

Agitation & Mixing Systems

Engineering Development & Tailor Made Equipment

شرکت کانی فرآور کاسپین

Caspian Mineral Processing Eng. Co

Who we are?

MIN-TEC in Brief

Caspian Mineral Processing Engineering Company (under trade name MIN-TEC) established in 2009 by a group of qualified engineers with many years work experiences in copper & iron mine industries of Iran. MIN-TEC objective plans providing engineering, manufacturing and procurement services as an engineering, consultant or Integrated Project Management Solutions.

MIN-TEC stockholders have sufficient experiences in several the mining projects of Iranian huge mineral processing plants.

Within the years of the hi-level projects experiences, our management team learned how to serve to the clients and meet their requirements.



[Process Engineering](#)

[Equipment design](#)

[Equipment Supply](#)

[Our Workshops](#)

Our View/ Our Philosophy

World Class Engineering Services, Best Solution for More Efficiency with Qualified Experts and Engineers

We are focused on providing Integrated & Tailored Solutions to our clients across four main services ; Engineering design Services, Mineral Processing Engineering, Equipment Supply and Specialist Engineering services. Let us help you achieve your business goals through our Tailored & Integrated Solutions.

We plans to be a well-known in mineral processing equipment supplying company and try to find and develop the newest technology in our field as we want to show " WE KNOW HOW".

MIN-TEC's plans have been identified in the following priority policies:

- Right recognize our client requirements.
- Well-organized engineers and staffs to present best services.
- Continuous Improvement and development in all levels of MIN-TEC's staffs .
- Develop of cooperation with well-known companies around the world to share abilities.

We believe to catch the above priority policies, effective cooperation and all engineers and staffs have to act in this manner.

Director Manager is responsible to accede the mentioned goals and right recognize and execute the policies. Also our policies will checked and revised by management commission.

Management Team



Abbas Alibakhshi

Director Manager , CEO

- Mechanical Engineer
- Designer of Copper and Iron Plant
- Lime Plants
- Steel Plants
- More than 28 years Experiences



Ms. Nazanin Tayebi

Control Project Manager , Board Member

- Co-founder
- Industrial Engineer
- Project Control Expert
- More than 15 years Experiences



Saeed Moghani

Factory Manager-ARVAND Factory

- Mechanical Engineer
- Production Expert
- Factory& Site Manager
- More than 17 years Experiences



Dr. Mahdi Alibakhshi

Project Manager, Board Member

- Co-founder
- Ph.D. Civil Engineer
- Concrete & Structural Expert
- 23 years Experiences



Mohsen Faramini

Factory Manager- Alborz Factory

- Mechanical Engineer
- Production Expert
- Factory& Site Manager
- More than 35 years Experiences

Our Mixing & Agitators Equipment Background

Min-Tec had started to develop the Agitators and mixers know how and engineering in our production Since 2010.

Since 2010, Min-Tec has started to develop the knowledge of agitator and mixer design and production of these equipment.

Over 13 years, we have developed our know-how while designing and manufacturing a wide range of industrial mixers required in the mining and chemical industries.

By developing this design knowledge over the past 13 years, Min-Tec has made it less competitive in the market of manufacturing Agitators professionally and as the first seller of large contractors such as FAKOOR SANAT, ASPHALT TOUS, GOHAR RAVESH and first-hand customers Such as Gol-Gohar Complex, Babak-Mes Iranian and SANGAN iron Ore Company in these years .



An Introduction on Agitators Different Type

1 Slurry Solid-Suspension

This type of agitators have been used to suspend the solids in the water or other fluids, homogenize the solid particles in slurry and make sure of non-sedimentation .

2 Reactors slurry mixers

These type of mixers are generally used to suspend a type of slurry (slurry) along with creating conditions for reaction. Leaching industries, acid neutralization reactors and pharmaceutical industries are among them

3 Chemicals & Non-slurry mixers

These mixers are generally used for the preparation of chemicals, polymers, paints and resins, lime milk, pharmaceuticals and are one of the most important mixers for water recovery, iron ore, copper and lead zinc processing and pharmaceutical industries.



