



## CATALOGUE

### 2014

**TTAAX-Series of Standard Chemical Process Pumps**



PRODUCT BROCHURE

TORONTECH  
**PUMPS**

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Torontech™ is a leading North American based international manufacturer and supplier of pumps, pipes, valves & actuators. The Torontech™ group has established an extensive network in the USA as well as international markets and remains to be a preferred vendor of choice supplying quality pumps for today's leading corporations.

Creating comprehensive solutions for our clients has always been the core value of our company. From sales, to order execution, and post-sales support; every staff member is here to assist you in selecting the solution that best suits your unique requirements and budget.

The Torontech™ group offers a complete range of quality pumps that are ANSI to ISO approved and engineered to last, ensuring your company continuous production without interruptions.

Since the beginning, we have succeeded in only offering quality manufactured pumps that are currently being used worldwide. We offer the best value for your investment and provide world-class support.

Due to the demand for our quality pumps, Torontech™ has experience explosive growth primarily in the oil & gas, water filtration and chemical refinery industries.

We offer an extensive range of solutions and products for oil & gas projects, refineries, petrochemical plants, and marine applications. Our main class of pumps includes API (American Petroleum Institute) Standard, Mining, Water & Sewage and Firefighting applications. The pumps are offered in various configurations depending on orientation of the pump, required head and type of fuel used for operation.

## TTAAX- SLCZ SERIES STANDARD CHEMICAL PROCESS PUMP

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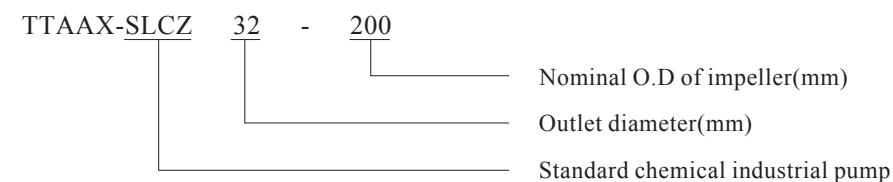
### General

Model TTAAX-SLCZ is single-stage single-suction horizontal centrifugal chemical pump, which is compliant to DIN24256 and ISO2858 standards. The size of the sealing cavity, structure, assistant pipeline system, running interval, bearing allocation, shaft rigidity, control of the materials of the flow-passing parts aspects of TTAAX-SLCZ standard chemical process pump have been improved by referring to the related requirements in API610, to improve both safety and reliability of the pump.  
For TTAAX-SLCZ standard chemical pump, the range of

its performance covers the all performances of IH series chemical pump and its efficiency, cavitation performance and all the other indexes surpass those of IH pump.

There are 40 models, about 300 specifications and 6kinds of the bearing suspension tackle for this pumps series. It features a classic and reliable structure and a good interchangeability between the parts and can meet performance requirements of various working conditions.

### About the model



### Purpose

To transport either low or high temperature liquids; neutral or corrosive liquids; pure liquids or liquids containing solid grains. Usually applied for:  
Chemical and petrochemical industries  
Oil refinery plants  
Paper manufacturer and paper pulp industry  
Sugar industry  
Metallurgy

Electric station  
Food  
Pharmacy  
Synthetic fiber  
Water supply  
Seawater desalting  
Environmental protection  
Heat supply and air-conditioning





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**Performance**

■ Aperture	DN	32-300(350)mm
■ Flow	Q	up to 2000m <sup>3</sup> /h
■ Head	H	up to 160m
■ Working pressure	P	2.5MPa
■ Working temperature	t	-30℃~+170℃

Flat performance curve, low vapour corrosion value, high efficiency, which are also kept under a non-full load.

**Design features**

The pump uses a closed impeller, a foot supported structure for the pump casing and a secondary blade or the balancing hole to balance the pressure acting at the shaft seal. The shaft seal can be either soft packing, single or double end-face mechanical seal of various structures (a packaged seal can also be used). Inside the sealing cavity there is a jacket cooling system, which can be cooled by cooling water or heated and insulated with steam getting through. The durable cylindrical bearing thin-oil lubricated bearing suspension tackle and sufficient size of the shaft ensure the stable operation of the pump. The large-scale pump casing is designed to be a dual-volute body to balance the radial force, leaving a stable movement and small vibration when operating the pump. The bearing holder, together with the shaft, impeller, packing box etc., form a combined part and thus making it unnecessary to remove the pump casing from the pipeline when repair work is needed (motor as well, if an extended clutch is used). The intermittent clutch can be unfitted, if so required by users, in case a limited installation condition

happens). The flange design usually adopts ANSI (class 150). TTAAX-SLCZ series standard chemical process pump can be completed with Y, Y2 or YB, YB2 series motor (380V, 50Hz) and installed in B3 mode. In different working conditions (different shaft powers), pumps of the same model can be completed with motors of different powers or those of the user appointed models. The features at other aspects come as below:  
The technical specifications of TTAAX-SLCZ standard chemical process pump are compliant to the standards of ISO5199/EN25199. The structure standard as an industrial process pump and the pull-back design make the pump disassembly and repair work safe and easy to conduct. The rigid design of the pump shaft, heavy cylindrical roller and paired dual-linked angle contacted ball bearing make the pump capable of bearing a heavy radial or axial load.

For TTAAX-SLCZ standard chemical process pump, the impeller is fixed on the shaft by the impeller nut and a sealing gasket is set in between impeller and impeller

nut and between both impeller and muff. The pump shaft will not be contacted with the media being transported in the regular condition of use to avoid being corroded by the media.

