conditioning and dust removal
SKW RT. BUDAPEST	Thiostrepton Extraction plant HVAC system implementation
BAZ County Pharmacy Center MISKOLC	Cooling store house air conditioning, split system
BAZ County Pharmacy Center MISKOLC	Implementation of air conditioning system at the site (6000 m3/h) Production, installation of RADEL M9-9 ZKPZ air handling unit
Békés County Pharmacy Center BÉKÉSCSABA	Cool storehouse air conditioning
Charles-River Animal house ISASZEG	Implementation of ventilation system with airflow capacity of 10.000 m3/h
HUMAN Rt. GÖDÖLLŐ	Implementation of air conditioning system in Verification Lab; classified into the 10000th quality class according to US.Fed 209e
GEA-Aeromatic Fielder AG SWITZERLAND – BUBENDORF	Fermenter dryer - technological machines
	GELKA project – technological machines
	ZORKA-PHARMA technological machines
	PLIVA – technological machines
Civis Hotel Gastronomy Rt. DEBRECEN	RADEL M18-15 and M15-12 air conditioning systems 22.000 m3/h with CLIVET WRA 201 M liquid cooler for the kitchen and confectionery
KÁBELKOM DEBRECEN	Office air conditioning by FC, RADEL ME 101 chiller
Hotel Aranybika DEBRECEN	Glass hall air conditioning TEF type FC, ceiling exhaust
Metab Kft. DUNAÚJVÁROS	17000 m3/h fresh air ventilation system implementation, RADEL M12-12 supply AHU
Haynal Imre University of Health Sciences BUDAPEST	Theatre air conditioning, air-conditioning in Postoperative Department
LIBRA Pharmaceutical Trading	Factory hall air conditioning implementation



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Company MISKOLC	
Philips Video Factory SZÉKESFEHÉRVÁR	Factory hall air conditioning implementation
Colden Foods Korean Pasta Factory KECSKEMÉT	Verification laboratory air conditioning implementation
UNICBANK DEBRECEN	3000 m3/h air conditioning implementation
National Institute of Public Health BUDAPEST	2x2000 m3/h air conditioning implementation
BIOGÁL Measurement Laboratory DEBRECEN	8600 m3/h air conditioning implementation
BETULAPHARMA RT NYÍREGYHÁZA	Pilling plant central cooling CLIVET MCAT 121 type chiller; conditioned air volume: 6300 m3/h
METRO Department store BUDAPEST	RADEL M21-18 type (external) 45000/35000 m3/h performance AHU construction, installation
RÁBA Hungarian Wagon and Machine Factory Rt. GYÍR	1 pc RA M9-9 ZK-P6-N air handling unit Airflow capacity: 4200 m3/h

