



**TÜFEKÇİOĞLU**  
RUBBER & MACHINERY

**TÜFEKÇİ O LU KAUÇUK  
MAK NA ve MADENC L K SAN. T C.  
A. .**

**SUPPLY OF FLOTATION CELLS**

**FOR**

**SARZAMINE JOLGEHAYE ASEMANI COMPANY**

**Technical Proposal**

**Date: 26.08.2022**

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### **A - General Information about company**

- ❖ An industrial adventure that started with the production of rubber spare parts and in time turned into the production of mineral processing machinery and installation of turn-key flotation plants.
- ❖ Tüfekçio lu Rubber & Machinery, founded by Abdülkadir TÜFEKÇ O LU in 1954, serves mining, glass-ceramics and aggregate industries with the production of processing machinery, their rubber spare parts and linings.
- ❖ Prompt supply of high quality spare parts at reasonable costs.
- ❖ Research, innovation and investment for the better and the future.
- ❖ Collaboration with Tubitak (The Scientific and Technological Research Council of Turkey) and the University for R&D studies so as to produce better, high quality and new machines for their users.



### **VISION**

To strengthen competitiveness through consistent innovations for favourable differences.

### **MISSION**

To assist and serve users those who work under harsh conditions and to embrace their plants as its own.

### **UNDERSTANDING OF QUALITY AND SERVICE**

An understanding of quality and service which conceives “customer satisfaction”, identified in the Quality Management System in ISO 9001, as facilitating the life of users working under harsh conditions...

Tüfekçioğlu Rubber & Machinery has ISO 9001, OHAS and CE certificates as the assurance of its commitments.

### **ENVIRONMENTAL POLICY**

An environmental awareness beyond legal obligations.

Preparation of the production process with due respect to the society and environment and working for the consistent development of the system of environmental management are the key principles which constitute the environmental policy of Tüfekçioğlu Rubber & Machinery.



TÜFEKÇIOĞLU KAUÇUK MAKİNA VE MADENCİLİK SAN. TİC. A.Ş.

Merkez: 1. Organize Sanayi Bölgesi Avar Cad. No:6 06905 Sincan - ANKARA / TÜRKİYE

T: +90 312 267 10 90 - F: +90 312 267 10 94 - Tic. Sic. :13015

www.tk.com.tr - info@tk.com.tr



**TÜFEKÇİOĞLU**  
KAUÇUK & MAKİNA





### **B - Scope Of Supply For Main Equipment**

#	DESCRIPTION	QTY.
<b>ROUGHER GROUP</b>		
1	FEED BOX	1
2	TK50 50M <sup>3</sup> FLOTATION MACHINES	8
3	TK 50 DART VALVE (DV50)	4
4	AIR FLOW METER	8
5	PROPORTIONAL BUTTERFLY VALVE	8
6	MANUAL BUTTERFLY VALVE	8
7	LEVEL CONTROL SENSOR	4
8	LEVEL CONTROL BUOY	4
9	LEVEL CONTROL AUTOMATION PANEL	4
10	LOCAL CONTROL BOX	1
<b>BLOWER</b>		
11	HLB2750 160 kW HELICAL LOBE BLOWER (WATER COOLED ) –CAPACITY : 3865 M3/H@+880 mBar	3

## C – Technical Specification





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KAUÇUK & MAKİNA

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**TÜFEKÇIOĞLU®**

RUBBER & MACHINERY

**TÜFEKÇIOĞLU KAUÇUK  
MAKİNA ve MADENCİLİK SAN. TİC. A.Ş.  
TK50**



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## TK50 FLOTATION CELL TECHNICAL SPECIFICATION

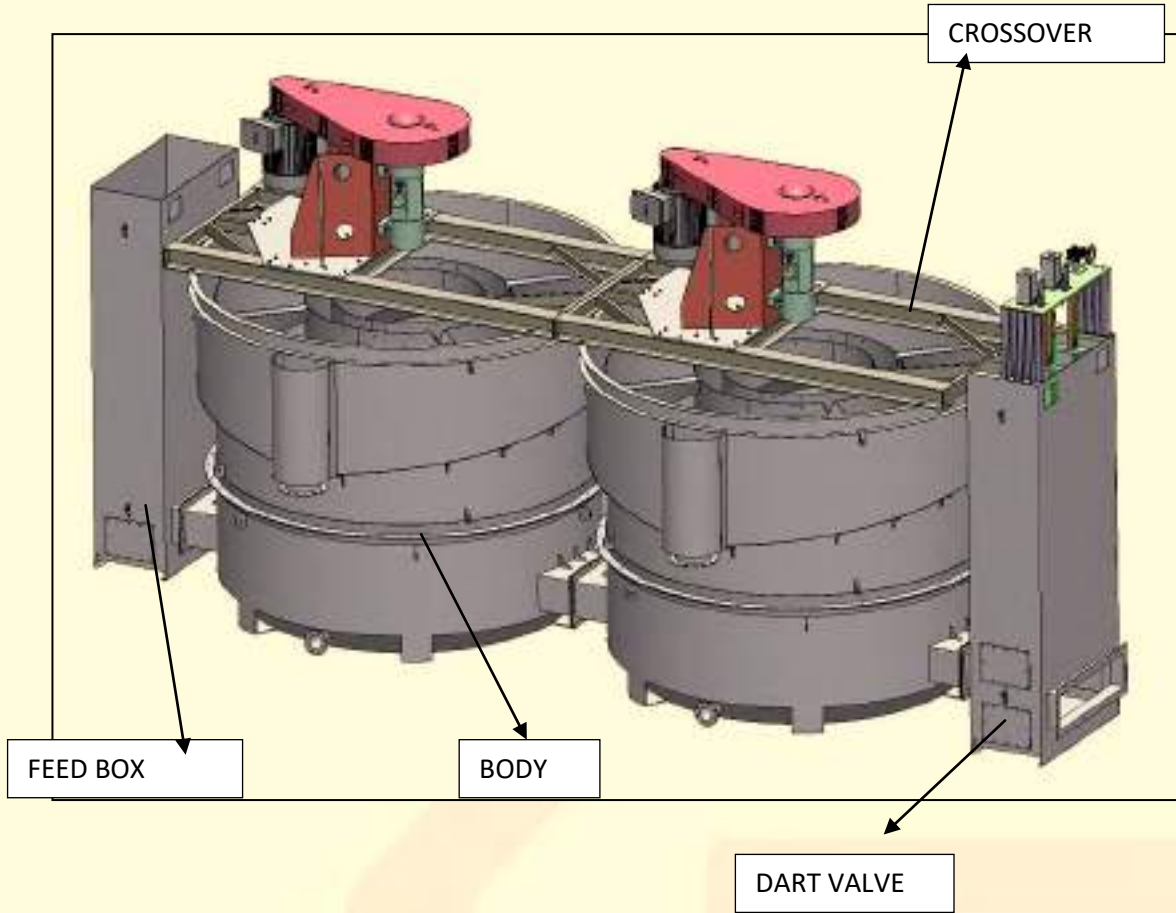
1. TK50 FLOTATION CELL GROUP GENERAL VIEW
2. TK50 FLOTATION CELL GROUP GENERAL PARTS
3. TK50 FLOTATION CELL IMPELLER AND STATOR GROUP
4. TK50 FLOTATION CELL LEVEL CONTROL GROUP
5. TK50 FLOTATION CELL TECHNICAL INFORMATION
6. TK50 DART VALVE
7. TK50 FLOTATION CELL AIR CONTROL GROUP
8. TK50 FLOTATION CELL AIR CONTROL EQUIPMENT
9. TK50 FLOTATION CELL AUTOMATION PANEL



