



FAN AVARAN PARSIAN
INDUSTRIAL PROJECTS COMPANY



FAPCO

Fanavaran Parsian Company, FAPCO, was established in October 2002 with the objective of participating in national and international EPC (Engineering, Procurement and Construction) projects. Benefiting from skilled staff and state-of-the-art technologies, FAPCO has managed to become one of the most progressive companies of its field of business in the recent years. FAPCO has become a dominant holding company in project management and execution in several industrial areas including Oil and Gas, Auto CNG, Mine and Industry and Renewable Energies.

FAPCO core values include understanding customers' needs, continuous quality improvement, honesty and trustfulness, innovation and collective wisdom, human capital motivation and empowerment and social responsibilities.

Our primary goal is the management of a vertical integration, combining the technical and commercial expertise and applying that to different business stages ranging from designing to marketing. Many of these activities are carried out as joint venture partnerships with local and international companies.

To ensure our future growth, we continue to focus on product diversity along with competitive quality, pricing and performance in order to ensure our local, regional and international accessibility of our products and services.



C o n t e n t

OIL & GAS	MINE & INDUSTRY	CNG EQUIPMENT	RENEWABLE ENERGIES
			
03	27	33	37



OIL & GAS

FAPCO, focusing on its main strategy for innovation and value creation for customers, has established the first oil industry equipment production holding, considering the needs of the oil industry, identifying the necessary gorges, and making necessary strategies based on available facilities and capabilities. This act, which was based on accurate planning, has made FAPCO one of the trustworthy partners of the oil industry in the field of equipment and owning advanced related technology.

Designing and establishing the first industrial holding in Iran has gradually turned FAPCO into a reliable replacement for foreign companies. Trust of the producers and providers in the designed chain, accompaniment of scientific and research centers beside the designing office, promises bright days in the future. Soon this structure will step into exporting field.



LAND DRILLING RIGS

FAPCO provides for the design, construction, modernization and repair of land drilling rigs. Products include derricks, masts, substructures, skidding systems, drilling machinery and complete rig packages.



Nominal Drilling Depth	Up to 20,000 ft.
Max. Hook Load	1,000,000 lbs.
Max. Drilling Pipe Load	600,000 lbs.
Drawworks Max. Input Power	2000 hp
Drawworks Shifts	4 forward, 4 reverse
Main Brake Model	Disc brake with single side with working clamp
Auxiliary Brake Model	Electromagnetic eddy current brake
Wireline Diameter	1-1/2"
Crown Sheaves Number	6+1
Travelling Sheaves Number	6
Travelling Sheave Diameter	60"
Open Diameter of Rotary Table	30'-1/2"
Rotary Table Drive Type	High torque 2 speed gear type transmission & cooling type
Mast Type	Conifer open face mast designed in accordance with API 4F to accommodate a 500 ton top drive
Clear Height of Mast	152 ft.
Substructure Type	Swing-up
Power of Single Mud Pump	1600 hp
Mud Pump Sets	3 sets
Model of Main Generator Sets	CAT 3512 B
Main Diesel Sets	5 sets
Power Transmission Type	AC-SCR-DC Control
Total Volume of Mud Tank	2400 bbl.



Utilizing new technology, FAPCO has succeeded to present its abilities and capabilities in manufacturing several kinds of drilling equipment such as drill collar, drill bit, etc.



■ Drill Collar

FAPCO is a leading supplier of drill collar providing its customers with quality products manufactured to the highest standards including API specifications. FAPCO ensures competitive pricing, on time delivery and efficient service at all times.

Connection	Minimum OD (in)	Bore (in), Tol:±"	Length (ft), Tol:±"
2 3/8 IF	3 1/2	1 1/2	30
2 3/8 IF	4 1/8	2	30
3 1/2 IF	4 3/4	2 1/4	31
3 1/2 IF	5	2 1/4	31
NC44	6	2 1/4	31
NC44	6	2 13/16	31
NC44	6 1/4	2 1/4	31
4 IF	6 1/4	2 13/16	31
4 IF	6 1/2	2 1/4	31
4IF	6 1/2	2 13/16	31
4IF	6 1/4	2 1/4	31
4 1/2 IF	7	2 1/4	31
4 1/2 IF	7	2 13/16	31
4 1/2 IF	7 1/4	2 13/16	31
6 5/8 Reg.	8	2 13/16	31
6 5/8 Reg.	8 1/4	2 13/16	31
7 5/8 Reg.	8	3	31
7 5/8 Reg.	8 1/4	3	31

■ Drilling Bit Cones

FAPCO manufactures drilling bit cones from high quality materials (steel forging, carbide, and others). These cones are used to produce three cone rock bits which are designed for a multitude of drilling applications.





Spang Jar



Nominal Dimensions	Mechanism	Total Length(mm)	Total Weight(kg)	Stroke(mm)		Connector
				St	Down	
8"	Hydro Mechanical	5080	1810	229	102.4	6-5/8 Regular
8"	Full Hydraulic	9030	1515	296	220.6	6-5/8 Regular
6-1/2"	Full Hydraulic	9030	1110	296	224.8	4-1/2 IF
4-3/4"	Full Hydraulic	9030	850	296	224.8	3-1/2 IF

Non-Magnetic Transmitter Sub



Sizes: 4 3/4" , 6 1/2" , 8" , 9 1/2"

Wireline Accessories



Packer



ACP Packer for ESP System, 9 5/8" x 3 1/2"

Packing Element



Packing Element, 13 5/8" , 5000 psi , GK , Hydrill Type

Downhole Motor



Sizes: 4 3/4" , 8"



Downhole Completion String 10,000 psi

In support of its unwavering commitment to be the preeminent supplier of downhole tools, FAPCO is pleased to offer its customers a newly expanded offering of Intervention and Completion Tools (ICT), which now can be run in environments with 10,000 psi pressure.

