

LIGAO

ROTOR PUMP SELECTION GUIDE

LIGAO

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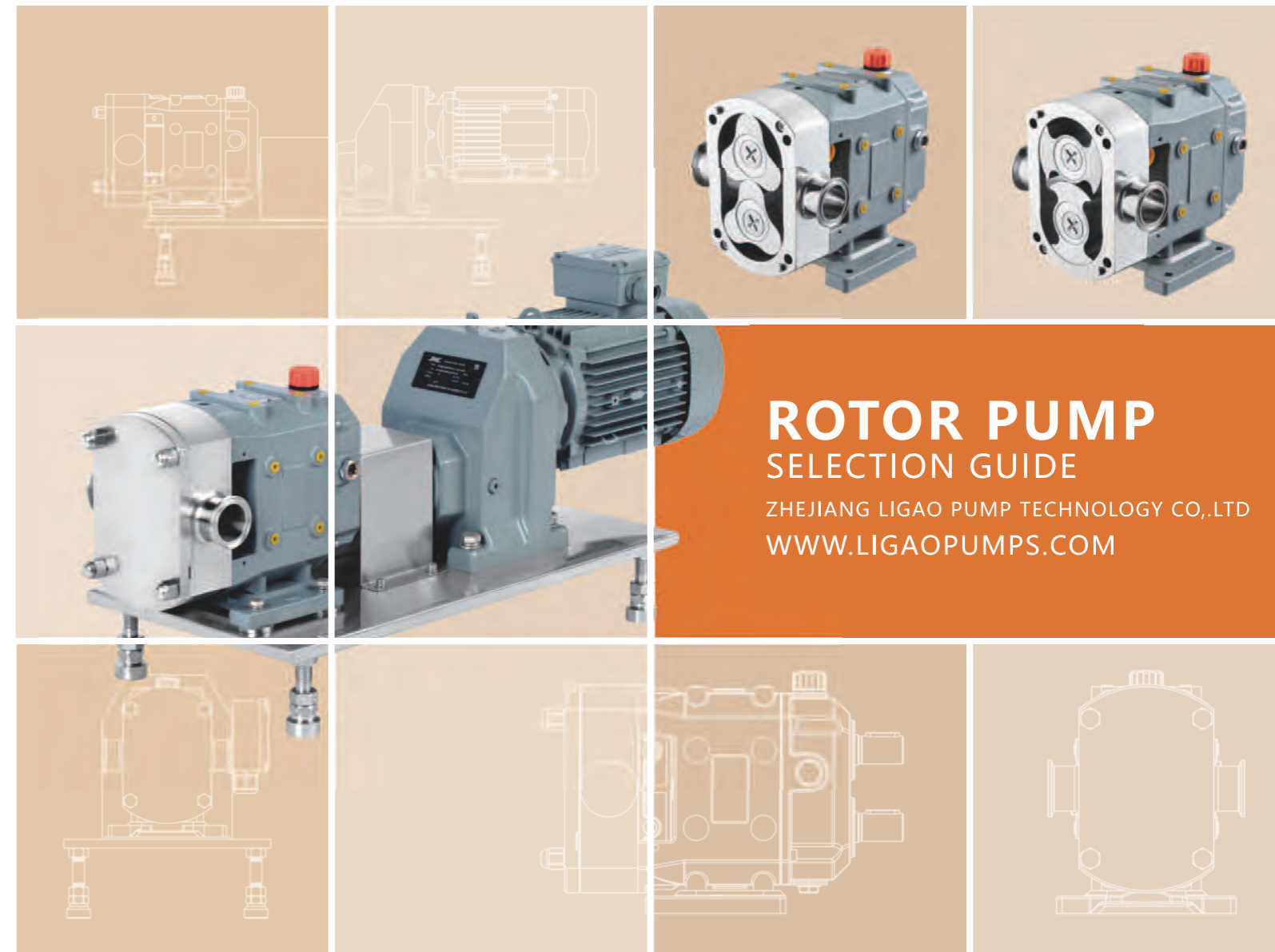
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ZHEJIANG LIGAO PUMP TECHNOLOGY CO.,LTD
WWW.LIGAOPUMPS.COM



