



TECHNICAL SPECIFICATION ARCHEOLOGICAL MUSEUM OF DURRËS





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22644-001_ALB_EU4C_RFP_01 - "Provision of Consultancy for Design services for EU4CULTURE Project - Support for revitalization of cultural heritage sites and monuments affected by Earthquake in Albania."

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15. DIVISION 15 – MECHANICAL PLANT

15.1 FIREFIGHTING SYSTEM

15.1.1 PE-HD pipe + fittings

HDPE pipe DH5620EA is a high molecular density pipe spread in any cm of his length. Fitting joints can be realized: frontal connection, with union joint, with flanges or with electro welding according to instructions. These pipe density have the below characteristics:

- Flexibility for large amount of water
- High resistance material
- Flexible for quick use
- Climate resistance
- Absorber resistance
- Lightweight

Specification:

Technical properties	Unit	Value	Testing method
MFR (190oC/2.16 kg)	gr/10 min	0.04-0.07	ISO 1133
Density	gr/cm ³	0.956	ISO 1183
Yield stress endurance	Mpa	22	ISO 527-2/1B/50,TS 1398
Breaking elongation	%	>600	ISO 527-2/1B/50,TS 1398
Elasticity module	Mpa	1000	ISO 527-2/1B/50,TS 1398
Thermal Endurance	min	>20	EN 728, ISO/TR 10837
Hardness	Shore D	66	ISO 868

15.1.2 Stainless steel pipe + Fittings

- Standards length: 6000 mm (+/- 3%)
- Seamless steel pipe: EN 10255 S
- Surface treatment: of hot –galvanized EN 10240 A1
- Working temperature: -10 °C/+110 °C
- Hydraulic test: 50 bar
- Nominal pressure in area temperature: 10 bar



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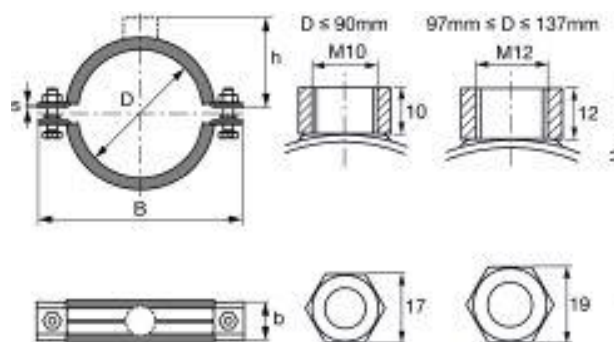
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Nominal diameter DN	External diameter De	External diameter	External diameter		Thickness	Weight per unit		
			max	min		Black pipe	galvanized pipe	vm galvanized pipe
	mm	inç	mm	mm	mm	kg/mt	kg/mt	kg/mt
10	17.2	3/4	17.5	16.7	2.3	0.85	0.89	0.90
15	21.3	1/2	21.8	21.0	2.6	1.22	1.27	1.29
20	26.9	3/4	27.3	26.5	2.6	1.58	1.65	1.66
25	33.7	1	34.2	33.3	3.2	2.44	2.55	2.57
32	42.4	1 1/4	42.9	42.0	3.2	3.14	3.28	3.31
40	48.3	1 1/2	48.8	47.9	3.2	3.61	3.77	3.81
50	60.3	2	60.8	59.7	3.6	5.10	5.33	5.40
65	76.1	2 1/2	76.6	75.3	3.6	6.51	6.80	6.93
80	88.9	3	89.5	88.0	4.0	8.47	8.85	9.03
100	114.3	4	115.0	113.1	4.5	12.20	12.70	13.00
125	139.7	5	140.8	138.	5.0	16.60	17.10	17.30
150	165.1	6	166.5	163.	5.0	19.80	20.40	20.80

15. 1. 3 Metallic construction and profile installation.

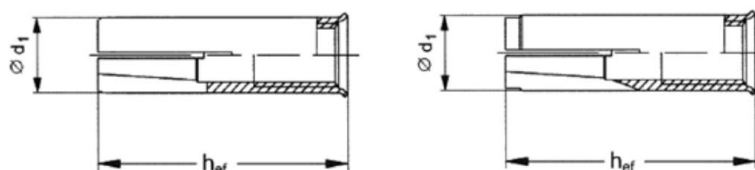
Anchor M12/M10/M8, bolts, plastic climbs, metallic concrete anchor, nail, foam, adhesive, metallic tape, silicone, etc.

- Max load $F=400$ N
- Fasteners Moment = 3 Nm
- Material compound =stainless steel, EN 10088, AISI 316Ti / AISI 316L
- Thermal resistance -50 - 120 °C
- Pipe insulation material- rubber EPDM
- Rubber material durability 50° ±5°
- Acoustic isolation 18 dB (A)



Anchor used in direct wall and ceiling installation

- Hole diameter :20 mm
- Hole length 115mm
- Anchor length- 85 mm
- Key size 24 mm
- Head configuration –hexagonal head





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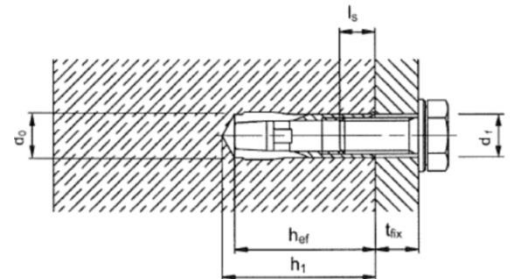
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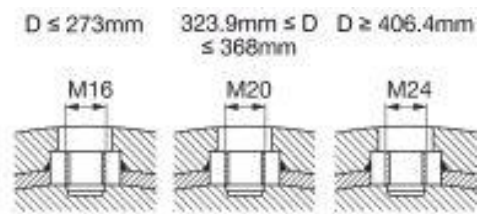
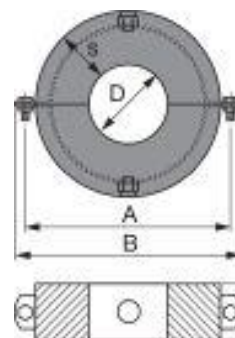
Anchor used for thread rod installation

