



Khavar Engineering Co.

Products Presentation

Spare parts



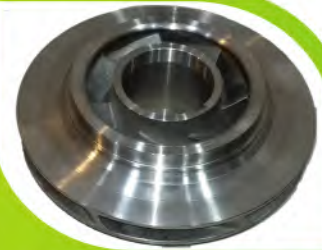
By Commercial Department

September 2023

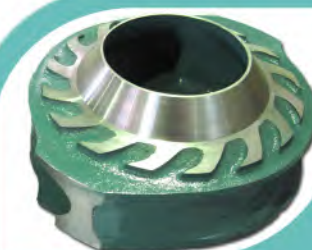
Rich History to
Reach Brilliant
FUTURE



Duplex
Impeller



Wear resistance
Impeller



Shaft sleeve

Standardized chemical pump



قطعات

Pelton
Wheel



Bearing
Sleeve



شرکت مهندسی ماشین های دوار خاور طوس
KHAVAR TOOS ENGINEERING CO.

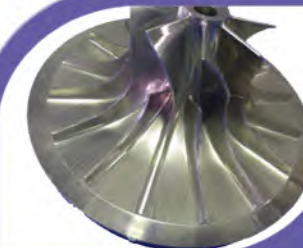
Balance
Disc seat



Disc
Coupling



High speed
Impeller



Rotor Turbo
Charger



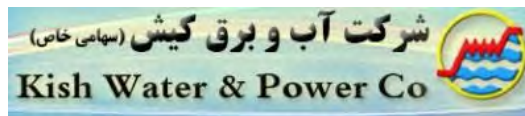
Silicon Plane
Bearing



KEC Main Customers:



شرکت مهندسی ماشین های دوار خاور طوس
KHAVAR TOOS ENGINEERING CO.



شرکت توربین های صنعتی
YAZD GHADIR INDUSTRIAL
توربین های صنعتی
غدیریزد
TURBINES CO.



شرکت بهره برداری نفت و گاز کچساران



KEC Location:

Head Office:

- Mashhad, Iran



Factory:

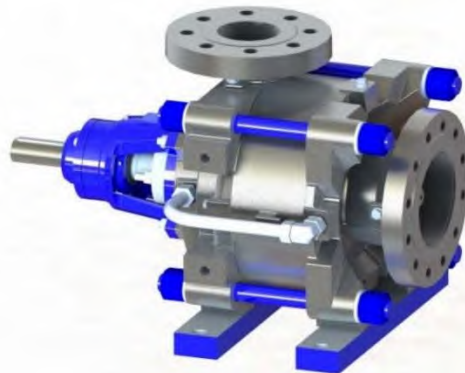
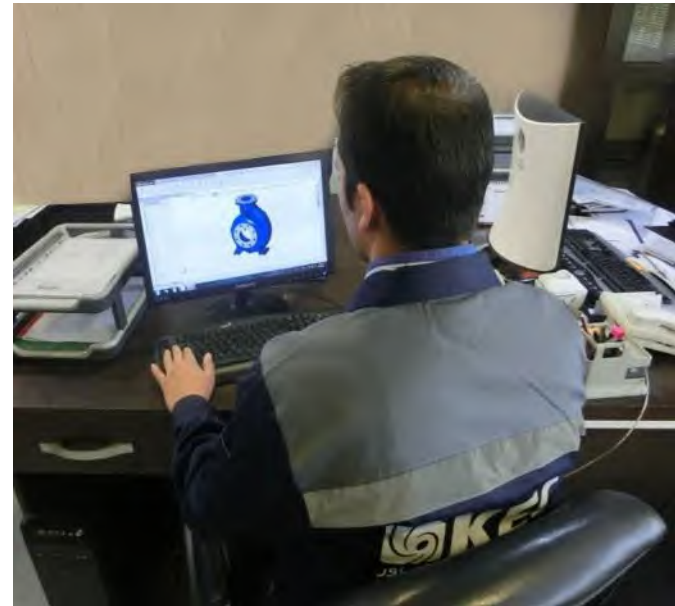
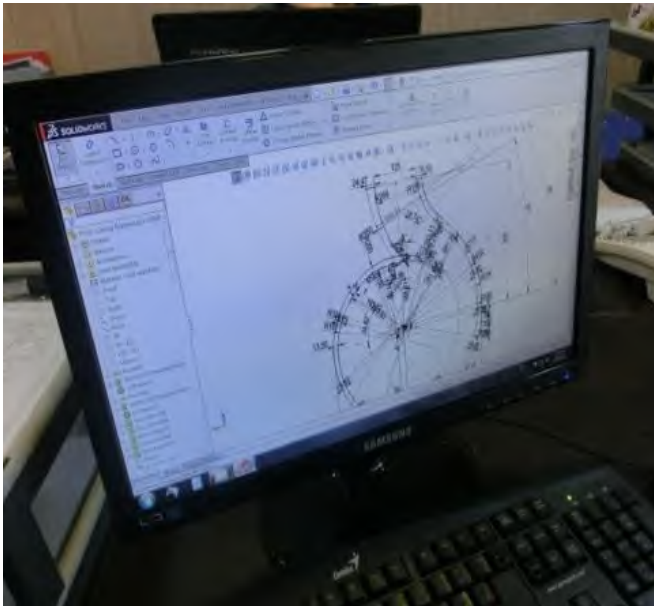
- Khorasan Science & Technology Park, Mashhad, Iran



- ✓ Data collecting via calibrated precision instruments and 3D scanner



- ✓ 3D modeling and assembling via SolidWorks software



Booklet of detailed manufacturing processes

دفترچه جزئیات فرآیند ساخت

گواهی کیفیت بومی سازی (LQC)

شماره: FEQ009

شماره بازنگری: 01

شماره صفحه: 1-1

فرآیند ساخت قطعات



کد ساخت	ماره مدرک
A1A0B2B6H10J28J10J29	**
A1A0B2B6H2J28 J10J29	**
A1A0B2B6H2J28 J10J29	**
A1A0B1B6H2H27J1J24J25J28 J10J29	**
A1A0B1B6H2H11J28 J10J29	**
A1A0B2B6H10J28 J10J29	**
A1A0B1B6H2H10J1J28 J10J29	**

بهد - پارک علم و فناوری خراسان رضوی - نبش توسکایک

۰۵۱-۳۵۴۲۵۱

۰۵۱-۳۵۴۵۲۲



شرکت مهندسی ماشین های دوار خاور
KHAVAR ENGINEERING CO.

سازنده: شرکت ماشین های دوار خاور

طرح کنترل کیفی

QUALITY CONTROL PLAN (QCP)



شرکت فولاد مبارکه
کارفرما: مجتمع فولاد مبارکه

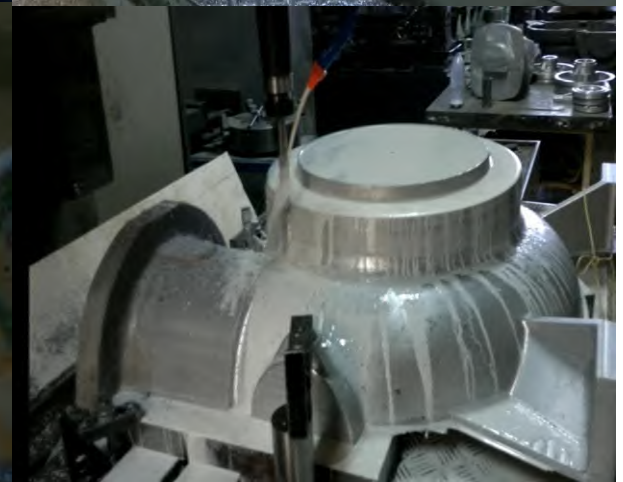
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وضعیت کنترل کیفی		Review Document	RD
مدارک تهیه شود و به محض درخواست کنترل کیفی، تحویل گردد.			
حداقل دو روز کاری قبل از سر رسید زمان فرآیند W، به کنترل کیفی اطلاع رسانی گردد.		Witness	W
حداقل دو روز کاری قبل از سر رسید زمان فرآیند H، به کنترل کیفی اطلاع رسانی گردد. ادامه فرآیند تولید منوط به داشتن مجوز کنترل کیفی می باشد.		Hold	H

ردیف	فعالیت	استاندارد	تعداد بازرسی	استاندارد پذیرش	وضعیت کنترل کیفی		توضیحات
					سازنده	LQC	
1	بررسی مدارک						
1.1	طرح ریزی فرآیند ساخت (OPC)	OPC	100%	-	H	W	
1.2	Shop drawings	Approved shop DWG	100%	-	-	W	
1.4	روش انجام فرآیند جوشکاری	AWS D1.1	100%	AWS D1.1	W	W	
1.5	گواهی (تأییدیه) مواد خام اولیه (فولاد معمولی)	DIN EN 10083	100%	DIN EN 10083	RD	H	Material certificate
1.6	گواهی (تأییدیه) مواد خام اولیه (فولاد رنگ نزن)	DIN EN 10088	100%	DIN EN 10088	RD	H	Material certificate
1.7	روش انجام تست غیر مخرب (NDT)	DIN EN 10228-3	100%	DIN EN 10228-3	RD	RD	ASNT-NDT documents
1.8	صلاحیت اپراتور انجام تست غیر مخرب (NDT)	ASNT Level II	100%	ASNT Level II	RD	RD	QC report
2.7	بازرسی ظاهری و ابعادی	EN 1330-10, 13018	100%	EN 1330-10	RD	H	Standard

Manufacturing Process

- ✓ Manufacturing Models by CNC Machine
- ✓ Special Coating to Improve Surface Quality of Casting Parts



Manufacturing Process

- ✓ Try Different Casting Parameters and Heat Treatment Cycles to Achieve the Desired Microstructure.



