

inoxen



EKİN ENDÜSTRİYEL

**TWIN SCREW
HYGIENIC PUMPS
PRODUCT CATALOGUE**

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EKIN ENDÜSTRİYEL
Isıtma-Soğutma San. Tic. Ltd. Şti.





The first condition of innovation is to question.

And the first condition of sustainable innovation is to question constantly.

The journey of innovation has started with a question for us too: “How can we develop value-added technologies in Turkey?”. First turning point in this long journey was the birth of MIT (Made in Turkey) brand. MIT made us the first plate heat exchanger producer of Turkey and it’s founding vision was not to become a local alternative, it was to build a high-quality brand that can compete on a global level.

While we are working towards this goal in the past 15 years, our products and processes deemed worthy for documentation by many national and international quality assessment institutions such as ISO, TSE, CE, GOST and many more. This was the natural outcome of our constant questioning of the status-quo and our desire to outperform ourselves.

New Generation Engineering

With our engineering approach that focuses on the process, not the problem, we do not just specialize in a product, we consider the entire ecosystem of that product. Ergo, we produce all the other components of a system in addition to plate heat exchangers and we focus on the constant development of engineering staff required to provide an end-to-end application.

We provide a “solution” rather than a product with our business development, presales, sales and after sales services provided by our expert engineers.

In our 15th year, we continue to grow as a solution partner for projects that need high technology in more than 60 countries with our internationally approved high-quality plate heat exchangers; components such as accumulation tanks, boilers, industrial pumps and installation materials that completes these exchangers to form a system; and complementary services provided by our expert engineer staff.



HEAT TRANSFER PRODUCTS

- Gasketed Plate Heat Exchangers
- Brazed Heat Exchangers
- Shell & Tube Heat Exchangers
- Evaporators and Condensers
- DC Fan Driven Oil Coolers
- Heat Coils
- Serpentine / Radiators / Economizers

PRESSURE VESSELS

- Water Heater Tanks
- Water Storage Tanks
- Buffer Tanks
- Expansion Tanks
- Stainless Steel Tanks
- Balance Tanks / Dirt Separators / Air Separators / Air Tubes
- Steam Separators
- Pressured Air Tanks
- Neutralization Units

INDUSTRIAL AND FOOD GRADE SYSTEMS

- Heat Stations
- Industrial Process Systems
- Dosing Systems
- Substations
- Thermoregulators
- Pasteurizers
- CIP and Hygienic Process Systems
- Hygienic Storage and Process Tanks
- Homogenizers
- Turn-key Projects

FLUID TRANSFER PRODUCTS

- Lobe Pumps
- Hygienic Centrifugal Pumps
- Acid Pumps
- Dosing Pumps
- Air Operated Double Diaphragm Pumps (AODD)
- Drum Pumps
- Monopumps
- Centrifugal Blowers
- Roots Blowers
- Turbo Blowers

FLOW CONTROL UNITS

- Butterfly Valves
- Ball Valves
- Globe Valves
- Knife Gate Valves
- Actuators
- Check Valves and Strainers
- Thermoplastic Valves

ENERGY SYSTEMS

- Boilers
- Steam Generators
- Solar Collectors
- Chillers
- Cooling Towers

PRODUCT RANGE



Contents



Twin Screw Hygienic Pumps



TWIN SCREW PUMP

Flexible solution for two-direction reversible, high pressure, high viscosity, large particle, pulse free, liquid delivery.



Twin-screw pump has strong self-priming ability, can transport solid particles, gas-liquid mixture, high viscosity, low viscosity and other materials. The pump not only can extract and convey materials, but also apply for CIP and SIP systems, can reduce pipeline, valve and CIP exclusive pumps, which improve efficiency and save cost. It has extra characteristics, that other volume pumps do not have, such as no pulse phenomenon, no particle damage, high pressure, wide speed range, large flow range and so on.



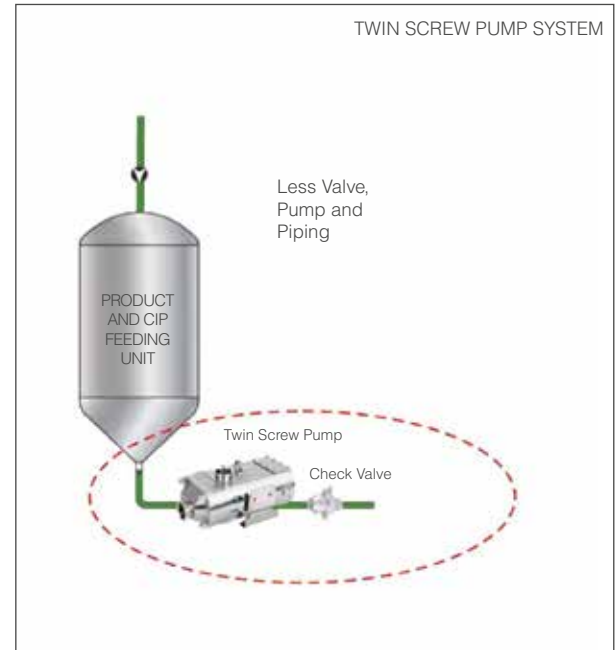
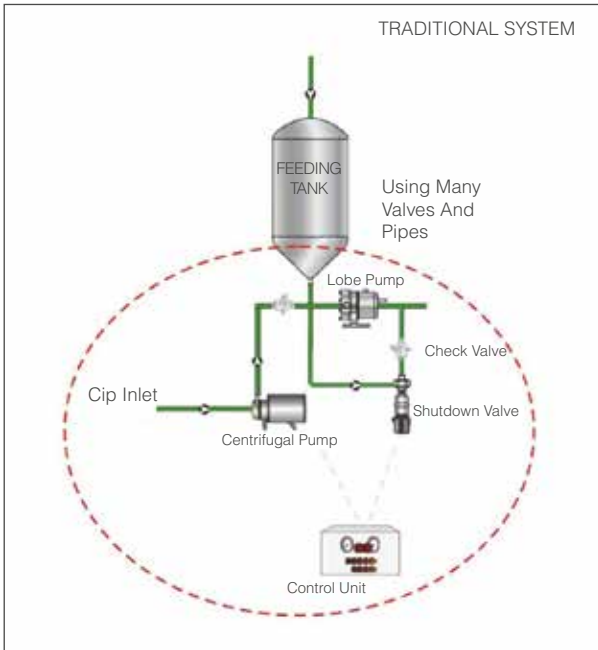
Technical Specifications