- Hole diameter :M12
- Hole length 50 mm
- Drill diameter 15 mm
- Head configuration – inner threading
- Material compound: galvanized A4 (SS316)



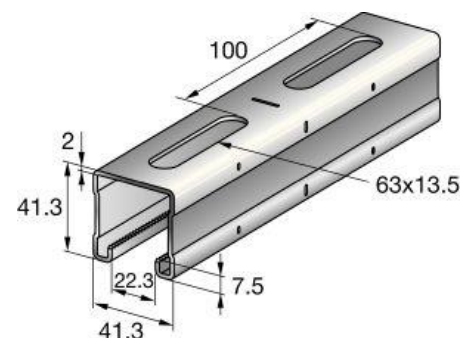
Thermal clamps – they are used for pipe at terrace assembly and serves for their thermal protection.

- Diameter – $D=711.2$ mm
- Distance breached the sectional thickness (bxs) – 140x60mm
- Distance $B=950$ mm
- Max load $F=17000$ N
- Distance $A=900$ mm
- Density 250 kg/m³
- Thermic resistance - 45 - 105 °C



Metallic construction

- Height – 41mm
- Distance -6mm
- Thickness– 2 mm
- Wight per meter = 2080 g
- Material compound : S250GD - DIN EN 10346



15.1.4 Fire Fighting Signalization

Signage serves to help people to find the escape way , fire extinguishing equipment or emergency phones. Signaling cards used belong warning category and has dimensions and material as below. Signs of fire in accordance with EN ISO 7010 norm.



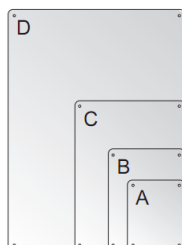
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SCHEMA DEI FORMATI (mm.)

A = 120x145
B = 160x210
C = 230x310
D = 370x500

SIGLA DEI MATERIALI E SPESSORI		
AL	PV	AD
ALLUMINIO 0,5/0,7 mm.	PVC RIGIDO 1 mm.	PVC ADESSIVO

DIMENSIONE DEI CARTELLI (mm)				
DISTANZA LETTURA (Mt.)	4	6	10	16
BASE (mm.)	120	160	230	370
ALTEZZA (mm.)	145	210	310	500
SIGLA FORMATO	A	B	C	D

Simboli conformi D.L. 493 del 14/08/96 - CEE 92/58 - UNI



15.1.5 Steel pipe welding electrodes

Electrodes are used for welding procedures are often made steel material with other material alloys and are covered with anti-slag material.

15.1.7 Ant vibration joint

Anti-vibration junction is composed by synthetic mixed tires adding and special parts. Those aims to eliminate vibrations and noises along hydraulic lines, to compensate pipes expansions and to eliminate hydraulic knock etc.



15.1.8 Pipe Insulation

High quality material for thermal insulation of hydraulic pipes, for working temperature - 100 °C ÷ 105 °C. Çertified according UNI EN ISO 9002, DIN 19988.

Temperature	-100 °C ÷ +105 °C
Heat transfer	At medium temperature 0 °C $\lambda \leq 0.034 \text{ W/(m.K)}$
Fire reaction	class 1, Norm: UNI 8457, UNI 9174
Water vapor diffusion resistance facto	$\mu \geq 5000$ (DIN 52615), Certification only $\mu = 125000$
Resistance to atmospheric agents	Good; it is necessary to use for pipes



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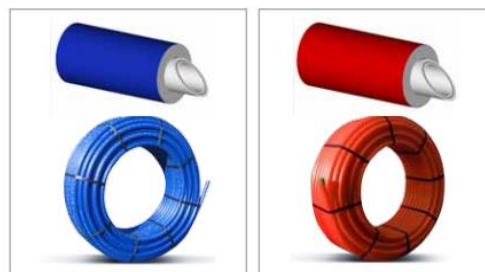
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Properties of the material	In accordance with DIN 1988 part 7 korrozionin ne
Aroma	Neutral
Color	Black
Range	Spessor 6 mm - 32 mm..

15.2 WATER SUPPLY SYSTEM

15.2.1 Pe-X pipe + fittings

Cross linked polyethylene with high density and anti-oxygen barrier, insulated, flexible, long life for normal conditions: normal work pressure and work temperature $-40^{\circ}\text{C} \div 95^{\circ}\text{C}$ according to UNI EN 53961 standard



External diameter	mm	14	16	18	20	26	32
Internal diameter	mm	10	12	14	16	20	26
Thickness	mm	2	2	2	2	3	3
Roll length	m	50	50	50	50	50	25
Density	Kg/m ³	33					
Tensile strength	N/mm ²	>0.18					
Extension of isolation layer	%	>80					
Vapor permeability of layer	mg/Pa	<0.15					
Thermal transmission in isolation layer	W/mK	0.0397					
Thermal transmission in pipe layer	W/mK	0.066					

15.2.2 Pressed elbow AL-PEX D 16x1/2 F,

AL-PEX elbow serves for cold / hot water supply pipe line with the sanitary equipment's. They should offer perfect joint, high resistance against corrosion and chemical agents, light weight life duration over 25 year and resistance to mechanical shock.





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15.2.3 Angular valve with straight fittings

Angle valve with straight fittings serves for connection of sanitary cold/hot water supply line with manifolds. They should offer perfect joint, high resistance against corrosion and chemical agents, light weight life duration over 25 year and resistance to mechanical shock.



15.2.4 Mini-valves

Stainless steel mini-valves serves to connect sanitary equipment to the sanitary water supply system.



15.2.5 Manifold for sanitary water supply system (cold / hot water)

Pre-installed linear manifold according to UNI EN 12165. Maximal pressure 10 bar. Temperature range 5 ÷ 100 °C.