Manufacturing processes

✓ Machining Special parts



✓ Machining Parts up to 60 HRC Hardness



Manufacturing Process

- ✓ **Casting Capability:**
 - **Cast Iron (EN-JL1040, EN-JS 1015)**
 - **Wear Resistant White Cast Iron (EN-JN3029)**
 - **Carbon Steel (WCB)**
 - **Stainless Steel Alloy (1.4008, 1.4028, 1.4308, 1.4309, 1.4517, 1.4468)**
 - **Bronze Alloy (CC480K , CC483K , CC491K)**

Manufacturing Process

- ✓ Investment Casting Process is Offered for Parts that Needs:

Excellent Surface Finish
High Dimensional Accuracy
Minimize Casting Defect



Increase Pump Efficiency
Increase Life Time
Decrease Expense of Impeller Balancing

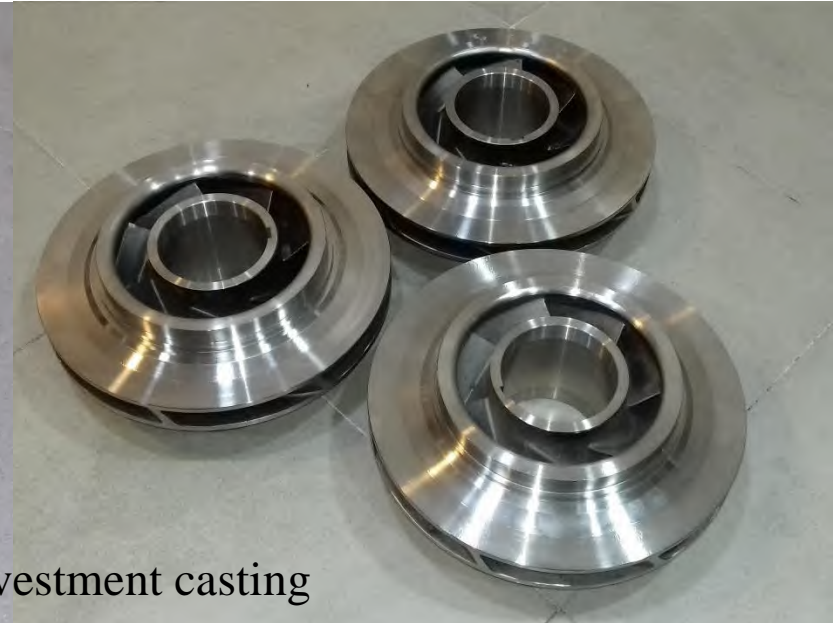
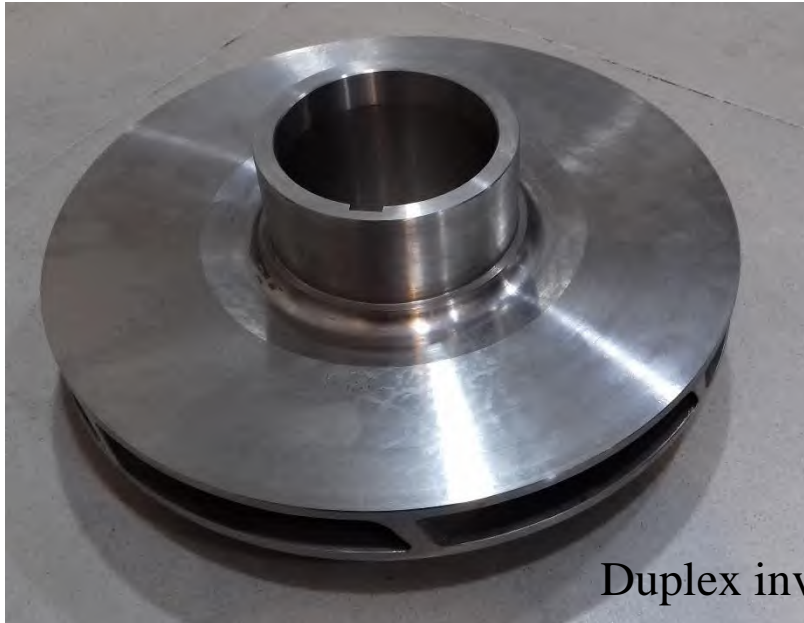


No.	Description	Specification	Customers	Location
3.	RO Duplex multistage centrifugal high pressure pumps for sea water	KMSH-RO 2500-150/4 H= 600 m Q= 320 m3/hr	KAVEH Industrial Group	Booshehr



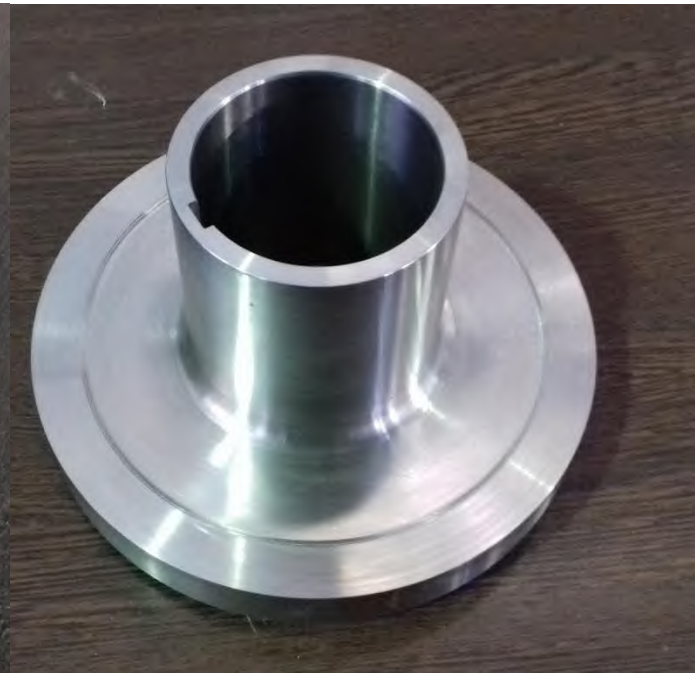
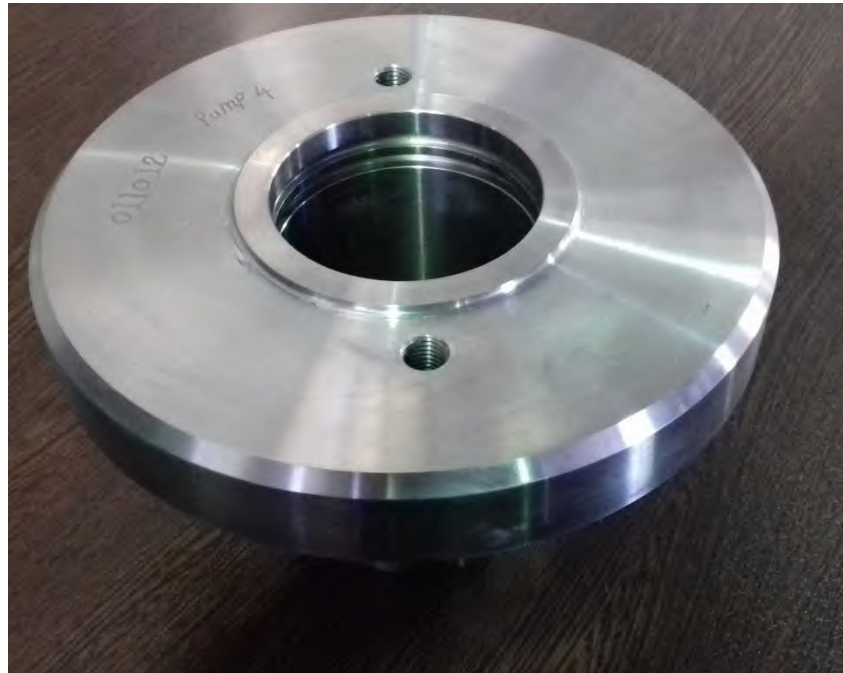
With **Pelton Turbine**
 Duplex Material

No.	Pump Description	Pump Specification	Spare part name	Material
3.	RO Duplex multistage centrifugal high pressure pumps for sea water	KMSH-RO 2500-150/4 H= 600 m Q= 320 m3/hr	Impeller	1.4468 (Duplex)

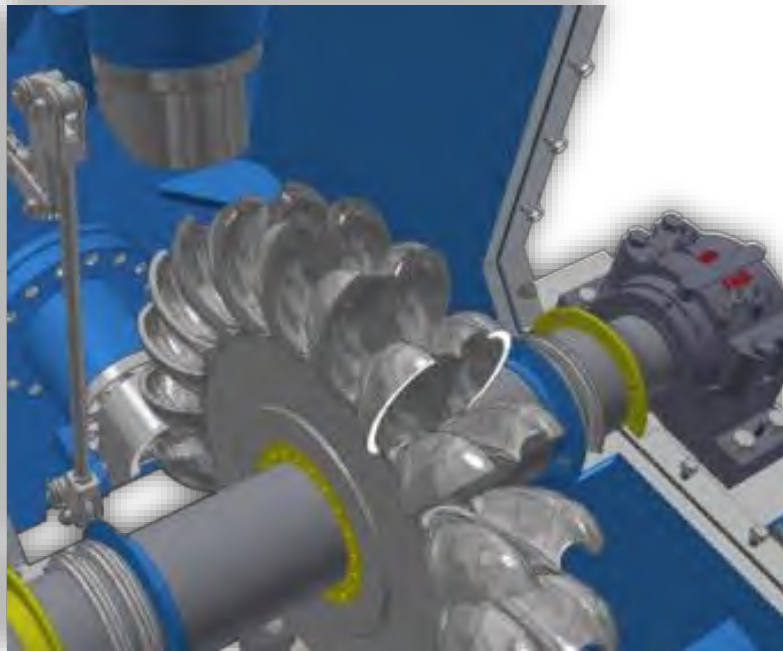


Duplex investment casting

No.	Pump Description	Pump Specification	Spare part name	Material
3.	RO Duplex multistage centrifugal high pressure pumps for sea water	KMSH-RO 2500-150/4 H= 600 m Q= 320 m3/hr	Balance disc	1.4462 (Duplex)



No.	Pump Description	Pump Specification	Spare part name	Material
3.	RO Duplex multistage centrifugal high pressure pumps for sea water	KMSH-RO 2500-150/4 H= 600 m Q= 320 m3/hr	Pelton runner	1.4468 (Duplex)

