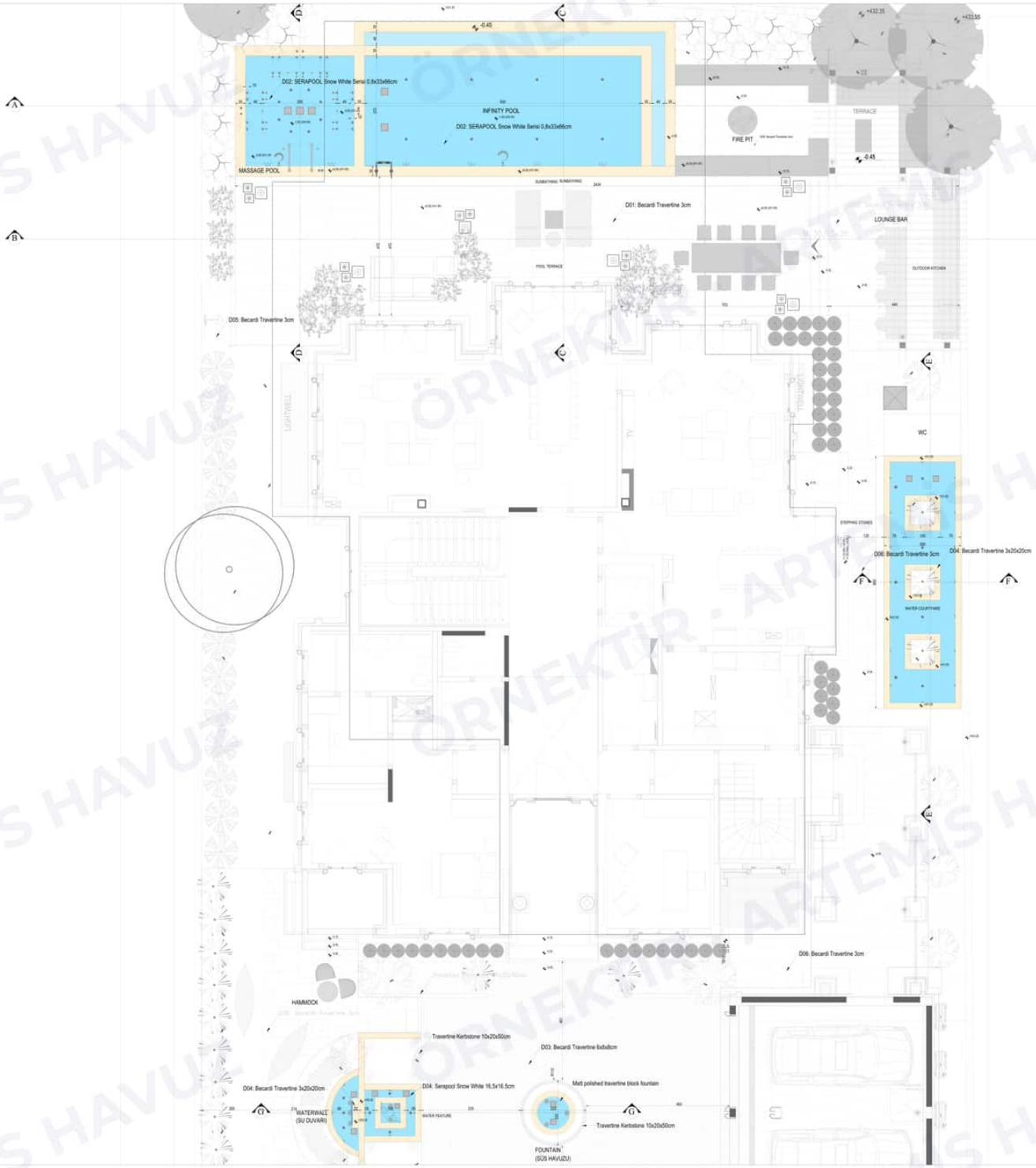

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10. 30 cm LINTELS WILL BE PLACED AT THE MIDDLE OF THE 10 CM WALLS.

REV	DATE	DESCRIPTION	BY / APPROVED

PHASE-2

VILLA SIZE :

VILLA STYLE :
TOSCANA
TYPE B

SWIMMING POOL MECHANICAL DESIGN
ARTEMİS
HAVUZ VE FİSKİYE SİSTEMLERİ

artemis
HAVUZ VE FİSKİYE SİSTEMLERİ

EXAMINED BY CME:

A	APPROVED :	
B	APPROVED AS NOTED :	
C	REVISED AND RESUBMIT :	
D	REJECTED / RE-SUBMIT	

Signatory: Date: _____

PROJECT CODE	LEVEL DATUM = BASE	PAPER	PLAN	DRAWN ON
		A0	1 / 50	10.10.2024

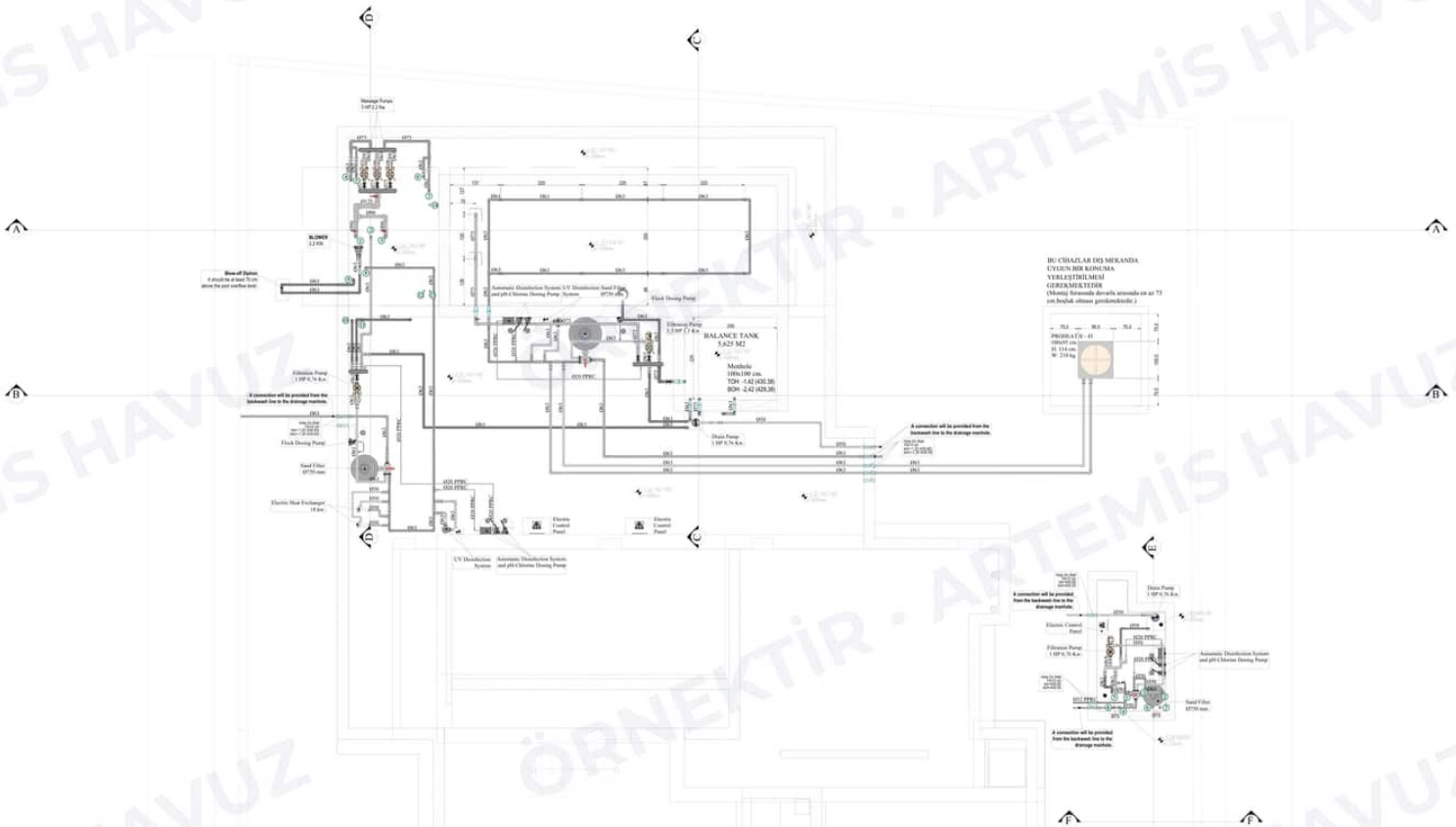
TITLE

SWIMMING, MASSAGE, WATER COURTYARD, WATER WALL, ORNAMENTAL AND WATER FUTURE POOL LAYOUT PLAN

YÜZME, MASAJ, WATER COURTYARD, SU DUVARI, SÜS VE YANSIMA HAVUZU YERLEŞİM PLANI.