**TÜFEKÇIOĞLU**

KAUÇUK & MAKİNA

**1-TK50FLOTATION CELL GROUP GENERAL VIEW**



- 1-CROSSOVER
- 2-BODY
- 3-FEED BOX
- 4- DART VALVE

**TÜFEKÇIOĞLU KAUÇUK MAKİNA VE MADENCİLİK SAN. TİC. A.Ş.**

**Merkez:** 1. Organize Sanayi Bölgesi Avar Cad. No:6 06935 Sincan - ANKARA / TÜRKİYE

**T:** +90 312 257 10 90 - **F:** +90 312 257 10 94 - **Tic. Sic. :** 13015

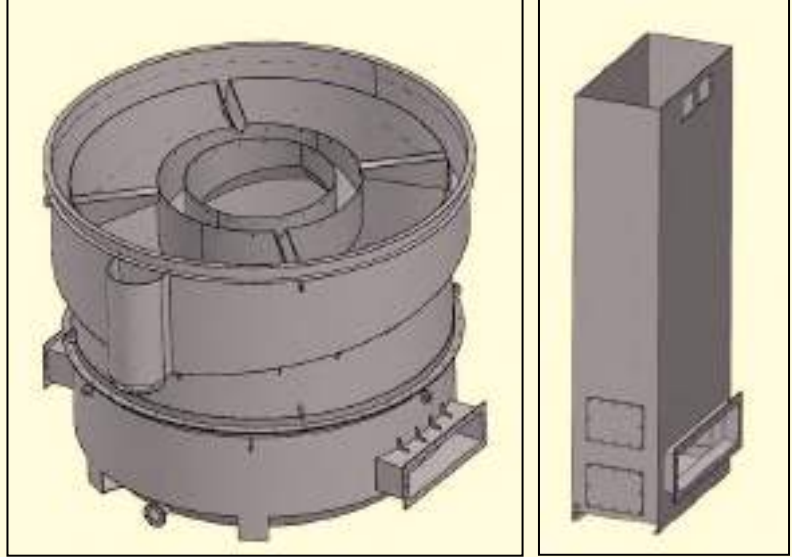
**www.tk.com.tr - info@tk.com.tr**



ORANSAL VANA

## 2- TK50 FLOTATION CELL GROUP GENERAL PARTS

ALL BOLTS ARE  
GALVANİZED AND  
QUALITY IS METRIC  
TYPE 8.8



### 2.01-BODY

- Tank body is made of ST-37 quality, **8mm** sheet metal.
- Bottom of tank is made of ST-37 quality, **12 mm** sheet metal.
- Drain pipe is made of **DN150 – PN10** standardized pipe and flange.  
(We send 6" ball valve here)
- Interior paint is zinc based **300 mm** flopx black paint over epoxy grey lining.  
Black paint used as anti-wear agent.
- Exterior paint is industrial **RAL9001**.
- Pulp level controllers are made of stainless steel.
- Inside of tanks bottom is reinforced with st-37 quality, **4mmsheet** metal and coated with **6mm** wear resistant rubber.
- Tank Body over the stator will be rubber coated up to **2mm** sheet with **8mm** rubber.

### 2.02-FEED BOX

- Bottom of feed box is made of st-37 quality, **8mm – 10mmsheet** metal.
- Interior paint is Zinc based **300 mm** flopx black paint over epoxy grey lining  
Black paint used as anti-wear agent.
- Exterior paint is industrial **RAL9001**.



ALL BOLTS ARE  
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TYPE 8.8

#### 2.03-TOP & BOTTOM GUARDS OF DRIVE UNITS

- Top casing is made of ST-37 QUALITY, **2mm** sheet metal.
- Bottom casing is made of **2mm** sheet metal .

#### 2.04-ELEKTRIC ENGINE

- **75 kW 750 rpm** induction electrical motor with thermistor protection.

Attention:Electrical motor should kept clean to prevent warming issues.

#### 2.05- IMPELLER AND MOTOR CONNECTION

- Pulley is SFK type SPC model, bearing tightened.
- Belt is **22mm** wide SPC type.

#### 2.06-BEARING HOUSE

- Made of sphero-casting .
- Bearing and felt used is SKF type

#### 2.07-RUBBER COATED SHAFT

- Designed to allow air through its middle and coated with anti-wear rubber

2.08-IMPELLER

- Made of ST-37 quality **10mm - 15 mm** sheet metal and coated against abrasion polyurethane.

2.09-STATOR

- ST-37 quality is made of **10mm - 10 mm** sheet and coated against abrasion polyurethane.

2.10-RUBBER COATED STATOR BASE

- St-37 quality is made of **10mm-15 mmsheet** and rubber coated against abrasion.

2.11- BEARING HOUSE CHASSIS AND MOTOR CONNECTION

- Made of ST-37 quality **25mm** and sheet metal

2.12-CROSSOVER

- Main chassis of cross over is made of **240 mm** HELB.
- Motor and bearing chassis is made of ST-37 quality and **25 mm** sheet metal

### 3- TK50 FLOTATION CELL IMPELLER AND STATOR



#### 3.1-RUBBER COATED STATOR BASE

- St-37 quality made from **10mm - 15mm** sheet and rubber coated against abrasion.

#### 3.2- POLYURETHANE STATOR

- St-37 quality is made of **10mm - 15mm** sheet and coated against abrasion polyurethane.

#### 3.3-POLYURETHANE IMPELLER

- St-37 quality is made of **10mm - 15mm** sheet and polyurethane coated against abrasion.

#### 3.4-RUBBER COATED SHAFT

- Designed to allow air through and coated with anti-wear rubber

## 4- TK50 FLOTATION CELL PULP LEVEL CONTROLLER GROUP

### PULP – LEVEL CONTROLLER

#### 4.1-ULTASONIC LEVEL PROBE

- Siemens level transmitter probe
- Output: 4-20 MA
- Input: 24 V DC
- Distance: 0.25 M TO 5 M

#### 4.2- LEVEL CONTROL PLATE

- Made of galvanized sheet metal.

#### 4.3- LEVEL CONTROL SHAFT

- Made of stainless steel.

#### 4.4-LEVEL CONTROL BALL

- Made of 300 mm hard plastic.

#### 4.5-LEVEL CONTROL STAND

- Made of 40X40 galvanized profile.

Level control measurement distance is 100 cm.



ALL BOLTS ARE  
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QUALİTY IS  
METRIC TYPE 8.8



## 5- TK50 FLOTATION CELL TECHNICAL INFORMATION



TUFEKCIOGLU TK50 FLOTATION CELL		
Volume	m <sup>3</sup>	50
Tank Diameter	m	4.732
Tank Height	m	5.700
Motor Power	kW	75
Air Feed	m <sup>3</sup> /min	9-14
Pressure of Air Feed	kpa	35-40
	mBar	350-400
Level Difference of Each Cell	m	0,3
General Weight of Flotation Cell	kg	16.200
Working Max. Bearing House Temperature	°C	55
Working Vibration Value	mm/s	0,67-1
Working Sound Value	dB(A)	65-80
Impeller Speed	rpm	~120