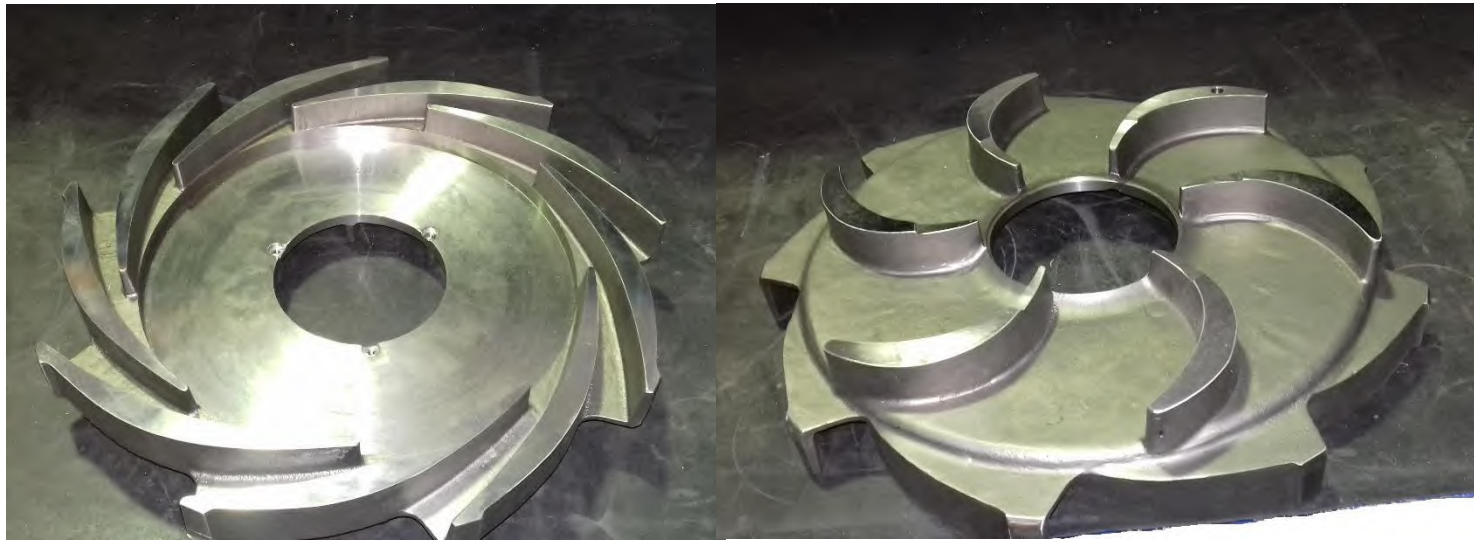


Duplex investment casting

No.	Pump Description	Pump Specification	Part name	Material
3.	RO Duplex multistage centrifugal high pressure pumps for sea water	KMSH-RO 2500-150/4 H= 600 m Q= 320 m3/hr	Balance disc seat	1.4468+Peek natural



No.	Pump Description	Pump Specification	Spare part name	Material
3.	RO Duplex multistage centrifugal high pressure pumps for sea water	KMSH-RO 2500-150/4 H= 600 m Q= 320 m3/hr	Diffuser	1.4468 (Duplex)



No.	Pump Description	Pump Specification	Spare part name	Material
3.	RO Duplex multistage centrifugal high pressure pumps for sea water	KMSH-RO 2500-150/4 H= 600 m Q= 320 m ³ /hr	Shaft sleeve	1.4462 (Duplex)



No.	Pump Description	Pump Specification	Customers	Location
3.	RO Duplex multistage centrifugal high pressure pumps for sea water	KMSH-RO 1000-80/5 H =400 m Q =95 m3/hr	South Raadab Engineering	Hormozgan





No.	Pump Description	Pump Specification	Spare part name	Material
3.	RO Duplex multistage centrifugal high pressure pumps for sea water	KMSH-RO 1000-80/5 H =400 m Q =95 m3/hr	Impeller	1.4468 (Duplex)



Duplex investment casting



No.	Pump Description	Pump Specification	Spare part name	Material
3.	RO Duplex multistage centrifugal high pressure pumps for sea water	KMSH-RO 1000-80/5 H =400 m Q =95 m3/hr	Bearing bracket	GG25



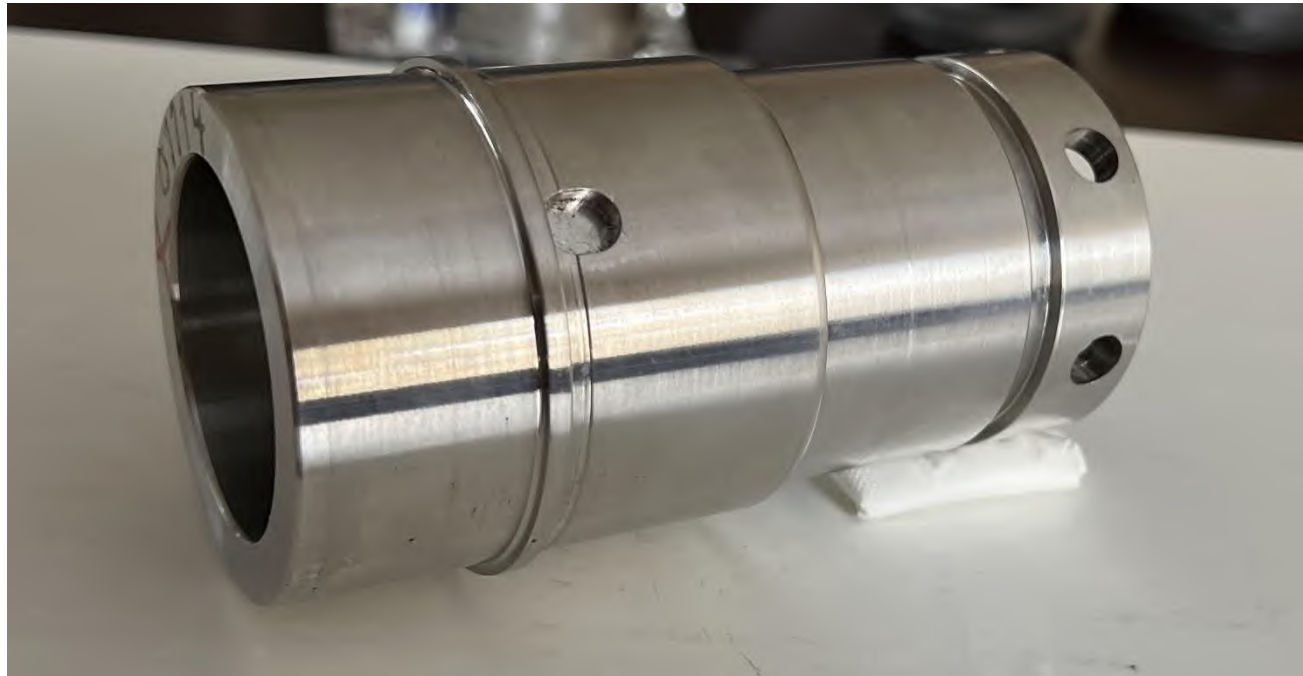


No.	Pump Description	Pump Specification	Spare part name	Material
3.	RO Duplex multistage centrifugal high pressure pumps for sea water	KMSH-RO 1000-80/5 H =400 m Q =95 m3/hr	Bearing Isolator	PTFE Carbon 25%



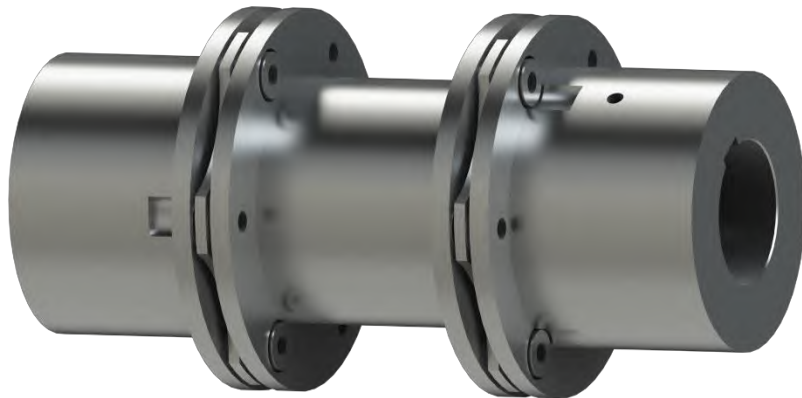


No.	Pump Description	Pump Specification	Spare part name	Material
3.	RO Duplex multistage centrifugal high pressure pumps for sea water	KMSH-RO 1000-80/5 H =400 m Q =95 m3/hr	Shaft sleeve	1.4462 (Duplex)

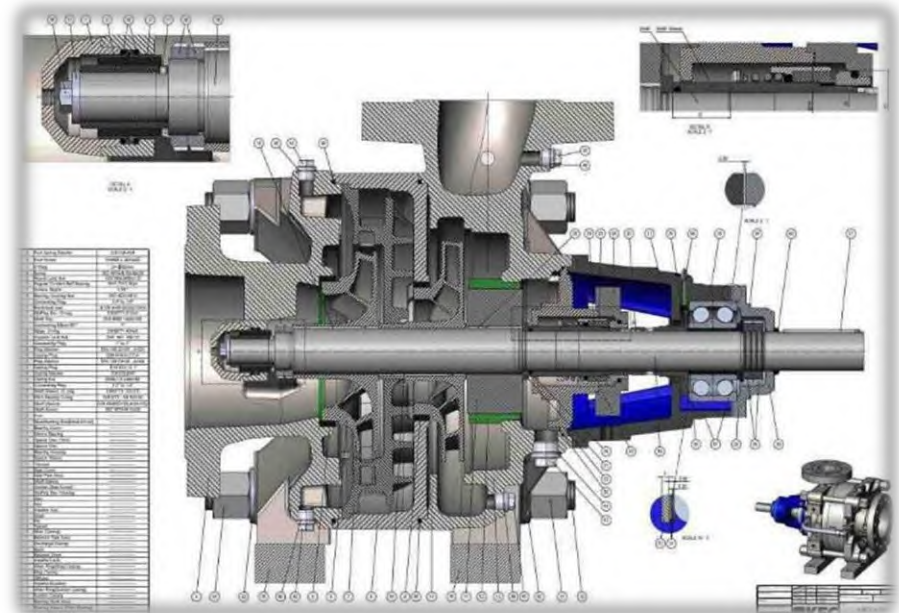




No.	Pump Description	Pump Specification	Spare part name	Material
3.	RO Duplex multistage centrifugal high pressure pumps for sea water	KMSH-RO 1000-80/5 H =400 m Q =95 m3/hr	Disc coupling	SS304 spring + SS316



No.	Pump Description	Specification	Customers	Location
3.	RO multistage centrifugal high pressure pumps for sea water Balance piston new design end suction	KMSH RO- MTC 125/2 H= 147 m Q=250 m3/hr	HOSCO	Hormozgan