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Company Profile

Zhejiang Ligao Pump Technology Co., Ltd. was established in 2003. The company is a national high-tech enterprise, focusing on the research and development, production, sales and service of positive displacement pumps and fluid control solutions, which has three divisions: metering pump, rotor pump and dosing system. The company has passed ISO9001, ISO14001, ISO45001, CE and other certifications. The company led the drafting of the industry standard of "Sanitary Rotary Lobe Pump".

The company has always adhered to the brand development and relying on technological innovation. It has provincial R&D centers for metering pumps and rotor pumps, and a complete fluid testing platform and laboratory. It has obtained more than 90 patents, software copyrights, etc., more than 150 sets advanced processing equipment and more than 20 sets of precision testing equipment, providing customers with strong technical support and production support.

Our products are exported to more than 50 countries and regions around the world and have set up 18 branches and offices at domestic, in order to provide customers with a full range of product technical support and advanced fluid control solutions.

Our rotor pumps are widely used in food, beverage, dairy products, daily chemical, pharmaceutical, chemical, papermaking, environmental protection and other industries.



LIGAO Advantage



Technological Innovation

Rotary pump—provincial high-tech enterprise research and development center.
The drafting unit of the industry standard of "Sanitary Rotary Lobe Pump".
The company has obtained more than 80 patents, software copyrights, etc.
Advanced fluid testing platform and laboratory.
CAD, 3D and fluid dynamics simulation software.



Production Process

Perfect production process, whole-process quality inspection and control.
Strict selection of raw materials, standard parts are selected from international and domestic well-known brands.
Advanced and complete production and testing equipment.
Product and parts traceability system to ensure product quality uniformity and traceability.
ERP, MES system optimization, providing the fastest product delivery.

Applications



Designs and Options

Mechanical Seal Options

The sealing structure adopts a modular combination design, which is suitable for a variety of sealing forms

- Single mechanical seal
- Single mechanical seal + flushing
- Double mechanical seal + flushing