Max Flow	110 m ³ /h
Max Particles	23mm
Max Pressure	20bar
Speed Range	10-3500 R.P.M.
Working Temperature	-40 °C ve 15 °C
Surface Treatment	Ra≤0.6 μ m; Ra≤0.4 μ m
Material	%100 SS316L Stainless Steel

After used screw pump, other auxiliary pumps and valves and controllers can be reduced as more as possible.

Other solutions CIP cleaning and media delivery configuration

Screw pump solutions CIP cleaning and media delivery configuration



With its strong self-priming capacity, the TS series screw pumps have the ability to deliver high viscosity and low viscosity medium , as well as CIP liquid extraction and cleaning functions. Choosing TS series screw pump will help you to reduce using CIP dedicated pump and valve control system. It will save cost.

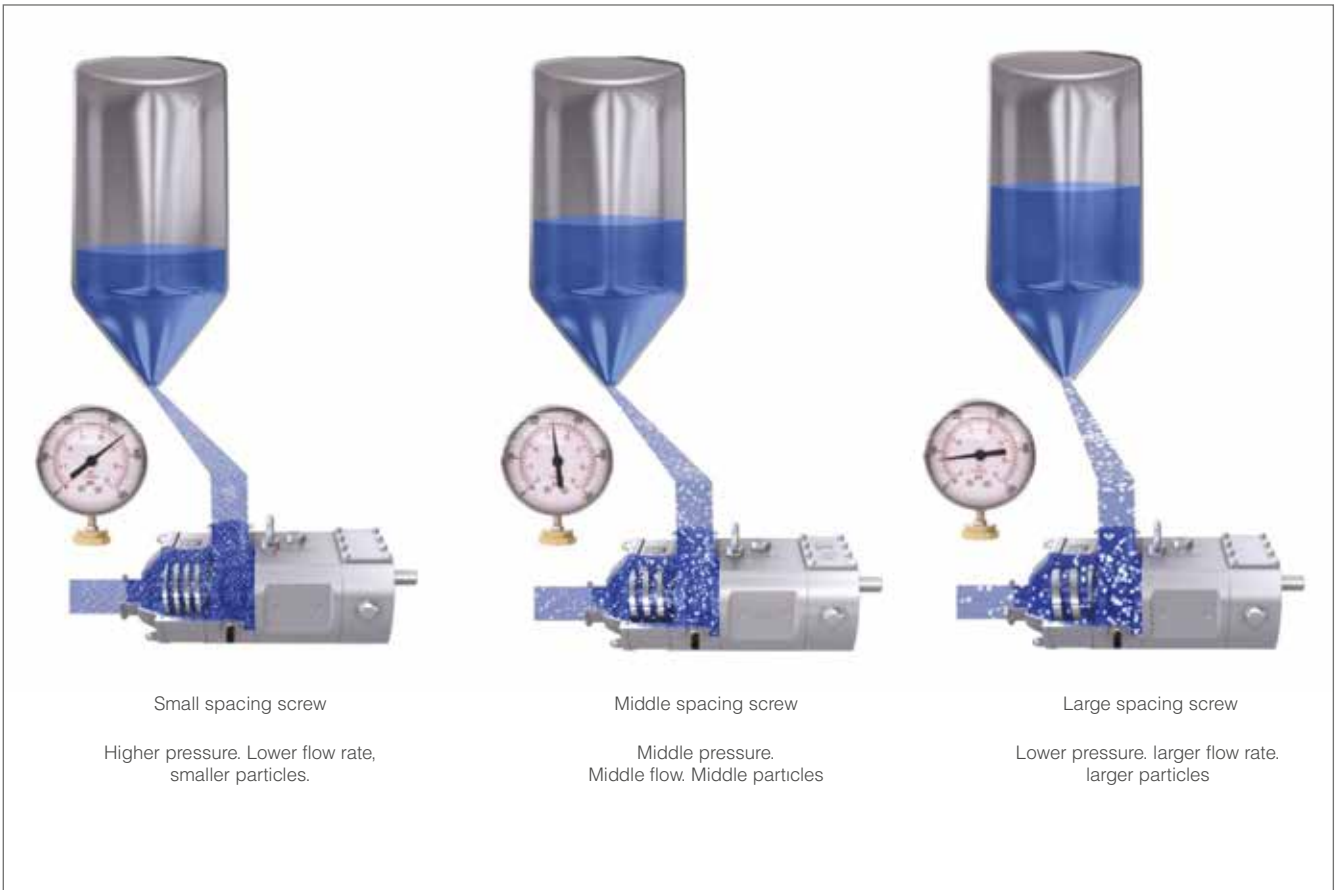


Choose the right screw spacing for your process.