Impellers Technologies and Applications

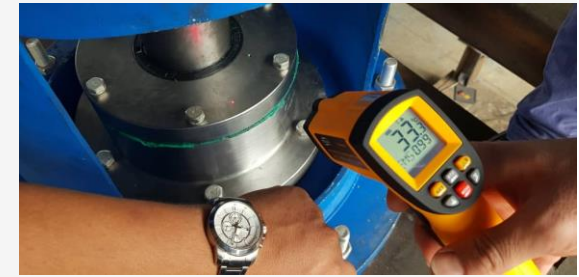
1 High efficiency HE3:

Suspension impellers These impellers are generally used to suspend a type of slurry and have very high energy efficiency. These mixers are generally used in 3 sets of mixers, and mixer sizes from 1.7 to 6.6 meters in diameter have been produced in this company. This type of impeller is used when the retention time of the slurry inside the tank is not important and it is only necessary to ensure suspension of the slurry. These types of impellers are designed in two types of hydrofoil and conventional HE3, and sometimes it stabilizer sweeping blade is added for process reasons.



Iron Ore Concentrated Agitator,
55kw, 2.5m dia

Impellers Technologies and Applications



Iron Ore Tailing Agitator,
90kw, 3.7m dia.

High efficiency HE3

Impellers Technologies and Applications



High efficiency HE3

Impellers Technologies and Applications



Copper Tailing Holding Tank
200kw, Impeller dia5.9m, Weight:19.5 ton

Impellers Technologies and Applications

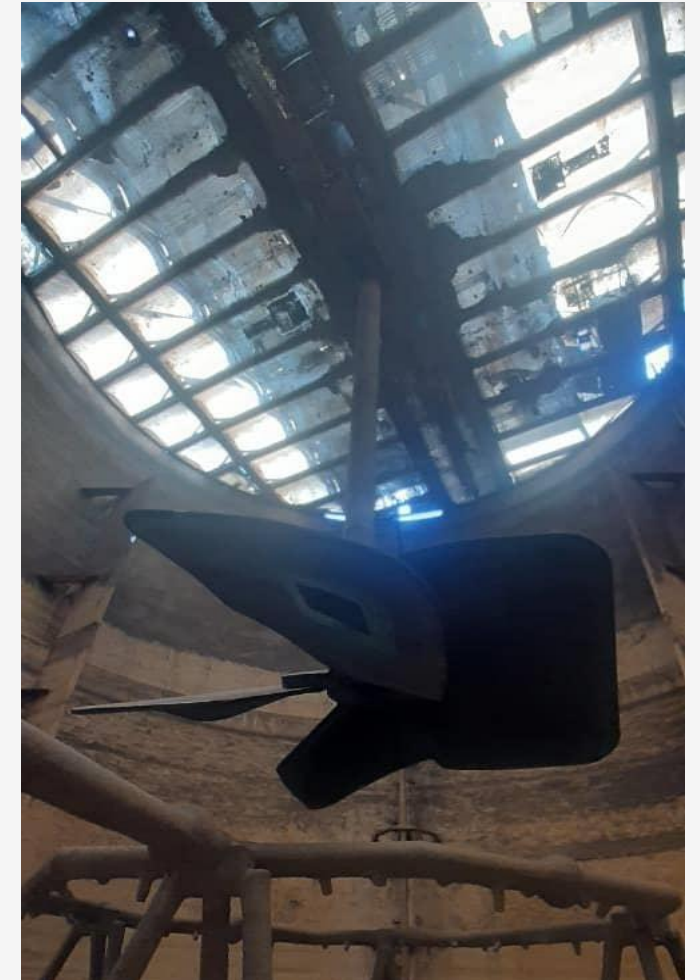
2

Axial Flow Impellers:

These type of impellers are generally used to provide the conditions for creating a chemical reaction in more than 2 phases (Solid, Fluid & Gas) or definitive mixing and homogenization of a combination of chemicals, fluid suspension along with the creation of the reaction. Leaching, bio-leaching and acid neutralization reactors and pharmaceutical industries are among these



