

**Reconstruction and modernisation of the ‘Ion
Creanga’ Secondary School, plot no.
9201110.378, with the addition of ancillary
buildings, situated in the municipality of
Ungheni, 151 Stefan cel Mare si Sfint Street**

(name of the project)

Form No. 7
WinCmeta

LOCAL QUOTATION No. 2-2-3

Heating, ventilation and air conditioning. Block B (2510 - IVC)

Prepared at current prices

No. No.	Standard code and resource code	Works and expenses	Unit of measureme nt	Quantity as per project data	Estimated value, lei	
					Per unit of measure incl. wages	Total incl. salary
1	2	3	4	5	6	7
		1. Construction works 1.1. Heating system				
1	IC10A applicative	Viega Megapress D15 galvanised steel pipe or equivalent; for fittings, see the items listed below	m	2.95		
2	RpIF09B	Flexible elastomeric rubber thermal insulation fitted to pipes, K-Flex ST type, thermal conductivity <= 0.033 W/mK at 0 °C, with insulation diameter and thickness of D=15 x 9 mm Miscellaneous materials = 1.0500	m	2.95		
3	IC10B applicative	Viega Megapress D20 galvanised steel pipe or equivalent	m	40.49		
4	RpIF09B	Flexible elastomeric rubber thermal insulation fitted to pipes, type K-Flex ST, thermal conductivity <= 0.033 W/mK at 0 °C, with an insulation diameter and thickness of D = 22 x 9 mm Miscellaneous materials = 1.0500	m	40.49		
5	IC10C applicative	Viega Megapress D25 galvanised steel pipe or equivalent; for fittings, see the items listed below	m	89.01		
6	RpIF09B	Flexible elastomeric rubber thermal insulation fitted to pipes, K-Flex ST type, thermal conductivity <= 0.033 W/mK at 0 °C, with insulation diameter and thickness of D=28 x 9 mm Miscellaneous materials = 1.0500	m	89.01		
7	IC10D applicative	Viega Megapress D32 galvanised steel pipe or equivalent; for fittings, see the items listed below	m	90.73		

1	2	3	4	5	6	7
8	RpIF09B	Flexible elastomeric rubber thermal insulation fitted to pipes, K-Flex ST type, thermal conductivity ≤ 0.033 W/mK at 0 °C, with insulation diameter and thickness of D=35x9 mm Miscellaneous materials = 1.0500	m	90.73		
9	IC10E applicative	Viega D40 Megapress galvanised steel pipe or equivalent; for fittings, see the items listed below	m	112.27		
10	RpIF09B	Flexible elastomeric rubber thermal insulation fitted to pipes, K-Flex ST type, thermal conductivity ≤ 0.033 W/mK at 0 °C, with insulation diameter and thickness of D=42 x 9 mm Miscellaneous materials = 1.0500	m	112.27		
11	IC10F applicative	Viega Megapress D50 galvanised steel pipe or equivalent; for fittings, see the items listed below	m	24.77		
12	RpIF09B	Flexible elastomeric rubber thermal insulation fitted to pipes, K-Flex ST type, thermal conductivity ≤ 0.033 W/mK at 0 °C, with insulation diameter and thickness of D=54 x 9 mm Miscellaneous materials = 1.0500	m	24.77		
13	IC10G applicative	Viega Megapress D65 galvanised steel pipe or equivalent; for fittings, see the items listed below	m	49.98		
14	RpIF09B	Flexible elastomeric rubber thermal insulation fitted to pipes, K-Flex ST type, thermal conductivity ≤ 0.033 W/mK at 0 °C, with insulation diameter and thickness of D=76 x 9 mm Miscellaneous materials = 1.0500	m	49.98		
15	IC10H applicative	Viega D80 Megapress-type galvanised steel pipe or equivalent; for fittings, see the items listed below	m	150.67		
16	RpIF09B	Flexible elastomeric rubber thermal insulation fitted to pipes, K-Flex ST type, thermal conductivity ≤ 0.033 W/mK at 0 °C, with insulation diameter and thickness of D=89 x 9 mm Small items = 1.0500	m	150.67		
17	bidder's price	Megapress-type elbow, d20x20 mm or equivalent	pcs	24.00		
18	bidder's price	Megapress-type elbow, 25x25 mm or equivalent	pcs	44.00		
19	bidder's price	Megapress-type elbow, 32x32 mm or equivalent	pcs	38.00		