Option 1: Large screw spacing, larger flow rate. Can deliver larger particles, but the pressure will be lower compared with small spacing screw.

Option 2: Small screw spacing, lower flow rate but higher pressure, the particles that can be transported will also be smaller.



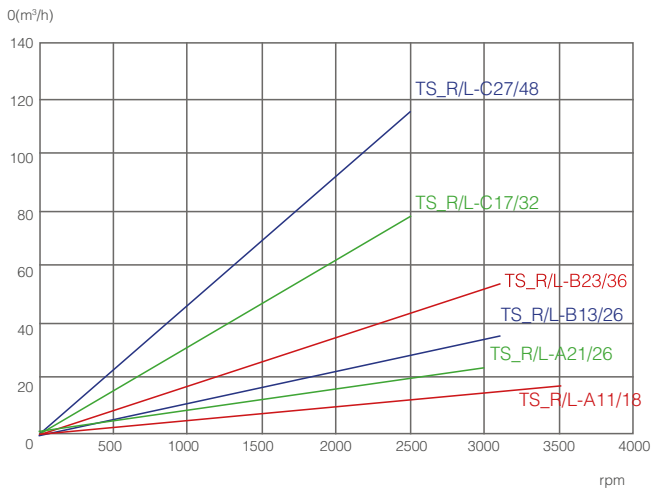
Technical characteristics selection tablet



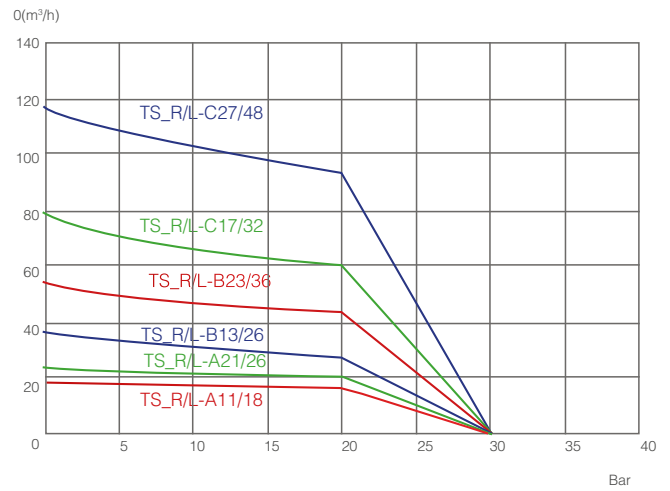
Model	Screw Spacing (mm)	Flow Per Rotation (l/r)	Max. Flow (l/m)	Max. Flow (m ³ /h)	(Rpm) Max Speed (Minutes)	Max. Solid (mm)	Max. Pressure (bar)	Pump Head Port	Body Port	Net Weight (kg)
TS_R/L-A11/18	18	0.09	324	19.4	3600	8.5	20	1.5"-2"	1"-1.5"	29.9
TS_R/L-A21/26	26	0.13	468	28.1	3600	12.5	20			
TS_R/L-B13/26	26	0.20	580	34.8	2900	12.5	20	2.5"-3"	2"-3"	58.7
TS_R/L-B23/36	36	0.29	841	50.5	2900	17.5	20			
TS_R/L-C17/32	32	0.53	1537	92.2	2900	15.5	20	3"-4"	3"-4"	154.7
TS_R/L-C27/48	48	0.79	2291	137.5	2900	23.5	20			

IG Screw Pump Graph

TSR/L(Q-R/Graph)



TSR/L(Q-R/Graph)



TYPICAL PRODUCT APPLICATION

Food and Beverage

Soup, stew, ketchup, vegetables, condiments, chocolate, fat and oil, cream filling, breweries, wort, brewery, wort, soft drink/fruit juice, moat processing.

Dairy

Cream, milk, choese curd and whey, cottage cheese, yogurt.

Medicine/Cosmetic

Ointment, syrup, extractive, serum, face creams & emulsion, hair styling gels & liquids, dyes and alcohols, soap, cosmetics.

Chemical/industrial

Solvents, paints, fuels, resins, polymers&sludges, oil & lubricants.



VERY RICH AND FLEXIBLE COMBINATION



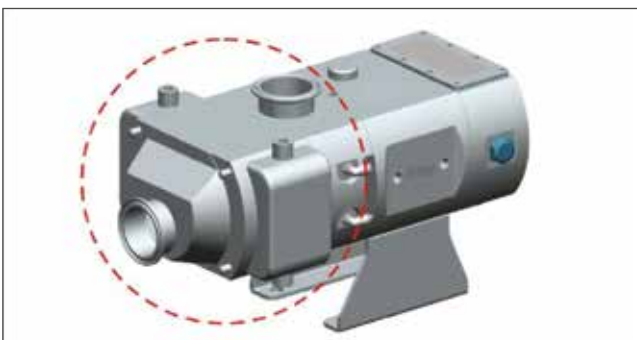
TS-R crew Pump (recommended configuration)

TSR screw pump's standard configuration is inlet and outlet bi-directional reversible, control the reverse rotation of the motor can achieve the purpose of material reverse conveying.



TS-L Screw Pump (Selection Configuration)

TSL screw pump's standard configuration is inlet and outlet bi-directional reversible, coniroil the reverse rotation of the motor can achieve the purpose of material reverse conveying.