Bioleaching Copper Reactor
22kw, 2.5m dia



Bioleaching Copper Reactor
160kw, 6.5m dia

Impellers Technologies and Applications



Bioleaching Copper Reactor
110kw, 5.8m dia Weight:18.5 ton



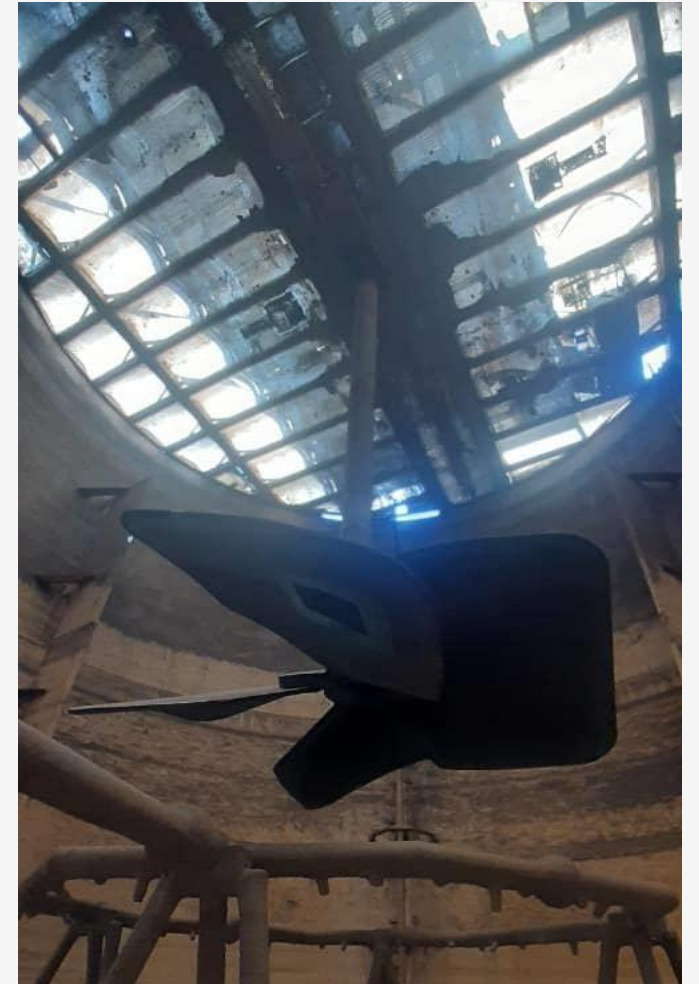
Axial Flow Impellers



Impellers Technologies and Applications



Bioleaching Copper Reactor
22kw, 2.5m dia



Bioleaching Copper Reactor
160kw, 6.5m dia

Impellers Technologies and Applications

3 Non-slurry mixers and chemicals

These mixers are generally used for the preparation of chemicals, polymers, dyes and resins, liming milk, pharmaceuticals and are one of the most important mixers for water recovery, iron ore, copper and lead zinc processing and pharmaceutical industries.