Wireline Retrievable Flapper Self Equalized Type

Size	7" x 5.812"
OD	5.887"
Max. OD (Packing)	5.812"
ID	3.264"
Length	66.764"
Max. Setting Depth	1500 ft
Minimum Pressure	1500 psi
Closing Pressure	450 psi
Rated Working Pressure	10,000 psi
Temperature Rating	280 F
Material & Arrangement of Seal Elements	V-Packing PFEC 10/O-Ring FRKM 1
Material	API 5CT L80-Type 13Cr or Super 13Cr

LOCK MANDREL

Size	5.812"
OD	5.875"
ID	3.264"
Length	17.205"
Rated Working Pressure	10,000 psi
Fishing Neck Size	4.75"
Fishing Neck Type	5 1/16-8.3LB Internal Fishing Neck
Material & Arrangement of Seal Elements	V-Packing PFEC 4 V-Packing PFEC 6 O-Ring FRKM 1
Material	API 5CT L80 - Type 13Cr or Super 13Cr



Sub Surface Safety Valve (3SV)
& Lock Mandrel



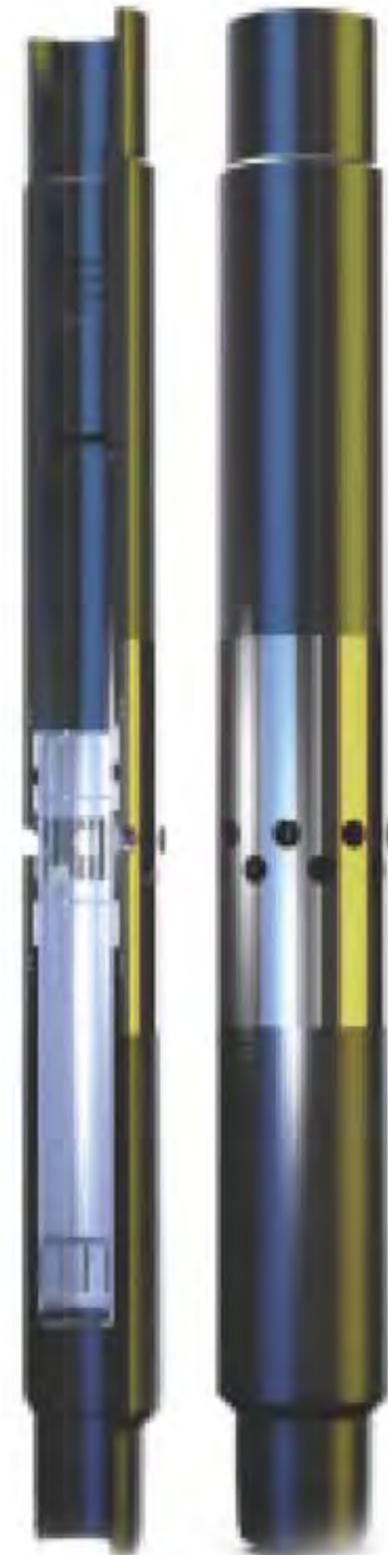
Downhole Completion String 10,000 psi



Side Pocket Mandrel

Sliding Side Door

Size	5 1/2" x 4.313"
Preferred System	Non-Elastomeric
Model	RPD
Thread	5.5" 23 PPF NEW VAM Box
Connection	Up x Pin Down
OD	8.3"
Profile Size	4.313"
Profile Type	RPT
Opening Direction	Jar Down to Open
Max. Differential	15,000 psi
Max. Flow Area in Full Open Position of Sleeve	16.373 in ²
Rated Working Pressure	10,000 psi
Temp. Rating	280 F
Material & Arrangement of Seal Element	O-Ring: FFKM 4 Packing: PEEK6 V-Packing: PTFE+GLASS 12
Material	API 5CT L80-Type13Cr or Super 13Cr



Sliding Side Door (SSD)

Side Pocket Mandrel

Suitable to run in	9 5/8" 43.5-53.5 PPF
Size & Thread	5 1/2" 23 PPF
Model	MMG
Thread Connection	5 1/2" 23 PPF NEW VAM Box Up x Pin Down
OD	7.938"
Standard ID	4.67"
Standard Drift Diameter	4.545"
Rated Working Pressure	10,000 psi
Temp. Rating	280 F
Pocket	Suitable for 1 1/2" OD Injection Valve
Material	API 5CT-L80-Type 1 or API 5CT-L80-Type 13Cr



Downhole Completion String 10,000 psi



Ratch Latch
Seal Unit Assembly

Anchor Seal Assembly

Size	5 1/2"
Model	RLP
Type	Ratch Latch with Lock Screw
Top Connection	5.5" 20 PPF NEW VAM Box Up
Bottom Connection	Half Mule Shoe End Down
OD	6.91"
Max. OD (Packing)	6.508"
ID	4.67"
Drift ID	4.545"
Suitable for Packer Seal Bore	6.518"
Length of Top Sub	39.37"
Length of Each Seal Unit	4.838"
No. of Seal Units	2
Total Length of Seal Units	9.676"
Rated Working Pressure	10,000 psi
Temp. Rating	280 F
Material & Arrangement of Seal Element	PEEK 8/PTFE 8/PEEK 8
Material	API 5CT L80-Type 13Cr or Super 13Cr

Permanent Packer



Hydro Set Permanent Packer

Suitable to run in	9 5/8" 43.5-53.5 PPF
Model	MHR
Size	9 5/8" x 7"
Bottom Connection	7" 35 PPF NEW VAM BOX
Max. OD	8.125"
Upper Seal Bore	6.5"
Lower Seal Bore	5"
Rated Working Pressure	10,000 psi
Temp. Rating	280 F
Initial Setting Pressure	2500 psi
Min. Setting Pressure	3500 psi
Max. Setting Pressure	6000 psi
No. of Shear Pins	4
Force to Shear Each Pin	20000 lb
Shear Pin Material	ASTM A29 4140
Piston Cross Area	10.3 in (cross)
Material	API 5CT L80-Type 13Cr or Super 13Cr
Material of Seal Elements	HNBR



FENDER

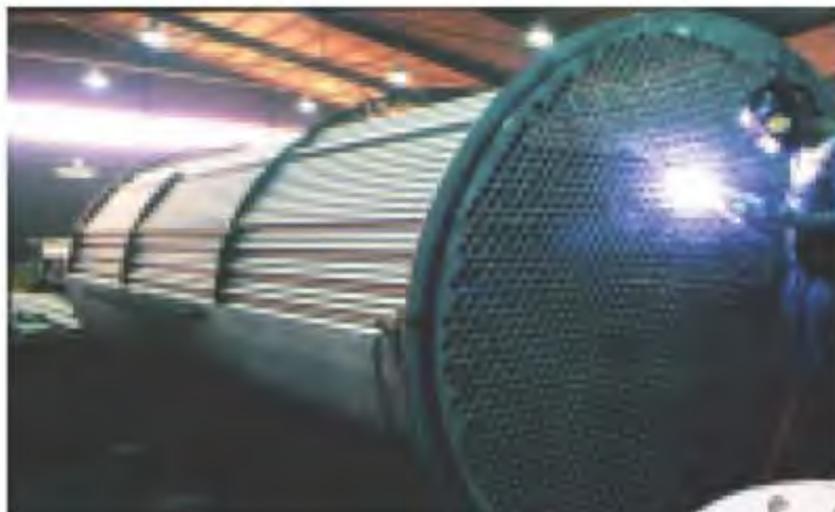
Design, Manufacture and Delivery of Fenders in Different Sizes for Ports of the Country

FAPCO has managed to design, manufacture and deliver different fenders in different sizes required by ports of the country. These fenders are produced and analyzed in accordance with ASTM and JIS standards. These fenders are V-shape, D-shape and cylindrical.