DRAWING NUMBER							DRAWN BY
PROJ. CODE	CD STAGE	VL BUILDING	POOL DISCIPLINE	B10 BLOCK	H-MEC.100 NUMBER	00 REVISION	Z.ŞEVVAL DÜZEL CHECKED BY H.DÜZEL

ÖRNEKTİR · ARTEMİS HAVUZ



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10. 30 cm. LINTELS WILL BE PLACED AT THE MIDDLE OF THE 10 CM WALLS.

REV.	30.09.2024 DATE	DESCRIPTION	NO APPROVED

PHASE-2

VILLA SIZE :	VILLA STYLE :
	TOSCANA TYPE B

SWIMMING POOL MECHANICAL DESIGN

ARTEMİS
HAVUZ VE FİNİSH SİSTEMLERİ

artemis HAVUZ VE FİNİSH SİSTEMLERİ

Signature

EXAMINED BY CME:

	A	APPROVED :
	B	APPROVED AS NOTED :
	C	REVISED AND RESUBMIT :
	D	REJECTED / RE-SUBMIT

Signatory: Date: _____

PROJECT CODE	LEVEL (NATURE + AXIS)	SCALE	PAPER SIZE	DRAWING DATE
		A0	1 / 50	10.10.2024

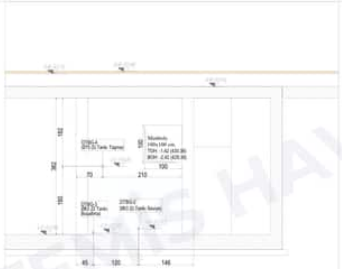
TITLE

SWIMMING, MASSAGE AND WATER COURTYARD POOL MECHANICAL, DISINFECTION AND FILTRATION SYSTEM INSTALLATION PLAN

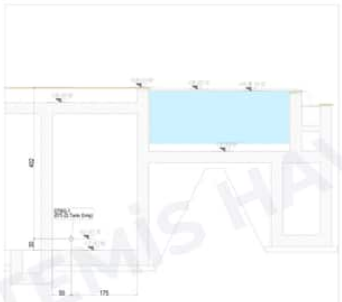
YÜZME,MASAJ VE WATER COURTYARD HAVUZU MEKANİK, DEZENFEKSİYON VE FİLTRASYON SİSTEMİ TESİSAT PLANI

DRAWING NUMBER							DRAWN BY:
PROJ. CODE	CD STAGE	VL BUILDING	POOL USE/TYPE	B10 BLOCK	H-MEC.103 NUMBER	00 REVISION	Z.ŞEVVAL DÜZEL CHECKED BY: H.DÜZEL

ÖRNEKTİR · ARTEMİS HAVUZ



SECTION BALANCE TANK CONCRETE TRANSITION ELEMENT SETTLEMENT *(DENGE TANKI BETON GEÇİŞ ELEMANI YERLEŞİM PLANI)* SCALE: 1/ 20



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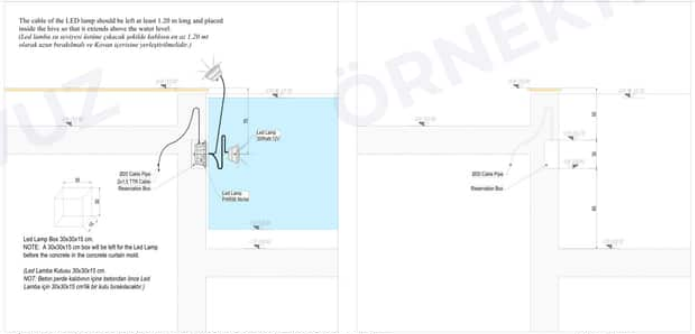
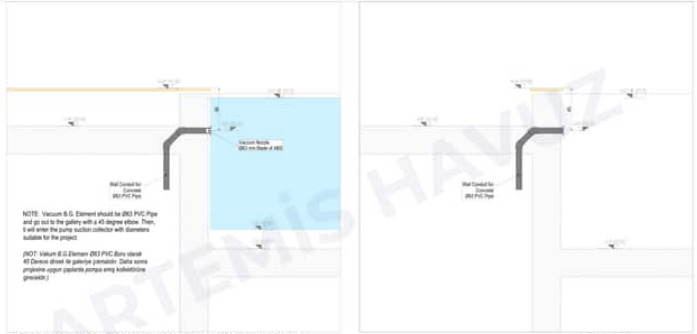
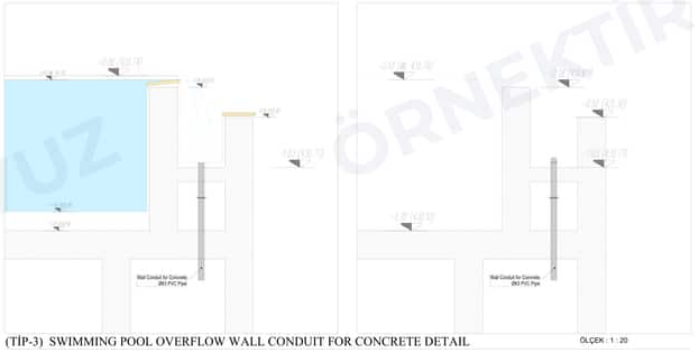


(TİP-1) SWIMMING POOL LAMP AND RESERVATION BOX DETAIL
YÜZME HAVUZU LAMBA VE REZERVASYON KUTUSU DETAYI ÖLÇEK : 1 : 20



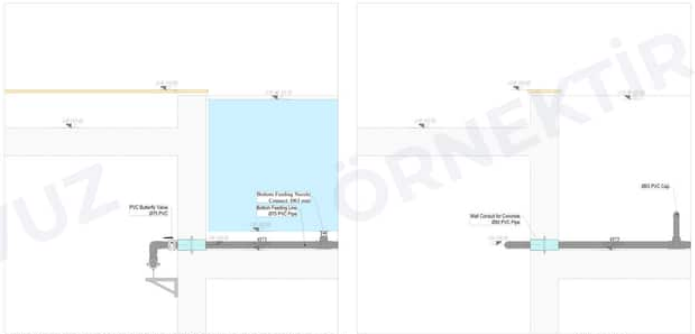
(TİP-2) SWIMMING POOL VACCUM NOZZLE DETAIL
YÜZME HAVUZU VAKUM NOZULU DETAYI ÖLÇEK : 1 : 20



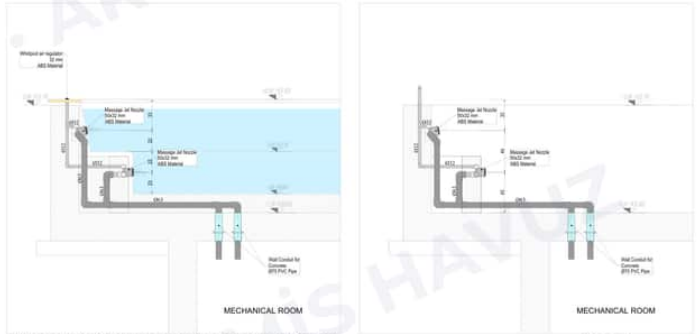
(TİP-3) SWIMMING POOL OVERFLOW WALL CONDUIT FOR CONCRETE DETAIL
YÜZME HAVUZU TAŞMA BETON GEÇİŞ ELEMANI DETAYI ÖLÇEK : 1 : 20



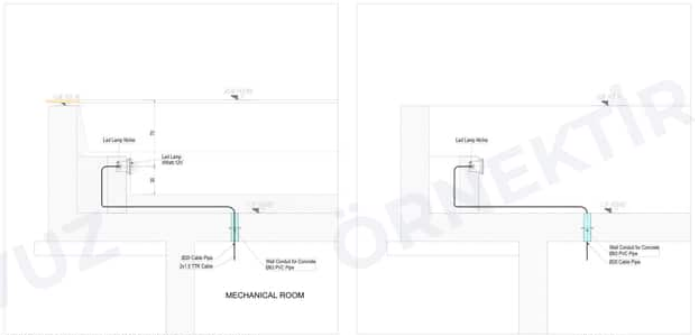
(TİP-4) SWIMMING POOL MAIN DRAIN DETAIL
YÜZME HAVUZU DİP EMİŞ SÜZGECİ DETAYI ÖLÇEK : 1 : 20