Screw Pump + Heating Jacket

Screw pump with heat jacket is widely used for transporting materials which are frozen or will freeze or perishable at room temperature. such as chocolate. candy, gum. etc. According to the process requirements, it is equipped with front cover heating jacket or surrounding heating jacket structure.

MOTOR DIRECT-CONNECTED SCREW PUMP SELECTION TABLE


Model	Screw Spacing (mm)	Pressure (Bar)	Motor (kW)	Max. Solid (mm)	Flow Per Rotation (l/r)	Suggested Speed Range (r/min.)	Suggested Flow Range (m ³ /h)		Pump Head Inlet	Pump Body Outlet	Net Weight (kg)
TS_R/L-A11/18	18	4	2.2	8.5	0.09	100-1450	0.54	7.8	1.5"-2"	1"-1.5"	80.9
		7	3								84.9
		10	4								90.9
		14	5.5								123.9
		18	7.5								134.9
TS_R/L-A21/26	26	3	2.2	12.5	0.13	100-1450	0.78	11.3	1.5"-2"	1.5"-2"	80.9
		5	3								84.9
		8	4								90.9
		11	5.5								123.9
		15	7.5								134.9
TS_R/L-B13/26	26	4	4	12.5	0.20	100-1450	1.2	17.4	2.5"-3"	2"-3"	152.7
		8	5.5								163.7
		12	7.5								218.7
		18	11								233.7
TS_R/L-B23/36	36	3	4	17.5	0.29	100-1450	1.74	25.2	2.5"-3"	2.5"-3"	152.7
		7	5.5								163.7
		10	7.5								218.7
		15	11								233.7
TS_R/L-C17/32	32	4	7.5	15.5	0.53	100-1000	3.18	31.8	3"-4"	3"-4"	314.7
		8	11								329.7
		12	15								374.7
		18	18.5								387.7
TS_R/L-C27/48	48	4	7.5	23.5	0.79	100-1000	4.74	47.4	3"-4"	3"-4"	314.7
		7	11								329.7
		10	15								374.7
		15	18.5								387.7

VARIABLE FREQUENCY MOTOR HELICAL GEAR SCREW PUMP SELECTION TABLE



Model	Screw Spacing (mm)	Pressure (Bar)	Motor (kW)	Max. Solid (mm)	Flow Per Rotation (l/r)	Suggested Speed Range (r/min.)	Suggested Flow Range (m ³ /h)		Pump Head Inlet	Pump Body Outlet	Net Weight (kg)
TS_R/L-A11/18	18	5	1.1	8.5	0.09	100-1000	0.54	5.4	1.5"-2"	1"-1.5"	76.9
		10	1.5								85.9
		14	2.2								93.9
		18	3								101.9
		20	4								114.9
TS_R/L-A21/26	26	4	1.1	12.5	0.13	100-1000	0.78	7.8	1.5"-2"	1.5"- 2'	76.9
		8	1.5								85.9
		12	2.2								93.9
		16	3								101.9
		18	4								114.9
TS_R/L-B13/26	26	5	3	12.5	0.20	100-1000	1.2	12.0	2.5"-3"	2"-3"	130.7
		10	4								143.7
		15	5.5								201.7
		20	7.5								214.7
TS_R/L-B23/36	36	4	3	17.5	0.29	100-1000	1.74	17.4	2.5"-3"	2.5"-3"	130.7
		8	4								143.7
		12	5.5								201.7
		16	7.5								214.7
TS_R/L-C17/32	32	5	5.5	15.5	0.53	100-1000	3.18	31.8	3"-4"	3"-4"	297.7
		10	7.5								310.7
		15	11								441.7
		20	15								460.7
TS_R/L-C27/48	48	4	5.5	23.5	0.79	100-1000	4.74	47.4	3"-4"	3"-4"	297.7
		8	7.5								310.7
		12	11								441.7
		16	15								460.7

Product Features and Advantages

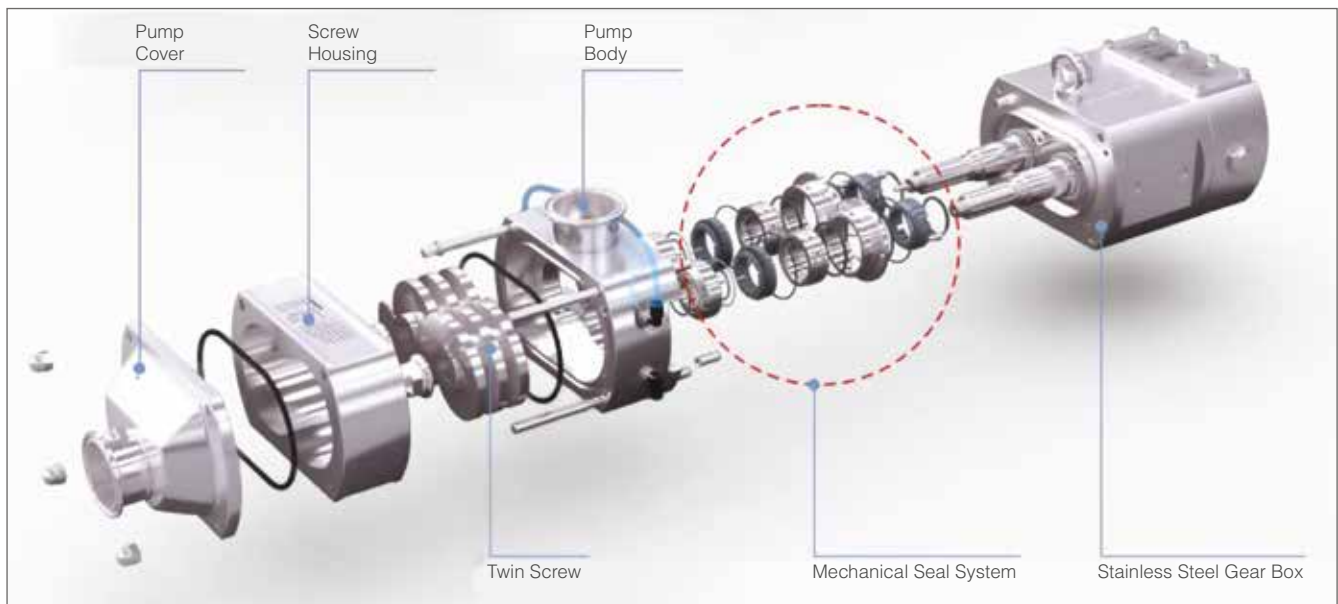
- With CIP extraction and delivery capacity; pump body and pump cover can discharge liquid completely.
- At the area contacting with medium. Shaft and seal connect without screw.
- Single and double mechanical seal options
- All models have seal flush ports for optional double.
- Steam online available.
- All stainless steel design, including gearbox.