Some of these products are listed below:



Cylindrical	Super cell	Type DD	Type 2H
3500*200*400	S/C 1450	DD600H*2200L	2H400*1500L
3000*75*150	S/C 1250	DD600H*1500L	2H150*1500L
1750*75*150	S/C 1150	DD600H*1200L	
	S/C 800		
Type 3V	Type 3A	Clear	
3V300H*2500L	3A400*2500L	LD400*400*1500L	
3V500H*1000L	3A400*2000L	DA 4400H*1500L	
3V300H*2500L	3A400*1500L	PAO 400*400*2000L	
3V300H*1500L	3A250*2000L		
3V300H*1000L	3A250*1500L	PAO 400*400*2050L	
3V350H*2500L	3A400*1500L		



HEAT EXCHANGERS

FAPCO manufactures a wide range of heat exchangers used in the oil, gas and petrochemical industries.





WELLHEAD FACILITIES

FAPCO products include a complete line of conventional wellhead and X-mas tree components for use in a wide variety of environments. Working pressures range from 2000 to 15,000 psi and are designed for single or multiple completions.



PH-5000 Wellhead



PH-5000 Wellhead



WELLHEAD FACILITIES



VH-5000 Wellhead



Offshore Wellhead
Surface Wellhead & X-mass Tree Assy
26" x 18-5/8" x 13-3/8" x 10-3/4" x 7" Tubing
6500 psi MWP



WELLHEAD FACILITIES

■ Casing and Tubing Hanger Components



Casing Hanger

Features:

- Only 50,000 to 60,000 casing load is needed to energize annulus seal
- Provides automatic packoff sealing
- Hanger can be lowered through BOP
- Has interlocking strips



Tubing Hanger
(Extended Neck)

- A split, wrap around packoff
- Allows tubing string manipulation to displace fluids while maintaining annular pressure.
- Compression type seal actuated by lockdown screws and string weight
- Internal Type "H" BPV preparation



Packoff Assembly

- Compressor type seal actuated by
- lockdown screws or string weight
 - Provides a pressure energized secondary seal
 - Serves as a reducer bushing to adapt to different casing sizes
 - Available in various OD and ID configurations

Head or Spool Top Range (Inches)	Casing Size (Inches)
11	5
11	5-1/2
11	7
13-5/8	7
13-5/8	7-5/8
13-5/8	8-5/8
13-5/8	9-5/8

Bowl Size (Inches)	Tubing Size (Inches)
11	7
11	5

Size (Inches)	Weight (pounds)
9 x 4-1/2	60
9 x 5-1/2	50
7 x 7	30
10-3/4 x 8-5/8	40
10-3/4 x 9-5/8	20

■ X-mas Tree Caps



Features:

The X-mas Tree cap is mounted on top of the X-mas tree and provides access to the tree plug and hammer nut. Standard API-UP Tbg lift thread is provided in the body. The plug has a provision for mounting a pressure gauge to measure well pressure.

Lower Connection	Bores
2-1/16 - 5000	2-1/16"
2-1/16 - 5000	2-1/16"
2-9/16 - 2000	2-9/16"
2-9/16 - 5000	2-9/16"
3-1/8 - 3000	3-1/16"
3-1/8 - 5000	3-1/16"
2-1/16 - 10000	2-1/16"
2-1/16 - 10000	3-1/16"
4 - 10000	4-1/16"



WELLHEAD FACILITIES

■ Tubing Heads & Adapter



Adapter

Features:

- Only 50,000 to 60,000 casing load is needed to energize annulus seal
- Provides automatic packoff sealing
- Hanger can be lowered through BOP
- Has interlocking strips

Size	Special Description
7-1/16" - 20000 to 7-1/8" - 20000	2-200 API LP Tee
7-1/8" - 20000 to 7-1/4" - 20000	2-200 API LP Tee
7-1/4" - 20000 to 7-1/2" - 20000	2-200 API LP Tee

Flange	Upper Pin Connection	Special Description
5-1/16" - 2000	2-200 API LP Tee	2-200 API LP Tee
5-1/8" - 2000	2-100 API LP Tee	2-100 API LP Tee
5-1/4" - 2000	2-100 API LP Tee	2-100 API LP Tee
5-1/2" - 2000	2-200 API LP Tee	2-200 API LP Tee
5-1/2" - 2000	2-100 API LP Tee	2-100 API LP Tee
5-1/4" - 2000	2-200 API LP Tee	2-200 API LP Tee
5-1/8" - 2000	2-100 API LP Tee	2-100 API LP Tee
5-1/16" - 2000	2-100 API LP Tee	2-100 API LP Tee

- Only 50,000 to 60,000 casing load is needed to energize annulus seal
- Provides automatic packoff sealing
- Hanger can be lowered through BOP
- Has interlocking strips



Adapter



Adapter

- Only 50,000 to 60,000 casing load is needed to energize annulus seal
- Provides automatic packoff sealing
- Hanger can be lowered through BOP
- Has interlocking strips

Size	Special Description
7-1/16" - 20000 to 7-1/8" - 20000	2-100 API LP Tee
7-1/8" - 20000 to 7-1/4" - 20000	2-100 API LP Tee
7-1/4" - 20000 to 7-1/2" - 20000	2-100 API LP Tee
7-1/2" - 20000 to 7-1/2" - 20000	2-100 API LP Tee
7-1/2" - 20000 to 7-1/2" - 20000	2-100 API LP Tee

Size	Outlet
2-1/16" - 2000	2-1/16" - 2000
2-1/8" - 2000	2-1/8" - 2000
2-1/4" - 2000	2-1/4" - 2000
2-1/2" - 2000	2-1/2" - 2000
2-1/16" - 10000	1-13/16" - 10000
2-1/8" - 10000	2-1/16" - 10000
2-1/4" - 10000	1-13/16" - 15000
2-1/2" - 10000	2-1/16" - 15000
2-1/16" - 10000	1-13/16" - 10000
2-1/8" - 10000	2-1/16" - 10000
2-1/4" - 10000	1-13/16" - 10000
2-1/2" - 10000	2-1/16" - 10000

■ Studded Tees And Crosses





■ Tubing Heads & Spools

Bottom Flange (Inches)	Bottom Flange Rating (psi)	Top Flange (Inches)	Top Flange Rating (psi)	Outlet
11	3000	7-1/16	3000	2" LP
11	3000	7-1/16	3000	2-1/16" - 5M SSD
11	3000	7-1/16	5000	2-1/16" - 5M SSD
11	5000	7-1/16	5000	2-1/16" - 5M SSD
11	5000	7-1/16	10000	1-13/16" - 10M SSD
11	10000	7-1/16	10000	1-13/16" - 10M SSD
11	10000	7-1/16	15000	1-13/16" - 10M SSD
11	3000	9	3000	2-1/16" - 5M SSD
11	3000	9	5000	2" LP
11	3000	9	5000	2-1/16" - 5M SSD
11	5000	9	10000	1-13/16" - 10M SSD