## 6- TK50 DART VALVE

ALL BOLTS ARE  
GALVANIZED AND  
QUALITY IS  
METRIC TYPE 8.8

### 6.1-DART VALVE

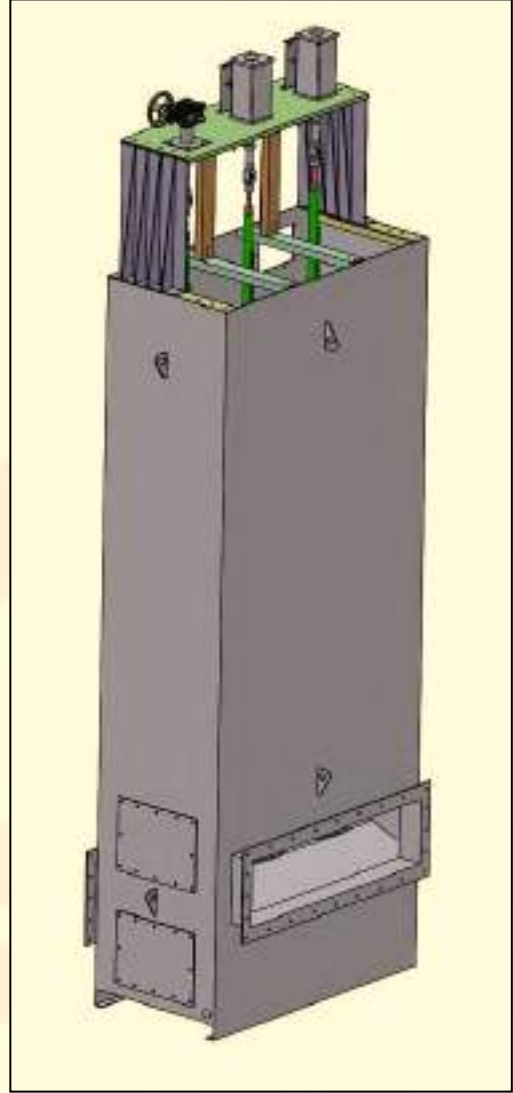
- 8mm-10mm St-37 metal sheet is used.
- Interior surface will be painted 300 micron Zn based epoxy.
- There are 1 proportional pneumatic valve and 1 manual valve inside the dart valve

### 6.2-PISTON

Ø160x200mm

### 6.3-POSITIONER

YTC ELECTRO-PNEUMATIC 4-20ma



## 7- TK50 FLOTATION CELL AIR CONTROL GROUP



ALL BOLTS ARE  
GALVANIZED AND  
QUALITY IS METRIC  
TYPE 8.8

### 7.1-BLOWER PROPORTIONAL AIR VALVE

YT-1000 ROTARY E/P TYPE POSITIONER

INPUT SIGNAL :4~20mA DC

WORKING TEMPERATURE :. -20~70 °C

FEED PRESSURE :7 BAR.

Ø100 BUTTERFLY VALVE (4")

AIR FEED PRESSURE 350 - 400 mBAR..

AIR THOUGHTPUT 9-14m<sup>3</sup> / min.

EVERY TANK CELL PROVIDED Ø100 PROPORTIONAL PNEUMATIC BUTTERFLY VALVE.

## 8- TK50 FLOTATION CELL AIR CONTROL EQUIPMENT



### 8.1-FLOW METER

Measures the flow of the air from the blower to provide the operational valve to operate.

Brand And Model: EFECTOR 300 SD0523

Output Signal :4~20mA DC

Working Voltage : 24V DC



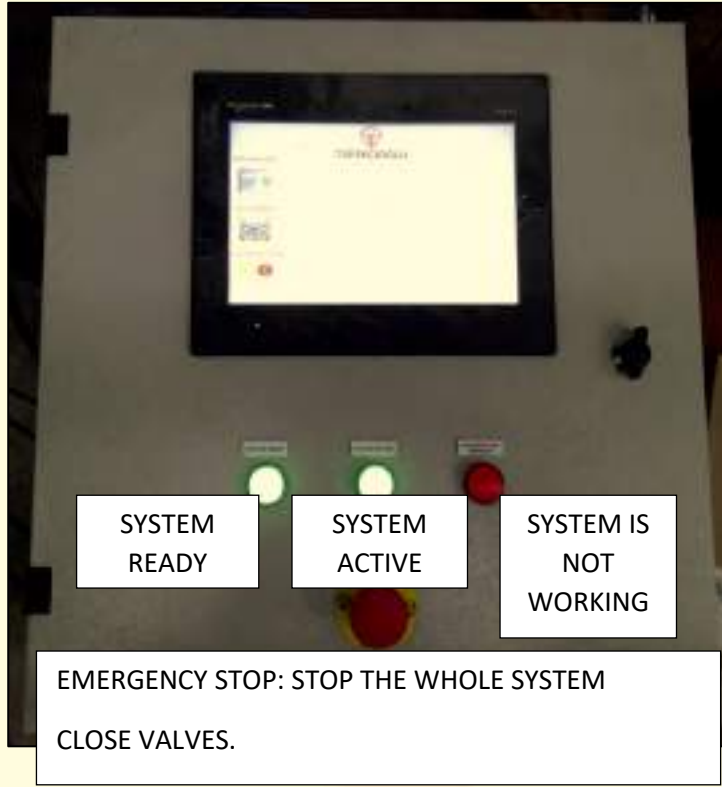
### 8.2-AIR PRESSURE REGULATOR AND PRESSURE TRANSMITTER

PRESSURE TRANSMITTER (0-10 BAR) (4-20mA)

ANALOG MANOMETER

PRESSURE SETTING

## 9- TK50 FLOTATION CELL AUTOMATION PANEL



### 1-AUTOMATION BOARD

Panel with plc control system.



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## HLB 2230 / HLB 2245 / HLB 2750 / HLB 2768

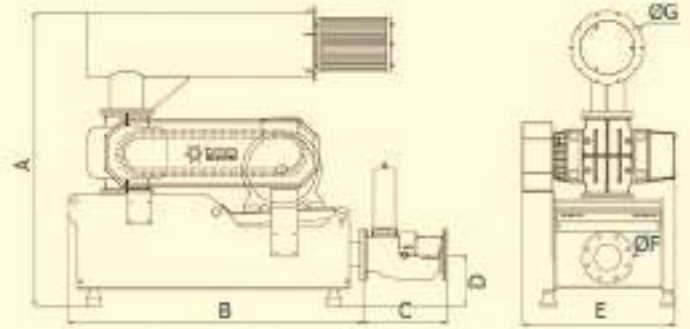


### HELİS LOBLU BLOWER ÖLÇÜLERİ

HELICAL LOBE BLOWER DIMENSIONS

BİRİM	ÜRÜN KODU	A	B	C	D	E	ØF	ØG
[mm]	HLB 2230	1060	1625	405	285	870	285	DN300/PN10
[mm]	HLB 2245	1900	1667	560	329	1022	340	DN350/PN10
[mm]	HLB 2750	2000	2100	560	358	1150	360	DN350/PN10
[mm]	HLB 2768	2230	2006	1100	390	1290	395	DN400/PN16
[mm]	HLB 4260	2435	2332	1115	408	1400	445	DN500/PN16

### MONTAJ KROKİSİ ASSEMBLY



### TMM BLOWER AKUSTİK KABİN

- Korozyona ve darbelere dayanıklı elektrostatik toz fırın boyalı
- 1.5 mm kalınlığında DKP sac
- İç yüzeyi yanmaz özellikte, 20 mm kalınlığında ses yalıtım performansı yüksek akustik sünger
- 12-25 dB aralığında ses yalıtımı
- Kabin yapısına uygun soğutma fanları
- Bakım ve onarım kolaylığı sağlayan modüler yapı
- Müşteri taleplerine uygun özel tasarımlar
- Forkliftle taşınmaya uygun kompakt yapı