(TİP-5) SWIMMING POOL BOTTOM FEEDING NOZZLE DETAIL
YÜZME HAVUZU TABANDAN BESLEME NOZULU DETAYI ÖLÇEK : 1 : 20



(TİP-6) MASSAGE POOL MASSAGE JET NOZZLE DETAIL
MASAJ HAVUZU MASAJ JET NOZUL DETAYI ÖLÇEK : 1 : 20



(TİP-7) MASSAGE POOL LED LAMP DETAIL
MASAJ HAVUZU LED LAMBA DETAYI ÖLÇEK : 1 : 20



(TİP-8) MASSAGE POOL VACCUM NOZZLE DETAIL
MASAJ HAVUZU VAKUM NOZULU DETAYI ÖLÇEK : 1 : 20

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REV.	10.10.2024 DATE	DESCRIPTION	NO APPROVED

PHASE-2

VILLA SIZE :

VILLA STYLE :
TOSCANA
TYPE B

SWIMMING POOL MECHANICAL DESIGN

ARTEMİS
HAVUZ VE FİNİSH SİSTEMLERİ

artemis
HAVUZ VE FİNİSH SİSTEMLERİ

Sanayi Mah Bulvarı Cad No:1423
Çiğli / İZMİR
Tel +90 850 724 07 56
E-Posta: info@artemisint.com
www.artemis-pool.com

Signature

EXAMINED BY CME:

	A	APPROVED :
	B	APPROVED AS NOTED :
	C	REVISED AND RESUBMIT :
	D	REJECTED / RE-SUBMIT

Signatory: Date: _____

PROJECT CODE	LEVEL (NATURE – AXIS)	PAPER	SCALE	PRINT DATE
		A0	1 / 100	10.10.2024

TITLE

SECTIONS AND DETAILS
KESİTLER VE DETAYLAR

DRAWING NUMBER							DRAWN BY
PRJ. CODE	CD STAGE	VL BUILDING	POOL LEVEL/PLANE	B10 BLOCK	H-MEC.107 NUMBER	00 REVISION	Z.ŞEVVAL DÜZEL
							CHECKED BY H.DÜZEL

ÖRNEKTİR ARTEMİS HAVUZ

NO	SEMBOL	AÇIKLAMA
1		2x1,5 mm² N2XH KABLO
2		3x1,5 mm² N2XH KABLO
3		3x2,5 mm² N2XH KABLO
4		4x2,5 mm² N2XH KABLO
5		4x4 mm² N2XH KABLO
6		4x10 mm² N2XH KABLO
7		1x20 mm² N2XH KABLO
8		8x1 mm² N2XH KABLO
		ETANJ TOPRAKLI PRİZ

Outdoor Pool Electric Powers / Açık Yüzme Havuzu Elektrik Güçleri

TANIMI / DEFINITION	TECHNICAL SPECIFICATION TEKNİK ÖZELLİĞİ			PRIMARY/ ASIL		TOTAL POWER (TOPLAM GÜÇ)	
FILTRATION PUMP (FILTRASYON POMPASI)	1,0	HP	1,74	KW	1 Pcs.(Adet)	1,74	KW
WATER CONTROL AND CONTROL UNIT (SU KONTROL VE KUMANDA ÜNİTESİ)			1,00	KW	1 Set	1,00	KW
DOSING PUMP / DOZAJ POMPASI (PH / Klor)	0,1 / 0 lt		0,36	KW	2 Pcs.(Adet)	0,72	KW
DOSING PUMP / DOZAJ POMPASI (Flock / Flokülasyon)	0,2 / 0 lt		0,36	KW	1 Pcs.(Adet)	0,36	KW
UV DISINFECTION SYSTEM UV DEZENFEKSİYON SİSTEMİ			0,08	KW	1 Pcs.(Adet)	0,08	KW
POOL LED UNDERWATER PROJECTOR HAVUZ LEDLİ SU ALTI PROJEKTÖRÜ			0,03	KW	4 Pcs.(Adet)	0,12	KW
DRAIN PUMP DRENAJ POMPASI			0,75	KW	1 Pcs.(Adet)	0,75	KW
SOCKET / PRİZ			0,30	KW	1 Pcs.(Adet)	0,30	KW
TOTAL POWERS (TOPLAM GÜÇ) :						**4,42**	**KW**

Heat Pump Electric Powers / Isı pompası Elektrik Gücü

TANIMI / DEFINITION	TECHNICAL SPECIFICATION TEKNİK ÖZELLİĞİ	PRIMARY/ ASIL		TOTAL POWER (TOPLAM GÜÇ)	
HEAT PUMP ISI POMPASI	40,00	KW	1 Pcs.(Adet)	40,00	KW
TOTAL POWERS (TOPLAM GÜÇ) :				**40,00**	**KW**

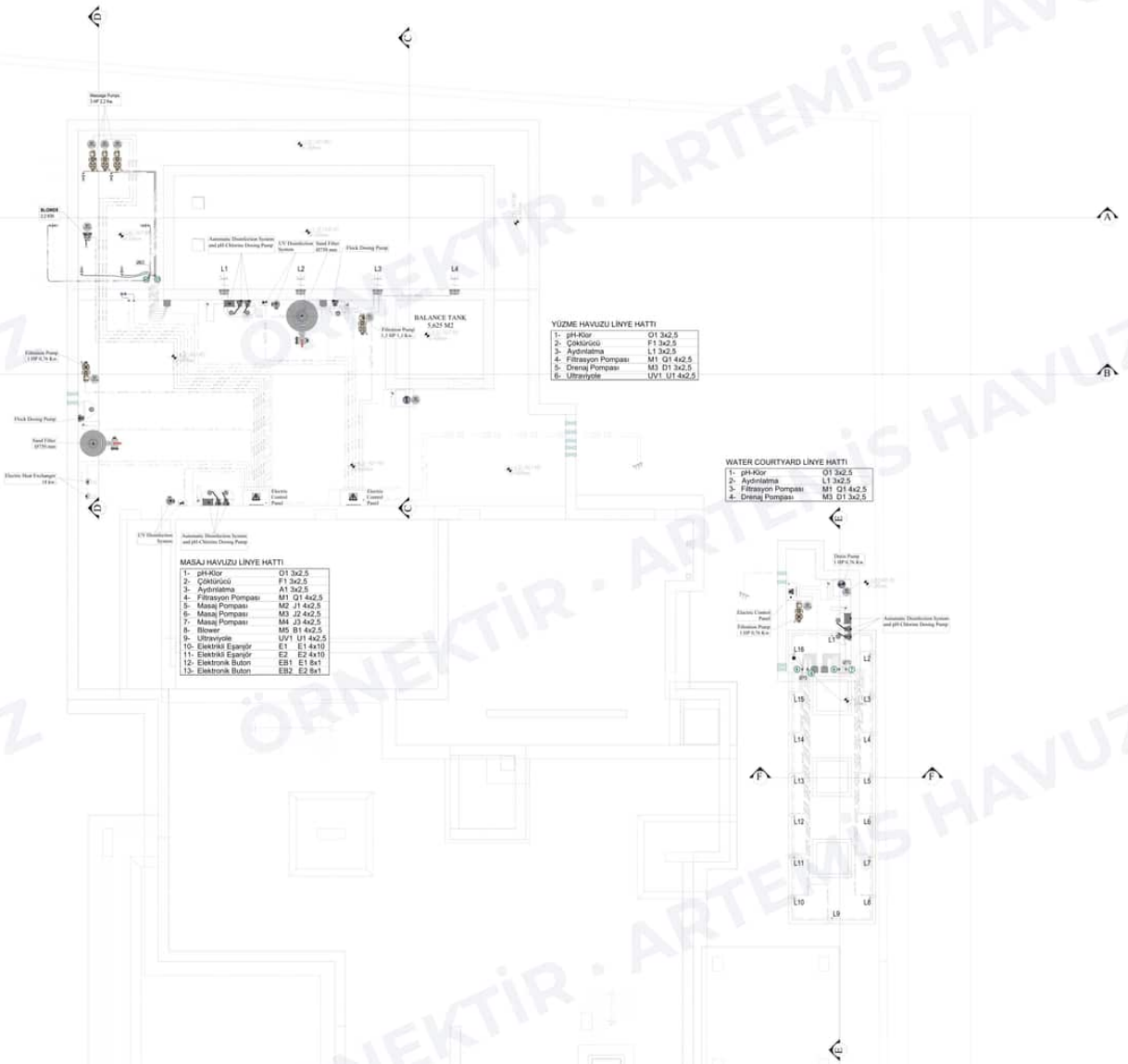
Massage Pool Electric Powers /Masaj Havuzu Elektrik Güçleri