Y-Tubing Spool

Bottom Flange: 11"-5K WITH(2) 9-5/8" P-seals
Top Flange: 11"-5K WITH(10) Lock Down Screws
 WITH(2)7-1/16"-5K studded outlets At 45° Threaded
 By 6-5/16" Type "H" B.P.V
 M/C:DD , T/C:U , PSL:2



Tubing Spool

Tubing Head Spool
Bottom Flange: 13-5/8"-3K WITH(3) 9-5/8" P-seals
Top Flange: 11"-5K WITH(10) Lock Down Screws
Side Studded Outlets: Two 2-1/16" 5K C/M 1-1/2" LP V.R.Plug
Material of Body: AISI 4130 Forged.
 M/C:DD , T/C:U , PSL:2



Tubing Head Spool



MECHANIC SEAL

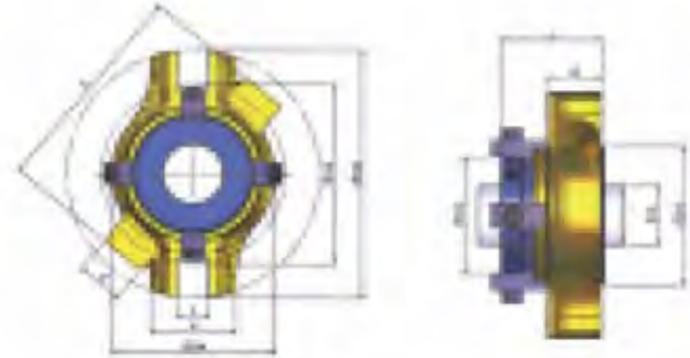
Utilizing State-of-the-art technology, FAPCO manufactures several kinds of mechanical seals under license of SEALTEK.

Style 600 SL Sleeveless

- Metal Parts:** AISI 316 T
- Springs:** Hastelloy C
- Sliding Faces:** Carbon, Silicon Carbide (Self Sintered), Tungsten Carbide (Ni-bounded), Silicon Carbide RB.
- Elastomers:** Viton, EPR, EPDM, Kalrez, Chemraz, HY-REZ.
- Other materials available upon request.



DN	D2	D3	D4	D5	D6	L	L2	C	H	E	Z
25	38	58	62	75	84	25	25	18	18	25	25
32	45	65	69	82	91	30	30	22	22	30	30
40	52	72	76	89	98	35	35	26	26	35	35
50	62	82	86	99	108	40	40	30	30	40	40
63	75	95	99	112	121	45	45	34	34	45	45
80	92	112	116	129	138	50	50	38	38	50	50
100	112	132	136	149	158	60	60	46	46	60	60
125	142	162	166	179	188	70	70	54	54	70	70
150	172	192	196	209	218	80	80	62	62	80	80
200	222	242	246	259	268	100	100	78	78	100	100
250	272	292	296	309	318	120	120	94	94	120	120
300	322	342	346	359	368	140	140	110	110	140	140
350	372	392	396	409	418	160	160	126	126	160	160
400	422	442	446	459	468	180	180	142	142	180	180
450	472	492	496	509	518	200	200	158	158	200	200
500	522	542	546	559	568	220	220	174	174	220	220
600	622	642	646	659	668	260	260	210	210	260	260
700	722	742	746	759	768	300	300	246	246	300	300
800	822	842	846	859	868	340	340	282	282	340	340
900	922	942	946	959	968	380	380	318	318	380	380
1000	1022	1042	1046	1059	1068	420	420	354	354	420	420

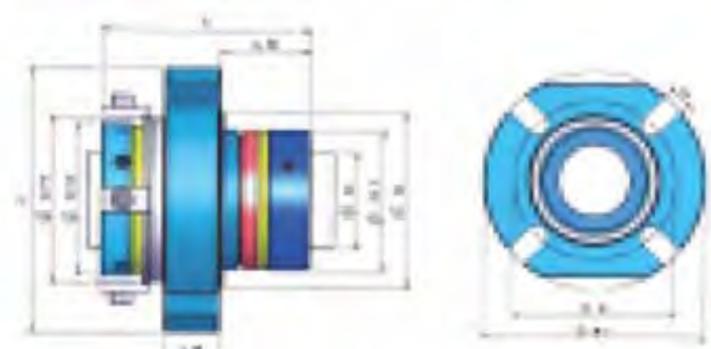


Style 777 SW Double Seal

DN	D2	D3	D4	D5	D6	D7	D8	D9	D10	L	L2	L3	L4	L5	L6	L7	L8	L9	L10
25	38	58	62	75	84	93	102	111	120	129	138	147	156	165	174	183	192	201	210
32	45	65	69	82	91	100	109	118	127	136	145	154	163	172	181	190	199	208	217
40	52	72	76	89	98	107	116	125	134	143	152	161	170	179	188	197	206	215	224
50	62	82	86	99	108	117	126	135	144	153	162	171	180	189	198	207	216	225	234
63	75	95	99	112	121	130	139	148	157	166	175	184	193	202	211	220	229	238	247
80	92	112	116	129	138	147	156	165	174	183	192	201	210	219	228	237	246	255	264
100	112	132	136	149	158	167	176	185	194	203	212	221	230	239	248	257	266	275	284
125	142	162	166	179	188	197	206	215	224	233	242	251	260	269	278	287	296	305	314
150	172	192	196	209	218	227	236	245	254	263	272	281	290	299	308	317	326	335	344
200	222	242	246	259	268	277	286	295	304	313	322	331	340	349	358	367	376	385	394
250	272	292	296	309	318	327	336	345	354	363	372	381	390	399	408	417	426	435	444
300	322	342	346	359	368	377	386	395	404	413	422	431	440	449	458	467	476	485	494
350	372	392	396	409	418	427	436	445	454	463	472	481	490	499	508	517	526	535	544
400	422	442	446	459	468	477	486	495	504	513	522	531	540	549	558	567	576	585	594
450	472	492	496	509	518	527	536	545	554	563	572	581	590	599	608	617	626	635	644
500	522	542	546	559	568	577	586	595	604	613	622	631	640	649	658	667	676	685	694
600	622	642	646	659	668	677	686	695	704	713	722	731	740	749	758	767	776	785	794
700	722	742	746	759	768	777	786	795	804	813	822	831	840	849	858	867	876	885	894
800	822	842	846	859	868	877	886	895	904	913	922	931	940	949	958	967	976	985	994
900	922	942	946	959	968	977	986	995	1004	1013	1022	1031	1040	1049	1058	1067	1076	1085	1094
1000	1022	1042	1046	1059	1068	1077	1086	1095	1104	1113	1122	1131	1140	1149	1158	1167	1176	1185	1194



Stationary, Balanced Cartridge Seal with Flush & Buffer Fluid Connections Designed for heavy duty applications





PERFORATION FACILITIES

FAPCO provides the major types of perforating gun systems, customized systems, and other perforating guns and bullets for special applications.