Description:

- Manifold for sanitary water supply mounted in cassette;
- Maximal pressure: 10 bar;
- Temperature range: 5 ÷ 100 °C;
- Manifold of 354 series, chromed;
- Stainless steel support, code 360210;
- General cassette with standard dimension (320x250x90)



15.2.6 Plastic pipe PP-R for sanitary water supply system (cold/hot) + fittings

Is pipe composed with 3 layers for working pressure PN20bar with dilatation coefficient .030mm/m° C according to DIN 8077/78 standards. Classic color is green with dark striper lengthwise



External diameter	mm	20	25	32	40	50	63	75	90	110
Internal diameter	mm	13.2	16.6	21.2	26.6	33.2	42	50	60	73.4
Thickness	mm	3.4	4.2	5.4	6.7	8.4	10.5	12.5	15	18.3
Weight	kg/m	0.176	0.27	0.444	0.686	1.037	1.689	2.40	3.469	5.04
Consumption	lt/m	0.13	0.21	0.35	0.55	0.86	1.38	1.96	2.83	4.2



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15.2.7 Pressure reducer

Pressure reducers are destined to arrange the pressure according to require values.

- His body material is bronze, stainless steel or steel.
- Installation method is male-female screwed connection or flanged connection in function of the dimension.
- Maximal pressure 25 bar and working temperature 80 ° C.



Max inlet pressure	25 bar
Field of action (outlet pressure)	0.5 ÷ 6 bar (1.5 ÷ 6 bar) ¹
Max temperature of use	80 °C ÷ 130 °C ¹
Threading of connection	ISO 228/1
Tested according to rules	DIN EN 1567
Suitable fluids	Water, air, diesel oil.
Reduction scale	5 : 1 *

15.2.8 "Y" net strainer

Strainer is destined for water mechanic filtration preventing local corrosion phenomena which can be caused by solid materials as sand particles, Fe ions and other water particles. Work temperature is -20°C, +110°C,

- His body material is bronze, stainless steel or steel.
- Installation method is male-female screwed connection or flanged connection in



function of the dimensions.

15.2.9 Mechanical and electrical float

- Material : Red bronze
- Application mode: Horizontally and vertically
- Temperature: 65 °C
- Work pressure: 6.0 bar
- Connection: R 1 1/2



DN mm	B mm	C mm	D mm	Weight kg
40	108	1490	380	21



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-
- Material : polyethylene with PVC cable
- Cable dimensions : 3,5,10 m
- Current : ÷ 20 A
- Voltage: 250 V
- Depth: 10 m



15.2.10 Flow Meter

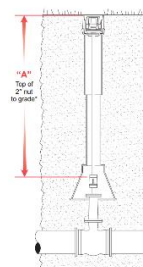
The flow meter is positioned in the main water supply lines and is used to measure the amount of water consumed by the facility and has a simple installation.

- Dimensions: 12x8x4 cm
- Connections: 220 VAC



15.2.11 Underground valve

Underground valve is installed at the main city urban line making connection with sanitary supplying building line. Cast iron material is composed by long axe to capture main pipe level and inspection pit.



15.2.12 Non returning valve

Non return valve is destined to prevent the water to go back.

- Body material is bronze, stainless steel or steel.
- Installation method is male-female screwed connection or flanged connection in function to dimensions.
- Working pressure 16 bar and maximal working temperature 90 °C.





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15.2.13 Intersection valve

The intersection valve should provide high corrosion resistance, resistance to chemical agents, light weight, easy repair possibilities, lifespan over 25 years and resistance to mechanical shocks. Their body can be bronze or steel. The same characteristics must be met by the intersection valve with fittings.



Technical characteristics		
Maximum working temperature	120 °C	
Minimum working temperature	-20 °C	
Maximum working pressure	See the dimensions in the table	
Filleting	female ISO 228 /male ISO 228	
Description	Material	Treatment
Body	Bronx CW617N – EN12165	Nickel plated
Ball	Bronx CW617N – EN12164	Chrome plated
Remover	Bronx CW617N – EN12164	Nickel plated
O-ring	Gome nitrile NBR	-
washer	P.T.F.E.	-
Handle	steel Fe37	Dyed
Moving lever	steel Fe37	Galvanized - laminated
Lever & farfalle	Alumin	Dyed
screw	steel	Galvanized

15.3 WASTE WATER DISCHARGE SYSTEM

15.3.1 PP discharge pipe + fitting

Polypropylene pipe is a polymer without color , odor, nearly transparent and partially crystalline structure which means it can be paint with a lot of colors and have a smooth surface and shiny. Is distingue from below characteristics:

- Elastomery gasket, double edge and with seal;
- Higher mitigation point;
- High resistance against high temperature;
- Rigid and stronger;
- High superficial resistance against scratches and abrasions.





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Nominal diameter. Dn(mm)	External diameter. DE(mm)	Average external, minimal and maximal diameter (mm)		Thickness s (mm)		S Series
32	32	32.0	32.3	1.8	0.4/0	S 20
40	40	40.0	40.3	1.8	0.4/0	
50	50	50.0	50.3	1.8	0.4/0	
70	75	75.0	75.4	1.9	0.4/0	
90	90	90.0	90.4	2.2	0.5/0	
100	110	110.0	110.4	2.7	0.5/0	
125	125	125.0	125.4	3.1	0.6/0	
150	160	160.0	160.5	3.9	0.6/0	

15.3.2 Floor drain with double siphon

Floor drain for water discharge, should ensure high water flow, resistance against corrosion and chemical agents, easily repair , transport and joints according to UNI EN 1454.

- PE material
- Dimensions DN 50
- Weight 0.556 kg
- Depth 57 mm



15.3.4 Sanitary ventilator

- Capacity: 100 m³/h;
- Max. Nominal power : 14 W
- Tension: 220V
- Pressure drop: 50Pa





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15.3.5 Terrace drain

Terrace drain for water discharge, should ensure high water flow, resistance against corrosion and chemical agents, easily repair, transport and joints according to UNI EN 1451.