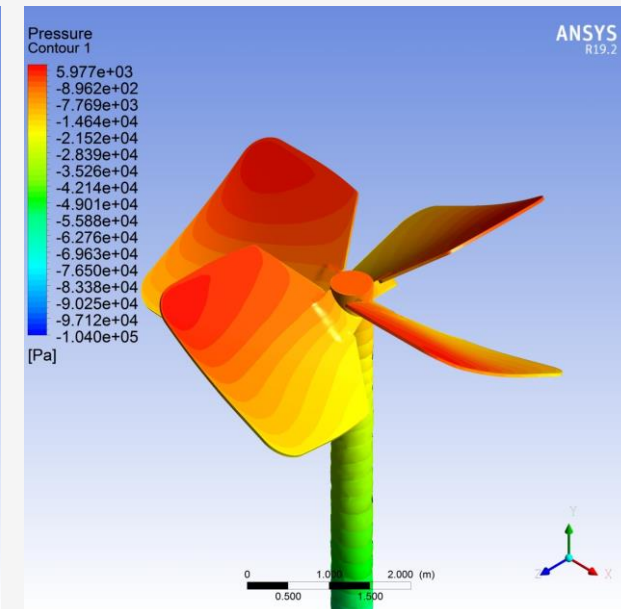
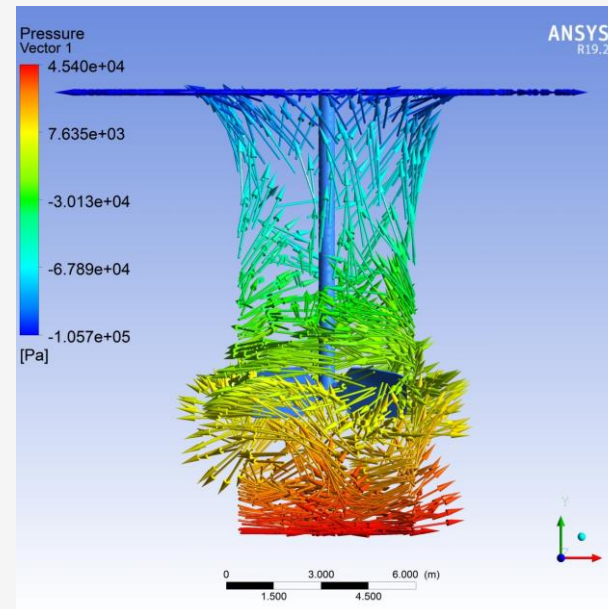
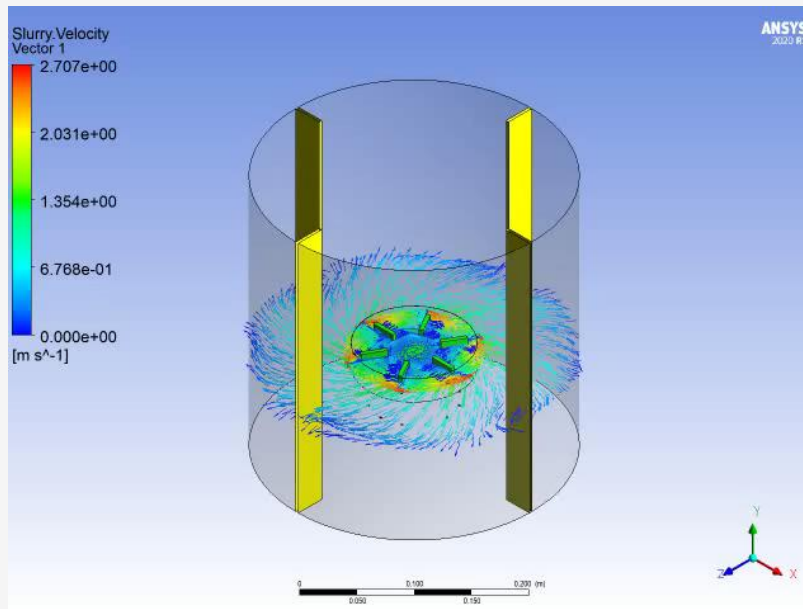
Copper Refinery Stripping Reactor
22kw, 1.8m dia



Agitator Know-how development

CFD Computational Fluid Dynamics Analysis (Axial Flow Three Phase Agitator CFD Analysis requirements)