	HSD 2 7/8" , 4 SPT	HSD 3 3/8" , 6 SPT	HSD 4 1/2" , 12 SPT	HSD 4 1/2" , 5 SPT
Gun Size	2-7/8"	3-3/8"	4-1/2"	4-1/2"
Gun Fixing	60 degrees	60 degrees	135 degrees	60 degrees
Shot Density	6 shots/ft	6 shots/ft	12 shots/ft	5 shots/ft
Shot Spacing	2"	2"	1"	2.4"
Gun Length	5, 10, 20 ft	5, 10, 20 ft	5, 10, 20 ft	5, 10, 20 ft
Gun Weight	31, 57, 109 lbs	104, 180, 300 lbs	194, 330, 630 lbs	180, 300, 540 lbs
Maximum Pressure	20,000 psi	15,000 psi	11,000 psi	10,000 psi
Maximum Safe Pull	190,000 lbs	235,000 lbs	235,000 lbs	235,000 lbs
Minimum Pressure	0 psi in water	0 psi in water	0 psi in water	0 psi in water
Maximum OD	3.36"	3.61"	5.127"	4.74"



Carrier Strip System



High Shot Density System



HSD 2 7/8" High Shot Density Gun System



HSD 3 3/8" High Shot Density Gun System



2.25 T ZHOOBIN SHAPED CHARGE



2.25 T ZHOOBIN SHAPED CHARGE

	2 7/8" (69.99 mm)	3 3/8" (86.11 mm)	4 1/2" (114.30 mm)	4 1/2" (114.30 mm)	5" (127.00 mm)
Outer Diameter (mm)	69.99	86.11	114.30	114.30	127.00
Length (mm)	150	150	150	150	150
Weight (kg)	1.5	2.2	3.0	3.0	4.0
Shot Density (shots/ft)	6	6	12	12	5
Shot Spacing (in)	2	2	1	1	2.4
Maximum Pressure (psi)	20,000	15,000	11,000	11,000	10,000
Maximum Safe Pull (lbs)	190,000	235,000	235,000	235,000	235,000
Minimum Pressure (psi)	0	0	0	0	0
Maximum OD (mm)	69.99	86.11	114.30	114.30	127.00



38 T ZHOOBIN SHAPED CHARGE



22.5 T ZHOOBIN SHAPED CHARGE



ARSHAM SHAPED CHARGE



BARSAM SHAPED CHARGE



SEISMIC EXPLOSIVE CARTRIDGES, COMMON TYPE

The cartridge for use in boreholes consists of explosive, booster and threaded plastic shells, which can be assembled easily. Since the explosive and booster are sealed in the shells they have good water resistance and sinking ability. The products are suited for shallow boreholes or high water pressure deep boreholes with high power, reliable performance and complete detonation.

Specification:

Resistance to low temperature(C)	Oxygen balance (%)	Moisture (%) Max	Abel test at (82.2°C)
-20	(-2)-(+4)	1	>30
-20	(-2)-(+4)	1	>30
-20	(-2)-(+4)	1	>30

Packing:

In Carton: 20 kg

Application:

Oil and Gas exploration

Shelf life:

6 months

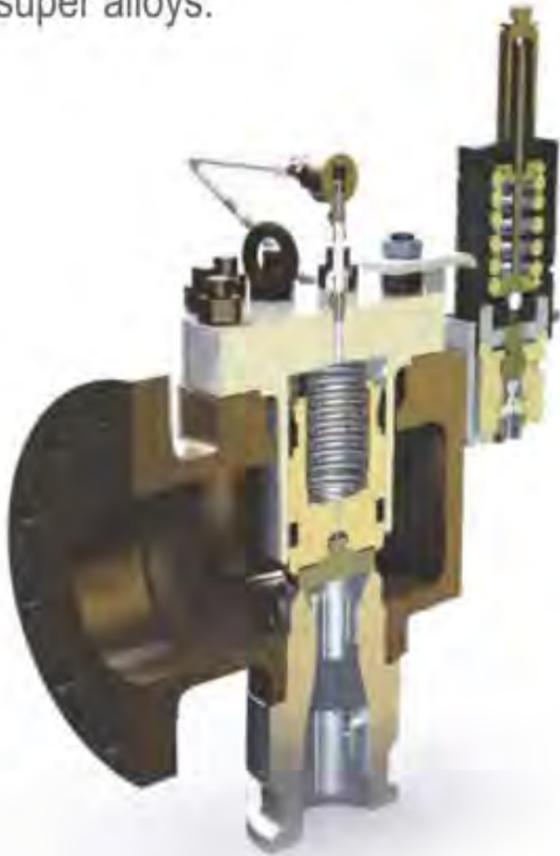




■ Pilot Operated Safety Relief Valve (POSRV)

Safety relief valves are pointed to as the heart of the production platforms.

FAPCO is honored to be the first in manufacturing one of the high tech types of POSRV (Pilot Operated Safety Relief Valve) with super alloys.



Type	Full Nozzle POSRV		
Seal	Metal/Metal		
Action	Modulating		
Approx. Weight	70 kg		
Pilot Body Material	Inconel 625		
Internal Pilot Material	Inconel 625		
Gasket Flnt	FKM		
Fluid & State	Gas + Liquid		
Molecular Weight	19.8		
Set Pressure	139 bar		
Discharge Temp.	84.30 °C		
Dimensions	Size & Orifice (inch & API Letter)	Inlet	4
		Orifice	L
	Flange Rating (ASME B16.5)	Inlet	2500
		Outlet	300

Pressure Safety Relief Valves are safety devices designed to protect pressurized vessels or systems during over-pressure events. There are many codes and standards to control their designs and applications.

The pressure Safety Relief valve must open at a predetermined set pressure, flow a rated capacity at a specified over pressure, and close when the system pressure has returned to safe level.