- PP material
- Dimension DN 110
- Weight 1.49 kg
- Depth 100 mm

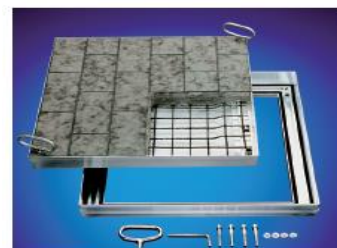


15.3.9 Concrete manhole with recessed cover 72x72 cm, class C250

The manhole with recessed cover is selected so that the manhole positioned on the floor of the premises is no different from the floor layer in which it is positioned.

Steel material

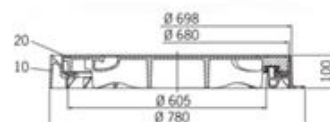
- Waterproof double layer cover
- With stainless steel frame and angles
- Completed with elements for opening and closing



15.3.10 Concrete manhole (60x60) with iron cover Ø60 cm C 250

Reinforced concrete manhole, M 250 concrete brand with cast iron cover with features:

- Manhole cover C 250, Ø60 mm
- External diameter D 850mm H= 10 cm
- Pressure 2.4 N /mm²
- With or without ventilation holes
- Ventilation section 215 cm²
- Weight 66 kg





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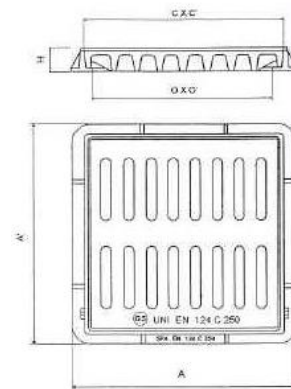


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15.5.11 Rain water concrete manhole 60 x 60 cm , cast iron cover C 250, 60x40 cm

Reinforced concrete manhole , concrete mark M 250 cast iron cover with characteristics :

- Cast iron grided cover C 250 MM, 60x40 cm
- Height 10 cm
- Pressure 2.4 N /mm²
- Weight 40 kg



15.5.18 Rain water concrete manhole 40 x 40 cm , cast iron cover C 250, 40x25 cm

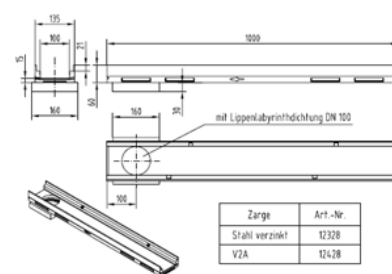
Reinforced concrete manhole , concrete mark M 250 cast iron cover with characteristics :

- Cast iron grided cover C 250 MM, 40x25 cm
- Height 10 cm
- Pressure 2.4 N /mm²
- Weight 20 kg

15.3.13 Gully

Gully multiline B125 completes all the requirements against resistance referring to its class according to standard UNI EN 1433 .

- Height 12 - 20 cm, DN 100
- Width 15-25
- Channel with integrated frame 4 mm
- Length 100 cm
- Weight 12 kg/ piece
- With gasket integrated DN 100



Combined tape with polymer concrete with integrated frame for the beginning and ending channel.



15.3.14 HDPE corrugated pipe

HDPE corrugated pipe is a high molecular density pipe spread in any cm of his length. He has those characteristics:

- Flexibility for large amount of water



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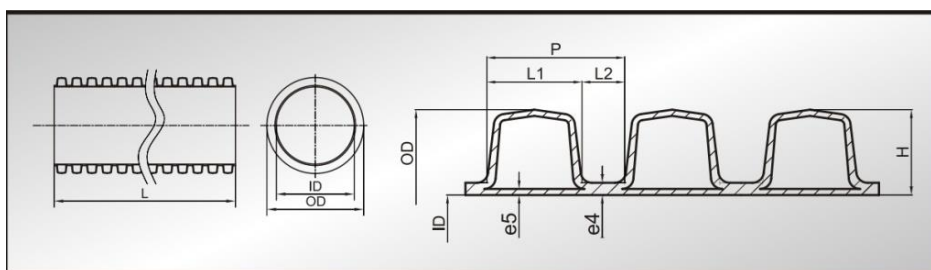
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- High resistance material
- Flexible for quick use

Technical properties	Unit	Value	Testing method
MFR (190oC/2.16 kg)	gr/10 min	0.04-0.07	ISO 1133
Density	gr/cm ³	0.956	ISO 1183
Yield stress endurance	Mpa	22	ISO 527-2/1B/50,TS 1398
Breaking elongation	%	>600	ISO 527-2/1B/50,TS 1398
Elasticity module	Mpa	1000	ISO 527-2/1B/50,TS 1398
Thermal Endurance	min	>20	EN 728, ISO/TR 10837
Hardness	Shore D	66	ISO 868



DN/OD	Diameter tolerance	ID	H	e5	e4	P	L1	L2
110	± 2 %	93.80	8.1	0.9	2.1	11.5	6.5	3
125		107	9	1.0	2.3	12.5	8.5	4.5
140		122	9.3	1.1	2.3	13.5	9.8	3.6
160		138	11	1.1	2.3	17	12.5	4.5
200		176	12	1.2	2.5	23	16	7
250		221	14.5	1.7	3.6	27	20	7
315		275	20	1.9	3.8	34.5	26	8.5
400		348	26	2.2	4.9	40.6	30.1	10.5
500		432	34	2.3	5.2	52	39	13
630		550	42	2.7	5.4	66	54	12
800		693	53.5	3.0	5.6	75	61	14
1000		860	70	3.3	7.6	105	86	19



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15.4 HVAC SYSTEM

15.4.1 Copper pipe for R410A insulated with thickness + fittings

Copper pipe Cu for cololing agents R410A are destined for conditioning use and are supplied with indoor equipments meanwhile fittings should be bronze.

Connction should be with welding or pressing.

Standardi: UNI EN 378;

Split pressure: 18.9 - 93.17 MPa (depending on pipe);

Working pressure: 4.53 - 23.29 MPa (depending on pipe);

Working fluide : R410A.