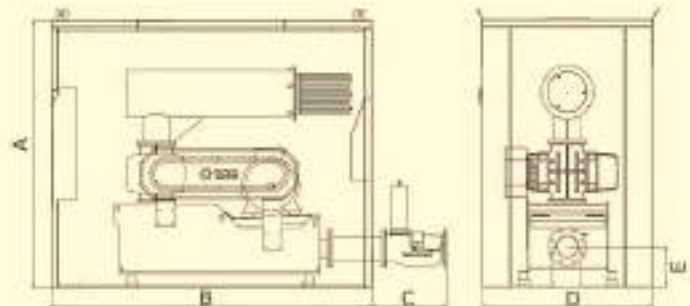
### TMM BLOWER ACOUSTIC HOOD

- Corrosion and impact resistant electrostatic powder paint coating
- 15 mm thick cold rolled sheet metal
- Inside is coated with fireproof, 20mm, high performance acoustic insulation
- 12-25 dB sound insulation range
- Cooling fans
- Maintenance friendly modular structure
- Tailor made design options
- Forklift friendly compact structure

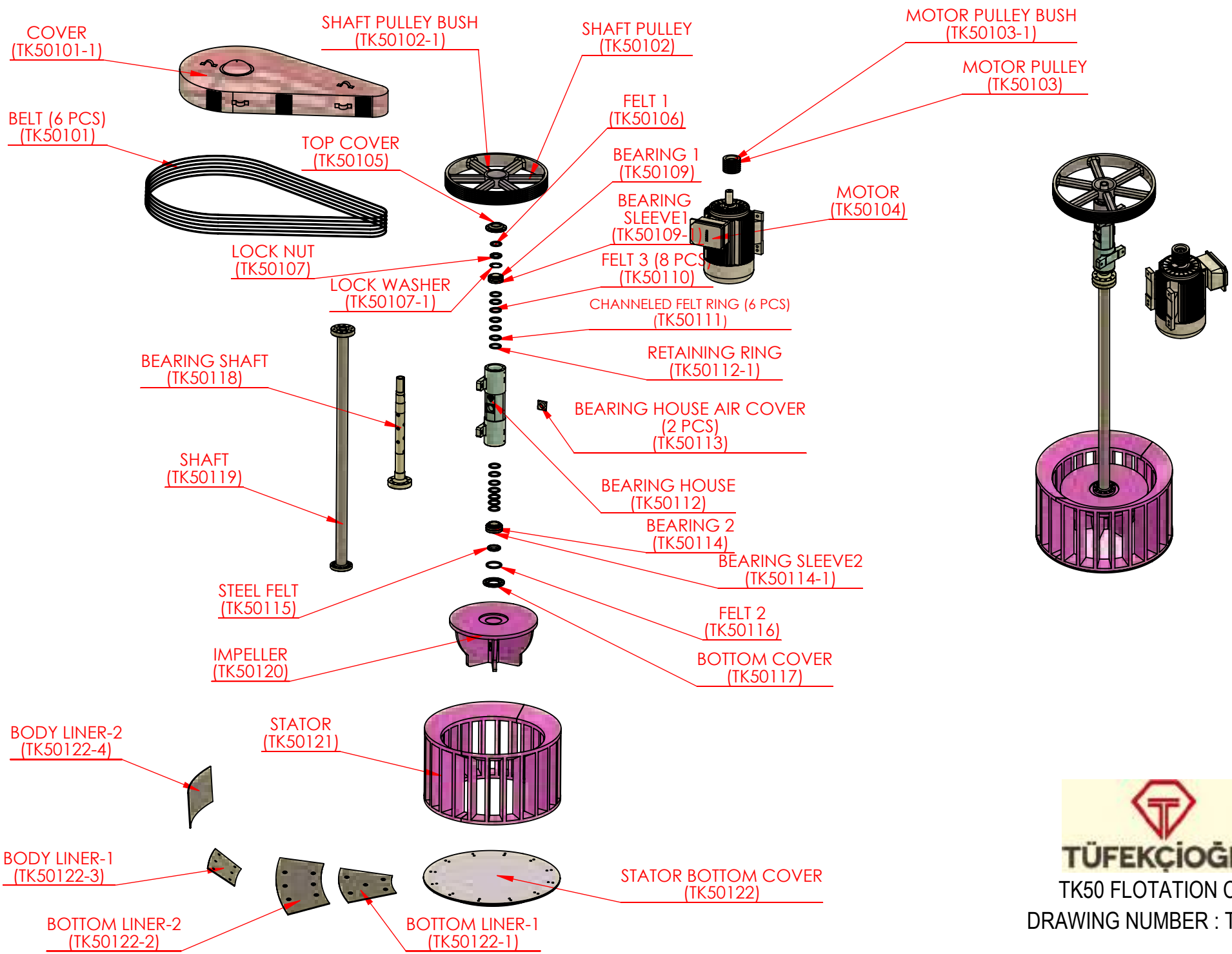
### SES KABİNİ ÖLÇÜLERİ

ACOUSTIC HOOD DIMENSIONS

BİRİM	ÜRÜN KODU	A	B	C	D	E
[mm]	HLB 2230	2000	2400	550	1270	290
[mm]	HLB 2245	2000	2400	560	1270	330
[mm]	HLB 2750	2350	2300	990	1600	355
[mm]	HLB 2768	2350	2300	1100	1600	355
[mm]	HLB 4260	2955	2850	950	1870	605







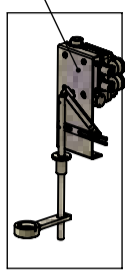
**TÜFEKÇİOĞLU**

TK50 FLOTATION CELL

DRAWING NUMBER : TK50000

DV501209  
POSITIONER  
GROUP

DV501208  
PISTON



DV501210  
UPPER TIGHTENING

DV501211  
BOTTOM TIGHTENING

DV501212  
BOTTOM STD BOLT

DV501217  
CENTERING GROUP

DV501216  
CENTERING PROFILES

DV501202  
REDUCER

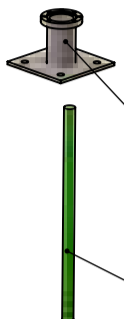
DV501201  
SIMIT



DV501218  
POSITIONER STORAGE

DV501203  
REDUCER CONNECTING  
SHEET

DV501207  
UPPER REDUCER SHAFT



DV501209  
POSITIONER GROUP

DV501209-1

DV501209A

DV501209D

DV501209E

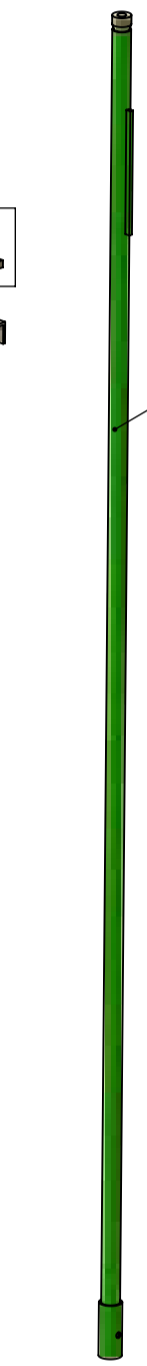
DV501209F

DV501209G

DV501209B

DV501209C

DV501213  
SHAFT

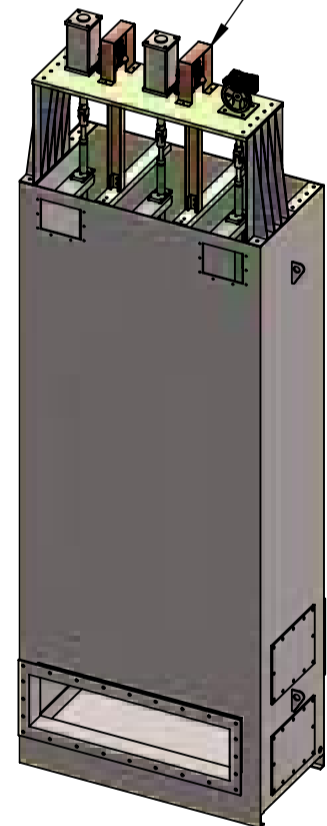


DV501214  
CAP

DV501215  
RUBBER FLANGE



DV501218  
POSITIONER STORAGE



DRAWING NO : DV501200  
TK50 DART VALVE



Sarzamıne Jolgehaye Asemani  
Company  
MESHGINSHAHR COPPER  
CONCENTRATE PLANT PROJECT