■ Pilot Operated Type

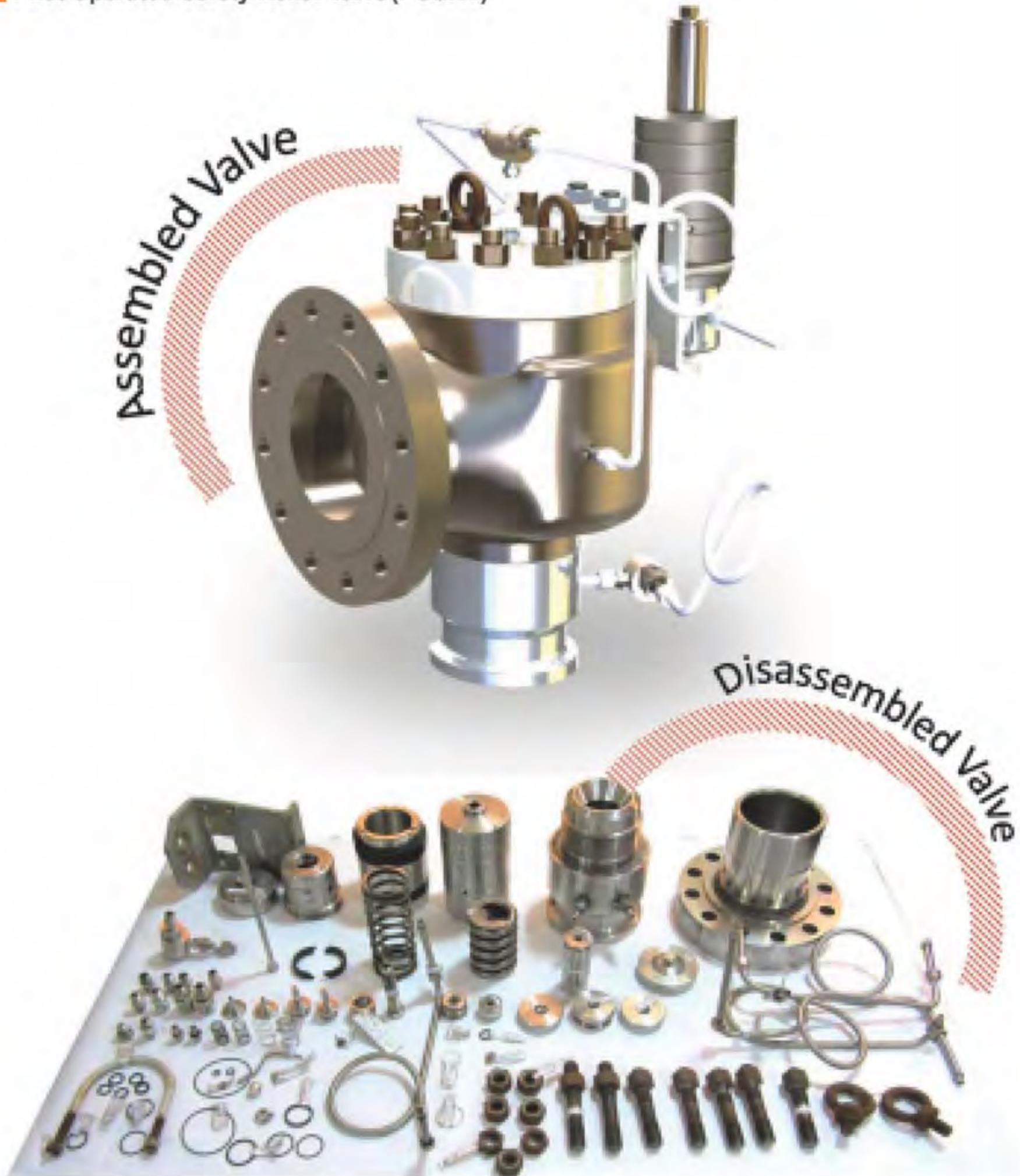
Pilot Operated PSRV consists of a main valve with piston operated disc and a pilot. Under normal operating conditions, the pilot allows system pressure into the piston chamber. Since the piston area is greater than the disc seat area, the disc is held closed.

When the set pressure is reached, the pilot actuates to shut off system fluid to the piston chamber and simultaneously vents the piston chamber. This causes the disc to open.



INDUSTRIAL VALVES

■ Pilot Operated Safety Relief Valve (POSRV)





INDUSTRIAL VALVES

Ball Valves



Class: #600
Material: LF2 A350
Performance: Emergency Shut Down
Size: 30" to 56"
Type: Full Welded
Standard: API 6D



Solid Block Valve, 6-3/8" Full Bore-5K
Bottom Flange: 9" - 5K
Top Studded: 7-1/16" - 5K
WITH (4) Gate Valve & (1) safety Valve 7-1/16" - 5K
WITH (2) 7-1/16" - 5K Studded outlets at 45° on Right and Left hand,
Material of Body and Bonnet : AISI 4130 Forged
Material of Seats and Gates: AISI 4130 forged Hard Faced.
Material of Stems: 17-4PH, SS
M/C:DD , T/C:U , PSL:3D , PR:2



Needle Valve
1/2" - 5k, 10k



Composite Valve
3 1/8" - 5k



Safety Valve
S.S.V. 7 1/16"



CONTROL VALVES

Signing contracts with 3 foreign and well-known valve manufacturers, FAPCO has initiated the technology transfer for high-tech control valves. FAPCO is going to establish its own control valve factory to repair and manufacture “Made-In-Iran” valves. Besides, FAPCO will establish the first valve reference laboratory in Iran.

Main Body Types:

- Globe Valve
- Gate Valve
- Ball Valve
- Butterfly Valve
- Plug Valve
- Diaphragm Valve
- Pinch Valve

Actuator Types:

- Electrical
- Hydraulic
- Pneumatic





ESP & SRP

FAPCO is going forward to design and establish an ESP workshop in order to repair all types of electrical submersible pumps in Iran. SRP pumps are also another field of interest for repair and manufacture.

Workshop crews are from well experienced REDA Pump repair shop team.



Sucker Road Pumps



■ ESP Components



Pump Section



Gas Handling System



Protector Section



Electrical Motor



GAS TURBO-COMPRESSORS

FAPCO has utilizes its expert industry to machine and manufacture turbo compressors parts and body under Siemens license.

Gas Turbo Compressor
Types: TC50, IGAT V





TANKS & VESSELS

FAPCO manufactures tanks and vessels required for storage and transportation tanks of various liquids and gases in a wide range of various capacities for use in domestic, industrial and transportation sectors.



Projects:

- Design, Manufacture & Installation of Isfahan Refinery Pressure Vessels
- Design, Manufacture & Installation of Bandar-Abbas Refinery Pressure Vessels

■ Storage Tank (Fixed Roof, Floating Roof)



Projects:

- Design, Manufacture & Installation of Isfahan Refinery Storage Tanks
- Manufacture & Installation of South Pars Condensate Tanks



STEEL & SUPER ALLOYS

FAPCO is specialized in melting and casting (steel, cast iron and super alloys), ingot casting, heavy components casting and forging (open and closed), radial forging, pressing, machining, heat treatment and finishing products.