SP. ISOLANTE 10MM
SP. RAME 1MM



15.4.2 Welding electrodes for cooper pipe

Electrodes are used for welding and are cooper – silver alloy materials. Cooper pipe welding requires oxi acetilen gas for electrodes melting



15.4.3 Insulated flexible pipe

Flexible pipes are used in air conditioning and ventilation systems.

Composed of steel fiber, aluminum foil with a thickness of 0.07mm, from a layer of polyester with a thickness of 0.12mm and thermal insulation material with a thickness of 25mm, in order: aluminum layer - polyester- polyester - thermal insulation material - anti-condensation aluminum layer.

- Diameter : 102-305 mm
- Fire class : M1
- Work temp. : -20°C/+120°C
- Max air speet : 30m/s
- Max pressure: 2500 Pa
- Color : Grey





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15.4.4 Air duct – galvanize flat sheet $\delta = (1 \div 0.6)$ mm, with flanges etc.

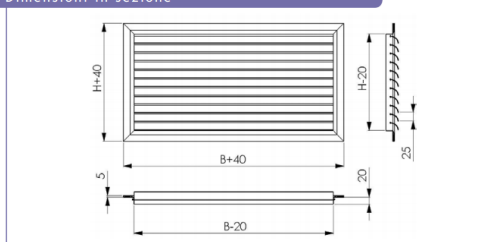
- Standard EN 10142
- Material : galvanized flat sheet
- thickness 1-0.6 mm
- Width 600-1600mm
- Length 1000-6000mm
- Galvanized surface : 60-450 g/m²



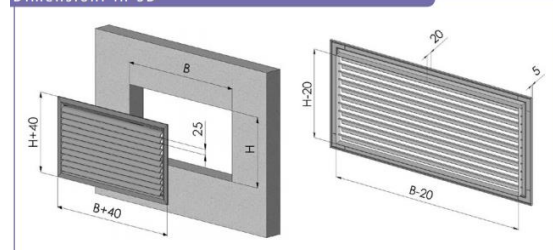
15.4.5 Grilles 1 direction

The grilles are used for blowing fresh air or extracting the polluted air from the premises. They are with 1 direction, material - aluminium

Dimensioni in sezione



Dimensioni in 3D



15.4.6 Separation pipe

This equipment serves for gas distribution into the indoor unit , have Y forms and serves not only for gas distribution but even for connection between pipe and outdoor unit according to standartit UNI EN 378.



15.4.9 Anti-vibration joint

Anti-vibration joint is used in the air duct installations in the conditioning equipment's.

- Material: galvanized steel and polyester PVC
- Thickness 160mm or 210 mm





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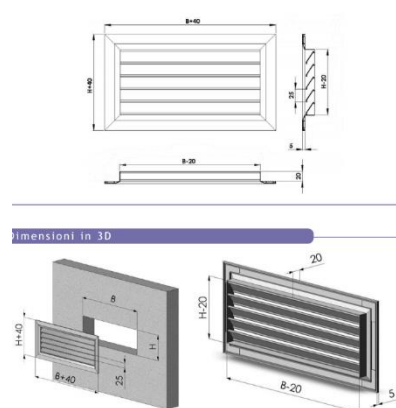
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15.4.10 Rain grille

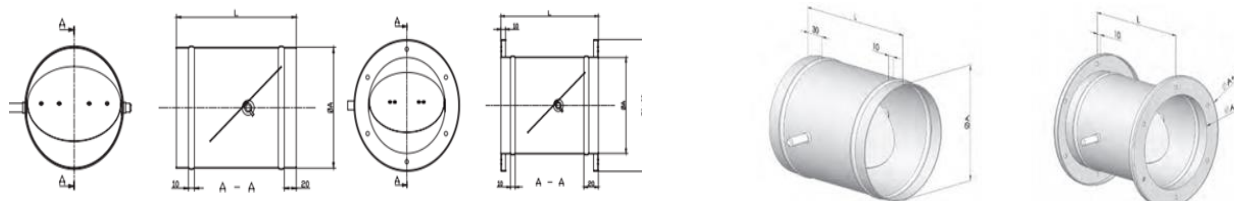
Rain grilles are placed at the bottom of the air ducts in the suction of air treatment units in order to prevent rain from entering the air ducts. Their material is aluminum.



15.4.11 Manual volume damper

- Circular dampers are placed to regulate the air flow in circular or flexible pipes. Flow adjustment is done through the lever which is manually controlled. Their material is galvanized sheet metal.
- Their dimensions are determined based on the dimensions of the air duct.

ØA(mm)	80	100	125	150	160	200	250	315	355	400	450	500	550	600	630	710	800
L (mm)	200				300												



- Volume 4 corner valves are placed to regulate the air flow in the rectangular pipes. Flow adjustment is done through the lever which is manually controlled. Their material is aluminum.
- Material of gaskets: Neoprene



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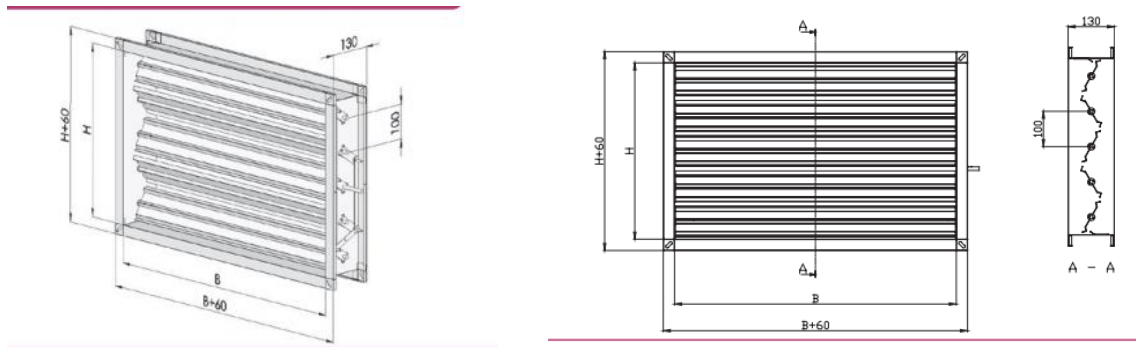


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Their dimensions will be according to the dimensions of the channels.