Contract No:

Teklif No:

Document Number/Döküman No:

TK-IRN-BMA-2021-D-900

Rev:00

Date/Tarih: 2022-03-01

Document Title/Döküman Adı: Sub Vendor List

Page/ Sayfa 1 of 4

## Sub Vendor List

Rev.	Date /Tarih	Description /Tanım	Prepared By /Hazırlayan	Checked By /Kontrol Eden	Approved By /Onaylayan



Sarzamine Jolgehaye Asemani  
Company  
MESHGINSHAHR COPPER  
CONCENTRATE PLANT PROJECT



Contract No:

Document Number/Döküman No:  
TK-IRN-BMA-2021-D-900

Rev:00

Date/Tarih: 2022-03-01



Teklif No:

Document Title/Döküman Adı: Sub Vendor List

Page/ Sayfa 2 of 4

Tabulation of Revised Page / Revizyon Tablosu

Sheet Sayfa	Revisions / Revizyonlar						Sheet	Revisions / Revizyonlar					
	00	01	02	03	04	05		00	01	02	03	04	05
1	✓						40						
2	✓						41						
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	<b>Sarzamine Jolgehaye Asemani Company</b>		
	<b>MESHGINSHAHR COPPER CONCENTRATE PLANT PROJECT</b>		<b>TÜFEKÇİOĞLU</b> KAUÇUK & MAKİNA
<b>Contract No:</b>	<b>Document Number/Döküman No:</b>	<b>Rev:00</b>	<b>Date/Tarih: 2022-03-01</b>
<b>Teklif No:</b>	TK-IRN-BMA-2021-D-900		
<b>Document Title/Döküman Adı: Sub Vendor List</b>			Page/ Sayfa 3 of 4



The Flotation Cells Package Seller, shall procure all equipment of package from this sub-vendor as Listed.

In case the Seller may supply any Equipment from more than one such Sub-Vendor listed hereby, final selection of the Vendor shall be agreed.

In any case, supply of any Equipment through any Sub-Vendor not listed in this document on any grounds or reasons, the new sub-vendor shall be approved by Buyer

In the event that any equipment not listed in this Sub-Vendor list is needed for Flotation Cells Package, the Seller shall be introduced for Buyer Approval.

Index	Equipment Description		Vendor	Location	
				Origin	Contact Information
<b>Mechanical and Piping</b>					
1	Bearing		SKF	SWEDEN	<a href="http://www.skf.com">www.skf.com</a>
2	Motor		ABB	SWEDEN	<a href="http://www.global.abb/group/en">www.global.abb/group/en</a>
3	Lock Nut and Washer		SKF	SWEDEN	<a href="http://www.skf.com">www.skf.com</a>
4	TK20 Tank Cell Shaft Pulleys		AKARSU	TURKEY	<a href="http://www.akarsureduktor.com/">www.akarsureduktor.com/</a>
5	Motor Pulleys		SKF	SWEDEN	<a href="http://www.skf.com">www.skf.com</a>
6	Pulley Bush		SKF	SWEDEN	<a href="http://www.skf.com">www.skf.com</a>
7	Belt		DERBY	TURKEY	<a href="http://www.derbyvlastik.com/">www.derbyvlastik.com/</a>
8	Felt		SKT	TURKEY	<a href="http://www.skt.com.tr">www.skt.com.tr</a>
9	Casting	Sphero	EKOL DÖKÜM EKSTRAMETAL	TURKEY	<a href="http://www.ekoldokum.com">www.ekoldokum.com</a> <a href="https://www.ekstrametal.com.tr/tr">https://www.ekstrametal.com.tr/tr</a>
		Bronze	EKOL DÖKÜM	TURKEY	<a href="http://www.ekoldokum.com">www.ekoldokum.com</a>
		Aluminium	ZEYREK METAL	TURKEY	<a href="http://www.zeyrekmetal.com/">www.zeyrekmetal.com/</a>
10	Steel	Sheet Metal	ERDEMİR TOSÇELİK ÇOLAKOĞLU	TURKEY	<a href="https://www.erdemir.com.tr/">https://www.erdemir.com.tr/</a> <a href="https://www.toscelik.com.tr/">https://www.toscelik.com.tr/</a> <a href="https://www.colakoglu.com.tr/">https://www.colakoglu.com.tr/</a>
		Structure	MESCİER DEMİR ÇELİK	TURKEY	<a href="https://www.mescierdc.com.tr/">https://www.mescierdc.com.tr/</a>
11	Steel Pipe		HASÇELİK HASCOMETAL SAKA DEMİR ÇELİK KAYIKÇI DEMİR ÇELİK AYDIN BORU ÇAYIROVA BORU	TURKEY	<a href="https://www.hascelik.com/tr/">https://www.hascelik.com/tr/</a> <a href="https://www.hascometal.com/">https://www.hascometal.com/</a> <a href="http://www.sakadc.com.tr/">http://www.sakadc.com.tr/</a> <a href="https://www.aydinboru.com/">https://www.aydinboru.com/</a> <a href="https://www.cayirovaboru.com/">https://www.cayirovaboru.com/</a>
12	Stainless Steel		ACERINOX EUROPA VISHWA INOX HOA PANDANA TUBI MARCEGAGALIA MANGALAM	SPAIN INDIA VIETNAM ITALY TURKEY INDIA	<a href="https://www.acerinox.com/">https://www.acerinox.com/</a> <a href="https://www.vishwastainless.com/">https://www.vishwastainless.com/</a> <a href="https://inoxhoagiang.com/en/">https://inoxhoagiang.com/en/</a> <a href="https://www.padanatubi.it/">https://www.padanatubi.it/</a> <a href="https://www.marcegaglia.com.tr/tr/">https://www.marcegaglia.com.tr/tr/</a> <a href="https://www.mangalamalloys.com/">https://www.mangalamalloys.com/</a>
13	Materials	Bronze	ÖZMER METAL EVREN METAL	TURKEY	<a href="http://www.ozmermetal.com/">http://www.ozmermetal.com/</a> <a href="http://www.evrenmetal.com.tr">www.evrenmetal.com.tr</a>
		Castermid	GUARNIFLON	ITALY	<a href="https://www.guarniflon.com/en/">https://www.guarniflon.com/en/</a>
14	Rubber Casting		TÜFEKÇİOĞLU	TURKEY	<a href="http://www.tk.com.tr">www.tk.com.tr</a>
15	Polyurethane Casting		TÜFEKÇİOĞLU	TURKEY	<a href="http://www.tk.com.tr">www.tk.com.tr</a>
16	Polyurethane		ERA POLÜRETAN	AUSTRALIA	<a href="https://www.erapol.com.au/">https://www.erapol.com.au/</a>
17	Tank Cell		TÜFEKÇİOĞLU	TURKEY	<a href="http://www.tk.com.tr">www.tk.com.tr</a>