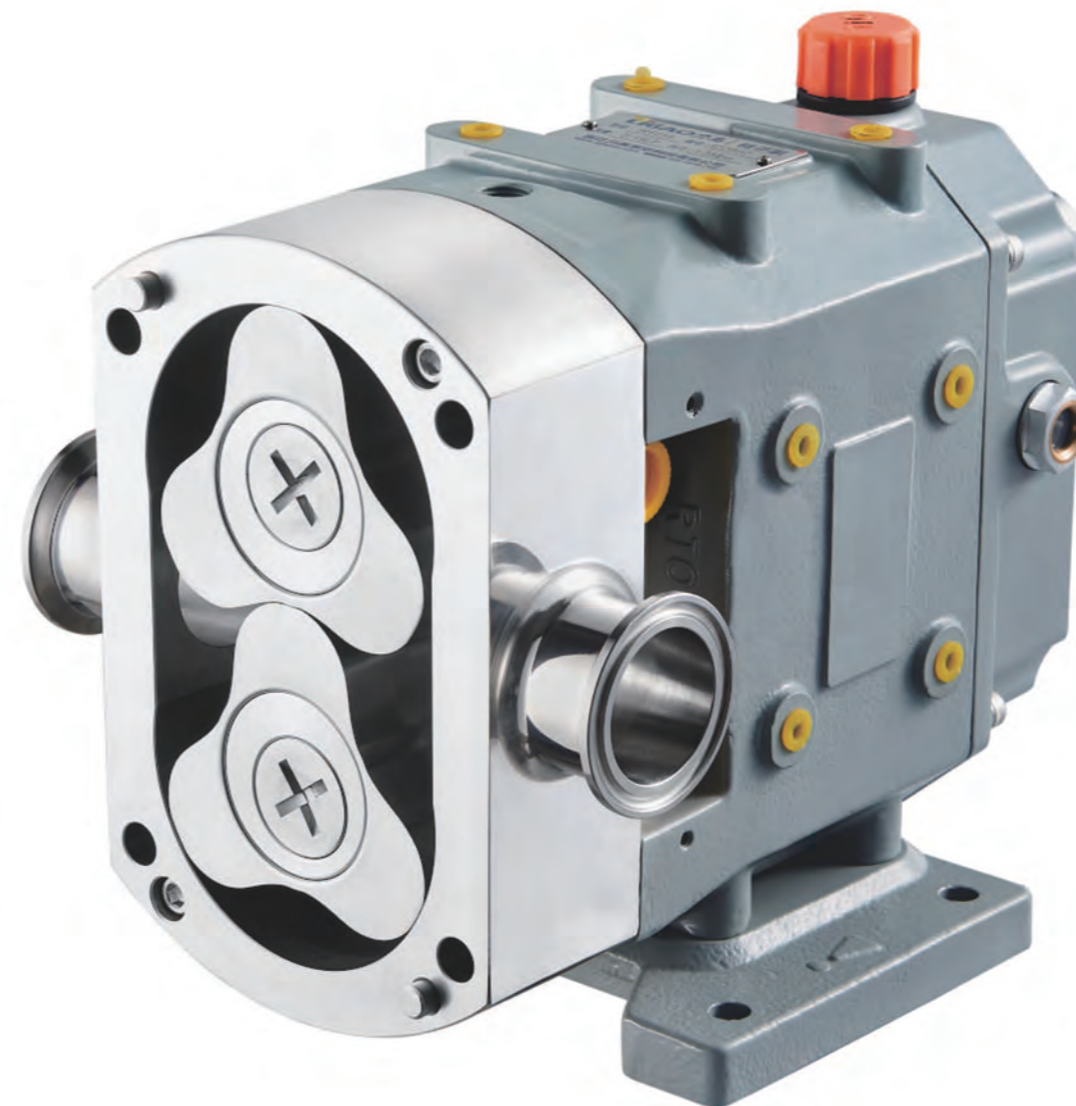
Seal Options

- FKM
- EPDM
- PTFE
- VMQ
- PU
- FFKM



Design Features

- Modular design of box and base, which can be rotated 360° for installation
- The pre-design of overcurrent end components is convenient for online maintenance
- Heavy-duty, adjustable hard-connected transmission structure, stable and reliable
- Unique rotor linear design, face seal, improve volumetric efficiency and relieve pressure
- Unique patented mechanical seal, stable and reliable, strong expansibility
- The pump cover can be integrated with heat preservation, built-in safety valve, and SIP sterilization channel



Typical Rotors and Application Features

Butterfly-lobe

Suitable for all kinds of materials with high and low viscosity and solid content. The rotor has a long sealing line and stable pressure. It also has certain advantages when conveying materials with high abrasiveness and large particles. It can also effectively transport especially viscous materials, and the materials transported through it keep the original quality unchanged.



Three-lobe

It can transport media with high viscosity, high concentration and fine particles, especially suitable for materials that are easy to foam during the transportation process. Physical and chemical reaction, stable material transportation and stable flow.



Multi-lobe

The multi-lobe rotor can reach up to 12 leaves. The more the rotor leaves, the smaller the pulse when conveying the material, the higher the stability and the flow accuracy. It can be used as a metering pump and is suitable for high-precision, quantitative, and timed feeding of materials. add. For the same model, the more rotor blades, the smaller the pump displacement, and the smaller the particle size allowed to pass through the solid content.



Rubber lobe

The modular rotor is covered with rubber material, which can effectively improve the rotor clearance, thereby improving the pump volume efficiency and self-priming type. Crystal slurry, etc.