15.4.12 Air duct collars

Air duct collars are destined to connect a flex pipe or circular pipe with air duct or plenum. Also, it's destined for air passing without any air leak. Installed through metallic screw.

- Galvanized aluminum sheet material
- Hermetic against air leakage



15.4.13 R410A Refrigerant

Is also known as AZ-20 refrigerant and is used widely for conditioning system. It is not toxic and non-flammable.

15.4.15 Remote control

The control panel is a device that controls the devices which are dedicated to the respective control panel.





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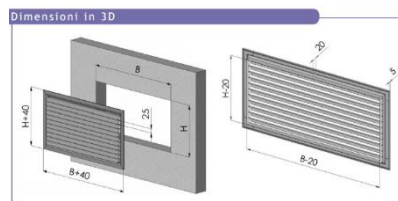
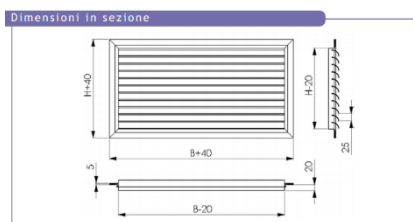
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15.4.19 1 way grille with dampher

The grilles serve to blow fresh air or to absorb dirty air from the environment while the damper to regulate the necessary air flow that is needed in the grille. The grilles are 1 direction. Their material is aluminum.



15.4.20 Thermal insulation for the air ducts

Thermal insulator of closed cell polyethylene, thermal conductivity at 40 ° C not more than 0.034 W / mc, densities not less than 30 kg / mc, class 1 in response to fire, ... special for coating ducts external and internal. Applied thickness 25mm.



15.4.21 Fire damper REI 120

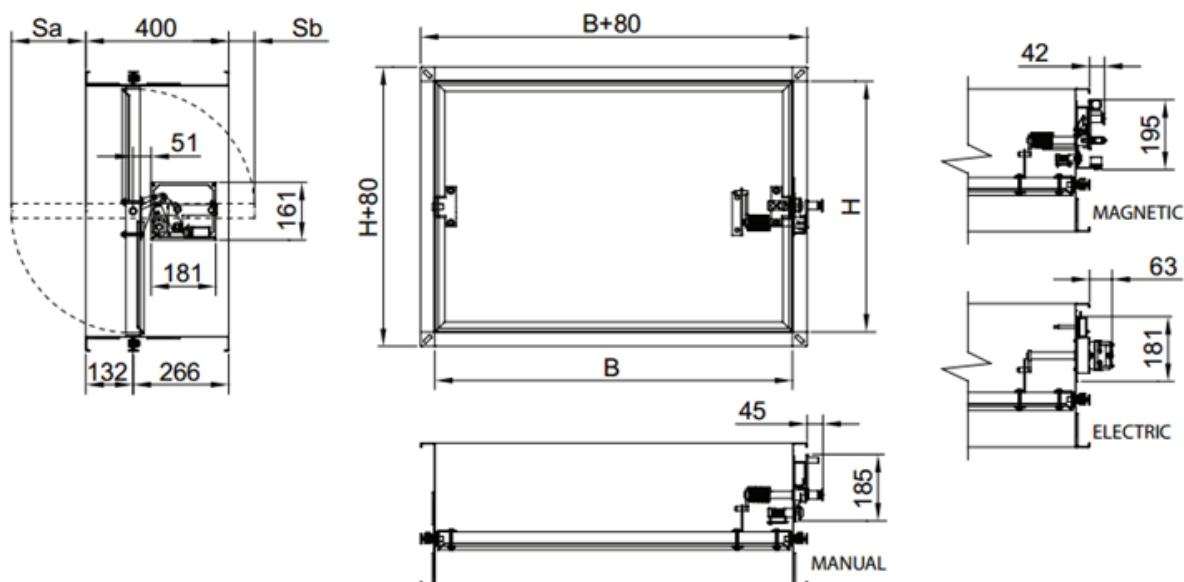
Fire dampers serve to prevent the passage of fire through the air ducts in case of fire. Fire damper REI 120, with switch blade REI 120, Calibrated at 72 ° C, Equipped with release mechanism. Construction: Plasterboard, corrugated sheet metal frame. Wall connection spacer 200mm. Complete with ON / OFF AC 230 V control motor with 2 fixed signaling contacts at 5 ° and 85 °.



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15.4.22 Central control panel

The central control panel performs control up to 64 internal VRF devices

- Electric supply: DC 12 V
- Weight: 200 g
- Dimensions H x W x D: 120 x 120 x 18 mm



15.5 MACHINERY AND EQUIPMENT

15.5.2 Cabinet internal fire hydrant.

Box + hydrant in galvanized steel finished in RAL 3000 - UNI 9227, red polyester resin –based, corrosion resistant. Dimensions (370x610x190) mm, flexible hose 30m, DN 45,EN 14540, hydrant valve 1 ½" with threading according to ISO 7-1,lance with jet regulation, nozzle 12mm.



The equipment when purchased will be accompanied by the Certificate of Conformity, use and maintenance manual.



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15.5.36 Outdoor fire hydrant

Outdoor fire extinguisher is used to connect the firefighters fire extinguisher pipe 2-1 / 2" in case of fire. It is mounted with the main line 3 "with flanges. Made of material resistant to UV rays and corrosion, with electrostatic coating.

The equipment when purchased will be accompanied by the Certificate of Conformity, use and maintenance manual.



15.5.3 Fire extinguisher with powder

Red powder paint dispenser (RAL 3000) removable with powder. It can be used for extinguishing fire in and around electrical equipment as it is non-conductive. Used only once. They are also effective in extinguishing fires that include Class B fires. Normal Capacity 5kg. Dimensions Ø 140 x 765 mm.