		<b>Sarzamine Jolgehaye Asemani Company</b> <b>MESHGINSHAHR COPPER CONCENTRATE PLANT PROJECT</b>		 <b>TÜFEKÇIOĞLU</b> <small>KAUÇUK &amp; MAKİNA</small>	
<b>Contract No:</b> <b>Teklif No:</b>		<b>Document Number/Döküman No:</b> TK-IRN-BMA-2021-D-900		<b>Rev:00</b>	<b>Date/Tarih: 2022-03-01</b>
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Index	Equipment Description	Vendor	Location	
			Origin	Contact Information
18	Ultrasonic Level Controllers	SIEMENS	GERMANY	<a href="https://new.siemens.com/">https://new.siemens.com/</a>
19	Automation Panel Screen	SCHENEIDER	FRANCE	<a href="http://www.se.com">www.se.com</a>
20	Automation Panel	TEMPA PANO	TURKEY	<a href="http://www.tempapano.com">http://www.tempapano.com</a>
21	PLC Panels Instrument	SCHENEIDER	FRANCE	<a href="http://www.se.com">www.se.com</a>
22	Air Flowmeter	IFM	GERMANY	<a href="http://www.ifm.com">www.ifm.com</a>
23	Pneumatic Pistons	PEMAKS	TURKEY	<a href="http://www.pemaks.com.tr/">http://www.pemaks.com.tr/</a>
24	Valves in Air Control System	ASTEKNİK	TURKEY	<a href="https://asteknikvana.com/">https://asteknikvana.com/</a>
25	Manometer	PAKKENS	TURKEY	<a href="https://www.pakkens.com/tr/">https://www.pakkens.com/tr/</a>
26	Positioners	YTC	KOREA	<a href="http://www.ytc.co.kr/">http://www.ytc.co.kr/</a>
27	Pressure Transmitter	SIEMENS	GERMANY	<a href="https://new.siemens.com/">https://new.siemens.com/</a>
28	Regulator for Air System	UNIVER	ITALY	<a href="https://www.univer-group.com/en/">https://www.univer-group.com/en/</a>
29	Reducer	YILMAZ REDÜKTÖR	TURKEY	<a href="https://yr.com.tr/">https://yr.com.tr/</a>
30	Fasteners	NORM CIVATA	TURKEY	<a href="http://www.normcivata.com.tr/">http://www.normcivata.com.tr/</a>
31	Pulley Covers	ÜNKAN PANO	TURKEY	<a href="http://www.unkanpano.com/">http://www.unkanpano.com/</a>
32	Paint	JOTUN	NORWAY	<a href="https://www.jotun.com/">https://www.jotun.com/</a>
33	Dart Valve Manuel Simit	ÖZTEPE PLASTİK	TURKEY	<a href="https://www.oztepeplastik.com.tr/">https://www.oztepeplastik.com.tr/</a>
34	Cold Drawing	AYGÜNSAN ASİL ÇELİK HASCO METAL	TURKEY	<a href="https://www.aygunsan.com.tr/">https://www.aygunsan.com.tr/</a> <a href="http://asilcelik.com.tr/">http://asilcelik.com.tr/</a> <a href="https://www.hascometal.com/">https://www.hascometal.com/</a>
35	Retaining Ring	MURAT RULMAN	TURKEY	<a href="https://muratrulman.com.tr/">https://muratrulman.com.tr/</a>



Sarzamine Jolgehaye Asemani Company  
MESHGINSHAHR COPPER CONCENTRATE  
PLANT PROJECT



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SPARE PART LIST

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## TÜFEKÇİOĞLU KAÇUK MAKİNA VE MADENCİLİK A.Ş.

Sarzamine Jolgehaye Asemani Company  
MESHGINSHAHR COPPER CONCENTRATE PLANT PROJECT

### MACHINE AND EQUIPMENT SPARE PART LIST

ROW NO	MACHINE NAME	TECHNICAL DRAWING NO	QUANTITY
	<b>TK50</b>		
1	BELT	TK50101	6
2	COVER	TK50101-1	1
3	BODY PULLEY	TK50102	1
4	BODY PULLEY BUSH	TK50102-1	1
5	MOTOR PULLEY	TK50103	1
6	MOTOR PULLEY BUSH	TK50103-1	1
7	MOTOR	TK50104	1
8	TOP COVER	TK50105	1
9	FELT 1	TK50106	1
10	LOCK NUT	TK50107	1
11	LOCK WASHER	TK50107-1	1
12	BEARING 1	TK50109	1
13	BEARING SLEEVE 1	TK50109-1	1
14	FELT 3	TK50110	8
15	CHANELLED FELT RING	TK50111	6
16	BEARING HOUSE	TK50112	1
17	RETAINING RING	TK50112-1	1
18	BEARING HOUSE AIR COVER	TK50113	2
19	BEARING 2	TK50114	1
20	BEARING SLEEVE 2	TK50114-1	1
21	STEEL FELT	TK50115	1
22	FELT 2	TK50116	1
23	BOTTOM COVER	TK50117	1
24	BEARING SHAFT	TK50118	1
25	SHAFT	TK50119	1
26	IMPELLER	TK50120	1
27	STATOR	TK50121	4
28	STATOR BOTTOM COVER	TK50122	1
29	BOTTOM LINER-1	TK50122-1	1 SET
30	BOTTOM LINER-2	TK50122-2	1 SET
31	BODY LINER-1	TK50122-3	1 SET
32	BODY LINER-2	TK50122-4	1 SET
	<b>TK50 DART VALVE</b>		
33	SIMIT	DV501201	1
34	REDUCER	DV501202	1
35	REDUCER CONNECTING SHEET	DV501203	1
36	UPPER REDUCER SHAFT	DV501207	1
37	PISTON	DV100808	1
38	POSITIONER GROUP	DV501209	2
39	PIECE-1	DV100809-1	1
40	PIECE-A	DV501209A	2
41	PIECE-B	DV501209B	2
42	PIECE-C	DV501209C	2
43	PIECE-D	DV501209D	2
44	PIECE-E	DV501209E	2
45	PIECE-F	DV501209F	2
46	PIECE-G	DV501209G	2
47	UPPER TIGHTENING	DV501210	3
48	BOTTOM TIGHTENING	DV501211	3
49	BOTTOM STUD BOLT	DV501212	3
50	SHAFT	DV501213	3
51	CAP	DV501214	3
52	RUBBER FLANGE	DV501215	3
53	CENTERING PROFILES	DV501216	9
54	CENTERING GROUP	DV501217	9
55	POSITIONER STORAGE	DV501218	2
	<b>OTHER COMPONENTS</b>		
56	TK FLOWMETER	TK301	1
57	AIR REGULATOR	TK416	1
58	PRESSURE TRANSMITTER	TK417	1
59	PROPORTIONAL BUTTERFLY VALVE DN100	TK50410	1
60	MANUAL BUTTERFLY VALVE DN100	TK50406	1
61	LEVEL CONTROL SENSOR	TK226	1
62	ANALOG METER		1
63	AUTOMATION PANEL	TK400	1



Sarzamine Jolghaye Asemani Company  
MESHGINSHAHR COPPER CONCENTRATE  
PLANT PROJECT