Simple Installation and Disassembly

- The screw and shaft are connected by spline. It's simple and convenient for installation and disassembly.
- Rotate clockwise and counterclockwise without changing configuration.
- The pump can be used for various viscosities without changing configurations, etc.

Features

- Pressure up to 300 psi (20.0 bar).
- Special screw lock nut designed to extend service life.
- There are no bearings and screws at the area contacting with medium.
- Large diameter 17-4PH shaft for higher strength and stittness. Helping to reduce vibration and extend seal life.
- High precision heavy duty needle roller bearings .
- Oil-lubricated bearings can be forward lubrication over the entire speed. Temperature and pressure range.



Twin screw pump mechanical seal design

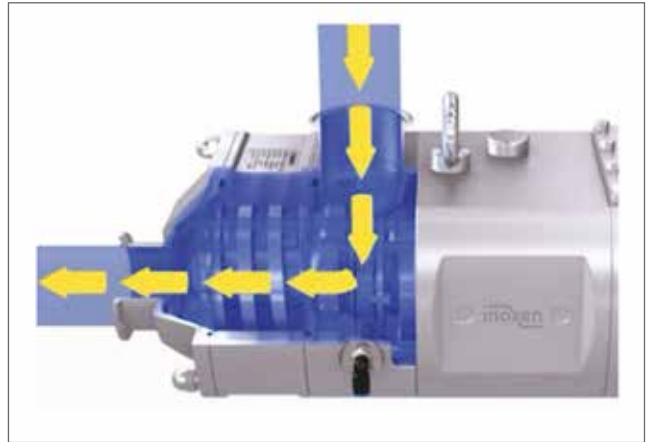
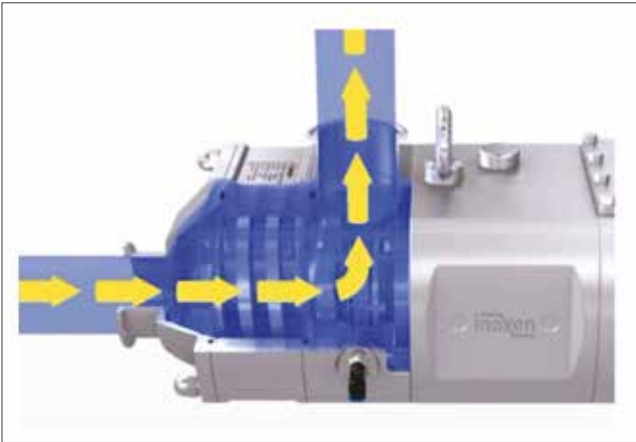


Mechanical Seal Configuration

1	SIC/C/EPDM	4	SIC/S IC/EPDM	7	TC/TC/EPDM
2	SIC/C/FKM	5	SIC/SIC/FKM	8	TC/TC/FKM
3	SIC/C/HNBR	6	SIC/SIC/HNBR	9	TC/TC/HNBR

Power (kW)	Voltage	Power (kW)	Voltage
0.55kW	210V-230V/50HZ 360V-400V/50HZ 420V-460V/50HZ	4.0-5.5kv	360V-400V/50HZ 630V-690V/50HZ 420V-460V/60HZ
0.75kW		7.5-11kv	
1.1-1.5kW		15-18.5kv	
2.2-3.0kW		22-30kv	

Pump inlet/outlet connection standard



When clockwise rotation, pump cover is inlet and pump body is outlet.



When rotating counterclockwise, pump cover is outlet and pump body is inlet.