The equipment when purchased will be accompanied by the Certificate of Conformity, use and maintenance manual.



15.5.4 Fire extinguisher with CO2

Cylinder type (portable) painted with RAL 3000 color . CO2 is safe to use on and around electrical equipment, as the gas itself is non-conductive, and once used, there is no sticky foam or messy powder left behind. They are also effective on Class B fires (flammable liquids). Normal capacity 5kg. Dimensions Ø 140 x 765 mm.

The equipment when purchased will be accompanied by the Certificate of Conformity, use and maintenance manual.



15.5.39 Auto Pump connection group for hydrant DN 70

Auto pump connection group for DN70 hydrant. Outside cabinet, galvanized steel finished in RAL 3000, safety and non-returning valve 2" (DN 50) - brass body group material with screw according to ISO 228. Maximum operating pressure 1.2 MPa.

The equipment when purchased will be accompanied by the Certificate of Conformity, use and maintenance manual.





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15.5.40 Air Recuperator Unit (with battery with AHU KIT)

Raw material warehouse

- Max air volume : 450 m³ / h
- Static pressure 150 Pa
- Fan el. Power 2x0.136 kW 1F ~ 230V, 50Hz
- Thermal cooling capacity: 2.8 kW
- Thermal heating capacity: 3.2 kW
- Recovery capacity: 76%

Set of filters, complete set of electric frame, set of sensors, Silencer, air regulator, external type structure.

The equipment when purchased will be accompanied by the Certificate of Conformity, use and maintenance manual.

15.5.13 Firefighting system pump – hydrant

Fire fighting pumPs, according to EN12845 for hydrant system.

Consisting of 2 Electric Pumps (1 in operation + 1 in stand-by + Pilot Pump "Jockey")

where each gives Q = 42 m³/h; H = 45 mkH₂O;

Connections: DN65 in suction; DN65 collector for pumping

Pumps to have performance according to ISO 9906: 2012 - Grade 3B; Each Pump has its own automatic control panel;

Expansion tank for 24 liter pilot pump;

Fire fighting pump must be complete with a Test Kit with Flow Meters.

The equipment when purchased will be accompanied by the Certificate of Conformity, use and maintenance manual.

15.5.14 Sanitary water supply pump.

Sanitary water supply pumps

Sanitary water supply group with 2 pumps with, each pump gives:

Q=8 m³/h; H = 35 m.

(one pump ON and one stand by) . With inverter motor 2x1,5 kW; 3 x 380-415 V; 2x11 A;

Complete with Control Panel for 2 pompes, manifold 2 ½" and Presostat for automatic operation.

25 liter expansion tank in manifold.



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The equipment when purchased will be accompanied by the Certificate of Conformity, use and maintenance manual.

15.5.41 Outdoor inverter VRF, working gas R410A

(Compressor with VRV heat pump).

Calculating temperatures Winter / Summer : +1 °C / 36°C

Heating / Cooling Capacity : 68 / 77 kW (Thermal powers are taken for the calculating temperatures Winter / Summer).

EER = 3.8 W/W

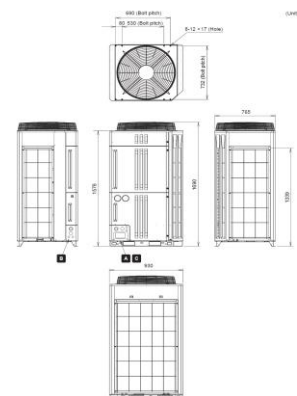
COP = 4.73 W/W

Electric power / voltage / intensity / power : Ft: 17.65 kW / Ng: 18.4 kW / 400V / 31.5 A / 32.8 A / 3 F ~ 50Hz .

Gas R410 A

1) Wight 225 kg, dimensions AxBxH : (930x765x1605) mm.

2) Wight 360 kg, dimensions AxBxH : (1340x765x1605) mm.



The equipment when purchased will be accompanied by the Certificate of Conformity, use and maintenance manual.

15.5.42 Air handling unit

Air flow return/delivery 30000 / 30000m³/h .

Aluminum air exchanger diagonal type:

- Air intake Winter / Summer +1 °C / 36 °C

- Recuperating capacity Winter / Summer 95.7 kW / 62 kW

- Exhaust air from recuperator Winter / Summer 10.5 °C

- 64.4 % / 30 °C - 38.5 %

Water type battery

- Temperature / humidity at the battery outlet for the Winter / Summer season: 34°C -10 % / 18 °C - 87 %

- Thermal capacity in cooling: 214 kW

- Thermal capacity in heating: 234 kW

Ventilator "Plug Fan"

- Static pressure - delivery / return = 250 Pa

- Electric fan power / delivery 18.5 kW 3x400V/50Hz / 18.5 kW 3x400V/50Hz





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- Complete with Speed Inverter

External type structure.

- Profiles with Aluminum material

- Panel spessor 50 mm

- Isolation with polyurethene 45 kg/m³/

- The angles should be made of PVC material

Complete with: Bag filter, Panel Filter, complete electric frame, temperature sensor, humidity sensor, freezing sensor, air quality sensor, differential pressure sensor, automatic freezing protection, outlet / return silencer

Dimensions AxBxH [mm]: 9710x5948x1764. Total weigh 4825 kg).

15.5.43 Mono split mural

- Cooling capacity 2.5 kW
- Power Supply: 1Phase , 230V , 50Hz
- Nominal volume air in/out: 670-1975 / 810-1820 m³/h
- Sound presure in/out: 28-46/30-48 dB(A)
- Dimension in H,W,D: 293×786×378 mm
- Dimension out H,W,D: 704×820×315 mm
- Weight in/out : 20 / 41 kg
- Connection Liquid/Gas: 6.35 / 9.52 mm
- Condense: Ø13.8(I.D);Ø16.7(O.D)mm



The equipment when purchased will be accompanied by the Certificate of Conformity, use and maintenance manual.