TANIMI / DEFINITION	TECHNICAL SPECIFICATION TEKNİK ÖZELLİĞİ			PRIMARY/ ASIL		TOTAL POWER (TOPLAM GÜÇ)	
FILTRATION PUMP (FILTRASYON POMPASI)	1	HP	0,75	KW	1 Pcs.(Adet)	0,75	KW
MASSAGE PUMP MASAJ POMPASI	3	HP	2,25	KW	3 Pcs.(Adet)	6,64	KW
BLOWER			2,20	KW	1 Pcs.(Adet)	2,20	KW
WATER CONTROL AND CONTROL UNIT (SU KONTROL VE KUMANDA ÜNİTESİ)			1,00	KW	1 Set	1,00	KW
DOSING PUMP / DOZAJ POMPASI (PH / Klor)	0,1 / 0 lt		0,36	KW	2 Pcs.(Adet)	0,72	KW
DOSING PUMP / DOZAJ POMPASI (Flock / Flokülasyon)	0,1 / 0 lt		0,36	KW	1 Pcs.(Adet)	0,36	KW
UV DISINFECTION SYSTEM UV DEZENFEKSİYON SİSTEMİ			0,08	KW	1 Pcs.(Adet)	0,08	KW
POOL LED UNDERWATER PROJECTOR HAVUZ LEDLİ SU ALTI PROJEKTÖRÜ			0,003	KW	9 Pcs.(Adet)	0,018	KW
ELECTRIC HEAT EXCHANGER ELEKTRİKLİ EŞANJÖR			18,00	KW	2 Pcs.(Adet)	36,00	KW
SOCKET / PRİZ			0,30	KW	1 Pcs.(Adet)	0,30	KW
TOTAL POWERS (TOPLAM GÜÇ) :						**45,55**	**KW**

WATER COURTYARD (AĞAÇLI YANSIMA HAVUZU)

Electric Powers / Elektrik Güçleri

TANIMI / DEFINITION	TECHNICAL SPECIFICATION TEKNİK ÖZELLİĞİ			PRIMARY/ ASIL		TOTAL POWER (TOPLAM GÜÇ)	
FILTRATION PUMP (FILTRASYON POMPASI)	1	HP	0,75	KW	1 Pcs.(Adet)	0,75	KW
WATER CONTROL AND CONTROL UNIT (SU KONTROL VE KUMANDA ÜNİTESİ)			1,00	KW	1 Set	1,00	KW
DOSING PUMP / DOZAJ POMPASI (PH / Klor)	0,1 / 0 lt		0,36	KW	2 Pcs.(Adet)	0,72	KW
POOL LED UNDERWATER PROJECTOR HAVUZ LEDLİ SU ALTI PROJEKTÖRÜ			0,003	KW	16 Pcs.(Adet)	0,048	KW
DRAIN PUMP DRENAJ POMPASI			0,75	KW	1 Pcs.(Adet)	0,75	KW
SOCKET / PRİZ			0,30	KW	1 Pcs.(Adet)	0,30	KW
TOTAL POWERS (TOPLAM GÜÇ) :						**3,59**	**KW**



YÜZME HAVUZU LİNYE HATTI

1-	pH-Klor	O1 3x2,5
2-	Çoklürücü	F1 3x2,5
3-	Aydınlatma	L1 3x2,5
4-	Filtrasyon Pompası	M1 Q1 4x2,5
5-	Drenaj Pompası	M3 D1 3x2,5
6-	Ultraviyole	UV1 U1 4x2,5

MASAJ HAVUZU LİNYE HATTI

1-	pH-Klor	O1 3x2,5
2-	Çoklürücü	F1 3x2,5
3-	Aydınlatma	A1 3x2,5
4-	Filtrasyon Pompası	M1 Q1 4x2,5
5-	Masaj Pompası	M2 J1 4x2,5
6-	Masaj Pompası	M3 J2 4x2,5
7-	Masaj Pompası	M4 J3 4x2,5
8-	Blower	M5 B1 4x2,5
9-	Ultraviyole	UV1 U1 4x2,5
10-	Elektrikli Eşanjör	E1 E1 4x10
11-	Elektrikli Eşanjör	E2 E2 4x10
12-	Elektronik Buton	EB1 E1 8x1
13-	Elektronik Buton	EB2 E2 8x1

WATER COURTYARD LİNYE HATTI

1-	pH-Klor	O1 3x2,5
2-	Aydınlatma	L1 3x2,5
3-	Filtrasyon Pompası	M1 Q1 4x2,5
4-	Drenaj Pompası	M3 D1 3x2,5

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NOTES:
1. FOR CONCRETE AND STEEL STRUCTURES REFER TO STRUCTURAL ENGINEERS DRAWINGS, SCHEDULES AND SPECIFICATIONS.
2. FOR ALL EXTERNAL FACADE INFORMATION REFER TO FACADE ENGINEERS DRAWINGS, SCHEDULES AND SPECIFICATIONS.
3. FOR ALL MECHANICAL AND ELECTRICAL DESIGN INFORMATION REFER TO RELATED DISCIPLINES DRAWINGS, SCHEDULES AND SPECIFICATIONS.
4. FOR ALL SECURITY COMPONENTS SEE SECURITY CONSULTANTS DRAWINGS, SCHEDULES AND SPECIFICATIONS.
5. FOR SOFT AND HARD LANDSCAPING (INTERNAL AND EXTERNAL) INFORMATION REFER TO LANDSCAPE CONSULTANT DRAWINGS AND SPECIFICATIONS.
6. FOR LIFTS AND ESCALATOR INFORMATION REFER TO LIFT CONSULTANTS DRAWINGS, SCHEDULES AND SPECIFICATIONS.
7. FOR DOORS INFORMATION REFER TO DOOR CONSULTANTS DRAWINGS, SCHEDULES AND SPECIFICATIONS.
8. FOR APPLICATION OF PRE-APPLIED WATERPROOFING MEMBRANE, SHOTCRETE OR DIAPHRAGM WALL SUBSTRATE SHOULD MEET THE REQUIREMENTS BY SUPPLIER.
9. WATERPROOFING DETAILS AND PRODUCTS REGARDING FOUNDATION ARE FOR CONSTRUCTION. HOWEVER INFORMATION REGARDING ABOVE GROUND LEVEL NEEDS TO BE FURTHER CLARIFIED WITH LANDSCAPE CONSULTANT AND MANUFACTURERS.
10. 30 cm LINTELS WILL BE PLACED AT THE MIDDLE OF THE 10 CM WALLS.

REV	ISSUE/ REVISION DATE	DESCRIPTION	NO APPROVED

PHASE-2

VILLA SIZE :

VILLA STYLE :

TOSCANA
TYPE B

SWIMMING POOL MECHANICAL DESIGN

ARTEMİS
HAVUZ VE FİNİSH SİSTEMLERİ

artemis HAVUZ VE FİNİSH SİSTEMLERİ

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EXAMINED BY CME:

	A	APPROVED :
	B	APPROVED AS NOTED :
	C	REVISED AND RESUBMIT :
	D	REJECTED / RE-SUBMIT

Signatory: Date: _____

PROJECT CODE	LEVEL DATUM + AHD	PAPER SIZE	SCALE	DRAWING DATE
		A0	1 / 50	10.10.2024

TITLE

SWIMMING, MASSAGE AND WATER COURTYARD POOL ELECTRICAL INSTALLATION PLAN

YÜZME, MASAJ VE WATER COURTYARD HAVUZU
ELEKTRİK TESİSAT PLANI

DRAWING NUMBER							DRAWN BY
PROJ. CODE	CD STAGE	VL BUILDING	POOL DISCIPLINE	B10 PHASE/B	H-ELC 113 BLOCK	00 NUMBER	Z.ŞEVVAL DÜZEL
							CHECKED BY H.DÜZEL

ÖRNEKTİR · ARTEMİS HAVUZ

B10 - OUTDOOR POOL / AÇIK HAVUZ

ACCOUNT REPORT / HESAP RAPORU

POOL SYSTEM (HAVUZ SİSTEMİ) : Overflow, Bottom Feeding / Taşmalı Sistem,Tabandan beslemeli
POOL AREA (HAVUZ ALANI) : A = 34,41 m²
POOL DEPTH (HAVUZ DERİNLİĞİ) : H = 1,40 mt.
POOL VOLUME (HAVUZ HACMİ) : Vh= 48,17 m³
RESERVE TANK VOLUME (REZERV TANK HACMİ) : Vr= 4,8174 m³
TOTAL WATER VOLUME (TOPLAM SU HACMİ) : Vs= 52,98 m³
WATER SURFACE FALLING ON THE PER PERSON : ar= 4,5 m²
KİŞİ BAŞINA DÜŞEN SU YÜZEYİ
USER FREQUENCY (KULLANICI FREKANSI) : n= 1 / h
BASIC WEIGHT (ANA YÜK)) : N= A . N / s
LOAD FACTOR (FOR CHLORINE) : k= 0,5 1/m²
YÜK FAKTÖRÜ (KLOR İÇİN)
SYSTEM FLOW (SİSTEM DEBİSİ) : Qs = n/s A/s [m³/h]
Qs= 1 / 4,5 / 34,41 / 0,50 m3/h
Qs= **15,29** **m3/h**