1	2	3	4	5	6	7
20	bidder's price	Megapress-type elbow, 40x40 mm or equivalent	pcs	12.00		
21	bidder's price	Megapress-type elbow, 50x50 mm or equivalent	pcs	10.00		
22	bidder's price	Megapress-type elbow, 80x80 mm or equivalent	pcs	22.00		
23	bidder's price	Megapress-type reducer d20x15 or equivalent	pcs	9.00		
24	bidder's price	Megapress d25x15 reducer or equivalent	pcs	6.00		
25	bidder's price	Megapress-type reducer d25x20 or equivalent	pcs	8.00		
26	bidder's price	Megapress-type reducer d32x15 or equivalent	pcs	7.00		
27	bidder's price	Megapress d32x25 reducer or equivalent	pcs	8.00		
28	bidder's price	Megapress d40x15 reducer or equivalent	pcs	4.00		
29	bidder's price	Megapress d40x20 reducer or equivalent	pcs	6.00		
30	bidder's price	Megapress d40x32 reducer or equivalent	pcs	6.00		
31	Bidder's price	Megapress-type reducer d50x32 or equivalent	pcs	2.00		
32	bidder's price	Megapress d50x40 reducer or equivalent	pcs	2.00		
33	bidder's price	Megapress d80x50 reducer or equivalent	pcs	2.00		
34	bidder's price	Megapress d80x65 reducer or equivalent	pcs	2.00		
35	bidder's price	Megapress d25x25x25 tee or equivalent	pcs	40.00		
36	bidder's price	Megapress d32x32x32 type tee or equivalent	pcs	18.00		
37	bidder's price	Megapress type tee, d32x32x25 or equivalent	pcs	4.00		
38	bidder's price	Megapress d40x40x20 type tee or equivalent	pcs	4.00		
39	bidder's price	Megapress d40x40x32 type tee or equivalent	pcs	12.00		
40	bidder's price	Megapress d40x40x40 type tee or equivalent	pcs	8.00		
41	bidder's price	Megapress d50x50x50 type tee or equivalent	pcs	2.00		
42	Bidder's price	Megapress d80x80x25 type tee or equivalent	pcs	2.00		
43	bidder's price	Megapress d80x80x40 type tee or equivalent	pcs	6.00		
44	bidder's price	Megapress d80x80x80 type tee or equivalent	pcs	2.00		

1	2	3	4	5	6	7
45	Bidder's price	Megapress SC d20x20x20 type tee or equivalent	pcs	12.00		
46	bidder's price	Megapress SC type pipe, d32x32x32 or equivalent	pcs	4.00		
47	bidder's price	Megapress-type plug d15 or equivalent	pcs	8.00		
48	bidder's price	Megapress d20 plug or equivalent	pcs	12.00		
49	IE03A	Performing pressure leak tests on the supply pipes of heating appliances, with D15–25	m	132.45		
50	IE03B	Carrying out a pressure leak test on the supply pipes for heating appliances, with a diameter of D32–50	m	227.77		
51	IE03C	Carrying out a pressure leak test on the supply pipes of heating appliances, with a diameter of D65–80	m	200.65		
52	IE04A	Carrying out expansion-contraction and operational tests on the supply pipes for heating appliances, with a diameter of D15–25	m	132.45		
53	IE04B	Carrying out expansion-contraction and operational tests on the supply pipes for heating appliances, with a diameter of D32–50	m	227.77		
54	IE04C	Carrying out expansion-contraction and operational tests on the supply pipes for heating appliances, with a diameter of D65–80	m	200.65		
55	IC35A	PE-RT/AL/PE-RT D16 pipe from the RSen_5- PI_0_ultraLINE pipes_KAN series, with factory-fitted insulation or equivalent	m	656.58		
56	IC35B	PE-RT/AL/PE-RT D20 pipe from the RSen_5- PI_0_ultraLINE pipes_KAN series, with factory-fitted insulation or equivalent	m	347.09		
57	IC36B	PE-RT/AL/PE-RT D25 pipe from the RSen_5- PI_0_ultraLINE pipes_KAN series, with factory-fitted insulation or equivalent	m	125.31		
58	IC36C	PE-RT/AL/PE-RT D32 pipe from the RSen_5- PI_0_ultraLINE pipes_KAN series, with factory-fitted insulation or equivalent	m	4.52		
59	IC37A	End cap for PE-RT/AL/PE-RT D16 pipes, press-fitted Labour factor = 0.5000	pcs	32.00		
60	IC37A	90° elbow for PE-RT/AL/PE-RT D16x16 pipes, press-fitted Labour coefficient = 0.5000	pcs	259.00		

1	2	3	4	5	6	7
61	IC37B	90° elbow for PE-RT/AL/PE-RT D20x20 pipes, press-fitted	pc	1.00		
62	IC37C	Reducer for PE-RT/AL/PE-RT D25x16 pipes, press-fitted	pcs	2.00		
63	IC37C	Reducer for PE-RT/AL/PE-RT pipes D25x20, press-fitted	pcs	29.00		
64	IC37D	Reducer for PE-RT/AL/PE-RT pipes D32x25, press-fit connection	pcs	24.00		
65	IC37E	T-piece for PE-RT/AL/PE-RT pipes D16x16x16, press-fit connection	pcs	45.00		
66	IC37F	T-piece for PE-RT/AL/PE-RT pipes D20x16x16, press-fitted	pcs	60.00		
67	IC37F	Fitting for PE-RT/AL/PE-RT D20x16x20 pipes, press-fitted	pcs	71.00		
68	IC37G	T-piece for PE-RT/AL/PE-RT pipes D25x20x16, press-fitted	pcs	33.00		
69	IC37G	T-piece for PE-RT/AL/PE-RT pipes D25x16x25, press-fitted	pcs	43.00		
70	IC37H	T-piece for PE-RT/AL/PE-RT pipes D32x16x32, press-fitted	pcs	12.00		
71	IC37A	90° elbow for PE-RT/AL/PE-RT pipes D16x1/2", press-fitted Labour factor = 0.5000	pcs	412.00		
72	IC37B	Reducer for PE-RT/AL/PE-RT pipes D20x3/4", press-fitted Labour coefficient = 0.5000	pcs	24.00		
73	IC37D	Reducer for PE-RT/AL/PE-RT D32x1" pipes, press-fitted Labour coefficient = 0.5000	pcs	40.00		
74	ID04A	1/2" Caleffi shut-off valve or equivalent	pcs	58.00		
75	ID04A	3/4" Caleffi shut-off valve or equivalent	pcs	12.00		
76	ID04A	1" Caleffi shut-off valve or equivalent	pcs	20.00		
77	ID04B	1 1/4" Caleffi shut-off valve or equivalent	pcs	12.00		
78	IC30B	1/2" Caleffi automatic shut-off valve or equivalent	pcs	18.00		
79	ID01A	Caleffi 1/2" Lockshield radiator valve or equivalent	pcs	148.00		
80	ID01A	Radiator valve + 1/2" Angled thermostatic head, Caleffi or equivalent	pcs	148.00		
81	IE04A	Carrying out expansion-contraction and operational testing of the supply pipes for heating appliances (air heaters, convector heaters, skirting board convectors, etc.) with a diameter of 3/8" ... 1"	m	1,128.98		
82	IE03A	Carrying out the pressure leak test on the supply pipes for heating	m	1,128.98		