Clamp



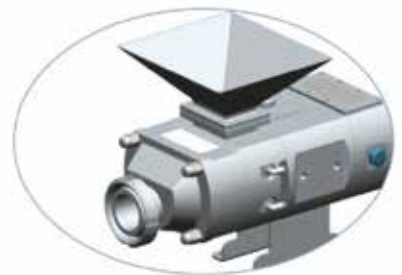
Threaded



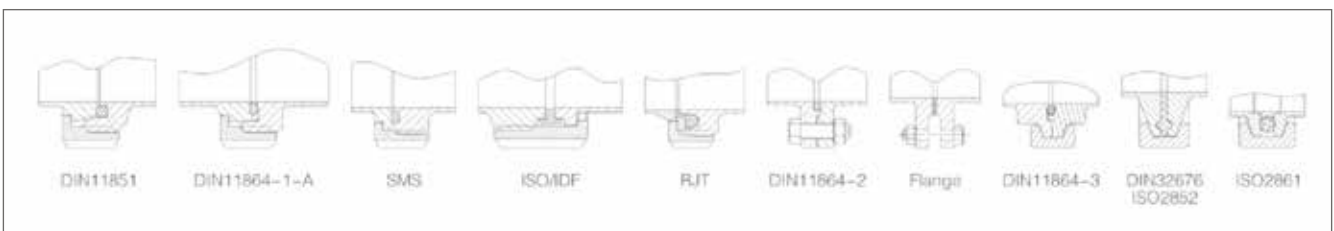
Aseptic Flange



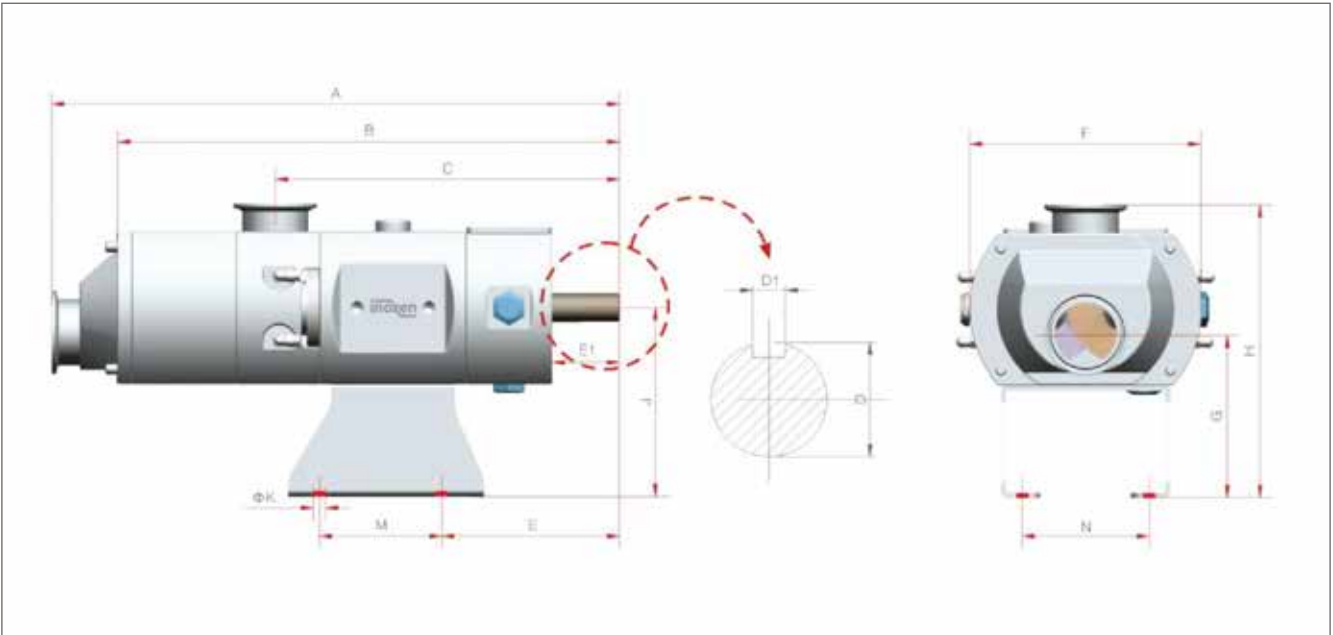
Union



Flange Hopper



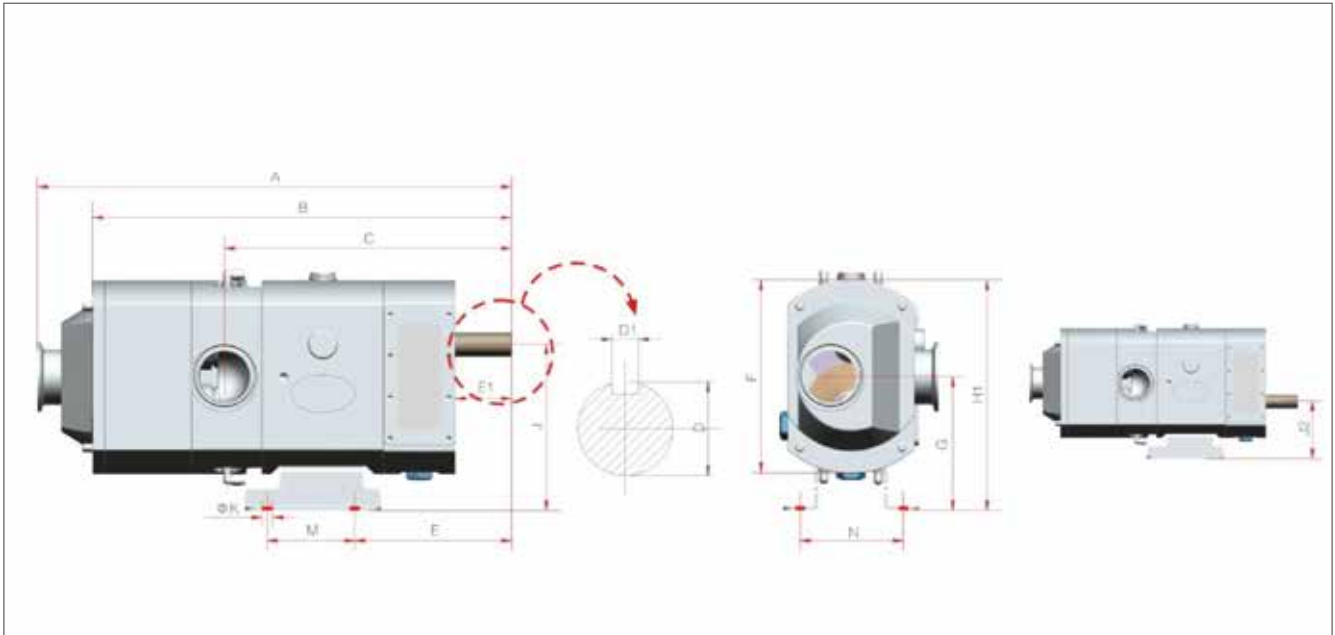
DJ-LGR SCREW PUMP DIMENSION DATA CHART



Model	Cover Port	Body Port	Assembly Dimension											
	Inlet	Outlet	B	C	D	D1	E	E1	F	G	J	K	M	N
TS_R/L-A11/18	1.5"-2"	1"-1.5"	385	25	22	6	122	52	178	127	145	12	115.5	95
TS_R/L-A21/26	1.5"-2"	1"-1.5"	385	265	22	6	122	52	178	127	145	12	115.5	95
TS_R/L-B13/26	2.5"-3"	2"-3"	520	354	28	8	181	57.5	225	162	180	12	190	125
TS_R/L-B23/36	2.5"-3"	2"-3"	520	354	28	8	181	57.5	225	162	180	12	190	125
TS_R/L-C17/32	3"-4"	3"-4"	634	411	42	8	196	73	322	206	240	18	300	194
TS_R/L-C27/48	3"-4"	3"-4"	634	411	42	8	196	73	322	206	240	18	300	194

Model	Clamp		Union		Flange	
	A	H	A	H	A	H
TS_R/L-A11/18	436	225	445	234	447	231
TS_R/L-A21/26	436	225	445	234	447	231
TS_R/L-B13/26	589	280	601	296	595	289
TS_R/L-B23/36	589	280	601	296	595	289
TS_R/L-C17/32	720	376	727	383	730	386
TS_R/L-C27/48	720	376	727	382	730	386



TS-L SCREW PUMP DIMENSION DATA CHART


Model	Cover Port	Body Port	Assembly Dimension													
	Inlet	Outlet	B	C	D	D1	E	E1	F	G	H1	J	K	M	N	J2
TS_R/L-A11/18	1.5"-2"	1"-1.5"	385	265	22	6	122	52	178	123	217	153	12	115.5	95	93
TS_R/L-A21/26	1.5"-2"	1"-1.5"	385	264.5	22	6	122	52	178	123	217	153	12	115.5	95	93
TS_R/L-B13/26	2.5"-3"	2"-3"	520	354	28	8	181	57.5	225	149	265	186.5	12	190	125	112
TS_R/L-B23/36	2.5"-3"	2"-3"	520	354	28	8	181	57.5	225	149	265	186.5	12	190	125	112
TS_R/L-C17/32	3"-4"	3"-4"	634	411	42	8	196	73	322	226	390	286	18	300	194	164
TS_R/L-C27/48	3"-4"	3"-4"	634	411	42	8	196	73	322	226	390	286	18	300	194	164

Model	Clamp	Union	Flange
	A	A	A
TS_R/L-A11/18	436	445	447
TS_R/L-A21/26	436	445	447
TS_R/L-B13/26	589	601	595
TS_R/L-B23/36	589	601	595
TS_R/L-C17/32	720	727	730
TS_R/L-C27/48	720	727	730





A chain is only as strong as its weakest link.