1- FILTER SELECTION (KUM FİLTRESİ SEÇİMİ)

ACCEPTED FILTER SPEED (KABUL EDİLEN FİLTRELEME HIZI) : Vf= 25 m/h
TOTAL FILTRATION AREA (TOPLAM FİLTRELEME ALANI) : Taf = Qs / Vf [m2]
TAf= 15,29 / 25 m2
TAf= **0,61** **m2**



Model (mm)	ø 450	ø 500	ø 600	ø 700	ø 800	ø 900	ø 1000	ø 1250	ø 1400	ø 1600	ø 1800	ø 2000	ø 2250
30 m³/boşluk²	4 m²/h	6 m²/h	9 m²/h	14 m²/h	19 m²/h	25 m²/h	26 m²/h	36 m²/h	47 m²/h	60 m²/h	76 m²/h	94 m²/h	130 m²/h
40 m³/boşluk²	5 m²/h	8 m²/h	12 m²/h	18 m²/h	21 m²/h	26 m²/h	34 m²/h	48 m²/h	62 m²/h	80 m²/h	101 m²/h	126 m²/h	173 m²/h
50 m³/boşluk²	6 m²/h	10 m²/h	15 m²/h	22 m²/h	26 m²/h	33 m²/h	43 m²/h	61 m²/h	77 m²/h	100 m²/h	127 m²/h	157 m²/h	216 m²/h
Area (Alan) m2	0,16	0,20	0,28	0,45	0,50	0,66	0,87	1,23	1,54	2,01	2,54	3,14	4,34

FILTER AREA (FİLTRELEME ALANI) : Af= 0,64 m2 / Pieces (Adet)
D: 900 **MM.FOR FILTER** (KUM FİLTRESİ ÇİPİ)
Maximum Pressure : 4 kg/cm2
NUMBER OF FILTERS REQUIRED : N = Taf / Af (Pieces / Adet)
(DİZİNDEKİ FİLTRE SAYISI) Nf= **0,61** / 0,64
Nf= **0,96** **Pieces** (Adet)
D: **900** mm. 1 **Pieces (Adet) Sand Filter has been selected.** (Kum filtresi seçilmiştir)

2- FILTRATION PUMP SELECTION (FİLTRASYON POMPASI SEÇİMİ)

PUMP MANOMETRIC PRESSURE CALCULATION (POMPA MANOMETRİK BASINÇ HESABI)

1 -	**Sand Filter Resistance (Sand Filter in Clean Condition)** *Kum Filtresi Direnci (Kum Filtresi Temiz Halde)*	5,00 mSS
2 -	**Sand Filter Resistance (Sand Filter in Dirty Condition)** *Kum Filtresi Direnci (Kum Filtresi Kirlendiği Halde)*	3,00 mSS
3 -	**Total Pipe Losses (Approximately)** *Boru Kayıpları Toplamı (Tahmini)*	2,50 mSS
4 -	**Local Losses (Valve, Fittings...)** *Lokal Kayıplar (Vana, Filtreler...)*	1,00 mSS
5 -	**The vertical distance between the minimum water level and the pool water surface.** *Minimum su seviyesi ile havuz su yüzeyi arasındaki dikey mesafe*	2,50 mSS
TOTAL	(TOPLAM) :	**14,00 mSS**

PUMP HEAD (H) (POMPA BASMA YÜKSEKLİĞİ) : 15 mSS
PUMP POWER (POMPA GÜCÜ) : 1,5 HP 1,14 Kw.
PUMP FLOW (POMPA DEBİSİ) : 18 m3/h
NUMBER OF PUMPS REQUIRED : Np = Qs / Qp Pieces (Adet)
(GEREKLİ POMPA SAYISI) Np = 15,29 / 18 = 1,21968
Np= **1** + **1** **Pieces** (Adet)
1,5 HP 1 Pieces (Adet) **Pump is selected** (Pompa seçilmiştir)

3- NUMBER OF FEEDING NOZZLE / BESLEME NOZULU SAYISI

Flow rate from 1 feeding nozzle : =BmQ 3 m3/h
1 adet Beslemе nozulu çıkış debisi :
The water flow speed from the feeding nozzle should be at most 2.5 m/s
Beslemе nozulundaki su çıkış hızı en fazla 2,5 m/sn olmalıdır.
System Flow (Sistem Debisi) : Qs= 15,29 m3/h
: Bm= Qs / BmQ Pieces (Adet)
: Bm= 15,29 / 3,00 = 5,10 Pieces (Adet)
: Bm= **6 pieces (Adet) Bottom Inlet Nozzle is selected** (Taban beslemе Nozulu seçilmiştir.)



HEAT EXCHANGER ACCOUNT / EŞANJÖR HESABI

POOL AREA (HAVUZ ALANI) : A= 34,41 m²
TOTAL WATER VOLUME (TOPLAM SU HACMİ) : Vs= 52,98 m³
WATER MASS (SU KÜTLESİ) : M= 52.981 Kg.
: n= 1 cat/gr °C
POOL WATER TEMPERATURE (HAVUZ SUYU SICAKLIĞI) : T2 = 28 °C
PUMP OUTLET TEMPERATURE : T1= 10 °C
POMPA ÇIKIŞ SUYU SICAKLIĞI
AVERAGE WATER TEMPERATURE : OT= T2 - T1 °C
ORTALAMA SU SICAKLIĞI : OT= 28 - 10 °C
OT= 18 °C
TIME TO ENTER THE REGIME : t= 96 Hour (Saat)
REJİME GİRME SÜRESİ 3,75 Day (Gün)
POOL FEATURE (Open or Closed) ACIK
HAVUZ ÖZELLİĞİ (Açık veya Kapalı)
APPROXIMATE HEAT LOSS FROM THE POOL SURFACE : q= 645 Kcal/m²h
HAVUZ YÜZEYİNDEN YAKLAŞIK ISI KAYBI
(104 kcal/h should be selected for indoor pools, 645 kcal/h for unprotected and outdoor pools.)
(Kapalı havuzlar için 104, Rüzgara karşı korunmasız ve Açık havuzu için 645 kcal/h seçilmelidir.)

: Q= (M x c x (OT)) /t + A x q
: Q= (52.981 x 1 x 18) / 90)+ 34,41 x 645
10% Heat Exchanger Capacity Safety margin : Qr= 32.792,73 Kcal/h
%10 Eşanjör Kapasitesi Emniyet payı : Q= **36.072,00** **Kcal/h**
: Q= **41,94** **KW.**

NOTE: In cases where a value is not specified by the employer for the heat exchanger model selection, the heat exchanger inlet and outlet water temperatures will be considered as 80-70 °C. (Eşanjör modeli seçimi iç veren tarafından ısıtıcı giriş-çıkış suyu sıcaklıkları belirtilmediği durumlarda eşanjör giriş ve çıkış su sıcaklıkları 80-70 °C olarak düşünülecektir.)

HEAT PUMP SELECTION / ISI POMPASI SEÇİMİ : IPq= 41,94 / 45 = 0,93 Pieces(Adet)
45 KW.
45 KW. 1 pieces (Adet) Heat Exchanger is selected (Isı Pompası seçilmiştir.)

