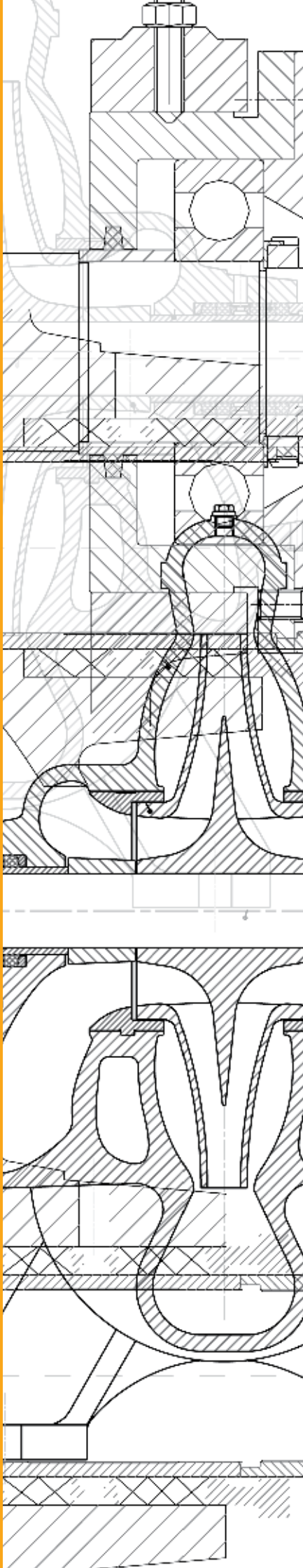




PUMP YOUR WAY TO SUCCESS



**ARCHIMEDEAN SCREW PUMPS**



MZT Pumpi a.d is one of the leading manufacturers of industrial pumps in the region of South-East Europe. With its extensive experience of more than 60 years, justified with existence of broad product range, it continuously strives to satisfy the utmost needs of the customer.

The key elements to survive in this globalized market are flexibility towards market changes and ability to innovate-both in product designs as well as business processes. By following the worldwide development in the pump industry, our staff constantly faces with the growing challenge to keep abreast of the numerous innovations in pump designs and this is justified by having a separate R&D department.

The basic objective of MZT Pumpi is expanding the business partnerships and building the brand name of our products worldwide. All of our employees live up to our motto: "Pump your way to success".

## DESIGN

Archimedean spiral pumps are designed for pumping sludge and polluted liquids without their pretreatment.

The principle of operation of these pumps is by rotating of the blades to transport the medium to a higher level.

Large passages make the Archimedean pumps possible to handle with solid liquids without any danger of a blockage in the process.

One of the main benefits of these pumps is inability to cause a cavitation and because they are operated on a low speed there is almost no efficiency loss.

Depending on what type of water is being transported, the life time of these pumps can be from 30 to 40 years.

## APPLICATION

Archimedean screw pumps are having wide application possibilities:

- Waste water treatment
  - drainage
  - rainwater
  - flood water
  - industrial process water
  - domestic sewage
- Irrigation projects
- Water supply
- Land drainage
- Reclamation of wetlands

## PERFORMANCES

INCLINATION	30°		35°		38°	
	Q <sub>MAX</sub> [l/s]	H <sub>MAX</sub> [m]	Q <sub>MAX</sub> [l/s]	H <sub>MAX</sub> [m]	Q <sub>MAX</sub> [l/s]	H <sub>MAX</sub> [m]
SCREW DIAMETER [mm]						
400	26	3.2	20	3.7	18	4.1
500	43	3.6	35	4.2	31	4.5
600	66	4.1	53	4.7	44	5.1
700	97	4.4	77	4.7	67	5.5
800	143	4.1	115	4.8	97	5.1
900	188	5.1	152	5.9	130	6.4
1000	245	5	196	5.7	168	6.1
1100	293	5.9	236	6.9	201	7.5
1200	364	6.2	293	7.2	249	7.7
1300	446	6.2	361	7.2	307	7.8
1400	532	6.5	431	7.5	366	8
1500	624	6.5	504	7.4	431	8
1600	725	6.3	584	7.3	501	7.8
1700	835	7	672	8.1	577	8.6
1800	964	7	775	8.1	662	8.6
1900	1095	7.1	880	8.2	762	8.7
2000	1205	7.2	969	8.3	848	8.8
2100	1360	7.4	1089	8.8	936	9.4
2200	1524	7.7	1218	9.1	1034	9.7
2300	1680	7.7	1350	8.9	1154	9.4
2400	1874	8.5	1511	9.8	1297	10.5
2500	2055	8.5	1648	9.7	1408	10.4
2600	2227	8.4	1787	9.7	1516	10.4
2700	2461	8.7	1973	10.1	1689	10.8
2800	2670	8.8	2136	10.2	1838	10.9
2900	2905	8.7	2327	10.1	2005	10.8
3000	3133	8.8	2513	10.2	2170	10.9

\* MZT PUMPI can provide other dimensions of Archimedean screw pumps than presented in the above table on request



## PUMP COMPONENTS

### ■ Driving unit

Depending on the required features there can be made different drive-unit arrangements. The standard drive-unit consists of an electric motor connected to the reduction gearbox which is connected with the upper bearing of the screw pump.



Drive unit

### ■ Upper Bearing

The upper bearing's main role is to accommodate axial and radial forces. This bearing is designed as a self-aligning roller bearing and .