1	2	3	4	5	6	7
		appliances (fan heaters, convector heaters, skirting board convectors, etc.) with a diameter of 3/8" ... 1"				
83	IE04B	Carrying out expansion-contraction and operational tests on the supply pipes for heating appliances (air heaters, convector heaters, skirting board convectors, etc.) with a diameter of 1 1/4" ... 2"	m	4.52		
84	IE03B	Carrying out the pressure leak test on the supply pipes for heating appliances (fan heaters, convector heaters, skirting board convectors, etc.) with a diameter of 1 1/4" ... 2"	m	4.52		
85	IB06A	Compact steel radiator with profiled surface, monobloc, with side connection, comprising two panels and two rows of convective fins , built-in air vent, fixing elements included, Pmax=10 bar, Tmax=110°C therm-x2 Profil-K type 22 (depth 100 mm) H=500 mm, L=1000 mm	pcs	148.00		
86	CK30B applicative	Ready-made radiator cover made from anodised aluminium sheet, H 610 mm × W 1100 mm, including fixing elements	m ²	99.308		
87	IE01C	Carrying out a pressure leak test on the central heating system, comprising pipes made of steel, copper, polyethylene or polypropylene, with heating units, heating appliances, fittings, distributors, manifolds and expansion tanks or air vents, with a total surface area of the heating units of 201–500 m ²	m ²	296.00		
88	IE02C	Carrying out expansion-contraction and operational testing of the central heating system, comprising pipes made of steel, copper, polyethylene or polypropylene, with heating elements, heating appliances, fittings, distributors, manifolds and expansion tanks or air vents, with a total surface area of the radiators of 201–500 m ²	m ²	296.00		
89	IE08C	Flushing the internal central heating system with drinking water, where the total surface area of the radiators is 201–500 m ²	m ²	296.00		
		<i>Total</i>	lei			
		Total heating system Including wages				

1	2	3	4	5	6	7
		1.2. Drainage system				
90	SA10C	ABS pipe, joined by soldering, in columns, for residential and social-cultural buildings, with a diameter of 32 mm Fine aggregate (code 100, dichloroethane, etc.) = 1.0400	m	27.80		
91	RpIF09C	Flexible elastomeric rubber thermal insulation fitted to pipes, type K-Flex ST, thermal conductivity ≤ 0.033 W/mK at 0 °C, with insulation dimensions of D = 35 × 25 mm Small items = 1.0500	m	33.60		
		<i>Total</i>	lei			
		Total drainage system Including salary				
		1.3. Air conditioning system				
92	F E03 A	Rigid copper pipe compliant with R290 - EN 1057, with a diameter and wall thickness of 6 x 0.8 mm	m	13.26		
93	RpIF09B	Flexible elastomeric rubber thermal insulation fitted to pipes, type K-Flex ST, thermal conductivity ≤ 0.033 W/mK at 0 °C, with insulation diameter and thickness of D = 06 x 13 mm Miscellaneous materials = 1.0500	m	16.73		
94	F E03 B	Rigid copper pipe in accordance with R290 – EN 1057, with a diameter and wall thickness of 10 x 1.0 mm	m	13.55		
95	RpIF09B	Flexible elastomeric rubber thermal insulation fitted to pipes, type K-Flex ST, thermal conductivity ≤ 0.033 W/mK at 0 °C, with insulation diameter and thickness of D = 10 x 13 mm Miscellaneous materials = 1.0500	m	17.10		
96	F I01 A	Water leak test on pipes and fittings for intermediate refrigerants, with a nominal diameter of up to 40 mm	m	26.81		
		<i>Total</i>	lei			
		Total Air conditioning system Including salary				
		1.4. Ventilation system				
97	VA21B	Installation of ventilation ducts at a height of up to 3 m from the floor, made of 0.5 mm thick galvanised sheet metal, airtightness class A (EN 12237), including fittings, with a perimeter of: 800–1000 mm (160 × 200; 160 × 250 mm) Miscellaneous materials (wiping cloths, silicone) = 1.0100	m ²	41.20		