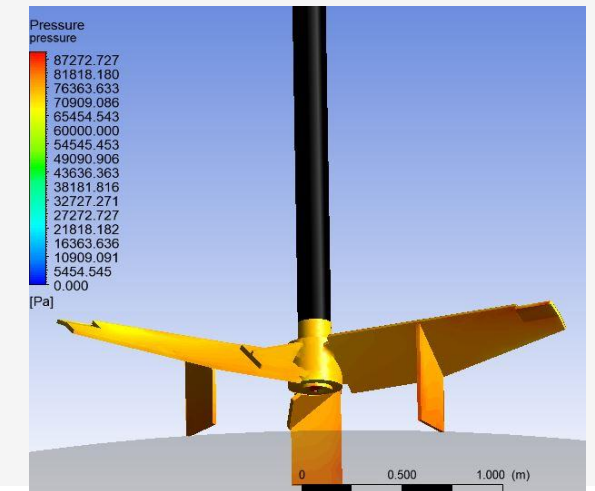
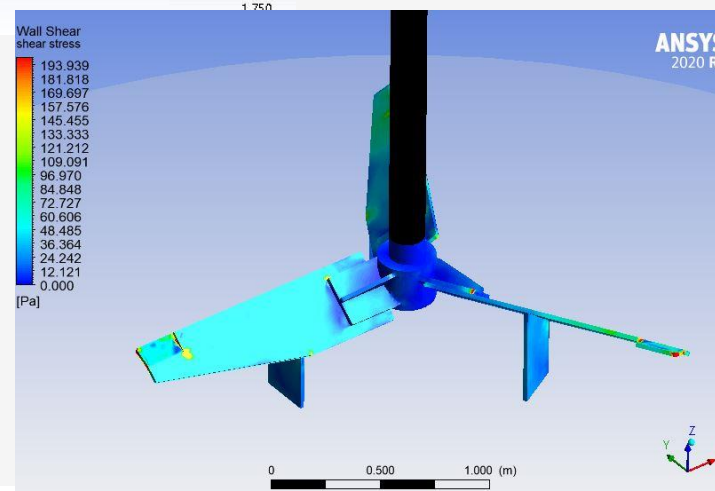
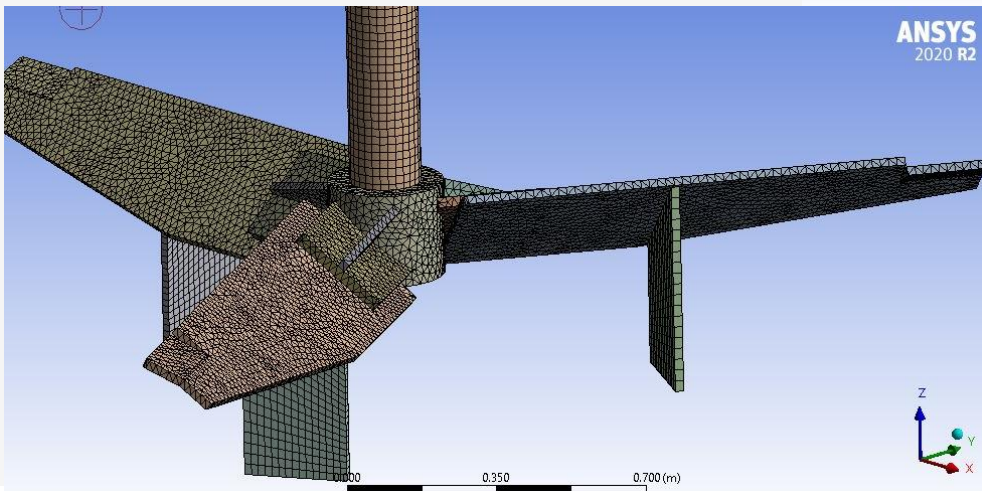
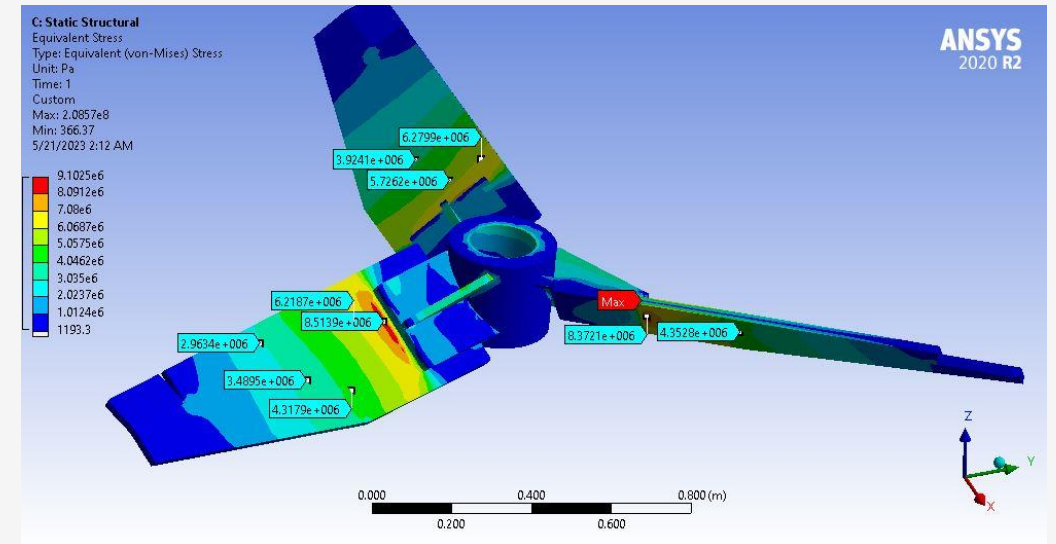
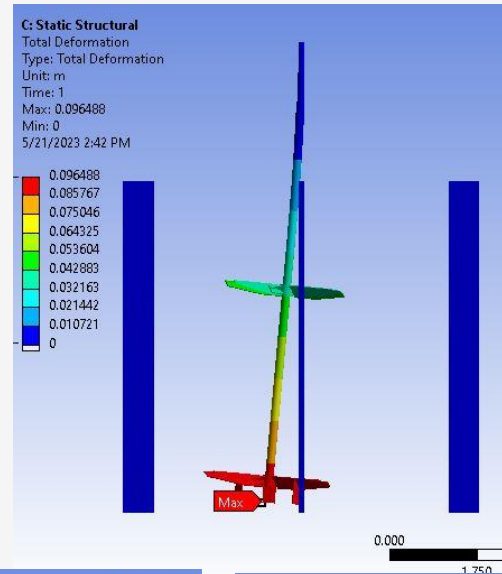
- 1 • Mechanical Design for shaft
- Maximum Starting Torque
- Oxygen and solid distribution regime
- Pressure on impeller
- Velocity Vectors, directions and demands
- Pumping Flow Pattern inside the tank
- Reacting duration modification
- Spurger installation distance and dimensions