Pump Options

Stepless Speed Reducer

The pump flow is adjusted by manual mechanical speed regulation, with high adjustment precision and wide speed change range (40-1000RPM stepless adjustment), its operation is stable, the performance is stable, the noise is low, and it can work continuously. The speed regulation must be carried out during operation, and cannot be adjusted while parking, and it is not suitable for use in situations that may be overloaded or easily blocked.



Fixed Ratio Speed Reducer

Driven by a fixed ratio gear reducer, the transmission method is simple and the bearing capacity is strong, especially for the transportation of high viscosity and high concentration materials.



PLC+VFD Control

It adopts variable frequency gear reduction drive, which can realize automatic control through PLC, inverter, etc. Highly intelligent, customizable and integrated, it can realize the quantitative, timing, and constant pressure delivery of materials, and the positive displacement pump characteristics of the rotor pump can ensure high repeatability and accuracy of metering and dosing.



Drive Options

Square Inlet

For the medium working conditions of high viscosity, high concentration and high solid content, under the pressure of the material's own weight, the square inlet of the upper inlet and the lower outlet has a short feeding stroke and a large inlet flow area to ensure smooth feeding.



Movable Cart+ Dust Cover

It is used in non-fixed-point conveying and sanitary cleaning occasions. According to user needs, choose and customize different configuration methods.



Servo Drive Control

The rotor pump is driven by a servo motor with brake, which can realize high-frequency start and stop in a very short time, and is equipped with a PLC+HMI control system, which can realize high-precision and automatic metering and dosing; Optional multi-lobe rotor to achieve high elasticity, high precision, low pulse filling and dosing; The minimum volume error can reach $\pm 0.5\text{ml}$, and the flow repeatability accuracy can reach up to $\pm 0.2\%$; Suitable for liquid filling, metering and dosing, etc.



Product Options

Vertical Type

For the medium with poor fluidity, the method of top-in and bottom-out is used to facilitate feeding. Up and down access can reduce material residues and facilitate cleaning. The import and export can be in the form of clamps, threads, flanges, square mouths, etc.



Insulation Type

It can provide insulation for temperature-sensitive materials, or can provide heating, cooling and constant temperature protection for media and pumps. There are 2 types of insulation methods: jacket (water, steam) and electric insulation.



Built-in Safety Valve

The built-in safety valve can adjust the pressure of the safety valve within the rated pressure range of the pump. In case of overpressure of the pump or pipeline, the built-in safety valve jumps and opens, and the medium releases the pressure in the pump cavity to protect the pump.



SIP Sterile Grade

SIP aseptic pumps can be used in high-sanitary occasions such as CIP and SIP. The pump cavity, mechanical seal and static pressure seal can be cleaned and sterilized, and can meet the high-sanitary requirements of online cleaning and sterilization.