1	2	3	4	5	6	7
98	VA22C	Installation of ventilation ducts at a height of up to 3 m from the floor, made of 0.7 mm thick galvanised sheet metal, airtightness class A (EN 12237), including fittings, with a perimeter of up to 1,800 mm (160 × 450; 160 × 550; 160×650; 160×700 mm) Small items (wiping cloths, silicone) = 1.0100	m ²	23.22		
99	VA22F	Installation of ventilation ducts at a height of up to 3 m from the floor, made of 1.0 mm thick galvanised sheet metal, airtightness class B (EN 12237), with a perimeter of: 4000 mm (1000 x 1000 mm) Miscellaneous materials (wiping cloths, silicone) = 1.0100	m ²	1.80		
100	VA19A	Installation of ventilation ducts at a height of up to 3 m from the floor, made of galvanised sheet metal, 0.5 mm thick, airtightness class A (EN 12237), with a circular cross-sectional diameter of 150 mm Miscellaneous materials (wiping cloths, silicone) = 1.0100	m ²	19.56		
101	VA19A	Installation of ventilation ducts at a height of up to 3 m from the floor, made of galvanised sheet metal, 0.5 mm thick, class , airtightness class A (EN 12237), with a circular cross-sectional diameter of 160 mm Miscellaneous materials (wiping cloths, silicone) = 1.0100	m ²	31.42		
102	VA19A	Installation of ventilation ducts at a height of up to 3 m from the floor, made of galvanised sheet metal, 0.5 mm thick, airtightness class A (EN 12237), with a circular cross-sectional diameter of 180 mm Miscellaneous materials (wiping cloths, silicone) = 1.0100	m ²	40.59		
103	VA19A	Installation of ventilation ducts at a height of up to 3 m from the floor, made of galvanised sheet metal, 0.5 mm thick, airtightness class A (EN 12237), with a circular cross-sectional diameter of 200 mm Miscellaneous materials (wiping cloths, silicone) = 1.0100	m ²	22.23		
104	VA20A	Installation of ventilation ducts at a height of up to 3 m from the floor, made of 0.7 mm thick galvanised sheet metal, airtightness class A (EN 12237), with a circular cross-sectional diameter of 225 mm Miscellaneous materials (wiping cloths, silicone) = 1.0100	m ²	92.62		

1	2	3	4	5	6	7
105	VA20A	Installation of ventilation ducts at a height of up to 3 m from the floor, made of 0.7 mm thick galvanised sheet metal, airtightness class A (EN 12237), with a circular cross-sectional diameter of 250 mm Miscellaneous materials (wiping cloths, silicone) = 1.0100	m ²	7.17		
106	VA20A	Installation of ventilation ducts at a height of up to 3 m from the floor, made of 0.7 mm thick galvanised sheet metal, airtightness class A (EN 12237), with a circular cross-sectional diameter of 280 mm Miscellaneous materials (wiping cloths, silicone) = 1.0100	m ²	2.22		
107	VA20A	Installation of ventilation ducts at a height of up to 3 m from the floor, made of 0.7 mm thick galvanised sheet metal, airtightness class A (EN 12237), with a circular cross-sectional diameter of 315 mm Miscellaneous materials (wiping cloths, silicone) = 1.0100	m ²	27.78		
108	VA20A	Installation of ventilation ducts at a height of up to 3 m from the floor, made of 0.7 mm thick galvanised sheet metal, airtightness class A (EN 12237), with a circular cross-sectional diameter of 355 mm Miscellaneous materials (wiping cloths, silicone) = 1.0100	m ²	28.55		
109	VA20A	Installation of ventilation ducts at a height of up to 3 m from the floor, made of 0.7 mm thick galvanised sheet metal, airtightness class A (EN 12237), with a circular cross-sectional diameter of 400 mm Miscellaneous materials (wiping cloths, silicone) = 1.0100	m ²	13.67		
110	VA20A	Installation of ventilation ducts at a height of up to 3 m from the floor, made of 0.7 mm thick galvanised sheet metal, airtightness class A (EN 12237), with a circular cross-sectional diameter of 450 mm Miscellaneous materials (wiping cloths, silicone) = 1.0100	m ²	14.24		
111	VA20A	Installation of ventilation ducts at a height of up to 3 m from the floor, made of 0.7 mm thick galvanised sheet metal, airtightness class A (EN 12237), with a circular cross-sectional diameter of 500 mm Miscellaneous materials (wiping cloths, silicone) = 1.0100	m ²	17.08		