15.5.44 Chiller

(Heat pump version air /water).

Calculating temperatures Winter / Summer: +1 °C / 36°C

Heating / Cooling Capacity 390 kW / 318 kW (For temperatures +7 °C / 36°C)

Heating / Cooling Capacity: 262 / 314 kW (Thermal powers are taken for the calculating temperatures Winter / Summer).

EER = 2.25 W/W

- Summer

Inlet water temperature 7 °C



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Outlet water temperature 12 °C

Ethylene Glycol 5%

Volume of recirculated water 14.9822 l/s

Valid pressure 91 kPa

SEER 12 °C/7 °C 3.73 W/W

- Winter

COP 3.1 W/W

Inlet water temperature 45 °C

Outlet water temperature 40 °C

Valid pressure 126 kPa

General information

Gas R410 A

- Scroll type compressor

Number of compressor 4 pcs

Accumulator capacity 700 liter

Expansion tank capacity 24 liter

Recirculation pump (one at work, one /stand by, low pressure)

Electric power / voltage / intensity / power : 142 kW / 400V / 260 A / 3 F ~ 50Hz .

Connections 4 "

Automatic charging set, complete sensor. and automatic protection against freezing. Complete with metal support structure with shock absorber.

Dimensions: AxBxH = 2.45 x

The equipment when purchased will be accompanied by the Certificate of Conformity, use and maintenance manual.



15.5.45 VRF direct expansion Floor mounted indoor units.

Indoor Unit. VRF - Direct expansion - Console, capacity cooling/heating 4.5/5.0 kW, air flow Vmx.=600 m³/h, voltage 1F ~230V ~50 Hz

The equipment when purchased will be accompanied by the Certificate of Conformity, use and maintenance manual.



15.5.61 VRF direct expansion Floor mounted indoor units.

Indoor Unit. VRF - Direct expansion - Console, capacity cooling/heating 7.1/8.0 kW, air flow Vmx.=1400 m³/h, voltage 1F ~230V ~50 Hz

The equipment when purchased will be accompanied by the Certificate of Conformity, use and maintenance manual



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ARCHITECTURE • ENGINEERING • CONSULTING

15.5.47 VRF direct expansion Wall Cassete indoor units.

Indoor Unit. VRF - Direct expansion - Wall mounted, capacity cooling/heating 6.3/7.10 kW, air flow $V_{mx}=1000 \text{ m}^3/\text{h}$, voltage 1F ~230V ~50 Hz with condense pump.

The equipment when purchased will be accompanied by the Certificate of Conformity, use and maintenance manual

15.5.48 VRF direct expansion Wall Cassete indoor units.

Indoor Unit. VRF - Direct expansion - Wall mounted, capacity cooling/heating 5.0/5.6 kW, air flow $V_{mx}=700 \text{ m}^3/\text{h}$, voltage 1F ~230V ~50 Hz with condense pump.

The equipment when purchased will be accompanied by the Certificate of Conformity, use and maintenance manual

15.5.49 VRF direct expansion Wall Cassete indoor units.

Indoor Unit. VRF - Direct expansion - Wall mounted, capacity cooling/heating 4.5/5.0 kW, air flow $V_{mx}=680 \text{ m}^3/\text{h}$, voltage 1F ~230V ~50 Hz with condense pump.

The equipment when purchased will be accompanied by the Certificate of Conformity, use and maintenance manual

15.5.50 VRF direct expansion Wall Cassete indoor units.

Indoor Unit. VRF - Direct expansion - Wall mounted, capacity cooling/heating 3.6/4.0 kW, air flow $V_{mx}=600 \text{ m}^3/\text{h}$, voltage 1F ~230V ~50 Hz with condense pump.

The equipment when purchased will be accompanied by the Certificate of Conformity, use and maintenance manual

15.5.51 VRF direct expansion Wall Cassete indoor units.

Indoor Unit. VRF - Direct expansion - Wall mounted, capacity cooling/heating 2.8/3.2 kW, air flow $V_{mx}=600 \text{ m}^3/\text{h}$, voltage 1F ~230V ~50 Hz with condense pump.

The equipment when purchased will be accompanied by the Certificate of Conformity, use and maintenance manual

15.5.52 VRF direct expansion Wall Cassete indoor units.

Indoor Unit. VRF - Direct expansion - Wall mounted, capacity cooling/heating 2.2/2.5 kW, air flow $V_{mx}=600 \text{ m}^3/\text{h}$, voltage 1F ~230V ~50 Hz with condense pump.

The equipment when purchased will be accompanied by the Certificate of Conformity, use and maintenance manual





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REPUBLIKA E SHQIPËRISË
MINISTRIA E KULTURËS

22644-001_ALB_EU4C_RFP_01 - "Provision of Consultancy for Design services for EU4CULTURE Project - Support for revitalization of cultural heritage sites and monuments affected by Earthquake in Albania."

22644-001_ALB_EU4C_RFP_01 - "Sigurimi i Konsulencës për Shërbimet e Projektimit për Projektin EU4CULTURE - Mbështetje për rijetëzimin e siteve dhe monumenteve të trashëgimisë kulturore të prekura nga Tërmeti në Shqipëri."



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15.5.53 Water Softener.

The softeners are used to eliminate incrusting calcium and magnesium salt. The synthetic resins, the softener is fed with, allow the substitution in the water of calcium and magnesium salt with soluble sodium salt.

The efficiency of the resins is automatically recovered by the flowing of saturated brine prepared in special tank supplied with plant. Completed with:

- Vetrorezine cylinder, complete with sensor and food grade ion exchanger resine.
- Automatic monoblok-valve and with programing unit and devices for its functioning.
- Brine preparation storage tank.
- Completed with by-pass.

Technical characteristics:

- Connection: 3/4 ";
- Working pressure 1-8 bar
- Electric power 12V

Completed with salt deposit, safety float and bypass and electronic controller.

The equipment when purchased will be accompanied by the Certificate of Conformity, use and maintenance manual