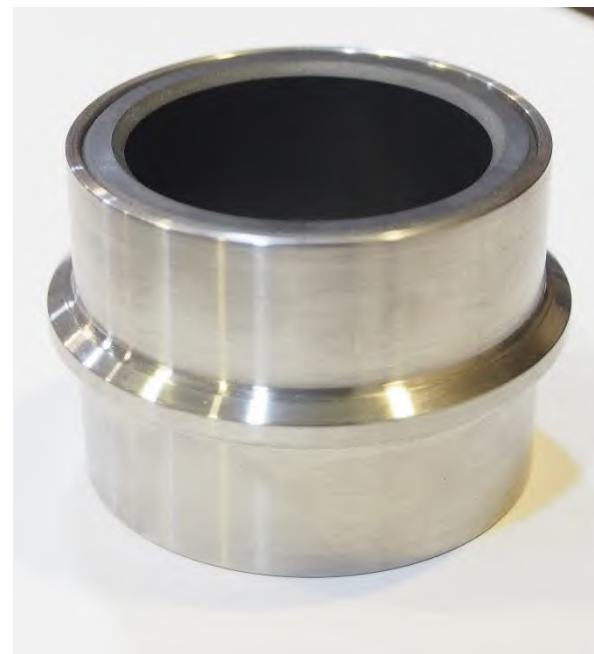


No.	Pump Description	Specification	Spare Part name	Material
3.	RO multistage centrifugal high pressure pumps for sea water Balance piston new design end suction	KMSH RO- MTC 125/2 H= 147 m Q=250 m3/hr	Impeller	SS316 / Duplex



SS316 investment casting

No.	Pump Description	Specification	Spare Part name	Material
3.	RO multistage centrifugal high pressure pumps for sea water Balance piston new design end suction	KMSH RO- MTC 125/2 H= 147 m Q=250 m3/hr	Bush	Silicon Carbide



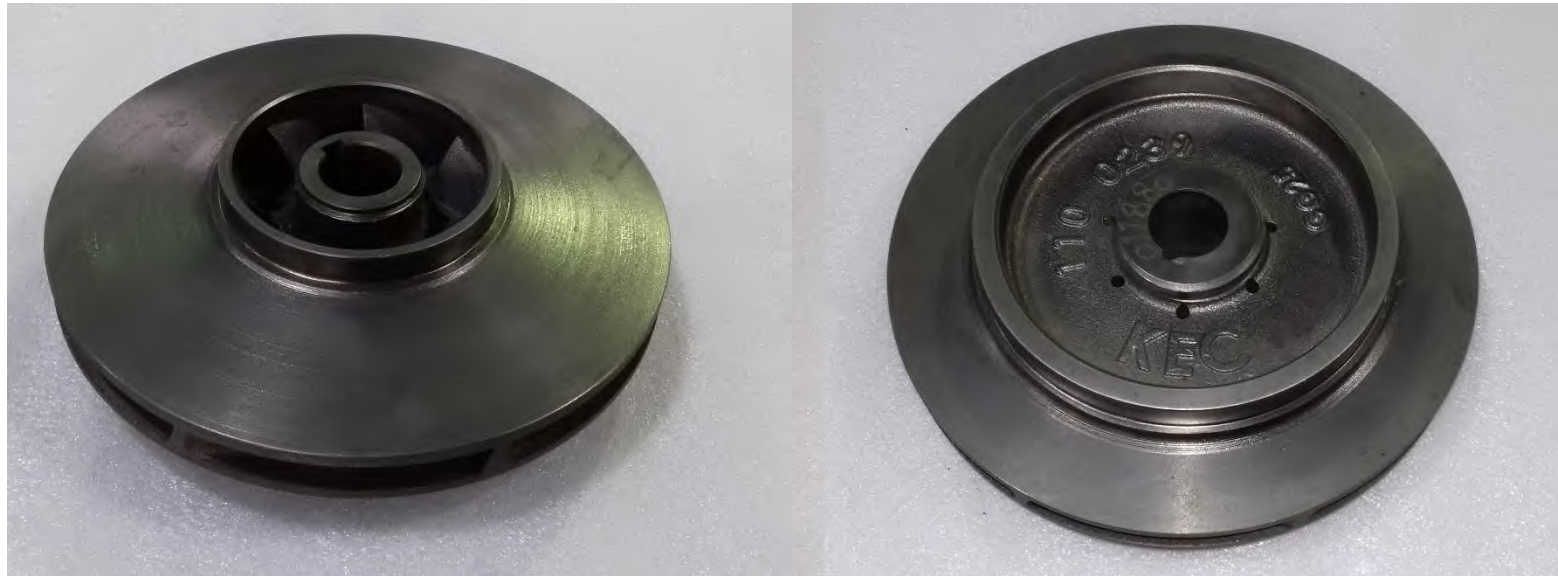
No.	Description	Specification	Customers	Location
	Manufacturing of main and emergency pumps of gas turbine lube oil skid	K-NSS 65-250 H= 68 m Q=65 m3/hr	MAPNA (TUGA)	Iran



Acc. To API610 VS5

Gas Turbine Lube Oil System @3000 rpm

No.	Pump Description	Specification	Spare part name	Material
	Manufacturing of main and emergency pumps of gas turbine lube oil skid	K-NSS 65-250 H= 68 m Q=65 m3/hr	Impeller	GG25



No.	Pump Description	Specification	Spare part name	Material
	Manufacturing of main and emergency pumps of gas turbine lube oil skid	K-NSS 65-250 H= 68 m Q=65 m3/hr	Casing	GG25



No.	Description	Specification	Customers	Location
	Vertical line shaft multistage turbine pumps with 8 meter for furnace heat removal	KVLP 18HH-B*3 H= 50 m Q=1350 m3/hr	MSC	Isfahan



No.	Pump Description	Specification	Spare part name	Material
	Vertical line shaft multistage turbine pumps with 8 meter for furnace heat removal	KVLP 18HH-B*3 H= 50 m Q=1350 m3/hr	Impeller	CuAl10Fe5Ni5 CC480K



No.	Pump Description	Specification	Spare part name	Material
	Vertical line shaft multistage turbine pumps with 8 meter for furnace heat removal	KVLP 18HH-B*3 H= 50 m Q=1350 m3/hr	Diffuser	GG25



No.	Pump Description	Specification	Spare part name	Material
	Vertical line shaft multistage turbine pumps with 8 meter for furnace heat removal	KVLP 18HH-B*3 H= 50 m Q=1350 m3/hr	Bush (rubber bearing)	GG25



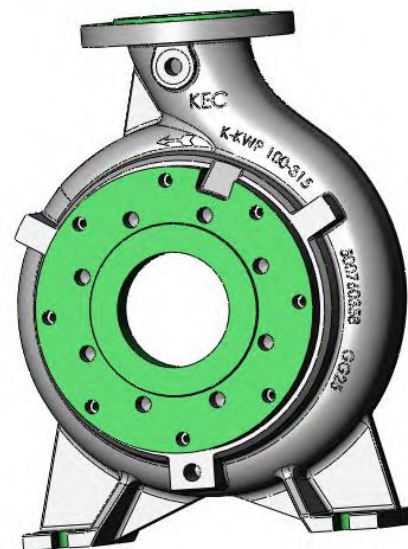
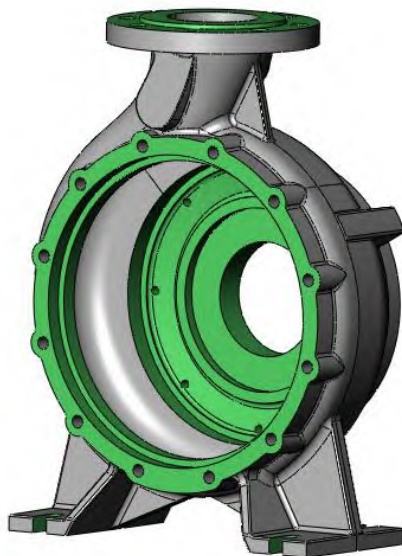
No.	Description	Specification	Customers	Location
	Manufacturing of heavy duty Norihard material slurry pump for mining	KNCP 100-315 H= 22 m Q=175 m3/hr	HOSCO	Hormozgan



No.	Pump Description	Specification	Spare part name	Material
	Manufacturing of heavy duty Norihard material slurry pump for mining	KNCP 100-315 H= 22 m Q=175 m3/hr	Impeller	Norihard JN3029



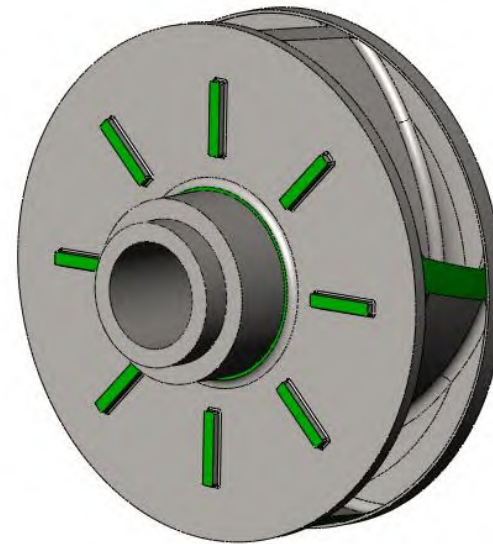
No.	Pump Description	Specification	Spare part name	Material
	Manufacturing of heavy duty Norihard material slurry pump for mining	KNCP 100-315 H= 22 m Q=175 m3/hr	Casing	Norihard JN3029