1	2	3	4	5	6	7
112	VA20B	Installation of ventilation ducts at a height of up to 3 m from the floor, made of 0.9 mm thick galvanised sheet metal, airtightness class B (EN 12237), with a circular cross-sectional diameter of 630 mm Miscellaneous materials (wiping cloths, silicone) = 1.0100	m ²	22.04		
113	VA20B	Installation of ventilation ducts at a height of up to 3 m from the floor, made of 0.9 mm thick galvanised sheet metal, airtightness class B (EN 12237), with a circular cross-sectional diameter of 710 mm Miscellaneous materials (wiping cloths, silicone) = 1.0100	m ²	65.88		
114	VA20B	Installation of ventilation ducts at a height of up to 3 m from the floor, made of 0.9 mm thick galvanised sheet metal, airtightness class B (EN 12237), with a circular cross-sectional diameter of 800 mm Miscellaneous materials (wiping cloths, silicone) = 1.0100	m ²	8.71		
115	VA20A	Fitting of ventilation duct fittings at heights of up to 3 m from the floor, made of 0.7 mm thick galvanised sheet metal, airtightness class A (EN 12237), with a circular cross-sectional diameter of 160–560 mm Miscellaneous materials (wiping cloths, silicone) = 1.0100	m ²	140.10		
116	VA20B	Fitting of duct fittings at heights from floor level up to 3 m, made of 0.9 mm thick galvanised sheet metal, airtightness class B (EN 12237), with a circular cross-sectional diameter of 561–800 mm Miscellaneous materials (wiping rags, silicone) = 1.0100	m ²	1.20		
117	VA21B	Fitting of ventilation duct fittings at a height of up to 3 m from the floor, made of 0.5 mm thick galvanised sheet metal, airtightness class A (EN 12237), including fittings, with a perimeter of: 800–1,000 mm Small items (wiping cloths, silicone) = 1.0100	m ²	11.60		
118	VA22C	Fitting of ventilation duct fittings at a height of up to 3 m from the floor, made of 0.7 mm thick galvanised sheet metal, airtightness class A (EN 12237), including fittings, with a perimeter of up to 1,800 mm Miscellaneous materials (wiping rags, silicone) = 1.0100	m ²	34.59		
119	bidder's price	Metal for fixing ventilation ducts with anti-vibration inserts	kg	435.00		

1	2	3	4	5	6	7
120	IzI04D	Duct insulation with self-adhesive expanded elastomeric rubber (synthetic) insulation with a closed-cell structure, covered with aluminium foil reinforced with glass mesh, with a thermal conductivity coefficient of 0.038 W/m*K, density 55 kg/m ³ , thickness 6 mm. Flammability class – G1 (low flammability, self-extinguishing)	m ²	307.91		
121	IzI04D	Insulation of pipes using self-adhesive expanded elastomeric rubber (synthetic) insulation with a closed-cell structure, covered with aluminium foil reinforced with glass fibre mesh, with a thermal conductivity coefficient of 0.038 W/m*K, a density of 55 kg/m ³ , and a thickness of 13 mm. Flammability class – G1 (low flammability, self-extinguishing)	m ²	364.02		
122	IzH07B	Insulation of ventilation ducts and special components using basalt wool sewn into galvanised wire mesh (25 mm mesh), thickness 25 mm, with a thermal conductivity coefficient of 0.036 W/m*K, density 105 kg/m ³ , with aluminium protective foil and sealed joints. Fire resistance – EI 60	m ²	106.22		
123	VB09C	Galvanised steel rain protection louvre with fixed horizontal slats set at an angle, dimensions 1000 x 1000 mm, with fixing/mounting frame and galvanised steel mesh	pcs	4.00		
124	VB09A	External rain protection grille with fixed horizontal slats set at an angle D = 150 mm, made of die-cast aluminium, fitted with a galvanised steel insect and bird protection mesh, mounted on masonry	pcs	13.00		
125	VB09B	Metal protective and concealing grille, with anti-corrosion protection via electrostatic powder coating, with a nominal connection size of 250 mm, mounted on the duct via a flange with a clamping collar	pcs	7.00		
126	CL20A	Disc-type air inlet diffuser, made of sheet steel, with an internal locking nut, electrostatic powder-coated with polymeric varnish, with a connection of D=125 mm, adjustable flow rate 40 ... 120 m ³ /h	pcs	22.00		

1	2	3	4	5	6	7
127	CL20A	Disc-type air inlet damper, made of sheet steel, with internal locking nut, electrostatic spray-painted with polymeric lacquer, with connection D=160 mm, adjustable flow rate 60 ... 180 m³/h	pc	120.00		
128	CL20A	Disc-type air inlet diffuser, made of sheet steel, with internal locking nut, electrostatic powder-coated with polymeric lacquer, with connection D=200 mm, adjustable flow rate 90 ... 260 m³/h	pc	11.00		
		<i>Total</i>	lei			
		Total Ventilation system Including salary				
		<i>Total</i>	lei			
		<i>Social insurance</i>	24 %			
		<i>Transport costs</i>	%			
		<i>Procurement and warehousing</i>	%			
		<i>Total</i>				
		<i>Overhead costs</i>	%			
		<i>Total</i>				
		<i>Budget surplus</i>	%			
		Total construction works Including wages				
		2. Installation works				
		2.1. Heating system				
129	11-02-001-01	Device fitted to threaded joints / ASV-P, expansion valve, ASV-M	pcs	32.00		
130	ID04B	Easytop ball valve shut-off valve MEGAPRESS DN32 or equivalent	pcs	2.00		
131	ID04A	MEGAPRESS DN20 Easytop ball valve or equivalent	pcs	6.00		
132	11-02-001-01	Device fitted to threaded connections / 3-way valve with actuator	pcs	4.00		
		<i>Total</i>	lei			
		Total Heating system Including wages				
		2.2. Drainage system				
133	SB28A	Ball trap for air conditioning units Fine aggregate (cement, sand, water, etc.) = 1.0100	pcs	7.00		
		<i>Total</i>	lei			
		Total drainage system Including salary				
		2.3. Air conditioning system				
134	F A05 A	Compressor- refrigeration unit for ammonia or other refrigerant (comprising: compressor, electric motor, condenser and oil separator), with a nominal cooling capacity of	unit	4.00		