Agitator Know-how development

2 Mechanical Analyzing :

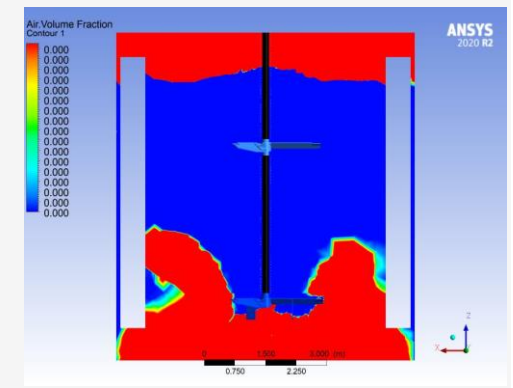
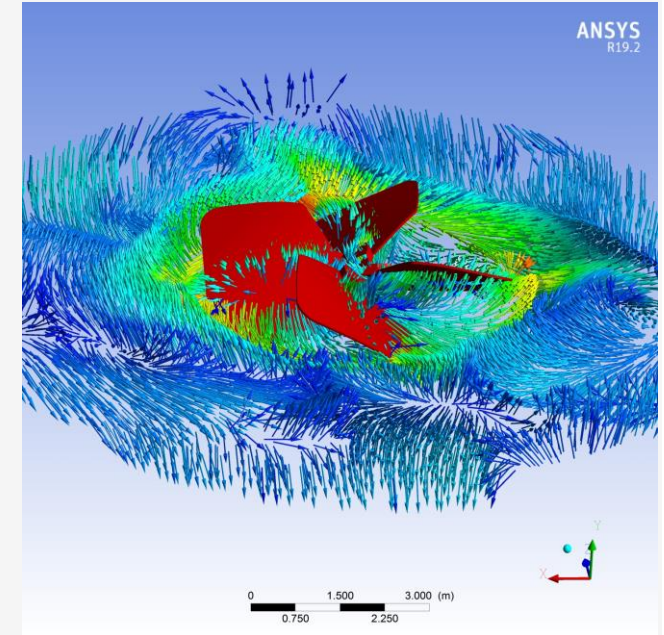
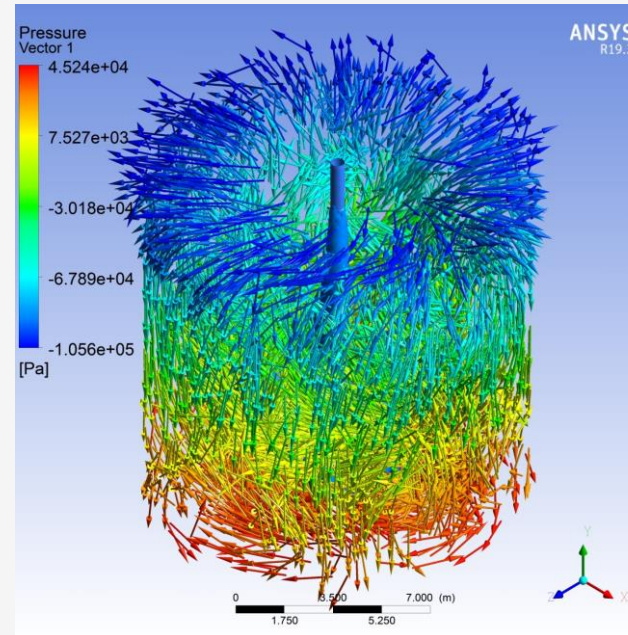
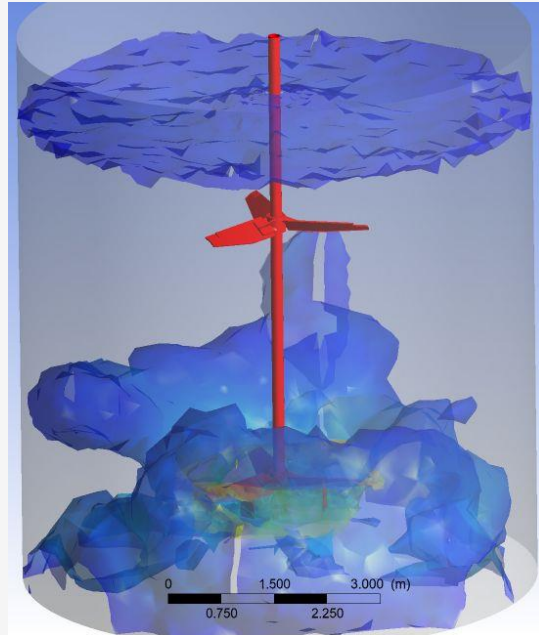
- Stress Distribution
- Pressure Distribution on impeller
- The pressure amount on the impellers
- Bending Moment analyzing
- shear stress on the lower blade