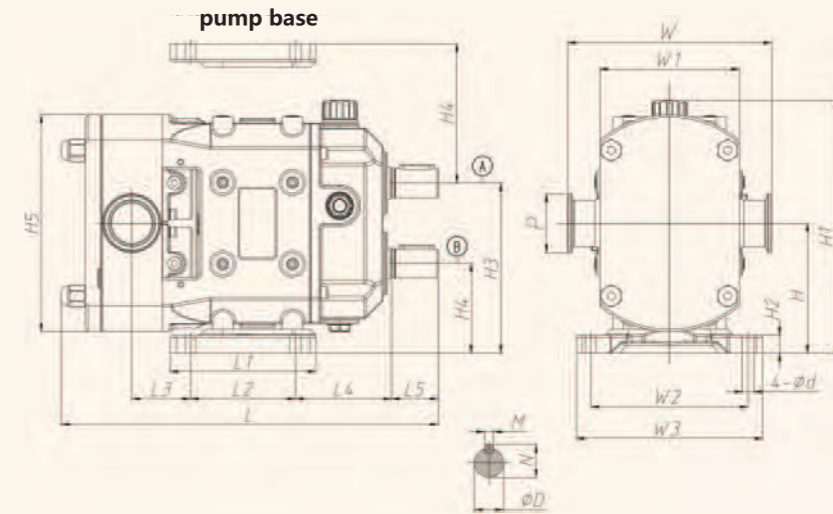
Parameter

Model	Capacity (L/r)	Flow (m³/h)	Speed (Rpm)	Pressure (Mpa)	Viscosity (Cp)	Power (KW)	Diameter	
							Clamp	Flange
RT006	0.06	1	20~1000	0.8	1~500000	0.25~1.5	1"	DN25
RT015	0.15	2	20~700	1.5	1~1000000	0.55~2.2	1.5"	DN32
RT032	0.32	5	20~500	1.5	1~1000000	0.75~4.0	2"	DN50
RT070	0.70	10	20~500	1.5	1~1000000	1.5~7.5	2.5"	DN65
RT170	1.7	20	20~500	1.5	1~1000000	2.2~15	3.5"	DN80
RT320	3.2	35	20~400	1.5	1~1000000	3.0~30	4"	DN100
RT510	5.1	60	20~400	1.2	1~1000000	5.5~45	5"	DN125
RT830	8.3	100	20~400	1.2	1~1000000	7.5~55	6"	DN150

Note:

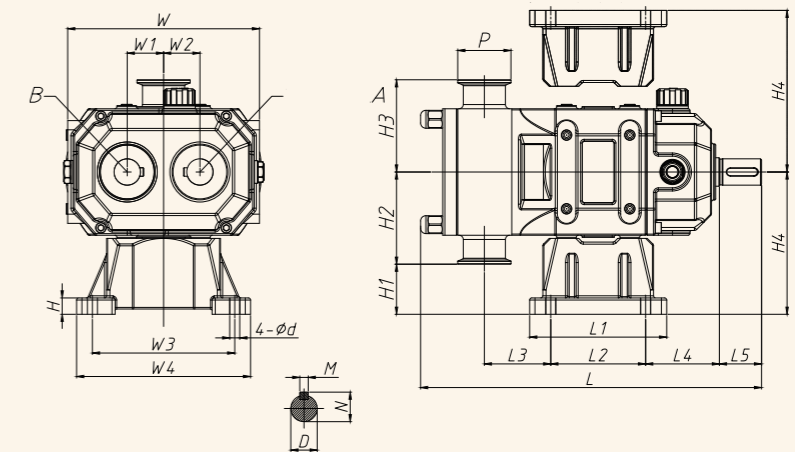
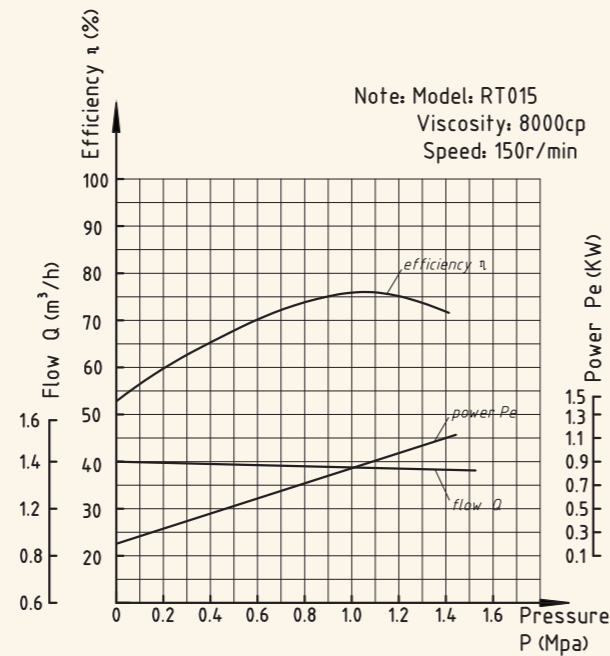
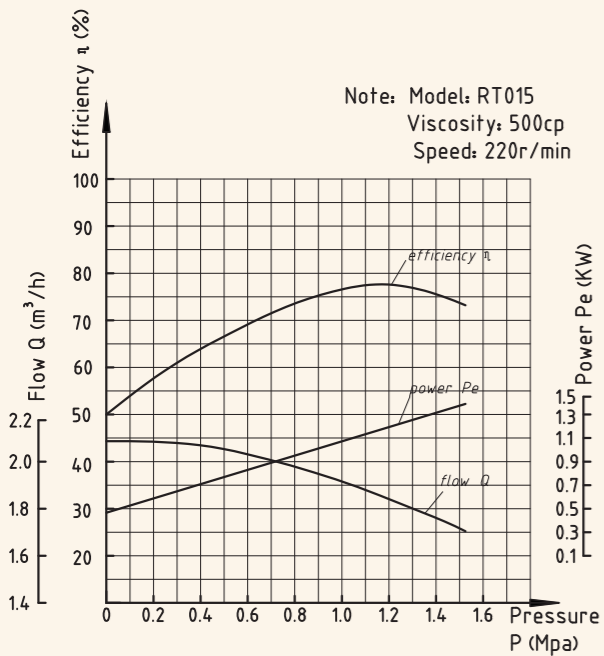
1. The flow parameters in this table is tested by water without pressure
2. The principle of rotation speed selection is low rotation speed for high viscosity materials, and high rotation speed for low viscosity materials.
3. The flow data is proportional to the speed and inversely proportional to the pressure.