1	2	3	4	5	6	7
		750... 15,000 Kcal/h (0.87 – 17.445 kW)				
135	11-04-008-07 applied	Indoor ceiling-mounted unit	pcs	3.00		
		<i>Total</i>	lei			
		Total Air conditioning system Including salary				
		2.4. Ventilation system				
136	VC18A	PV_6 var_1. Ventilation system with heat recovery L=500/500 m³/h, P=150/150 Pa, Coefficient of performance=85.7%, G4/G4 frame-type filter, Indoor installation Miscellaneous materials (water, petrol, cleaning rags, electricity, etc.) = 1.0050	pcs	6.00		
137	VC18A	PV_1 var_1. Ventilation system with heat recovery L=7500/5500 m³/h, P=500/500 Pa, Rotor=80.2%, heat transfer medium=60/40°C, Qt water=50.8 kW, Qx refrigerant=61.5 kW, G4/G4 bag-type filter, outdoor installation Miscellaneous materials (water, petrol, cleaning rags, electricity, etc.) = 1.0050	pcs	1.00		
138	VC18A	PV_1 var_10. Ventilation system with heat recovery L=1000/1000 m³/h, P=200/200 Pa, Plastina=80.6%, heat transfer fluid=60/40°C, Qstage=4.90 kW, Qx freon =5.40 kW, G4/G4 bag-type filter, indoor installation Miscellaneous materials (water, petrol, cleaning rags, electricity, etc.) = 1.0050	pcs	1.00		
139	VC18A	PV_3 var_1. Ventilation system with heat recovery L=1000/1000 m³/h, P=250/250 Pa, Coefficient of performance=82.7%, heat transfer medium=60/40°C, Qt water=7.50 kW, Qx refrigerant=4.70 kW, G4/G4 bag-type filter, outdoor installation Miscellaneous materials (water, petrol, cleaning rags, electricity, etc.) = 1.0050	pcs	2.00		
140	VC07A	Installation of duct centrifugal fans with 0.25–0.55 kW motors Small parts and fitting materials (screws, oxygen, carbide, etc.) = 1.0100	pcs	7.00		
141	VB17A	Noise generator, circular with a circumference of 800–1,600 mm	pcs	5.00		
142	VC26A applicative	Installation of ventilation and extraction hood Miscellaneous materials (grease, rags, petrol, etc.) = 1.0050	pcs	5.00		
143	VB15B applicative	Circular fire damper D=125–355 mm, with servomotor and return spring, Un = 230 V AC	pcs	27.00		

1	2	3	4	5	6	7
144	08-03-605-1	Installation of spring-return servomotor Un = 230V AC	pcs	27.00		
145	VB15C	Sealed control damper, dimensions 1000 x 1000 mm, mounted on masonry Small parts = 1.0050	pcs	2.00		
146	08-03-605-1	2-position servo motor set, Un = 230V AC	pcs	2.00		
147	VB09B applicative	Turbo-type air diffuser D=200 mm	pcs	6.00		
148	VB09B applicative	Turbulent air diffuser, D=250 mm	pcs	9.00		
149	VB09B applicative	Turbine-type air diffuser D=315 mm	pcs	35.00		
		<i>Total</i>	lei			
		Total Ventilation system Including salary				
		<i>Total</i>	lei			
		<i>Social insurance</i>	24 %			
		<i>Transport costs</i>	%			
		<i>Procurement and warehousing</i>	%			
		<i>Total</i>				
		<i>Overhead costs</i>	%			
		<i>Total</i>				
		<i>Budget surplus</i>	%			
		Total installation work Including wages				
		3. Machinery and equipment 3.1. Heating system				
150	Bidder's price	ASV-P DN32 automatic balancing valve or equivalent	pcs	16.00		
151	bidder's price	ASV-M DN32 shut-off valve or equivalent	pcs	16.00		
152	bidder's price	Easytop ball valve MEGAPRESS DN32 or equivalent	pcs	2.00		
153	Bidder's price	MEGAPRESS DN20 Easytop ball valve or equivalent	pcs	6.00		
154	Bidder's price	Three-way valve + Belimo R3020S2+NR24ASR actuator or equivalent	pcs	3.00		
155	Bidder's price	Three-way valve + Belimo R3032S3+NR24ASR actuator or equivalent	pcs	1.00		
		<i>Total</i>	lei			
		Total Heating system Including wages				
		3.2. Drainage system				
156	Bidder's price	Siphon made of high-density polypropylene (PP) and ABS, with flow break, fitted with a ball and	pcs	7.00		