Product Name	Standard-Material No.	Standard	Applications
Casing Head Housing	AISI 4130-4140	ASTM	Wellhead Facilities
Casing / Tubing Head Spool	AISI 4130-4140	ASTM	
Y- Tubing Spool(Y-Block)	AISI 4130-4140	ASTM	
Bonnet	AISI 4130-4140	ASTM	
Gate Valve Body	AISI 4130-4140	ASTM	
Safety Valve Body	AISI 4130-4140	ASTM	
Upper Master Block (Solid Block)	AISI 4130-4140	ASTM	
Lower Master Block	AISI 4130-4140	ASTM	
Cross	AISI 4130-4140	ASTM	
Tee	AISI 4130-4140	ASTM	
Tree Cap	AISI 4130-4140	ASTM	
Adapter Flange(D.S.A.Flange)	AISI 4130-4140	ASTM	
Stabilizer	API-4145 H	ASTM	
Drill Collar	API-4145 H	ASTM	

We also offer alloy steel products in different grades to fulfill the specific application requirements of oil and gas industry.



Gate Valve Body
5,000 psi



Casing Head Housing Body
3,000 psi



Upper Master Block
(Solid Body)
5,000 psi



MINE & INDUSTRY

Fanavaran Parsian Industrial Designs Development Company, considering its market development strategy and vast experience in EPC projects, as well as designing, engineering, knowledge management, plan management, project management, supervision, control, installation and utilization capabilities, has been well-established as an active company in designing and executing industrial projects with the ability to design, manufacture and provide the equipment. The reliable brand based on the professional performance and the consequent costumers' satisfaction has been resulted in activities development. At the moment, FAPCO is honored to be one of the well-known and active contractors of the National Iranian Copper Industries Company.

FAPCO, having a glorious experience in designing, producing and performing a variety of light or heavy metal structures and prefabricated products, and benefiting from the contemporary technology and professional staff, has been providing a widespread range of products and has become one of the pioneers of this industry.



PROJECTS



- Construction of Sulfuric Acid Plant of Sarcheshmeh Copper Complex with a Capacity of 100,000 Tons per Year



- The construction contract of the new sulfuric acid plant of Sarcheshmeh National Copper Industries with a capacity of one million tons per year (3100 tons of 100% acid) was signed in the spring of 2011. The output alkalis of the flash furnaces and a part of gases of converter furnaces will be used to feed the acid production plant.



- Construction of Crude Oil Production Plant with a Capacity of 1000 tons perday of soybeans as EPCM



- **Bitumen Production Unit of Isfahan Coal Tar Refinery** produces anodic, soft and graphite bitumen. Since the production of anodic bitumen in the domestic and foreign market has been economical, a new unit with the nominal capacity of 7150 kilograms per hour named Industrial Development of Bitumen has been established in which all the soft bitumen of the production line will be converted into anodic.

- **Construction of the Plant of Furfural Extraction from Bagasse with a Capacity of 3000 tons per Year as EPCM**



- **Metal Silos**
Known as one of the best, FAPCO is among the first manufacturers to offer the skid structures in recent years. State-of-the-art research and design facility gives FAPCO's top corps of engineers the tools needed to design and deliver equipment that fulfills the needs of customers.



MINE & INDUSTRY

■ Capabilities:

- Design, construction, installation and commissioning of industrial projects as EPC and EPCF
- Management of the industrial projects as MC
- Localization of key equipment in strategic industries
- Design and construction of heavy structures up to 10,000 tons of weight
- Design, construction and installation of blast furnaces
- Design, manufacture, supply and installation of different converters, crushers, ladles (used in the steel, minerals and mining industries)
- Design, construction and installation of heat exchangers and separating nodes
- Design, construction and installation of industrial structures
- Design and manufacturing of wear-resistant steel parts
- Design, construction and installation of pressure tanks and storage tanks
- Design, construction and installation of pressure tanks
- Design, manufacture and installation prefabricated metal structures
- Design, construction and installation of various metal silos
- Design, construction and installation of various industrial and workshop conexas
- Design, construction and of portable conexas
- Design, construction and installation of various light and heavy industrial buildings

■ Isfahan Iron Melting Furnace



■ Isfahan Iron Melting Furnace





STEEL STRUCTURES

■ Gotvand Dam Stator Frame



■ Salman Platform Skid (H.P.U.)



Dimensions: 15500 x 10600 x 2000 mm
Weight: 85 Tons
Load Capacity: 1000 Tons
No. of Hydraulic Jacks: 4 (150 Tons Capacity of each)

■ Drilling Containers & Camps

FAPCO container homes offer a fast, green and sustainable approach to building. These building units are manufactured in a factory controlled environment so they are standardized and reliable.





STEEL STRUCTURES

Dimensions	8m x 3m x 2.6 m
Weight	3000 Kg
Structure	Steel type structure with standard profile and formed sheets
Interior	16 mm MDF coated with high isolation
Exterior	Shadow-lined sheets
Doors & Windows	Double Walled PVC



■ Heavy Saloons



Projects:

- Offshore Platforms
- Dam Structures
- Power Plant Structures
- Overhead Cranes
- Gantry Cranes
- Metal Silos
- Cement Factory Structures
- Petrochemical & Refinery Equipment

■ Melt Shop





CNG EQUIPMENT

FAPCO, the largest and the most famous company in Iran's CNG industry, benefiting from its long experience in converting Gasoline-fuel cars into bi-fuel, Kit equipment manufacturing, CNG tanks production and widespread workshop network in the country, has established an active net of providers as well as employing professional workforce in CNG industry and using a premier international technology alongside the necessary standards to offer exclusive service to the public costumers.



CNG EQUIPMENT

ME Reducer

تجهیزات تبدیل موتور

حجم موتور (لیتر)	1.6 - 2.0
توان موتور (حص)	100 - 150
توان موتور (کیلووات)	75 - 110
حجم مخزن (لیتر)	10
حجم مخزن (گالون)	2.6 - 3.9
حجم مخزن (متر مکعب)	0.35 - 0.52

ملاحظات

- قابلیت نصب روی موتورهای مختلف



Tecno M Reducer

تجهیزات تبدیل موتور

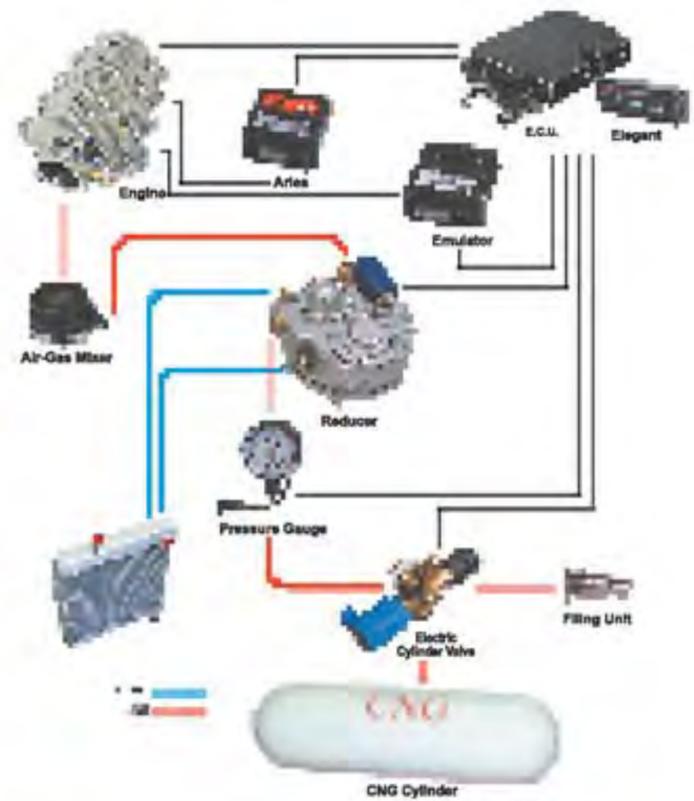
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ملاحظات