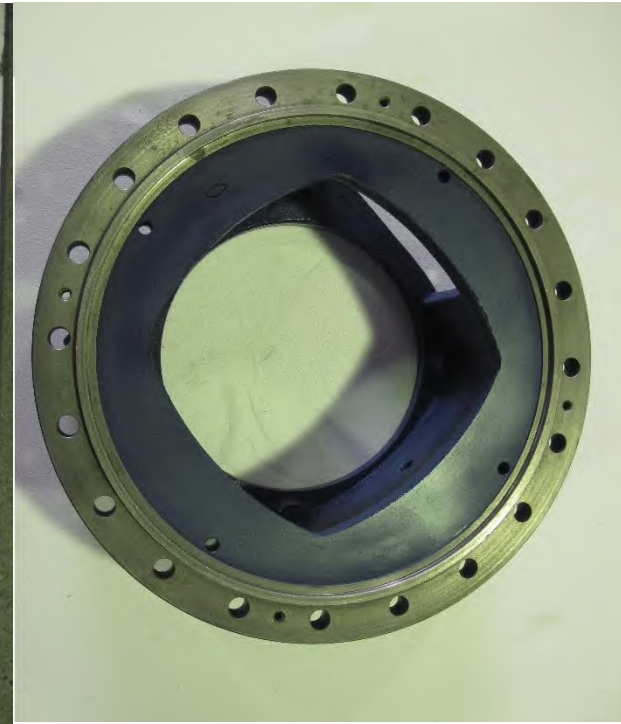
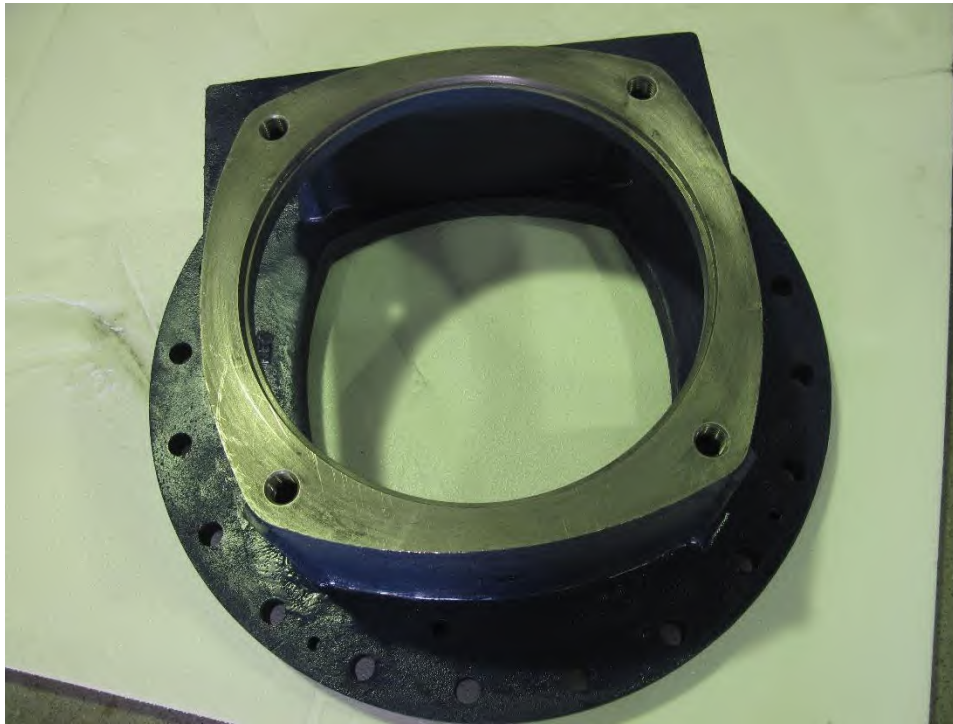
No.	Description	Specification	Customers	Location
	Centrifugal Non-clogging pump	KNCP 300-503 H= 80 m Q=1700 m3/hr	MSC	Isfahan



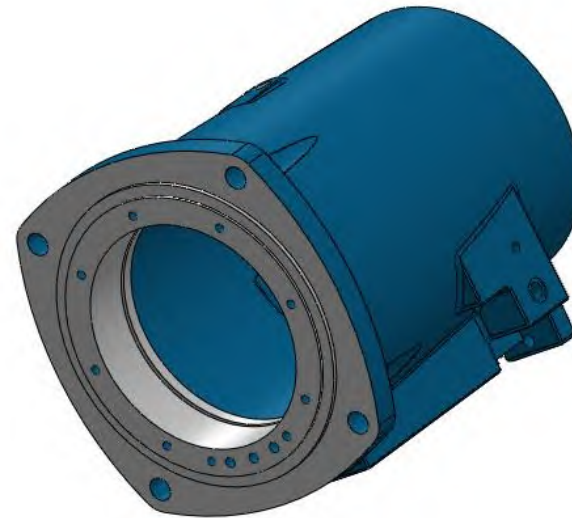
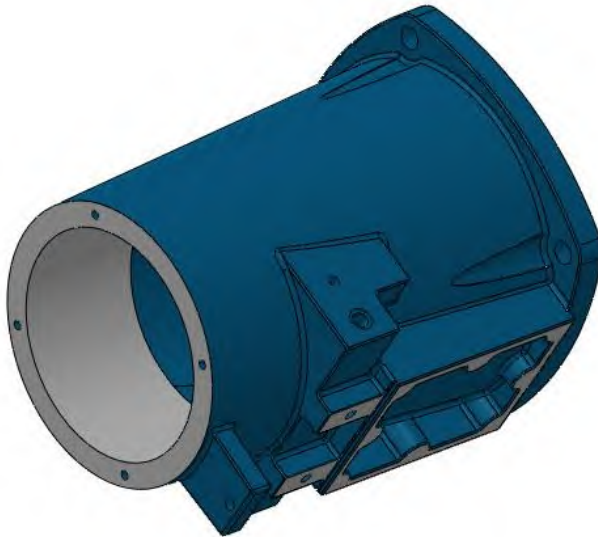
No.	Pump Description	Pump Specification	Spare part name	Material
	Centrifugal Non-clogging slurry pump	KNCP 300-503 H= 80 m Q=1700 m3/hr	Impeller	1.4028 50 HRC hardness



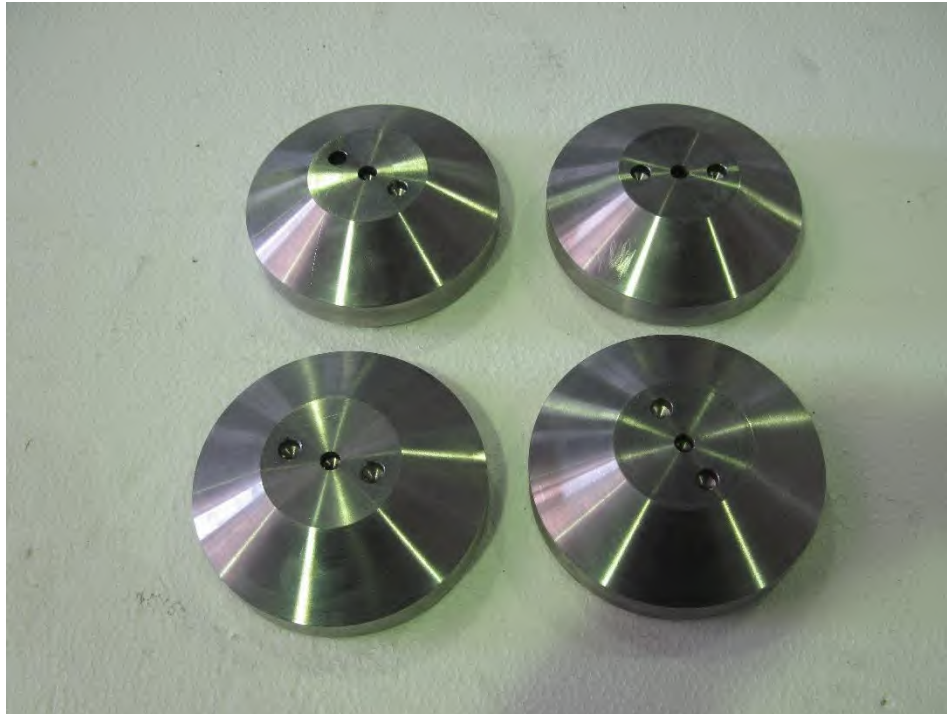
No.	Pump Description	Pump Specification	Spare part name	Material
	Centrifugal Non-clogging slurry pump	KNCP 300-503 H= 80 m Q=1700 m3/hr	Bearing bracket lantern	GG25



No.	Pump Description	Pump Specification	Spare part name	Material
	Centrifugal Non-clogging slurry pump	KNCP 300-503 H= 80 m Q=1700 m3/hr	Bearing bracket	GG25



No.	Pump Description	Pump Specification	Spare part name	Material
	Centrifugal Non-clogging slurry pump	KNCP 300-503 H= 80 m Q=1700 m3/hr	Impeller cap	1.4028 Hardness 50 HRC



No.	Pump Description	Specification	Customers	Location
	Single Stage centrifugal pump	Etanorm 300-500 H= 70 m Q=1285 m3/hr	HOSCO	Hormozgan



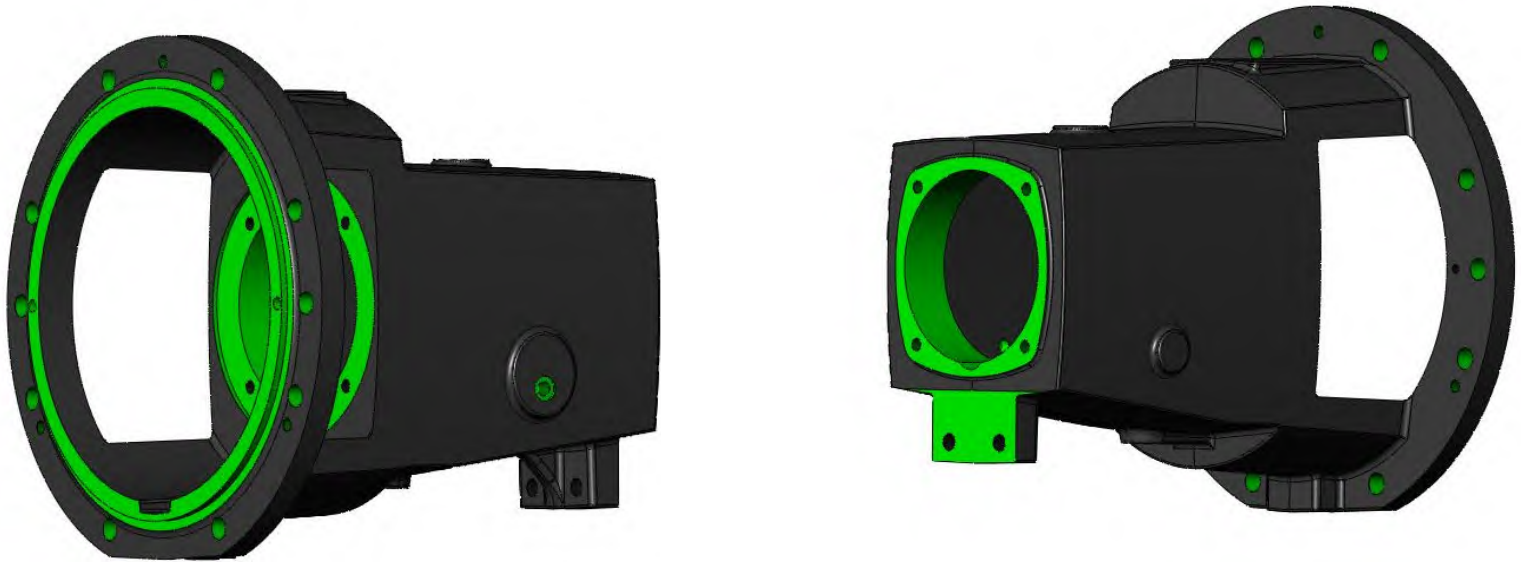
No.	Pump Description	Pump Specification	Spare part name	Material
	Single Stage centrifugal pump	Etanorm 300-500 H= 70 m Q=1285 m3/hr	Impeller	GG25/SS316