1	2	3	4	5	6	7
		water trap, for air conditioning units, flow rate – 0.15 litres per second, with flush-mounted installation and fixing elements included in the set				
		<i>Total</i>	lei			
		Total drainage system Including salary				
		3.3. Air conditioning system				
157	Bidder's price	Multi-outdoor unit, designed for multi-split air-conditioning systems. Dimensions 945 x 970 x 370 mm. Power supply: 230 V AC, 50 Hz. Power consumption: - Cooling 2.70 kW (0.48...3.65 kW); - Heating 2.38 kW (0.37...2.0 kW). EER / COP - 3.70 / 4.41. Nominal cooling capacity: 10.0 kW (1.7...11.5 kW). Nominal heating capacity: 10.5 kW (0.9...11.5 kW). Sound pressure level: - Cooling 54 dB(A); - Heating 59 dB(A). Air flow: - Cooling 75 m³/min; - Heating 75 m³/min. Maximum pipe length – 75 m. Net weight – 73.0 kg. Fixing elements included. Refrigerant pipe connection sizes – 5 x 6.35 mm (1/4") / 5 x 9.52 mm (3/8"). Refrigerant – Freon R32 with a factory charge of 2.98 kg. Mounting brackets with anti-vibration inserts included	set	4.00		
158	bidder's price	4-way cassette-type indoor unit, designed for multi-split air-conditioning systems. Unit dimensions: 840 × 236 × 840 mm; cassette dimensions: 950 × 35 × 950 mm. Power supply: 230 V AC, 50 Hz. Rated cooling capacity: 4.0 kW. Rated heating capacity: 4.5 kW. Features 4 fan speed settings and includes an air filter. Sound pressure level: - Cooling (36 / 33 / 30 / 26 dB(A)); - Heating (36 / 33 / 28 / 20 dB(A)). Air flow: - Cooling (19 / 16 / 13 / 10 m³/min); - Heating (19 / 16 / 13 / 10 m³/min). Pipe connections: 1 x 6.35 mm (1/4") / 1 x 9.52 mm (3/8"). Weight – 24.0 kg. Infrared remote control and mounting brackets included. Refrigerant – Freon R32. Remote control. Mounting brackets with anti-vibration inserts included	set	3.00		
		<i>Total</i>	lei			

1	2	3	4	5	6	7
		Total Air conditioning system Including salary				
		3.4. Ventilation system				
159	Bidder's price	PV_6 var_1. Ventilation system with heat recovery L=500/500 m³/h, P=150/150 Pa, Coefficient of performance=85.7%, G4/G4 frame-type filter, Indoor installation	set	6.00		
160	bidder's price	PV_1 var_1. Ventilation system with heat recovery: L=7500/5500 m³/h, P=500/500 Pa, Rotor efficiency=80.2%, heat transfer medium=60/40°C, Qt (water)=50.8 kW, Qx (refrigerant)=61.5 kW, G4/G4 bag-type filter, outdoor installation	set	1.00		
161	Bidder's price	PV_1 var_10. Ventilation system with heat recovery, L=1000/1000 m³/h, P=200/200 Pa, Plastina=80.6%, heat transfer fluid=60/40°C, Qstage=4.90 kW, Qx freon=5.40 kW, G4/G4 bag-type filter, indoor installation	set	1.00		
162	bidder's price	PV_3 var_1. EUROVENT-A+ certified heat recovery ventilation unit, external installation. Galvanised steel casing, thermally and acoustically insulated with mineral wool, density 65 kg/m³, thickness 50 mm. Overall dimensions (L x W x H) – 4199 x 970 x 1110 mm. Unit weight – 550 kg. Comprising the following components: Air inlet section: - Block A – air damper, airtightness class 2 to EN 1751:2003, with flexible flanged insert fitted with a 24 V AC/DC servomotor, 4 Nm, 0–10 V control, emergency function; G4-class bag filter with 50–500 Pa differential pressure gauge, IP54; - Block B – heat recovery unit, efficiency 82.7%, with a differential pressure gauge (50–500 Pa), IP54, class 2 airtightness bypass valve in accordance with EN 1751:2003, fitted with a 24V AC/DC servomotor, 5 Nm, 0–10 V control, and a horizontal DN40 condensate trap with a 5/4" connection, featuring a water seal and a mechanical odour barrier, as well as two cleaning inserts;	set	2.00		

1	2	3	4	5	6	7
		- Block C – air damper, tightness class 2 to EN 1751:2003, fitted with a 24V AC/DC servomotor, 4Nm, 0–10 V control; - Block D – fan with a flow rate of 1000 m³/h, P = 250 Pa, with AC motor, IE3, 380 V, 50 Hz, 2835 rpm, with 0.75 kW frequency converter, 380–480 V, IP20, including cable gland kit with bracket; - Block E – 3-row heater with liquid heat transfer medium 60/40 °C, Q_i = 7.50 kW, fitted with a surface-mounted temperature sensor and a frost protection thermostat; - Block F – 3-row direct freon cooler, Q_r = 7.50 kW, with a 1.4301 stainless steel condensate tray fitted with a horizontal DN40 condensate trap with a 5/4" connection, a water trap and a -mechanical odour barrier, as well as a cleaning access panel and an air damper, airtightness class 2 to EN 1751:2003, with a flexible flanged insert fitted with a 24 V AC/DC servomotor, 4 Nm, 0–10 V control; Air exhaust section: - Block B – shared block with the air inlet section - Block G – air damper, tightness class 2 to EN 1751:2003, with a flexible flanged insert fitted with a 24 V AC/DC servomotor, 4 Nm, 0–10 V control; 25 mm G3 aluminium alloy grease filter with 50–500 Pa differential pressure gauge, IP54; G4 bag-type filter with 50–500 Pa differential pressure gauge, IP54; - Block H – fan with a flow rate of 1000 m³/h, P = 250 Pa, with AC motor, IE3, 380 V, 50 Hz, 2835 rpm, with 0.75 kW frequency converter, 380–480 V, IP20, including cable gland kit with bracket; Digital control panel with quick menu for commissioning and local operation. Status display, manual/automatic mode selection, reset and navigation buttons, parameter copy and save functions. - Block I – service section; - Block J – air damper, tightness class 2 to EN 1751:2003, with				