B10- MASSAGE POOL (MASAJ HAVUZU)

ACCOUNT REPORT / HESAP RAPORU

POOL SYSTEM (HAVUZ SİSTEMİ) : **Skimmer System, Bottom Feeding /Skimmerli** (Sistem, Tabandan beslemeli)
POOL AREA (HAVUZ ALANI) : A = 10,24 m²
POOL DEPTH (HAVUZ DERİNLİĞİ) : H = 1,00 mt.
POOL VOLUME (HAVUZ HACMİ) : Vh= 10,24 m³
FILTRATION PERIOD (FİLTRASYON PERİYODU) : h = 0,75 Hour (Saat)
SYSTEM FLOW (SİSTEM DEBİSİ) : Qs = V x h [m³/h]
Qs= 10,24 / 0,75 m3/h
Qs= **13,65** **m3/h**

1- FILTER SELECTION (KUM FİLTRESİ SEÇİMİ)

ACCEPTED FILTER SPEED (KABUL EDİLEN FİLTRELEME HIZI) : Vf= 30 m/h
TOTAL FILTRATION AREA (TOPLAM FİLTRELEME ALANI) : Taf = Qs / Vf [m2]
TAf= 13,65 / 30 m2
TAf= **0,46** **m2**



Model (mm)	ø 450	ø 500	ø 600	ø 700	ø 800	ø 900	ø 1000	ø 1250	ø 1400	ø 1600	ø 1800	ø 2000	ø 2250
30 m³/boşluk²	4 m²/h	6 m²/h	9 m²/h	14 m²/h	19 m²/h	25 m²/h	26 m²/h	36 m²/h	47 m²/h	60 m²/h	76 m²/h	94 m²/h	130 m²/h
40 m³/boşluk²	5 m²/h	8 m²/h	12 m²/h	18 m²/h	21 m²/h	26 m²/h	34 m²/h	48 m²/h	62 m²/h	80 m²/h	101 m²/h	126 m²/h	173 m²/h
50 m³/boşluk²	6 m²/h	10 m²/h	15 m²/h	22 m²/h	26 m²/h	33 m²/h	43 m²/h	61 m²/h	77 m²/h	100 m²/h	127 m²/h	157 m²/h	216 m²/h
Area (Alan) m2	0,16	0,20	0,28	0,45	0,50	0,66	0,87	1,23	1,54	2,01	2,54	3,14	4,34

FILTER AREA (FİLTRELEME ALANI) : Af= 0,64 m2 / Pieces (Adet)
D: 750 **MM.FOR FILTER** (KUM FİLTRESİ ÇİPİ)
Maximum Pressure : 4 kg/cm2
NUMBER OF FILTERS REQUIRED : N = Taf / Af (Pieces / Adet)
(GEREKLİ FİLTRE SAYISI) Nf= **0,46** / 0,64
Nf= **1,03** **Pieces** (Adet)
D: **750** mm. 1 **Pieces (Adet) Sand Filter has been selected.** (Kum filtresi seçilmiştir)

2- FILTRATION PUMP SELECTION (FİLTRASYON POMPASI SEÇİMİ)

PUMP MANOMETRIC PRESSURE CALCULATION (POMPA MANOMETRİK BASINÇ HESABI)

1 -	**Sand Filter Resistance (Sand Filter in Clean Condition)** *Kum Filtresi Direnci (Kum Filtresi Temiz Halde)*	5,00 mSS
2 -	**Sand Filter Resistance (Sand Filter in Dirty Condition)** *Kum Filtresi Direnci (Kum Filtresi Kirlendiği Halde)*	3,00 mSS
3 -	**Total Pipe Losses (Approximately)** *Boru Kayıpları Toplamı (Tahmini)*	2,50 mSS
4 -	**Local Losses (Valve, Fittings...)** *Lokal Kayıplar (Vana, Filtreler...)*	1,00 mSS
5 -	**The vertical distance between the minimum water level and the pool water surface.** *Minimum su seviyesi ile havuz su yüzeyi arasındaki dikey mesafe*	2,50 mSS
TOTAL	(TOPLAM) :	**14,00 mSS**

PUMP HEAD (H) (POMPA BASMA YÜKSEKLİĞİ) : 15 mSS
PUMP POWER (POMPA GÜCÜ) : 1,5 HP 1,14 Kw.
PUMP FLOW (POMPA DEBİSİ) : 15 m3/h
NUMBER OF PUMPS REQUIRED : Np = Qs / Qp Pieces (Adet)
(GEREKLİ POMPA SAYISI) Np = 13,65 / 15 = 0,91022
Np= **1** + **1** **Pieces** (Adet)
1,5 HP 1 Pieces (Adet) **Pump is selected** (Pompa seçilmiştir)

3- NUMBER OF FEEDING NOZZLE / BESLEME NOZULU SAYISI

Flow rate from 1 feeding nozzle : =BmQ 2 m3/h
1 adet Beslemе nozulu çıkış debisi :
The water flow speed from the feeding nozzle should be at most 2.5 m/s
Beslemе nozulundaki su çıkış hızı en fazla 2,5 m/sn olmalıdır.
System Flow (Sistem Debisi) : Qs= 13,65 m3/h
: Bm= Qs / BmQ Pieces (Adet)
: Bm= 13,65 / 2,00 = 6,83 Pieces (Adet)
: Bm= **8 pieces (Adet) Bottom Inlet Nozzle is selected** (Taban beslemе Nozulu seçilmiştir.)



4- MASSAGE PUMP SELECTION (MASAJ POMPASI SEÇİMİ)

Flow rate from 1 feeding massage nozzle : =Mmq 3,5 m3/h
1 adet Masaj nozulu çıkış debisi :
Total Number of Massage Nozzles: =Mnq 28 Pieces (Adet)
Toplam Masaj Nozulu Sayısı :
: Qtm = Mnq x Mmq m3/h
: Qtm = 3,5 x 28 = 98 m3/h



PUMP MANOMETRIC PRESSURE CALCULATION (POMPA MANOMETRİK BASINÇ HESABI)

1 -	**Total Pipe Losses (Approximately)** *Boru Kayıpları Toplamı (Tahmini)*	1,50 mSS
2 -	**Total Pipe Losses (Approximately)** *Boru Kayıpları Toplamı (Tahmini)*	2,50 mSS
3 -	**Local Losses (Valve, Fittings...)** *Lokal Kayıplar (Vana, Filtreler...)*	1,00 mSS
4 -	**The vertical distance between the minimum water level and the pool water surface.** *Minimum su seviyesi ile havuz su yüzeyi arasındaki dikey mesafe*	2,50 mSS
TOTAL	(TOPLAM) :	**7,50 mSS**

PUMP HEAD (H) (POMPA BASMA YÜKSEKLİĞİ) : 11 mSS
PUMP POWER (POMPA GÜCÜ) : 3 HP 2,29 Kw.
PUMP FLOW (POMPA DEBİSİ) : 32 m3/h
NUMBER OF PUMPS REQUIRED : Np = Qtm / Qp Pieces (Adet)
(GEREKLİ POMPA SAYISI) Np = 98,00 / 32 = 3,0625 Pieces (Adet)
Np= **3** Pieces (Adet)
3 HP 3 Pieces (Adet) **Pump is selected** (Pompa seçilmiştir)

5- ELECTRIC HEAT EXCHANGER ACCOUNT / ELEKTRİKLİ EŞANJÖR HESABI

POOL AREA (HAVUZ ALANI) : A= 10,24 m²
TOTAL WATER VOLUME (TOPLAM SU HACMİ) : Vs= 10,24 m³
WATER MASS (SU KÜTLESİ) : M= 10.240 Kg.
: n= 1 cat/gr °C
POOL WATER TEMPERATURE (HAVUZ SUYU SICAKLIĞI) : T2 = 30 °C
PUMP OUTLET TEMPERATURE : T1= 18 °C
POMPA ÇIKIŞ SUYU SICAKLIĞI
AVERAGE WATER TEMPERATURE : OT= T2 - T1 °C
ORTALAMA SU SICAKLIĞI : OT= 28 - 10 °C
OT= 28 °C
TIME TO ENTER THE REGIME : t= 72 Hour (Saat)
REJİME GİRME SÜRESİ 3,00 Day (Gün)
POOL FEATURE (Open or Closed) ACIK
HAVUZ ÖZELLİĞİ (Açık veya Kapalı)
APPROXIMATE HEAT LOSS FROM THE POOL SURFACE : q= 645 Kcal/m²h
HAVUZ YÜZEYİNDEN YAKLAŞIK ISI KAYBI
(104 kcal/h should be selected for indoor pools, 645 kcal/h for unprotected and outdoor pools.)
(Kapalı havuzlar için 104, Rüzgara karşı korunmasız ve Açık havuzu için 645 kcal/h seçilmelidir.)