Running and maintaining a quality production process that meets international standards requires focusing on quality all along the ecosystem. Maintaining this focus requires a unifying vision of constant improvement shared by all stakeholder, and a certain level of expertise for all parties involved. Ekin Academy was established with the principles of continuous development and growing together to share the knowledge and experience that will realize this vision.

We support the development of our employees with training programs that directly contribute to the results in their business processes and make a difference in their personal development. We offer technical trainings on heat transfer, pressure vessels, package systems, food systems and liquid transfer. We help them become individuals who will make a difference with our development programs that covers topics like leadership, strategy, sales and many more. In addition, we provide information regarding installation, operating, maintenance and repairs with our pre and after sales training modules prepared for our business partners and customers.

At Ekin Academy we do not solely focus on the development of our staff, partners and customers. Thanks to our university collaborations, we provide the means for future engineers to put their theoretical knowledge to use with practical applications.



We organize seminars, conferences and trainings for professional chambers, and institutions we collaborate on social responsibility projects. Because we know that only by investing in the society, the industry and the future of the industry, we can become a country known for its high-quality engineering products.

SALES TEAM

An Engineering Approach from Sales to Maintenance

We offer value added pre and after sale services with our customer satisfaction-oriented approach and deep expertise we are more than happy to share. Thanks to our expert engineers that provide proactive solutions, we focus on making a difference throughout the process, from presales to maintenance.

With our “quality product, quality service, quality solution” approach, we are more than a manufacturer and supplier, we are a highly motivated solution partner for all kinds of heating and cooling projects.