Agitator Know-how development

3 The Results:

- Temperature Distribution
- Air Distribution DOA
- Velocity Distribution to modify the baffle plates size
- The pressure amount on the impellers to modify the thickness , reducing weight & wear lining
- Correction factors for Spurger ring distance and diameter where air dispersing is required
- Start-up method and sequence & Start-up torque to modify the shaft diameter
- AIR VOLUME FRACTION DISTRIBUTION to make better reaction on Bio-leaching and Gold Leaching Plants



Our Agitator Installed reference 2010-2014

Item	Project	Client	QTY	Tank		Agitator	
				Dia	Height	Power	Impeller Dia
				m	m	KW	m
1	Filter Press Buffer Tank	FAKOOR SANAT	1	8.2	9.5	75	3.1
2	Filter Press Buffer Tank	FAKOOR SANAT	1	6.22	6	30	2.48
3	Process Agitator	PERCIAN BRICKS	1	9.2	6.2	30	3.8
4	Lime milking Process Buffer Tank	BABAK COPPER	6	6.1	5.9	15	2
5	Chemical Agitator	NICICO	1	3.7	5.5	5.5	1.8
6	Tailing Transport Buffer Tank	GOL-GOHAR	2	4.1	5.7	18	1.5
7	Copper Leching Plant	GOHARFAM	6	1.8	2.3	5.5	0.75
8	Copper Leching Plant	KANI NAVID	12	3.7	5.5	11	1.4
9	Filter Press Buffer Tank	FAKOOR SANAT	1	8.2	10.4	75	3.3

Our Agitator Installed reference 2015-2018

Item	Project	Client	QTY	Tank		Agitator	
				Dia	Height	Power	Impeller Dia
				m	m	KW	m
10	Iron Ore Process Buffer Tank	GOL-GOHAR	3	7.3	6.5	55	2.85
11	Iron Ore Process Buffer Tank	ASFALT TOUS	1	4.3	4.8	15	1.5
12	Copper Bio-Leaching Plant	BABAK COPPER	2	6	6	15	2.15
13	Copper refinery Reactor Autoclave	FAKOOR SANAT	1	2.3	3.2	15	1.5
14	Filter Press Buffer Tank	GOL-GOHAR	2	10	10.7	75	3.3
15	Tailing Transport Buffer Tank	SISCO	1	10	10.7	75	3.3
16	Filter Press Buffer Tank	RoNaK	4	4.5	6.5	15	1.5
17	Filter Press Buffer Tank	RoNaK	2	4.5	6.5	15	1.5
18	Copper Bio-Leaching Plant	BABAK COPPER	1	14	15.7	110	5.6