- قابلیت نصب روی موتورهای مختلف



Aftermarket Conversion Contractors Performance Comparative Chart



Capabilities

- CNG Conversion of Various Gasoline-fuel Cars
- Manufacturing CNG Tanks in Different Sizes
- Design and Manufacturing Medium Size Refueling CNG Stations (Fast Home Fuel)
- Production, Sales and Aftersales Services of CNG Equipment
- Annual Inspection of Bi-fuel Cars and Issuing Insurance Card and Refueling Label
- Periodic Inspection of CNG Tanks (Every 3 Years)
- Training the Installation of Bi-fuel Kit to Volunteers
- CNG Tanks Replacement
- Exporting CNG Kit Equipment





CNG Refueling Stations



Manufacturer of Medium-Sized CNG Refueling Stations (Model: SFCNG27)

The development of CNG bi-fuel cars in the country and the limited number of refueling stations in metropolises and big cities has been resulted in long queues and a long waste of time for refueling. Consequently, FAPCO, after a deep investigation, selected an up-to-date technology which complies with our geographical conditions and began to transmit the technology and localizing the production of medium-sized CNG refueling station, named SFCNG27, which is appropriate for complexes.



Places of Usage

This machine is able to work in different weather conditions of Iran and it can be installed in large apartment complexes, taxi terminals, factories, governmental centers, garrisons, and even in large refueling stations for night usage to decrease the electricity consumption and equipment depreciation.

Significant Features:

- Low wearing of parts because of the low RPM of the engine
- Gas temperature control system
- Separate fan for gas cooling
- Automatic gas cut-off and compressor turn-off system in case a problem occurs, using PLC



CNG EQUIPMENT



Pressur Gauge



Electric Cylinder Valve



Elegant Change Over Switch



Emulator



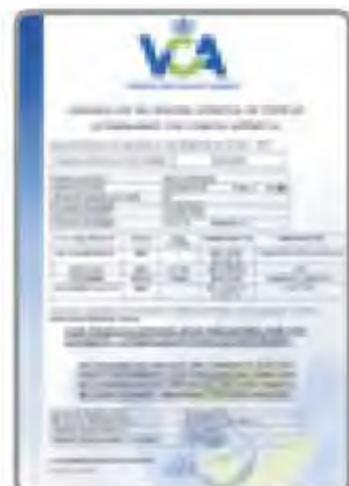
FAPCO has stepped in alternative fuel market with special favour on quality, innovation & customer satisfaction which are the basis of its glory in this industry.

Through such strategy, FAPCO has concluded a transfer of technology & licensing contract with a well-known CNG & LPG Kit manufacturer, MTM s.r.l (BRC).

Through it's promotion path, FAPCO has been successful in the following improvements:

- Achieving about 50% share of IRAN's market as the third CNG car producer in the world
- Successful in exporting CNG kits to different countries
- Developing the most extensive after market workshop network in the country

Today, through manufacturing of a variety of products in CNG industry, we aim to have an effective presence in international markets.





RENEWABLE ENERGIES

Due to the development of the country, especially in the urban sector, the subject of clean and renewable energy, optimizing energy optimization, and recycling has found a key role. Implementation of targeted subsidies and the rise of the energy exchangers have made consumption optimization and energy conservation more important than before in all aspects of the society. FAPCO, as a specialized company, has constructed a dynamic and agile structure based on this issue and began giving consultation and operational services in this field.



The Waste Management



Capabilities:

1. The Waste Management:

- Production of electrical energy from waste
- Production of gas from garbage
- Design, construction, installation and Executing waste lines
- Design, construction, installation and Executing of the processing lines for manure (compost)
- Design and equipping biogas extraction from the waste buried in the landfills (LFG)
- Conceptual, basic, detailed and operational design of Incineration Plant project
- Production of Solid Fuel out of Waste



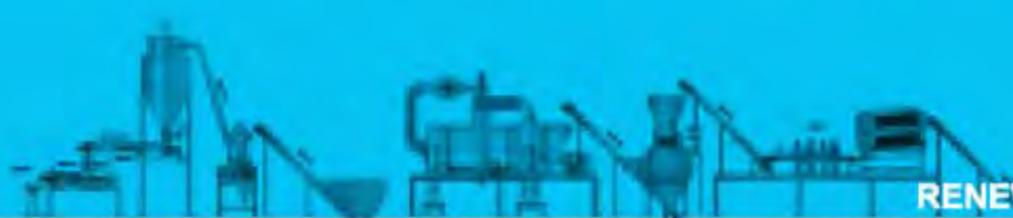
Optimization of Energy Consumption

Capabilities:

2. Optimization of Energy Consumption:

- Design, fabrication and construction of CHP plants
- Design and installation of condensing equipment
- Consulting to optimize and reduce energy consumption in the industrial sector
- Figuring out the potential for saving energy in industrial units
- Technical and economic assessment of investment on reducing energy consumption in industrial units
- Installation of equipment such as heat exchangers, boilers, compressors, chillers and etc.
- Diesel generators and gas turbines
- Production of LED Lamps





Compost Fertilizer



Production :
First Class Compost Fertilizer

Nano Compost Fertilizer

Granule Nano Compost Fertilizer

Enriched Granule Compost Fertilizer

Sulfuric Granule Compost Fertilizer

Benefits of Using Compost Fertilizers

- Providing Nutrients Evenly and for a Long Period of Time
- Soil Structure Improvement and Making Porosity for Better Air and Water Penetration
- Water Storage and Less Watering Repetitions
- Not Causing Damage to the Plants as a Result of Over-consumption
- Economical





Processing Line ■



Hamedan Urban Waste Recycling Site ■



Processing Line Equipment Layout ■



Refining Line Equipment Layout ■

**FAPCO, THE FIRST INDUSTRIAL
GENERAL CONTRACTOR IN IRAN**



FAN AVARAN PARSIAN
INDUSTRIAL PROJECTS COMPANY

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