: Q= (M x c x (OT)) /t + A x q
: Q= (10.240 x 1 x 25) / 12)+ 10,24 x 645
10% Heat Exchanger Capacity Safety margin : Qr= 27.936,13 Kcal/h
%10 Eşanjör Kapasitesi Emniyet payı : Q= **30.731,95** **Kcal/h**
: Q= **35,73** **KW.**
ELECTRIC HEAT EXCHANGER SELECTION /ELEKTRİKLİ EŞ/ IPq= 35,73 / 18 = 1,99 Pieces(Adet)
18 KW.
18 KW. pieces (Adet) Electric Heat Exchanger is selected (Elektrikli Eşanjör seçilmiştir)

B10- WATERFUTURE POOL (YANSIMA HAVUZU)

ACCOUNT REPORT / HESAP RAPORU

POOL SYSTEM (HAVUZ SİSTEMİ) : **Skimmer System, Bottom Feeding /Skimmerli** (Sistem, Tabandan beslemeli)
POOL AREA (HAVUZ ALANI) : A = 1,63 m²
POOL DEPTH (HAVUZ DERİNLİĞİ) : H = 0,40 mt.
POOL VOLUME (HAVUZ HACMİ) : Vh= 0,61 m³
FILTRATION PERIOD (FİLTRASYON PERİYODU) : h = 0,20 Hour (Saat)
SYSTEM FLOW (SİSTEM DEBİSİ) : Qs = V x h [m³/h]
Qs= 0,61 / 0,20 m3/h
Qs= **3,00** **m3/h**

1- FILTER SELECTION (KUM FİLTRESİ SEÇİMİ)

ACCEPTED FILTER SPEED (KABUL EDİLEN FİLTRELEME HIZI) : Vf= 20 m/h
TOTAL FILTRATION AREA (TOPLAM FİLTRELEME ALANI) : Taf = Qs / Vf [m2]
TAf= 3,00 / 20 m2
TAf= **0,15** **m2**



Model (mm)	ø 450	ø 500	ø 600	ø 700	ø 800	ø 900	ø 1000	ø 1250	ø 1400	ø 1600	ø 1800	ø 2000	ø 2250
30 m³/boşluk²	4 m²/h	6 m²/h	9 m²/h	14 m²/h	19 m²/h	25 m²/h	26 m²/h	36 m²/h	47 m²/h	60 m²/h	76 m²/h	94 m²/h	130 m²/h
40 m³/boşluk²	5 m²/h	8 m²/h	12 m²/h	18 m²/h	21 m²/h	26 m²/h	34 m²/h	48 m²/h	62 m²/h	80 m²/h	101 m²/h	126 m²/h	173 m²/h
50 m³/boşluk²	6 m²/h	10 m²/h	15 m²/h	22 m²/h	26 m²/h	33 m²/h	43 m²/h	61 m²/h	77 m²/h	100 m²/h	127 m²/h	157 m²/h	216 m²/h
Area (Alan) m2	0,16	0,20	0,28	0,45	0,50	0,66	0,87	1,23	1,54	2,01	2,54	3,14	4,34

FILTER AREA (FİLTRELEME ALANI) : Af= 0,16 m2 / Pieces (Adet)
D: 400 **MM.FOR FILTER** (KUM FİLTRESİ ÇİPİ)
Maximum Pressure : 4 kg/cm2
NUMBER OF FILTERS REQUIRED : N = Taf / Af (Pieces / Adet)
(GEREKLİ FİLTRE SAYISI) Nf= **0,15** / 0,16
Nf= **0,95** **Pieces** (Adet)
D: **400** mm. 1 **Pieces (Adet) Sand Filter has been selected.** (Kum filtresi seçilmiştir)

2- FILTRATION PUMP SELECTION (FİLTRASYON POMPASI SEÇİMİ)

PUMP MANOMETRIC PRESSURE CALCULATION (POMPA MANOMETRİK BASINÇ HESABI)

1 -	**Sand Filter Resistance (Sand Filter in Clean Condition)** *Kum Filtresi Direnci (Kum Filtresi Temiz Halde)*	5,00 mSS
2 -	**Sand Filter Resistance (Sand Filter in Dirty Condition)** *Kum Filtresi Direnci (Kum Filtresi Kirlendiği Halde)*	3,00 mSS
3 -	**Total Pipe Losses (Approximately)** *Boru Kayıpları Toplamı (Tahmini)*	2,50 mSS
4 -	**Local Losses (Valve, Fittings...)** *Lokal Kayıplar (Vana, Filtreler...)*	1,00 mSS
5 -	**The vertical distance between the minimum water level and the pool water surface.** *Minimum su seviyesi ile havuz su yüzeyi arasındaki dikey mesafe*	2,50 mSS
TOTAL	(TOPLAM) :	**14,00 mSS**

PUMP HEAD (H) (POMPA BASMA YÜKSEKLİĞİ) : 14 mSS
PUMP POWER (POMPA GÜCÜ) : 0,75 HP 0,57 Kw.
PUMP FLOW (POMPA DEBİSİ) : 3 m3/h
NUMBER OF PUMPS REQUIRED : Np = Qs / Qp Pieces (Adet)
(GEREKLİ POMPA SAYISI) Np = 3,00 / 3 = 1,02
Np= **1** + **1** **Pieces** (Adet)
0,75 HP 1 Pieces (Adet) **Pump is selected** (Pompa seçilmiştir)

B10- FOUNTAIN (SÜS HAVUZU)

ACCOUNT REPORT / HESAP RAPORU

POOL SYSTEM (HAVUZ SİSTEMİ) : **Skimmer System, Bottom Feeding /Skimmerli** (Sistem, Tabandan beslemeli)
POOL AREA (HAVUZ ALANI) : A = 1 m²
POOL DEPTH (HAVUZ DERİNLİĞİ) : H = 0,40 mt.
POOL VOLUME (HAVUZ HACMİ) : Vh= 0,40 m³
FILTRATION PERIOD (FİLTRASYON PERİYODU) : h = 0,20 Hour (Saat)
SYSTEM FLOW (SİSTEM DEBİSİ) : Qs = V x h [m³/h]
Qs= 0,40 / 0,20 m3/h
Qs= **2,00** **m3/h**

1- FILTER SELECTION (KUM FİLTRESİ SEÇİMİ)

ACCEPTED FILTER SPEED (KABUL EDİLEN FİLTRELEME HIZI) : Vf= 20 m/h
TOTAL FILTRATION AREA (TOPLAM FİLTRELEME ALANI) : Taf = Qs / Vf [m2]
TAf= 2,00 / 20 m2
TAf= **0,10** **m2**



Model (mm)	ø 450	ø 500	ø 600	ø 700	ø 800	ø 900	ø 1000	ø 1250	ø 1400	ø 1600	ø 1800	ø 2000	ø 2250
30 m³/boşluk²	4 m²/h	6 m²/h	9 m²/h	14 m²/h	19 m²/h	25 m²/h	26 m²/h	36 m²/h	47 m²/h	60 m²/h	76 m²/h	94 m²/h	130 m²/h
40 m³/boşluk²	5 m²/h	8 m²/h	12 m²/h	18 m²/h	21 m²/h	26 m²/h	34 m²/h	48 m²/h	62 m²/h	80 m²/h	101 m²/h	126 m²/h	173 m²/h
50 m³/boşluk²	6 m²/h	10 m²/h	15 m²/h	22 m²/h	26 m²/h	33 m²/h	43 m²/h	61 m²/h	77 m²/h	100 m²/h	127 m²/h	157 m²/h	216 m²/h
Area (Alan) m2	0,16	0,20	0,28	0,45	0,50	0,66	0,87	1,23	1,54	2,01	2,54	3,14	4,34

FILTER AREA (FİLTRELEME ALANI) : Af= 0,16 m2 / Pieces (Adet)
D: 400 **MM.FOR FILTER** (KUM FİLTRESİ ÇİPİ)
Maximum Pressure : 4 kg/cm2
NUMBER OF FILTERS REQUIRED : N = Taf / Af (Pieces / Adet)
(GEREKLİ FİLTRE SAYISI) Nf= **0,10** / 0,16
Nf= **0,63** **Pieces** (Adet)
D: **400** mm. 1 **Pieces (Adet) Sand Filter has been selected.** (Kum filtresi seçilmiştir)

2- FILTRATION PUMP SELECTION (FİLTRASYON POMPASI SEÇİMİ)

PUMP MANOMETRIC PRESSURE CALCULATION (POMPA MANOMETRİK BASINÇ HESABI)

1 -	**Sand Filter Resistance (Sand Filter in Clean Condition)** *Kum Filtresi Direnci (Kum Filtresi Temiz Halde)*	5,00 mSS
2 -	**Sand Filter Resistance (Sand Filter in Dirty Condition)** *Kum Filtresi Direnci (Kum Filtresi Kirlendiği Halde)*	3,00 mSS
3 -	**Total Pipe Losses (Approximately)** *Boru Kayıpları Toplamı (Tahmini)*	2,50 mSS
4 -	**Local Losses (Valve, Fittings...)** *Lokal Kayıplar (Vana, Filtreler...)*	1,00 mSS
5 -	**The vertical distance between the minimum water level and the pool water surface.** *Minimum su seviyesi ile havuz su yüzeyi arasındaki dikey mesafe*	2,50 mSS
TOTAL	(TOPLAM) :	**14,00 mSS**