Installation Drawing



Model	L	L1	L2	L3	L4	L5	H	H1	H2	H3	H4	H5	W	W1	W2	W3	M(h8)	N	D(j6)	d	P	
																					Clamp	Flange
RT006	296.5	110	80	53	75	38	90.5	169.3	13	118	63	150	132	98	115	140	5	18	φ16	φ9.5	1"	DN25
RT015	323.5	125	90	50.5	82.5	40	111.5	216.5	16	146	77	186	175	120	135	160	8	28	φ25	φ9.5	1.5"	DN32
RT032	393.5	160	120	59	95	45	136.5	264	18	181	92	235	215	150	170	200	8	33	φ30	φ11.5	2"	DN50
RT070	479	200	150	67	110	60	168	317	23	223	113	290	266	186	215	255	12	43	40	14	2.5"	DN65
RT170	609.5	235	180	78.5	152	82	207.5	390	26	276	139	365	320	230	265	310	14	53.8	50	18	3.5"	DN80
RT320	614	278	218	104	/	/	239	439	26	306	171	/	432	266	298	348	18	64.5	60	18	4"	DN100
RT510	727	295	215	154	/	/	287	527	32	369	204	/	522	318	370	430	20	74.5	70	22	/	DN125
RT830	818	340	260	162	/	/	339	619	37	435	239	/	570	366	410	480	22	85	90	22	/	DN150

Performance Curve



Model	L	L1	L2	L3	L4	L5	H	H1	H2	H3	H4	W	W1	W2	W3	W4	M(h8)	N	D(j6)	d	P	
																					Clamp	Flange
RT006	296.5	110	80	63	65	38	13	49	66	66	115	145	28	28	115	140	5	18	16	9.5	1"	DN25
RT015	323.5	130	90	63	70	40	15.5	48	88	87.5	135	182	35	35	135	165	8	28	25	9.5	1.5"	DN32
RT032	393.5	170	120	75.5	78.5	45	17.5	74	108	107.5	181	226	45	45	170	205	8	33	30	11.5	2"	DN50
RT070	479	210	150	86.5	90.5	60	23	90	133	133	223	290	55	55	215	255	12	43	40	14	2.5"	DN65
RT170	609.5	250	180	106	125	82	26	94	160	160	254	347	69	69	265	315	14	53.8	50	18	3.5"	DN80
RT320	700	255	210	117	129	105	26	112	180	180	292	402	81	81	285	335	48	64	60	18	4"	DN100