1	2	3	4	5	6	7
		flexible flanged insert fitted with a 24 V AC/DC servomotor, 4 Nm, 0–10 V control, emergency function; Automation – IP65/IP40 mounting enclosure with a freely programmable controller used for the automation of HVAC systems, featuring 8xUNI I/Os, 3xTI, 6xDO, 4xDI, 2xRS485, Ethernet, KNX process bus, fitted with an integrated 8-line Unicode text display (HMI-DM), emergency and information buttons, and automatic programme functionality; - Duct air temperature sensor with IP65 housing, featuring a 10 kOhm sensing element with a measurement range of -40...+70 °C – 2 units; - Passive outdoor sensor with a 10 kOhm sensing element, measuring range -40...+70 °C – 1 unit.				
163		Centrifugal duct fan, energy class B, designed for round duct systems with D=250 mm, ABS plastic housing, forced-draft impeller with backward-curved blades, EC motor, IP44, 230 V, 50 Hz, 2600 rpm, N=0.165 kW, airflow up to 1250 m³/h (set to 450 m³/h), 200 Pa, noise level 48 dB(A) at 3 metres, with speed control via an integrated 0–10 V external signal	pcs	5.00		
164		Centrifugal duct fan, energy class C, designed for round duct systems with D=160 mm, galvanised steel casing, forced-draft fan with backward-curved blades, AC motor, IP44, 230 V, 50 Hz, 2750 rpm, N=0.064 kW, flow rate up to 450 m³/h (set to 220 m³/h), 180 Pa, noise level 46 dB(A) at 3 metres, with speed control via an external voltage regulator	pcs	2.00		
165		Noise attenuator D=250 mm, variant 2, L=1000 mm	pcs	3.00		
166		Noise attenuator D=160 mm, L=600 mm	pcs	2.00		
167		Ventilation and extraction hood made of AISI 304 stainless steel (1 mm thick). Nominal dimensions: LxWxH = 1000 mm x 900 mm x 400 mm. Fitted as standard with labyrinth-type grease filters/multi-layered expanded metal (stainless steel) cassette filters, patented MODIS model with	pcs	5.00		

1	2	3	4	5	6	7
		standardised dimensions of 400 x 400 mm. IP54 lighting unit with integrated LED tube. Un=30 V, 50 Hz				
168		Circular fire damper D=225 mm, with quick-fit collar, class C smoke seal in accordance with EN 1751, fire resistance EIS 60, with spring-return servomotor Un = 230 V AC, fitted with a thermoelectric trigger contact	pcs	27.00		
169		Airtight control damper, dimensions 1000 x 1000 mm, with 2-position servomotor Un = 230V AC	pcs	2.00		
170	Bidder's price	Turbulent air diffuser D=200 mm, with fixed radial blades and integrated air diffuser, made of galvanised steel, electrostatic spray-painted with polymeric lacquer, with manual flow control damper and galvanised steel plenum box with horizontal connection to the air diffuser, flow rate 80–220 m³/h	pc	6.00		
171	bidder's price	Turbulent air diffuser D=250 mm, with fixed radial blades and integrated air diffuser, made of galvanised steel, electrostatically coated with polymeric lacquer, with manual flow control damper and galvanised steel plenum box () with horizontal connection to the air diffuser, flow rate 140 ...360 m³/h	pcs	9.00		
172	bidder's price	Turbine-type air diffuser D=315 mm, with fixed radial blades and integrated air diffuser, made of galvanised steel, electrostatic spray-painted with polymeric lacquer, with manual flow control damper and galvanised steel plenum box with horizontal connection to the air diffuser, flow rate 220–620 m³/h	pcs	35.00		
		<i>Total</i>	lei			
		Total Ventilation system Including salary				
		<i>Total</i>	lei			
		<i>Supply and storage</i>	%			
		Total machinery and equipment Including wages				
		4. Commissioning and start-up works				
173	03-01-002-01	Axial fan with mains connection, installed in the air duct, in the intake	1 unit	27.00		

1	2	3	4	5	6	7
		shaft, in a void or on the roof, No.: 4–8				
174	03-01-004-02	Heat exchanger – Outdoor compressor-condenser unit	pcs	4.00		
175	03-01-005-01	Recuperative heat exchanger	1 unit	10.00		
176	03-01-075-01	Local, non-self-contained air conditioning unit with centralised heating and cooling supply, nominal air flow rate up to 3,000 m³/h: number of air conditioning units of the same type in a room: up to 5	pcs	3.00		
177	03-01-011-06	Control and shut-off device: fire damper	1 unit	27.00		
178	03-01-011-03	Control and shut-off device: air consumption regulator – Air flow control damper	1 unit	52.00		
179	03-01-022-01	Ventilation and air conditioning system network, up to 5 sections	1 ventilation unit	7.00		
180	03-01-022-02	Ventilation and air conditioning system network, number of sections up to 10	1 return vent	10.00		
		<i>Total</i>	lei			
		<i>Social security</i>	24%			
		<i>Total</i>				
		<i>Overheads</i>	%			
		<i>Total</i>				
		<i>Budget surplus</i>	%			
		Total commissioning and start-up works Including wages				
		Total	lei			
		Total estimate: Including salary				

Prepared by

(position, signature, surname, first name)

Verified

(position, signature, surname, first name)