PUMP HEAD (H) (POMPA BASMA YÜKSEKLİĞİ) : 14 mSS
PUMP POWER (POMPA GÜCÜ) : 0,75 HP 0,57 Kw.
PUMP FLOW (POMPA DEBİSİ) : 3 m3/h
NUMBER OF PUMPS REQUIRED : Np = Qs / Qp Pieces (Adet)
(GEREKLİ POMPA SAYISI) Np = 2,00 / 3 = 0,66667
Np= **1** + **1** **Pieces** (Adet)
0,75 HP 1 Pieces (Adet) **Pump is selected** (Pompa seçilmiştir)

B10- WATERWALL (SU DUVARI)

ACCOUNT REPORT / HESAP RAPORU

POOL SYSTEM (HAVUZ SİSTEMİ) : **Skimmer System, Bottom Feeding /Skimmerli** (Sistem, Tabandan beslemeli)
POOL AREA (HAVUZ ALANI) : A = 1,80 m²
POOL DEPTH (HAVUZ DERİNLİĞİ) : H = 0,40 mt.
POOL VOLUME (HAVUZ HACMİ) : Vh= 0,66 m³
FILTRATION PERIOD (FİLTRASYON PERİYODU) : h = 0,20 Hour (Saat)
SYSTEM FLOW (SİSTEM DEBİSİ) : Qs = V x h [m³/h]
Qs= 0,66 / 0,20 m3/h
Qs= **3,30** **m3/h**

1- FILTER SELECTION (KUM FİLTRESİ SEÇİMİ)

ACCEPTED FILTER SPEED (KABUL EDİLEN FİLTRELEME HIZI) : Vf= 20 m/h
TOTAL FILTRATION AREA (TOPLAM FİLTRELEME ALANI) : Taf = Qs / Vf [m2]
TAf= 3,30 / 20 m2
TAf= **0,17** **m2**



Model (mm)	ø 450	ø 500	ø 600	ø 700	ø 800	ø 900	ø 1000	ø 1250	ø 1400	ø 1600	ø 1800	ø 2000	ø 2250
30 m³/boşluk²	4 m²/h	6 m²/h	9 m²/h	14 m²/h	19 m²/h	25 m²/h	26 m²/h	36 m²/h	47 m²/h	60 m²/h	76 m²/h	94 m²/h	130 m²/h
40 m³/boşluk²	5 m²/h	8 m²/h	12 m²/h	18 m²/h	21 m²/h	26 m²/h	34 m²/h	48 m²/h	62 m²/h	80 m²/h	101 m²/h	126 m²/h	173 m²/h
50 m³/boşluk²	6 m²/h	10 m²/h	15 m²/h	22 m²/h	26 m²/h	33 m²/h	43 m²/h	61 m²/h	77 m²/h	100 m²/h	127 m²/h	157 m²/h	216 m²/h
Area (Alan) m2	0,16	0,20	0,28	0,45	0,50	0,66	0,87	1,23	1,54	2,01	2,54	3,14	4,34

FILTER AREA (FİLTRELEME ALANI) : Af= 0,16 m2 / Pieces (Adet)
D: 400 **MM.FOR FILTER** (KUM FİLTRESİ ÇİPİ)
Maximum Pressure : 4 kg/cm2
NUMBER OF FILTERS REQUIRED : N = Taf / Af (Pieces / Adet)
(GEREKLİ FİLTRE SAYISI) Nf= **0,17** / 0,16
Nf= **1,04** **Pieces** (Adet)
D: **400** mm. 1 **Pieces (Adet) Sand Filter has been selected.** (Kum filtresi seçilmiştir)

2- FILTRATION PUMP SELECTION (FİLTRASYON POMPASI SEÇİMİ)

PUMP MANOMETRIC PRESSURE CALCULATION (POMPA MANOMETRİK BASINÇ HESABI)

1 -	**Sand Filter Resistance (Sand Filter in Clean Condition)** *Kum Filtresi Direnci (Kum Filtresi Temiz Halde)*	5,00 mSS
2 -	**Sand Filter Resistance (Sand Filter in Dirty Condition)** *Kum Filtresi Direnci (Kum Filtresi Kirlendiği Halde)*	3,00 mSS
3 -	**Total Pipe Losses (Approximately)** *Boru Kayıpları Toplamı (Tahmini)*	2,50 mSS
4 -	**Local Losses (Valve, Fittings...)** *Lokal Kayıplar (Vana, Filtreler...)*	1,00 mSS
5 -	**The vertical distance between the minimum water level and the pool water surface.** *Minimum su seviyesi ile havuz su yüzeyi arasındaki dikey mesafe*	2,50 mSS
TOTAL	(TOPLAM) :	**14,00 mSS**

PUMP HEAD (H) (POMPA BASMA YÜKSEKLİĞİ) : 15 mSS
PUMP POWER (POMPA GÜCÜ) : 1 HP 0,76 Kw.
PUMP FLOW (POMPA DEBİSİ) : 7 m3/h
NUMBER OF PUMPS REQUIRED : Np = Qs / Qp Pieces (Adet)
(GEREKLİ POMPA SAYISI) Np = 7,71 / 7 = 1,10004
Np= **1** + **1** **Pieces** (Adet)
1 HP 1 Pieces (Adet) **Pump is selected** (Pompa seçilmiştir)

Outdoor Pool Electric Powers / Açık Yüzme Havuzu Elektrik Güçleri

TANIM / DEFINITION	TECHNICAL SPECIFICATION TEKNİK ÖZELLİĞİ		PRIMARY ADET	TOTAL POWER (TOPLAM GÜÇ)
FILTRATION PUMP FİLTRASYON POMPASI	1,5 HP	1,14 KW.	1 Pcs.(Adet)	1,14 KW.
WATER CONTROL AND CONTROL UNIT SU KONTROL VE KUMANDA ÜNİTESİ		1,00 KW.	1 Set	1,00 KW.
DOSING PUMP / DOZAJ POMPASI (PH / Klor)	0,1 / 0,5	0,06 KW.	2 Pcs.(Adet)	0,12 KW.
DOSING PUMP / DOZAJ POMPASI (Flokülasyon)	0,1 / 0,5	0,36 KW.	1 Pcs.(Adet)	0,36 KW.
UV DISINFECTION SYSTEM UV DEZENFEKSİYON SİSTEMİ		0,48 KW.	1 Pcs.(Adet)	0,48 KW.
POOL LED UNDERWATER PROJECTOR HAVUZ LEDLİ SU ALTI PROJEKTÖRÜ		0,03 KW.	4 Pcs.(Adet)	0,12 KW.
DRAIN PUMP DRENAJ POMPASI		0,76 KW.	1 Pcs.(Adet)	0,76 KW.
SOCKET / PRIZ		0,36 KW.	1 Pcs.(Adet)	0,36 KW.
TOTAL POWERS (TOPLAM GÜÇ) :				**4,46 KW.**

Heat Pump Electric Powers / Isı pompası Elektrik Güçü

TANIM / DEFINITION	TECHNICAL SPECIFICATION TEKNİK ÖZELLİĞİ	PRIMARY ADET	TOTAL POWER (TOPLAM GÜÇ)
HEAT PUMP ISI POMPASI	45,00 KW.	1 Pcs.(Adet)	45,00 KW.
TOTAL POWERS (TOPLAM GÜÇ) :			**45,00 KW.**

Massage Pool Electric Powers /Masaj Havuzu Elektrik Güçleri

TANIM / DEFINITION	TECHNICAL SPECIFICATION TEKNİK ÖZELLİĞİ		PRIMARY ADET	TOTAL POWER (TOPLAM GÜÇ)
FILTRATION PUMP FİLTRASYON POMPASI	1 HP	0,76 KW.	1 Pcs.(Adet)	0,76 KW.
MASSAGE PUMP MASAJ POMPASI	3 HP	2,28 KW.	2 Pcs.(Adet)	6,84 KW.
BLOWER		2,20 KW.	1 Pcs.(Adet)	2,20 KW.
WATER CONTROL AND CONTROL UNIT SU KONTROL VE KUMANDA ÜNİTESİ		1,00 KW.	1 Set	1,00 KW.
DOSING PUMP / DOZAJ POMPASI (PH / Klor)	0,1 / 0,5	0,06 KW.	2 Pcs.(Adet)	0,12 KW.
DOSING PUMP / DOZAJ POMPASI (Flokülasyon)	0,1 / 0,5	0,36 KW.	1 Pcs.(Adet)	0,36 KW.
UV DISINFECTION SYSTEM UV DEZENFEKSİYON SİSTEMİ		0,48 K