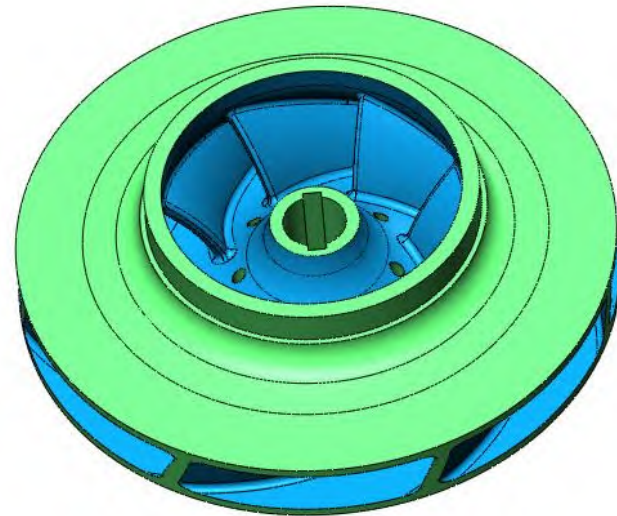
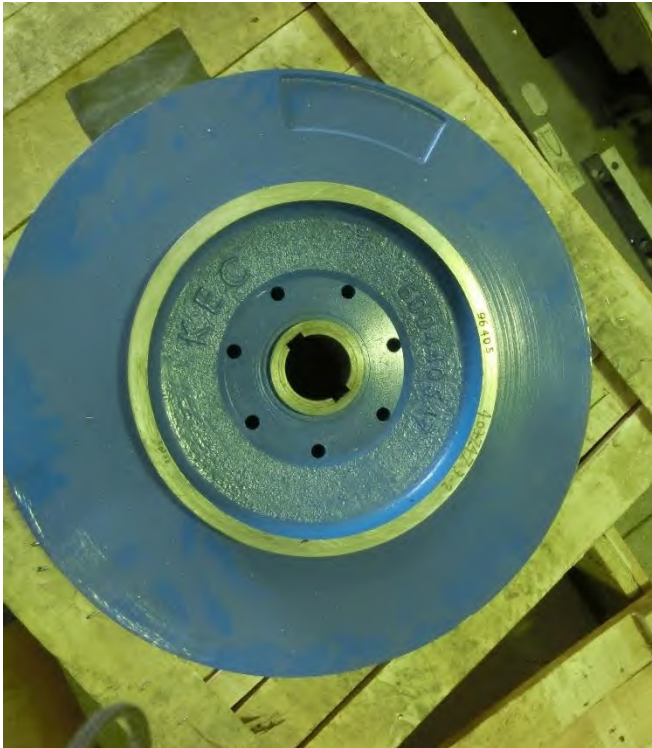
No.	Pump Description	Pump Specification	Spare part name	Material
	Single Stage centrifugal pump	Etanorm 300-500 H= 70 m Q=1285 m3/hr	Shaft sleeve	1.4021 + hardchrome



No.	Pump Description	Pump Specification	Spare part name	Material
	Single Stage centrifugal pump	Etanorm 300-500 H= 70 m Q=1285 m3/hr	Bearing bracket	GG25



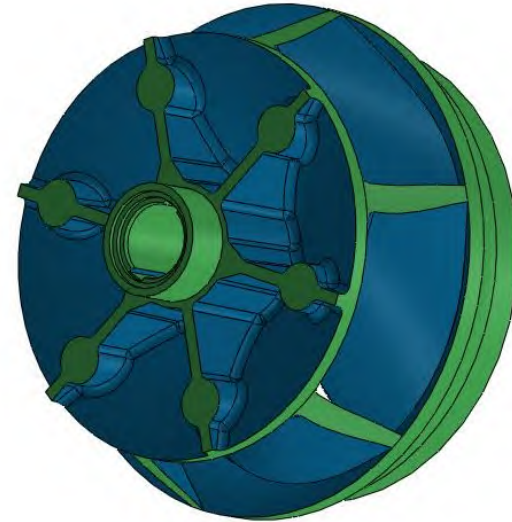
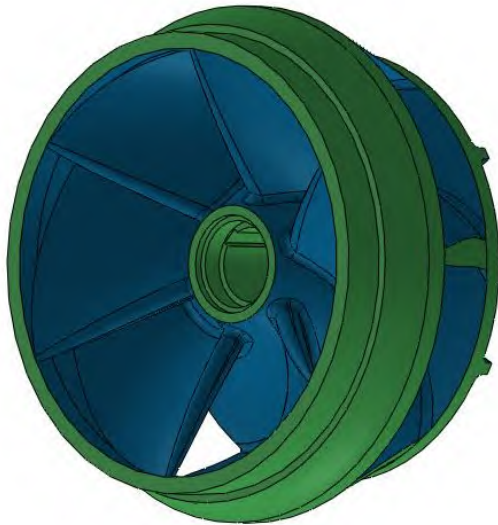
No.	Pump Description	Pump Specification	Spare part name	Material
	Single Stage centrifugal pump	Etanorm 250-500 H= 50 m Q=1090 m3/hr	Impeller	GG25



No.	Description	Specification	Customers	Location
	Manufacturing of chemical resistant material pump	KCHP 250-315 H= 20 m Q=985 m³/hr	HOSCO	Hormozgan



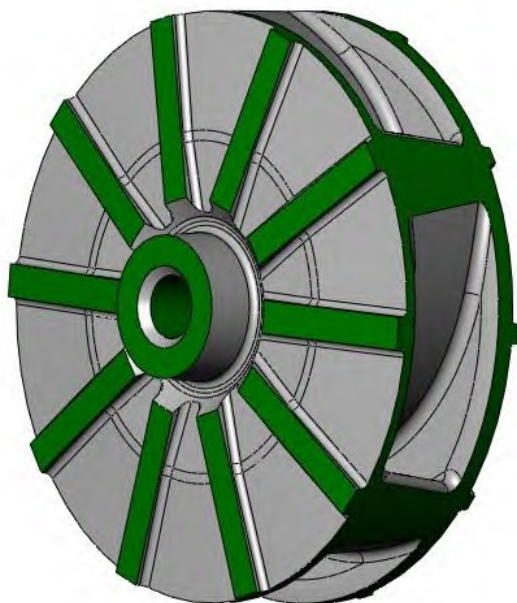
No.	Pump Description	Pump Specification	Spare part name	Material
	Manufacturing of chemical resistant material pump	KCHP 250-315 H= 20 m Q=985 m3/hr	Impeller	GG25 / SS316



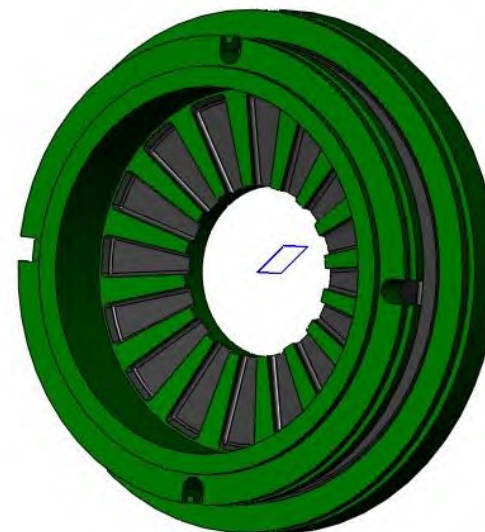
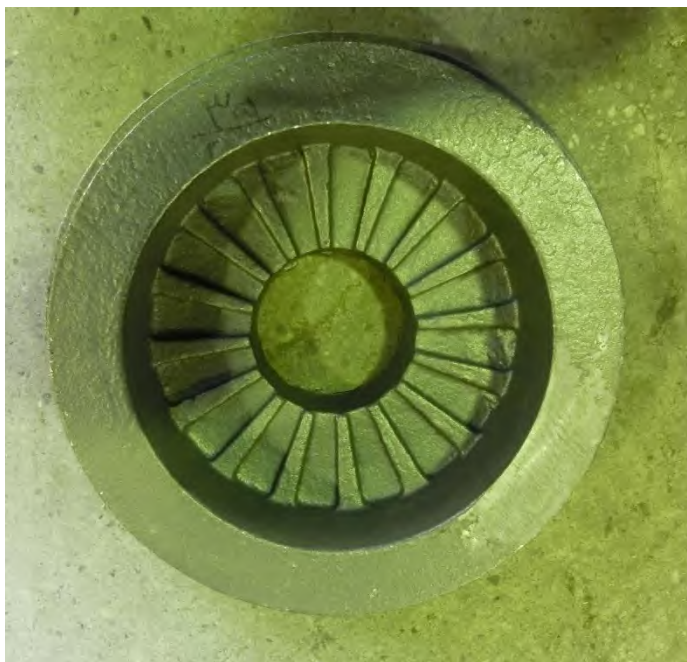
No.	Description	Specification	Customers	Location
	Slurry centrifugal pumps with high chromium cast iron for mining and chemical	K-MM100 H= 17 m Q=100 m3/hr	MSC	Isfahan



No.	Pump Description	Pump Specification	Spare part name	Material
	Slurry centrifugal pumps with high chromium cast iron for mining and chemical	K-MM100 H= 17 m Q=100 m3/hr	Impeller	Norihard JN3029



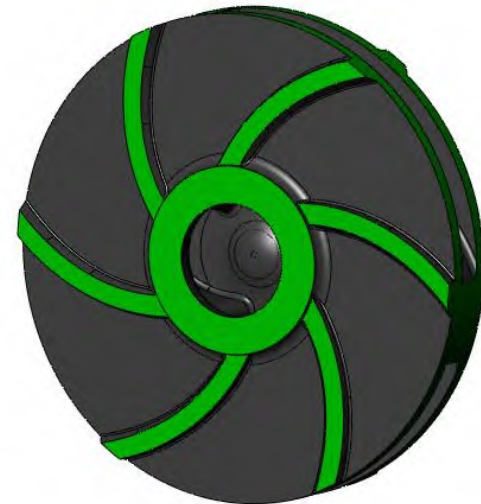
No.	Pump Description	Pump Specification	Spare part name	Material
	Slurry centrifugal pumps with high chromium cast iron for mining and chemical	K-MM100 H= 17 m Q=100 m3/hr	Casing cover	Norihard JN3029



No.	Description	Specification	Customers	Location
	High content slurry centrifugal pumps with high chromium cast iron for mining and chemical	KCSP (NPK 65-375) H= 50 m Q=45 m3/hr	MSC Saba Steel Complex	Isfahan