Our Agitator Installed reference 2019-2022

Item	Project	Client	QTY	Tank		Agitator	
				Dia	Height	Power	Impeller Dia
				m	m	KW	m
19	Copper Bio-Leaching Plant	BABAK COPPER	2	6.5	8	11	1.85
20	Tailing Transport Buffer Tank	NICICO	2	17	17.2	200	5.8
21	Filter Press Buffer Tank	FAKOOR SANAT	4	7.8	7.8	18.5	2.2
22	Filter Press Buffer Tank	FAKOOR SANAT	4	4.5	4.5	5.5	1.5
23	Filter Press Buffer Tank	FAKOOR SANAT	2	9.5	10.7	90	3.7
24	Filter Press Buffer Tank	FAKOOR SANAT	2	10	10.7	90	3.3
25	Filter Press Buffer Tank	FAKOOR SANAT	1	10	10.7	90	3.3
26	Acid neutralization reactors	FAKOOR SANAT	3	6.5	8	30	2.2
27	Filter Press Buffer Tank	ARIA JONOOB	1	4.5	6.5	18.5	2.5

Our Agitator Installed reference 2019-2022

Item	Project	Client	QTY	Tank		Agitator	
				Dia	Height	Power	Impeller Dia
				m	m	KW	m
28	Illuminite Process Buffer Tank	PASGARD STEEL	3	5.5	7.5	37	2.2
29	Iron Ore Process Buffer Tank	PASGARD STEEL	2	6.5	7.85	75	2.1
30	Filter Press Buffer Tank	FAKOOR SANAT	1	10	10.7	75	3.3
31	Copper Ore Conditioner Tank	NICICO	1	10	10.7	75	3.3
32	Filter Press Buffer Tank	NICICO	1	6.5	7.5	37	2
33	Lime milking Process Buffer Tank	NICICO	2	6	6.5	11	1.85
34	Filter Press Buffer Tank	ASFALT TOUS	2	10	10.7	75	3.3
35	Filter Press Buffer Tank	ROSHTKHAR	4	6.5	7.85	22	2.1
36	Filter Press Buffer Tank	RoNaK	2	5	6.4	45	1.9

Our Agitator Installed reference 2023-2024

Item	Project	Client	QTY	Tank		Agitator	
				Dia	Height	Power	Impeller Dia
				m	m	KW	m
37	Filter Press Buffer Tank	RoNaK	2	7.5	8	37	2.45
38	Coal Washing Conditioner Tank	PARVADEH COAL	1	4.5	4	11	1.8
39	Gold CIL Leching Plant	AVIZHEH SANAT	7	7.5	7.8	30	2.85
40	Filter Press Buffer Tank	AVIZHEH SANAT	1	4.5	5.5	7.5	1.6
41	Iron Ore Process Buffer Tank	GOL-GOHAR	3	3	3.2	5.5	1.2
42	Chemical Agitator	SISCO	4	2.2	2.2	1.5	0.95
43	Copper Ore Conditioner Tank	KANIFARAVARN	8	2.8	3	18.5	1.2
44	Copper Ore Conditioner Tank-Chemical	KANIFARAVARN	5	2.8	3	1.5	1
45	Tailing Transport Buffer Tank	FAKOOR SANAT	1	8	5.4	30	3
46	Water Treatment Flash Mixing Agitator	DEZH BAM	1	4	3.4	18.5	2

Our Contact Details:

Austria:



www.cetco-gmbh.com



info@cetco-gmbh.com



Wollzeile 12/1/25, 1010 Vienna, Austria



+43 1 7740733

Iran:

www.mintecco.com

info@mintecco.com

Flat 21, Vatani Alley., Mitra St. Beheshti Ave.

Tehran +98 21 8852 8803 - 0098 9121765419