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2 YEAR SPARE PART LIST

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**TÜFEKÇİOĞLU KAUÇUK  
MAKİNA VE MADENCİLİK A.Ş.**

**Sarızamıne Jolgehaye Asemani Company  
MESHGINSHAHR COPPER CONCENTRATE PLANT PROJECT**

**2 YEAR SPARE PART LIST**

ROW NO	MACHINE NAME	TECHNICAL DRAWING NO	QUANTITY
	<b>TK50</b>		
1	LOCK WASHER	TK10107-1	5
2	LOCK NUT	TK10107-2	5
3	BEARING-1	TK10109	5
4	RETAINING RING	TK10112-1	5
5	MID FELT 1	TK10110	5
7	BEARING-2	TK10114	5
8	FELT 2	TK10116	5
9	STATOR	TK10121	5
10	IMPELLER (ROTOR)	TK10120	5
11	BEARING SLEEVE 1	TK10109-1	5
12	BEARING SLEEVE 2	TK10114-1	5
13	MOTOR	TK10104	3
14	FELT 1	TK10106	5
15	BELT	TK10101	16
	<b>TK50 DART VALVE</b>		
16	CAP	DV100814	8
17	RUBBER FLANGE	DV100815	8
	<b>OTHER COMPONENTS</b>		
18	TK FLOWMETER	TK301	2
19	AIR REGULATOR	TK416	1
20	PRESSURE TRANSMITTER	TK417	1



Sarzamine Jolgehaye Asemani Company  
MESHGINSHAHR COPPER CONCENTRATE PLANT  
PROJECT



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Sarzamine Jolgehaye Asemani Company  
MESHGINSHAHR COPPER CONCENTRATE PLANT  
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# TÜFEKÇIOĞLU KAUÇUK MAKİNA VE MADENCİLİK A.Ş.

Sarzamine Jolgehaye Asemani Company  
MESHGINSHAHR COPPER CONCENTRATE PLANT PROJECT

## TK CELLS ELECTRICAL LOAD LIST

ROW NO	CODES TURKISH	CODES TURKISH MEANING	CODES ENGLISH MEANING	221 ADDRESS	221 ADDRESS COM
1	Sys_Online	SİSTEM DEVRE	SYSTEM CIRCUIT	M2	MW500:X0
2	Sys_Alarm	ALARM FAULT	ALARM FAULT	M5	MW500:X1
3	Alarm_Basinc_Transmitter	ALARM BASINC	ALARM PRESSURE	M28	MW500:X2
4	Alarm_Blower_pressure	ALARM BLOWER BASINC	ALARM BLOWER PRESSURE	M56	MW500:X3
5	Alarm_Liq_Level_High	ALARM SIVI SEVİYE MAX	ALARM LIQUID LEVEL MAX	M23	MW500:X4
6	Alarm_Liq_Level_Low	ALARM SIVI SEVİYE MİN	ALARM LIQUID LEVEL SEVİYE MİN	M33	MW500:X5
7	Alarm_Low_Battery	ALARM PLC PİLİ DÜŞÜK	ALARM PLC LOW BATTERY	M22	MW500:X6
8	Alarm_Pressure_High	ALARM BASINC MAX	ALARM PRESSURE MAX	M28	MW500:X7
9	Alarm_Pressure_Low	ALARM BASINC MİN	ALARM PRESSURE MİN	M38	MW500:X8
10	Alarm_tankA_Debi_High	ALARM TANK A HAVA DEBİ MAX DEGER	ALARM TANK A AIR FLOW MAX	M26	MW500:X9
11	Alarm_tankA_Debi_Low	ALARM TANK A HAVA DEBİ MİN DEGER	ALARM TANK A AIR FLOW MİN	M36	MW500:X10
12	Alarm_tankB_Debi_High	ALARM TANK B HAVA DEBİ MAX DEGER	ALARM TANK B AIR FLOW MAX	M27	MW500:X11
13	Alarm_tankB_Debi_Low	ALARM TANK B HAVA DEBİ MİN DEGER	ALARM TANK B AIR FLOW MİN	M37	MW500:X12
14		HABERLESME SİNYALİ	COMMUNICATION SIGNAL	%M90	MW500:X13
15		HABERLESME HATASI	COMMUNICATION SIGNAL	%M91	MW500:X14
16	Tank A Auto/Man Butonu	Tank A Auto/Man Butonu	Tank A Auto/Man Button	M302	MW500:X15
17	Tank B Auto/Man Butonu	Tank B Auto/Man Butonu	Tank B Auto/Man Button	M303	MW501:X0
18	Tank Seviye-1 Auto/Man Butonu	Tank Seviye 1 Auto/Man Butonu	Tank Level 1 Auto/Man Button	M301	MW501:X1
19	Tank Seviye-2 Auto/Man Butonu	Tank Seviye 2 Auto/Man Butonu	Tank Seviye 2 Auto/Man Button	M95	MW501:X2
20	Tank A Vana açıklık	TANK A HAVA VANA AÇIKLIĞI AUTO	TANK A AIR VALVE GAP AUTO	MW207	MW504
21	Tank A Man_Valve açıklık	TANK A HAVA VANA AÇIKLIĞI MANUAL	TANK A AIR VALVE GAP MANUAL	MW602	MW506
22	Tank B Vana açıklık	TANK B HAVA VANA AÇIKLIĞI AUTO	TANK B AIR VALVE GAP AUTO	MW257	MW508
23	Tank B Man_Valve açıklık	TANK B HAVA VANA AÇIKLIĞI MANUAL	TANK A AIR VALVE GAP MANUAL	MW604	MW510
24	Tank sıvı seviye-1 açıklık	TANK SIVI SEVİYE AUTO	TANK LIQUID LEVEL AUTO	%MW111	MW512
25	Tank sıvı seviye-1 Man açıklık	TANK SIVI SEVİYE MANUAL	TANK LIQUID LEVEL MANUAL	%MW600	MW514
26	Tank sıvı seviye-2 açıklık	TANK SIVI SEVİYE 2 AUTO	TANK LIQUID LEVEL 2 AUTO	%MW556	MW516
27	Tank sıvı seviye-2 Man açıklık	TANK SIVI SEVİYE 2 MANUAL	TANK LIQUID LEVEL 2 MANUAL	%MW608	MW518
28	Basıncılı hava	Bacıncılı Hava	Compressed Air	MW302	MW520
29	Sıvı Seviye	Sıvı Seviye	Liquid Level	MW105	MW522
30	köpük seviye	Köpük Seviye	Foam Level	MW106	MW524
31	Tank A debi set	Tank A Hava Debi Set	Tank A Air Flow Set	MW202	MW526
32	Tank A debi	Tank A Hava Debi	Tank A Air Flow	MW201	MW528
33	tank b debi set	Tank B Hava Debi Set	Tank B Air Flow Set	MW252	MW530
34	tank b debi	Tank B Hava Debi	Tank B Air Flow	MW251	MW532
35	Tank C Vana açıklık	TANK C HAVA VANA AÇIKLIĞI AUTO	TANK C AIR VALVE GAP AUTO	MW807	MW534
36	Tank C Man_Valve açıklık	TANK C HAVA VANA AÇIKLIĞI MANUAL	TANK C AIR VALVE GAP MANUAL	MW606	MW536
37	Tank c debi set	Tank C Hava Debi Set	Tank C Air Flow Set	MW802	MW538
38	tank c debi	Tank C Hava Debi	Tank C Air Flow	MW801	MW540
39	Tank C Auto/Man Butonu	Tank C Auto/Man Butonu	Tank C Auto / Man Button	M304	MW548:X0
40	Alarm_tankC_Debi_High	ALARM TANK C HAVA DEBİ MAX DEGER	ALARM TANK C AIR FLOW MAX VALUE	M80	MW548:X1
41	Alarm_tankC_Debi_Low	ALARM TANK C HAVA DEBİ MİN DEGER	ALARM TANK C AIR FLOW MIN VALUE	M81	MW548:X2



Sarzamine Jolgehaye Asemani Company  
MESHGINSHAHR COPPER CONCENTRATE PLANT  
PROJECT



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ELECTRICAL LOAD LIST

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Sarzamine Jolgehaye Asemani Company  
MESHGINSHAHR COPPER CONCENTRATE PLANT  
PROJECT



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# TÜFEKÇİOĞLU KAUÇUK MAKİNA VE MADENCİLİK A.Ş.