### ■ Lower Bearing

The lower bearing housing flange is connected to the screw body. Main role of the lower bearing is to accommodate only radial loads. During the operation this bearing is lubricated with grease by the automatic lubricator. The lower bearing is hermetically sealed for protection from the liquid.

### ■ Screw

The screw has the most important role, by rotating the screw is lifted and transported to the higher levels. Screw body is usually made from longitudinally or spirally wound steel tubes.

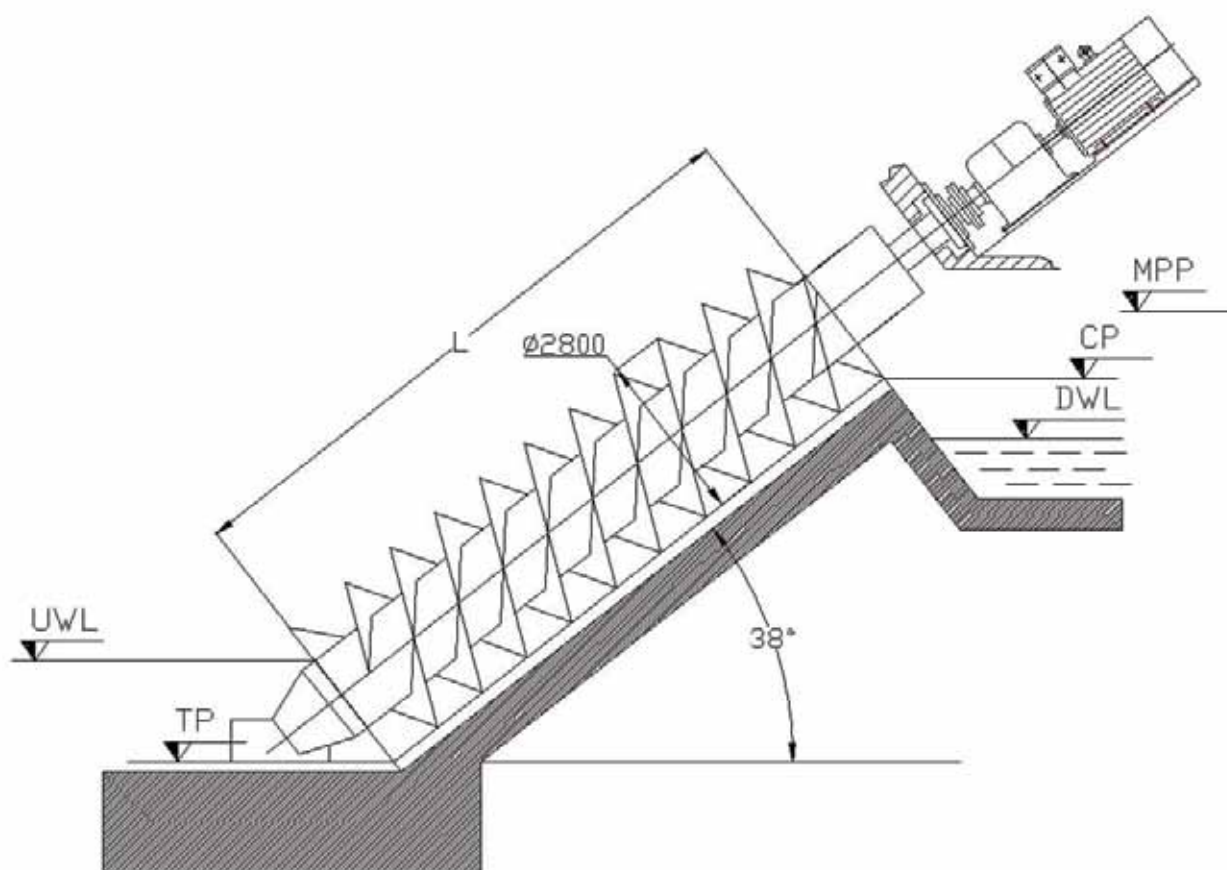
## MATERIALS AND COATING

Screw pumps can be made from coated steel or stainless steel.

Coating systems:

Item	Application	System	Thickness in $\mu$
Standard	Activated sludge	Send blasting SA 2,5	
		Epoxy coating	2 x 150
Auto cure	Waste water	Send blasting SA 2,5	
		Zink primer	1 x 40
		Epoxy coating	2 x 150
Heavy Duty I	Sand & Particles	Send blasting SA 2,5	
		Zink primer	1 x 40
		Sealer	1 x 40
		Epoxy coating	2 x 150
Cover coating	H2S occurrence	Send blasting SA 2,5	
		Epoxy special coating	2 x 175

## TERMINOLOGY & ABBREVIATIONS



### List of abbreviations

MPP	Maximum pumping point
CP	Chute Point
DWL	Down Water Level
UWL	Upper Water Level
TP	Touch Point



Pero Nakov Str. bb. 1000 Skopje, Republic of Macedonia  
Tel. +389 2 2549 817 / 818, Fax. +389 2 2549 833 / 834  
[www.pumpi.com.mk](http://www.pumpi.com.mk); e-mail: [info@pumpi.com.mk](mailto:info@pumpi.com.mk)



QUALITY MANAGEMENT SYSTEM  
ISO 9001:2008