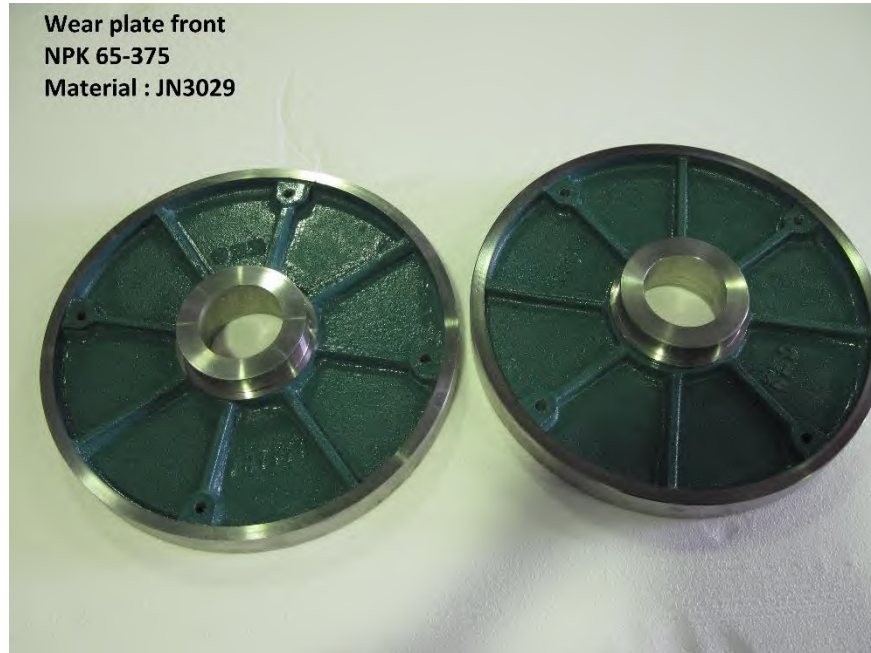
No.	Pump Description	Pump Specification	Spare part name	Material
	High content slurry centrifugal pumps with high chromium cast iron for mining and chemical	KCSP (NPK 65-375) H= 50 m Q=45 m3/hr	Impeller	Norihard JN3029



No.	Pump Description	Pump Specification	Customers	Material
	High content slurry centrifugal pumps with high chromium cast iron for mining and chemical	KCSP (NPK 65-375) H= 50 m Q=45 m3/hr	Stuffing box – gland cover – bearing cover	GG25



No.	Pump Description	Pump Specification	Customers	Material
	High content slurry centrifugal pumps with high chromium cast iron for mining and chemical	KCSP (NPK 65-375) H= 50 m Q=45 m3/hr	Wear plate front	Norihard JN3029



No.	Description	Specification	Customers	Location
	High content slurry centrifugal pumps with high chromium cast iron for mining and chemical	KCSP (NPK 100-315) H= 20 m Q=100 m³/hr	MSC Saba Steel Complex	Isfahan



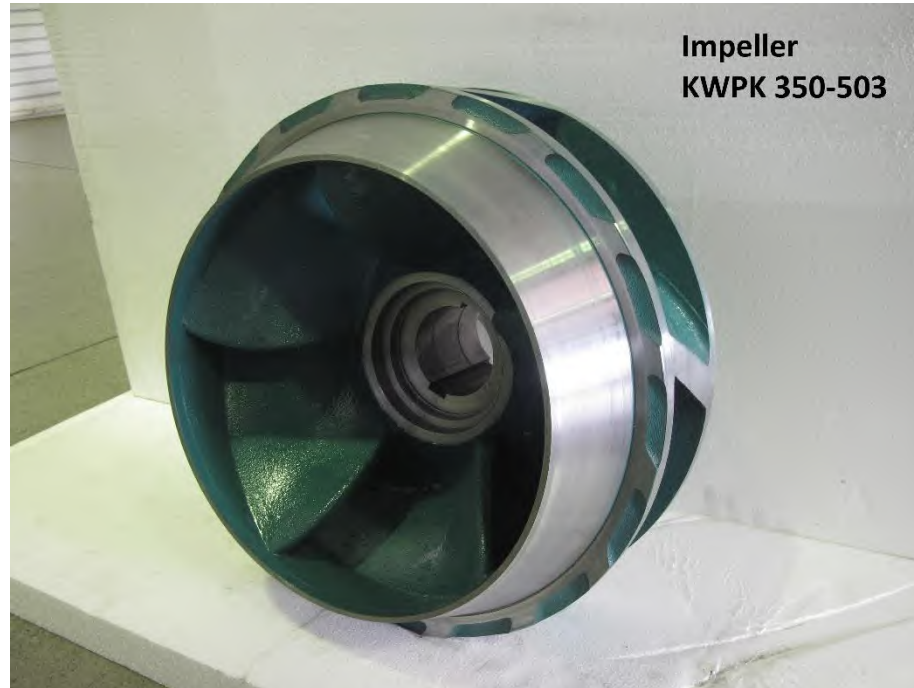
No.	Pump Description	Pump Specification	Spare part name	Material
	High content slurry centrifugal pumps with high chromium cast iron for mining and chemical	KCSP (NPK 100-315) H= 20 m Q=100 m3/hr	Wear plate	Norihard JN3029



No.	Pump Description	Pump Specification	Spare part name	Material
	High content slurry centrifugal pumps with high chromium cast iron for mining and chemical	KCSP (NPK 100-315) H= 20 m Q=100 m3/hr	Impeller	Norihard JN3029



No.	Pump Description	Pump Specification	Spare part name	Material
	Centrifugal non-clogging slurry pump	KWPK 350-503	Impeller	1.4028



No.	Pump Description	Pump Specification	Spare part name	Material
	Centrifugal non-clogging slurry pump	KWPK 250-505	Impeller	Norihard JN3029



No.	Pump Description	Pump Specification	Spare part name	Material
	Centrifugal non-clogging slurry pump	KWPK 250-505	Wear plate	Norihard JN3029



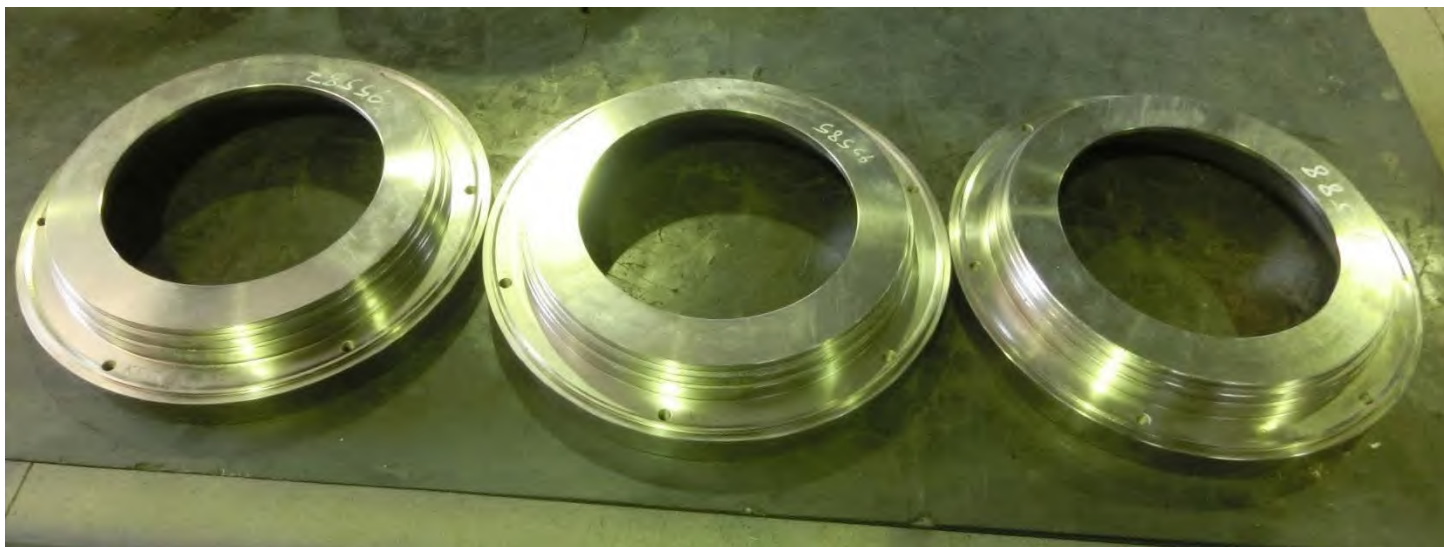
No.	Pump Description	Pump Specification	Spare part name	Material
	Centrifugal non-clogging slurry pump	KWPK 250-400	Impeller	Norihard JN3029



Impeller



No.	Pump Description	Pump Specification	Spare part name	Material
	Centrifugal non-clogging slurry pump	KWPK 250-40	Wear plate	Norihard JN3029



No.	Pump Description	Pump Specification	Spare part name	Material
	Centrifugal non-clogging slurry pump	KWPK 250-400	Casing cover	Norihard JN3029



No.	Pump Description	Pump Specification	Spare part name	Material
	Standardized chemical pump	Munsch NPC 50-32-200	Shaft sleeve	SS316+PP



No.	Pump Description	Pump Specification	Spare part name	Material
	Vertical Lube Oil Pump	Finder ACV 50-200	Impeller	GG25



No.	Description	Specification	Customers	Location
	Water intake (316L)	HYOSUNG (EBARA vmf) H=45m Q=18000 m3/hr	Mpna O & M	نیروگاه پره سر



No.	Pump Description	Pump Specification	Spare part name	Material
	Water intake (316L)	HYOSUNG (EBARA vmf) H=45m Q=18000 m3/hr	Bearing sleeve	SS316L+Orkot



No.	Electromotor Description	Electromotor Specification	Spare part name	Material
	Electromotor	1400kW 2P 6600V 50Hz	Oil seal	Polyamid



No.	Coupling Description	Coupling Specification	Spare part name	Material
	Disc coupling	KTR Steel Lamina coupling RIGIFLEX-N 140	Lamina	SS301 spring