Sarzamıne Jolgehaye Asemani Company  
MESHGINSHAHR COPPER CONCENTRATE PLANT PROJECT

## TK CELLS ELECTRICAL LOAD LIST

ROW NO	MACHINE NAME	MOTOR	VENDOR	MODEL	QUANTITY	TOTAL POWER
1	TK50 FLOTATION CELL	75 kW 750 rpm	GAMAK	GM2E 315 M8B	8 pcs	525 kW
2	AUTOMATION PANEL	-	TUFEKCIOGLU	STANDARD 0.25kW	4 pcs	1 kW
					TOTAL	526 kW

## F – Reference List

### Tüfekçioğlu Machineries Reference List - Turkey

Plant Name	Company Name	Ore	TK Products
Ergani	Yıldızlar	Copper	Flotation Cells
Murgul	Etibank	Copper	Spare Parts
Küre	Eti Copper	Copper	Spare Parts
Lahanos	Iron Export	Copper	Mill Rubber Liners and Flotation Spare Parts
Çakmakkaya	Eti Copper	Copper	Rubber Liners, Pump Liners and Flotation Spare Parts
Samsun	Eti Copper	Copper Slag	Turnkey Flotation Plant
Madenköy Siirt	Eti Copper	Copper	Flotation Tank Cells for Capacity Increase
Ayazmant Ayvalık	Bilfer	Iron and Copper	All of the Conditioners and Flotation Cells
Balya Balıkesir	Esan	Lead - Zinc	All of the Conditioners and Flotation Cells
Kalkım Balıkesir	Oreks	Lead - Zinc	All of the Conditioners and Flotation Cells
Kalkım Balıkesir	CVK	Lead - Zinc	All of the Conditioners and Flotation Cells
Çanakkale	Akol	Lead - Zinc	Flotation Cell Spares and Pump Liner Spares
Akdağ Maden Yozgat	Rasih İhsan	Lead - Zinc	Mill Rubber Liners and Flotation Cells
Gümüşhane	Gümüştaş	Lead - Zinc	Flotation Cells for modernization project
Ulukışla Niğde	Gümüştaş	Lead - Zinc	Flotation Tank Cells for Capacity Increase
İvrindi	Yıldızlar	Lead - Zinc	Flotation Tank Cells for Capacity Increase and Spare Parts

TÜFEKÇIOĞLU KAUÇUK MAKİNA VE MADENCİLİK SAN. TİC. A.Ş.

Merkez: 1. Organize Sanayi Bölgesi Avcı Cad. No:6 06035 Sincan - ANKARA / TÜRKİYE

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www.tk.com.tr - info@tk.com.tr



# TÜFEKÇIOĞLU

KAUÇUK & MAKİNA

Çanakkale	Akol	Lead - Zinc	Flotation Cell Spares and Pump Liner Spares
Çadırkaya – Kayseri	Dedeman	Lead - Zinc	Flotation Cells, Conditioner Tanks and Mill Rubber Liners
Bayındır - İzmir	İhlas Madencilik	Lead - Zinc	Mills, Conditioner Tanks, Flotation Cells, Pumps and Hydrocyclone
Koyulhisar - Sivas	Menka	Lead - Zinc	Flotation Cell Spares, Pumps and Mill Liners
Ordu - Bakacak	Yıldızlar	Lead - Zinc	Flotation Cells, Conditioner Tanks and Mill Liners, Pumps
Şebinkarahisar - Gümüşhane	Yıldızlar	Lead, Zinc & Copper	Mill Liners and Flotation Spares
Harşit Köprübaşı	Iron Export	Lead - Zinc	Mill Liners and Flotation Spares
Turhal	Koza	Antimony	Flotation Cells, Pumps, Hydrocyclones, Liners
Halıköy	Eti Copper	Antimony	Flotation Cells and Rubber Spare Parts
Midi Gümüşhane	Yıldızlar	Pyrite with Gold	Mill Liners and Conditioner Tanks
Milas	Esan	Na-Feldspar	Flotation Hücreleri, Pompa, Hidrosiklon, Astarlar
Karpuzlu	Esan	Na-Feldspar	Flotation Hücreleri, Pompa, Hidrosiklon, Astarlar
Çine	Sibelco	Na-Feldspar	Flotation Cells, Flotation Tank Cells, Mill Liners, Hydrocyclones, Pump Spares
Çine	Kalemaden	Na-Feldspar	Flotation Cells, Pumps, Hydrocyclones, Mill Liners
Yatağan	Straton	Na-Feldspar	Flotation Cells
Yalıköy	Camiş	Glass Sand	Flotation Cells, Mill Liners, Pump Spares
Mersin	Camiş	Glass Sand	Flotation Cells, Mill Liners, Pump Spares

TÜFEKÇIOĞLU KAUÇUK MAKİNA VE MADENCİLİK SAN. TİC. A.Ş.

Merkez: 1. Organize Sanayi Bölgesi Avcı Cad. No:6 06035 Sincan - ANKARA / TÜRKİYE

T: +90 312 257 10 00 - F: +90 312 257 10 04 - Tel. Sic. :13015

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### Tüfekçioğlu Machineries Reference List - World

Chezkazgan – Kazakistan	Kazakmys	Copper	Tank Flotation Cells 8 x 20 m3 (Working), 20 x 50 m3 (On Going Project)
Spac - Arnavutluk	Tete	Copper - Zinc	Flotation Plant for 45 tph Copper - Zinc Plant, Flotation Cells, walkways, Froth and Slurry Pumps
Delijan, Sujmiran, IRAN	Sujmiran Co.	Lead	TK3 Unit Tank Cell
Takap, Zanjan, IRAN	Kimia Maaden Sepahan	Iron	Tank Cells and Conditioner Tanks (4 x 3 m3)
Nakhlak, Anarak , IRAN	Kimia Goharan	Lead	10 pcs. TK3 Rougher and Scavenger Line
Firouzabad, Fars Province,IRAN	Sormeh Firouzabad Co.	Lead – Zinc, Fine Material	17 pcs. TK10 Tank Cells and Conditioner Tanks
Lowshan, IRAN	Tete	Lead – Zinc, Fine Material	Mills, Conditioner Tanks, Flotation Cells, Pumps and Hydrocyclones for two Plants
Rafsanjan, Kerman, IRAN	NICICO (DAREZAR)	Copper, Fine Material	On Copper Line (TK 50 m3 TK50*10,TK10 m3 TK10*10)
Zinc Industrial Zone, Zanjan, IRAN	Roy Parvar	Zinc,Fine Material	5 pcs TK3 Tank Cells
Sirjan, Gol-e-Gohar Area, IRAN	ESMIRAN	Lead – Zinc, Fine Material	Hydrocyclone & Slurry Pump
Nakhlak –Anarak –Isfahan IRAN	KIMIAGOHARAN Co.	Lead	14 Pcs TK5 Flotation cells & 4 conditioners
Emarat-Arak-IRAN	Shahin Mining Industry	Lead and Zinc	22 Pcs TK5 Flotation cells & 4 conditioners

TÜFEKÇIOĞLU KAUÇUK MAKİNA VE MADENCİLİK SAN. TİC. A.Ş.

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