Customer Satisfaction



Our priority is to ensure customer satisfaction and protect the rights of our customers with our pre-sales processes that analyze customer needs well, quality-registered product range, expert staff and meticulous working methods.

Ethical Values



We conduct all our activities in accordance with the laws and then with ethical values. We believe in growing together and we look for mutual benefit in all our business relationships.

Privacy Policy



All your personal information shared with our company is guaranteed by our ethical values and our processes in compliance with the Law No. 6698 on Protection of Personal Data.

Information Security



All our information technology operations are protected by our information security processes, which are managed in accordance with ISO 27001 Information Security Management System requirements.

CERTIFICATES



PROFESSIONAL SYSTEM SOLUTION CENTER

From our MIT professional system solution center, you can get help with problems with your pumps, heat exchangers and your system. Our solution center consisting of our expert engineers will be happy to help you.

- Domestic hot water installations.
- Central and district heating systems.
- Milk, yogurt, heating, cooling and pasteurization systems.
- Industrial cooling and heating systems.
- Oil cooling systems.
- Energy recovery systems.
- Pool heating systems.
- Steam installations.



It is vital for your system to be designed and implemented correctly in the first installation in order to be able to operate at the desired capacity, smoothness and long life. For this reason, you can get first-hand

the technical support you need during the installation phase of your system and the problems that may arise in the business; You can reach us **24 hours +90 (216) 232 24 12 in 7 days.**



+90 850 811 04 18

We would like to reiterate that we will be happy to share our knowledge accumulated over many years with our valued customers in order for your system to work correctly and performance.

Ekin will continue to be the best solution partner for you in all applications with all kinds of heating and cooling applications.

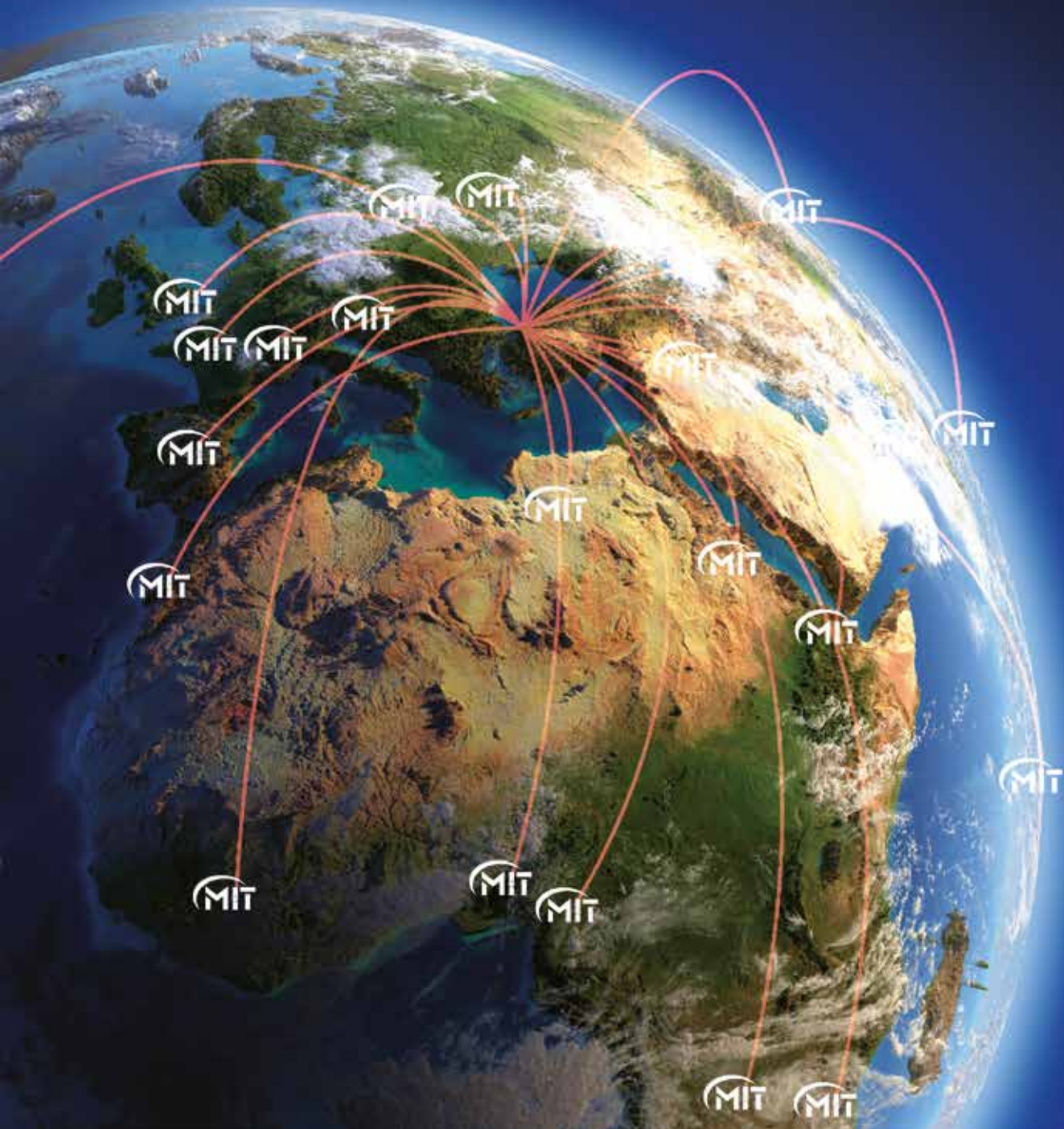


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