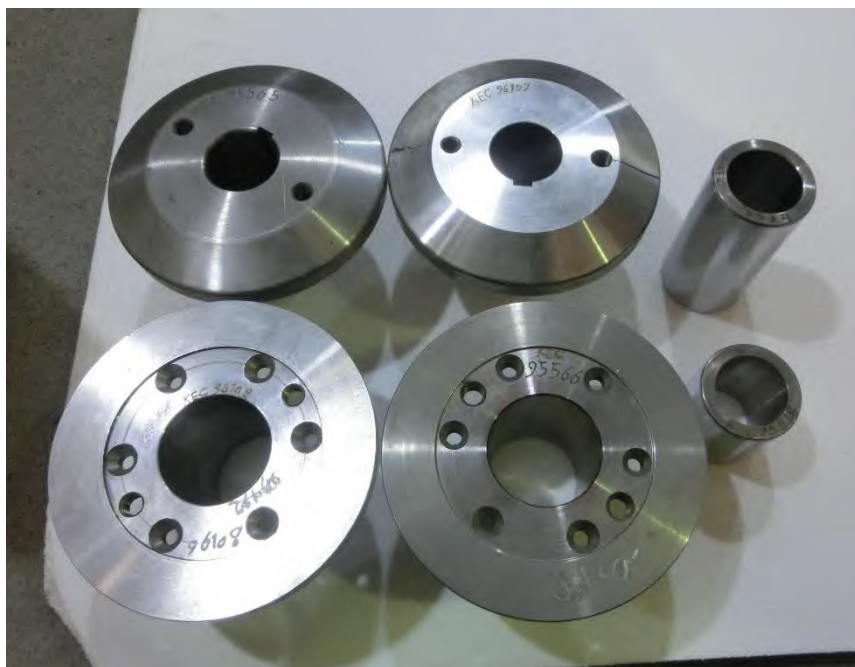
No.	Description	Specification	Spare part name	Material
	Maier Rotary Joints	Series DZA 3100 F-14	Flange	SS316



No.	Pump Description	Pupmp Specification	Spare part name	Material
	Sea water pump	Termomeccanica 48 C1PP 71	Shaft	1.4462 (Duplex)



No.	Pump Description	Pump Specification	Spare part name	Customer
	Multistage pump	Mather & platt	Different parts	نفت و گاز گچساران



No.	Pump Description	Pump Specification	Spare part name	Customer
	HP RO Pump	Sulzer MB 80-230-8 H= 618 m Q=134 m3/hr	Coupling parts	Kish water & Power Co.



No.	Pump Description	Pump Specification	Spare part name	Customer
	HP RO Pump	Sulzer MB 80-230-8 H= 618 m Q=134 m3/hr	Bearing bracket	Kish water & Power Co.



No.	Pump Description	Spare part name	Material	Customer
	Centrifugal pump for Oxygen plant	Double suction Impeller	GG25	فولاد ارفع



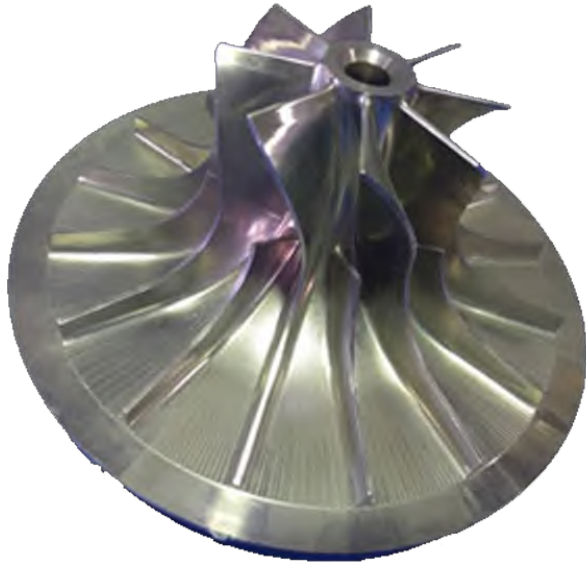
No.	Pump Description	Spare part name	Material	Customer
	Vertical pump	Submerged bearing (Bushing)	CK45+CuZn40Pb2	MSC



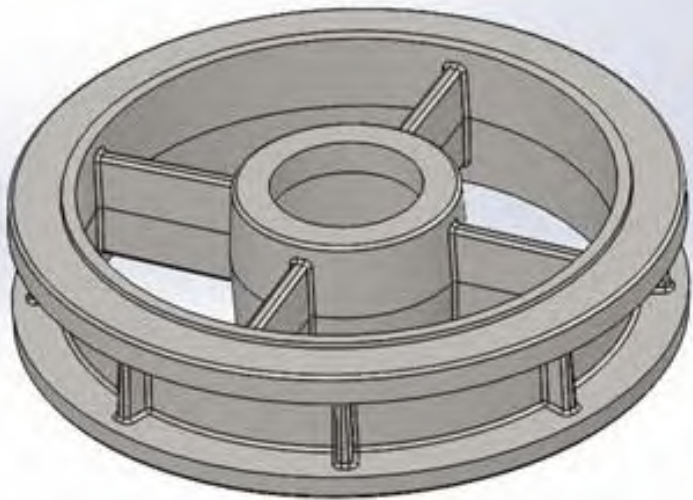
No.	Pump Description	Spare part name	Material	Customer
	Pump : LA/40-63	Intermediate bearing sleeve (Bush)	SS420	MSC



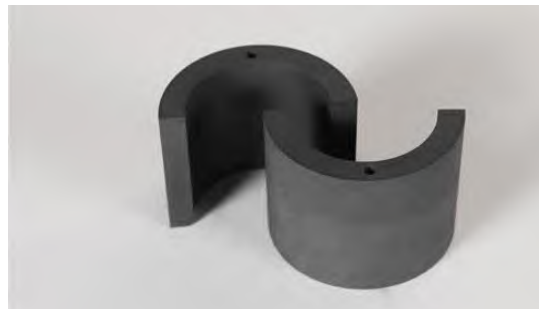
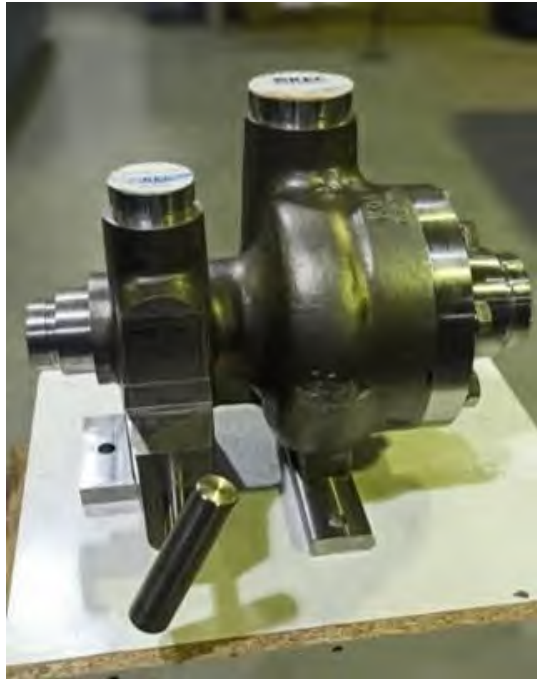
No.	Description	Specification	Customers	Location
	High speed compressor spare parts	Spare part	Gachsaran Oil and Gas Co.	Gachsaran



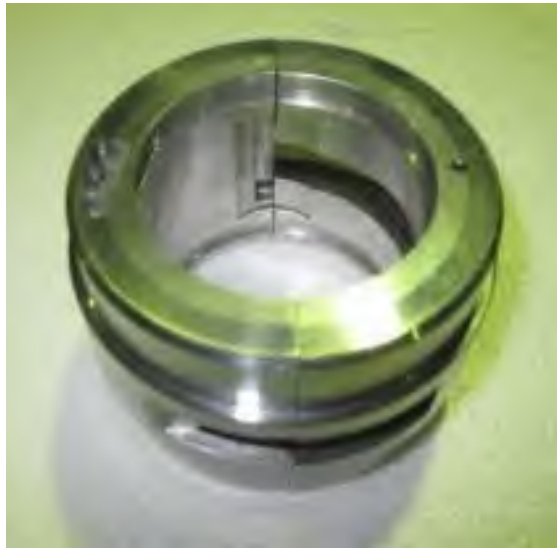
Description	Specification	Customers	Location
Mixed flow Vertical Turbine Pump For Sea Water	Super Duplex Spooler	17 & 18 Phase SPGC	Asalluyeh



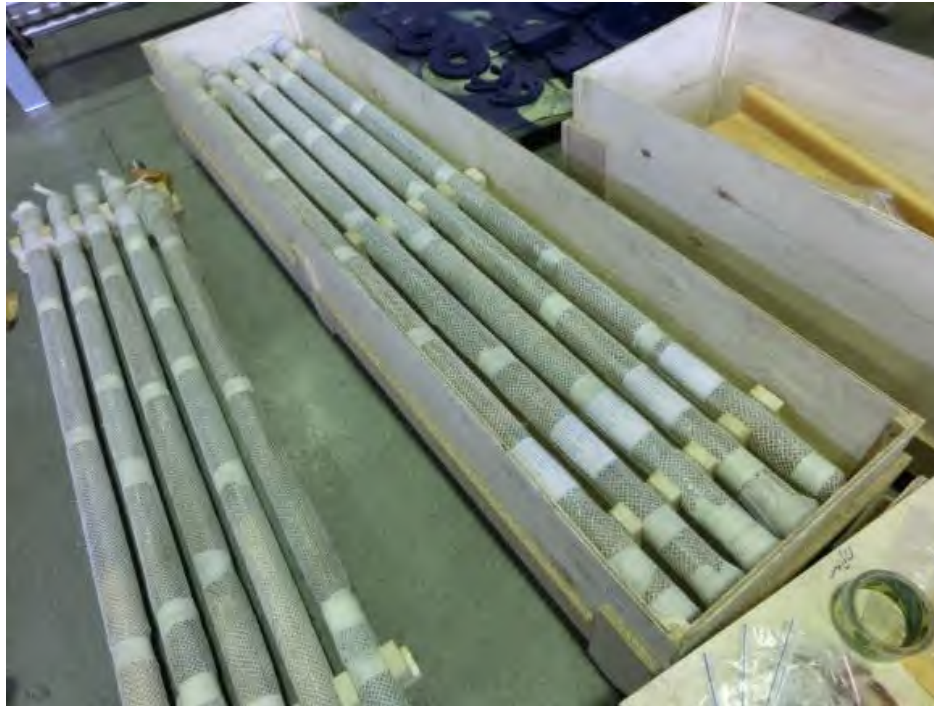
Description	Specification	Customers	Location
FEDCO & ERI Turbo Charger For Sea Water (16000 rpm)	Super Duplex Rotor Silicon Carbide Bush PEEK Trust Bearing	RO Plants	Geshm Kish Chabahr



No.	Description	Specification	Customers	Location
	Manufacturing Low viscous thrust bearing	Journal bearing	HOSCO	Hormozgan



KEC Packaging sample





**Thank you for your
kind attention.**

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www.khavarpump.com