TTAAX-SLCZ standard chemical process pump adopts an integrally cast closed impeller, it is powerful and suitable to most of working conditions while holding the maximum efficiency and the best cavitation performance. With a standard back blade or balancing hole set with the impeller, it is possible to reduce the axial push-force and the pressure in the sealing chamber to extend the duration of both seal and bearing. The oil storage tank has a big volume with the bracket bearing box. The constant oil leveler and magnetic safety venting plug on the oil storage tank can make sure the bearing lubricating and cooling effect are sufficient. The oil seals on both sides of the bearing box are labyrinth seals, which have an extended life span and a simple structure.

TTAAX-SLCZ standard chemical process pump adopts a metal membrane clutch, making the pump features a light weight, a good dynamic balancing performance, an automatic compensation for the displacement of the unit shaft, stable movement with low noise. Both pump

and motor are mounted on one common foundation, the dimension of which is compliant to ISO3661, and usually a welded foundation (a girder welded structure) is adopted, however cast foundation can also be used depends on the requirement. The machined installation surfaces of both pump and motor make the concentricity of both easily corrected.

The assistant pipeline system of the mechanical seal used with TTAAX-SLCZ standard chemical process pump is complaint to the normative requirement in Appendix D of API610. The main parts of the pump casing (pump cover and impeller) are contacted with the medium being transported. The materials of these parts are highly resistant to the corrosion and high temperature. However, proper material selection for the flow passing components upon different media and working conditions rely on the details of the media provided by the users when making inquiries. For these main parts, there are four kinds of material usually available for your choice (listed in the table below, and the relationship between the common material codes of USA and Germany). Other proper materials for the chemical process pump can also be selected upon request (the material and its code shall conform to ASTM).

TTAAX- SLCZ SERIES STANDARD CHEMICAL PROCESS PUMP

### Materials of the main parts in the flow-passing portion

These main parts mean the pump casing, pump cover and impeller. They are contacted with the medium being transported and subjected to corrosion of it and bear both pressure and hot load of it. The materials of these parts leave a great importance to the pump's safe and reliable work and it is therefore necessary to select proper materials for the flow-passing components upon different media and working conditions and for the users at order to provide the details about

the medium to be transported or note the required materials definitely. For these main parts, there are four kinds of material usually available for your choice (listed in the table below, and the relationship between the common material codes of China, USA and Germany as well). Other materials proper to make the chemical process pump can also be selected upon necessity (the material and its code shall conform to GB2100-80 or ASTM).

Material	Steel grade of China	Steel grade of USA		Steel grade of Germany		Code of material
	GB	ASTM	UNS	DIN	W-Nr.	
Stainless steel	0Cr18Ni9	304	S30400	X5CrNi18 10	1.4301	I
	0Cr17Ni12Mo2	316	S31600	X5CrNiMo17 12 2	1.4401	II
	00Cr17Ni14Mo2	316L	S31603	X2CrNiMo18 14 3	1.4435	II
Cast steel	ZG230-450	450-240	J03101	GS-45	1.0446	IV

Relationship between the materials of the flow-passing components and both working pressure and temperature used with the pump

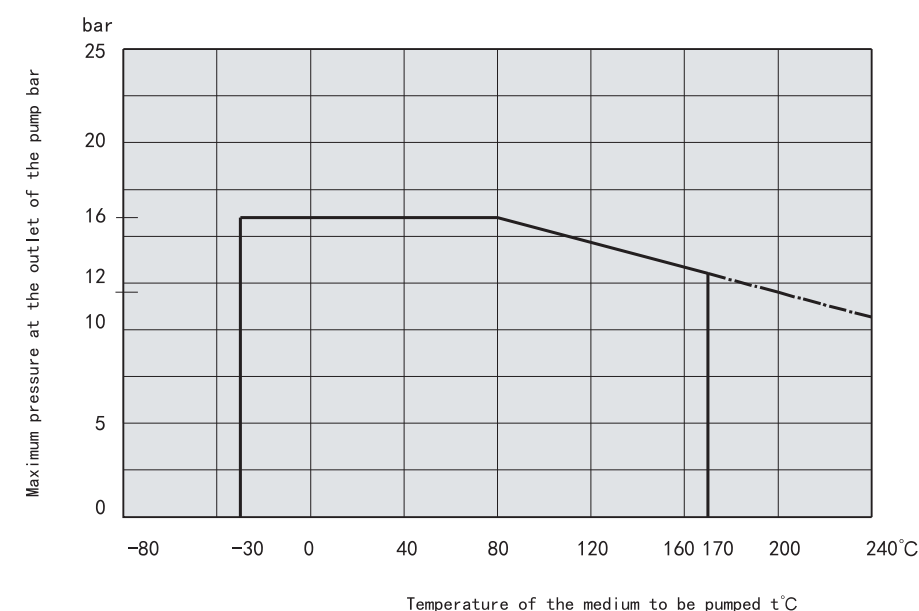
Material	Code of material	(MPa) Working pressure	(°C) Working temperature	(MPa) Experimental pressure
Stainless steel	304 316 316L	1.6	-30~170	2.7
Cast steel	ZG230-450	2.5	-30~170	3.75

The pump can not work safely unless the maximum working pressure  $P_d$  of it is less than the permitted one  $[P_d]$ .  
 The maximum working pressure  $P_d$  of the pump can be calculated upon the following formula:  

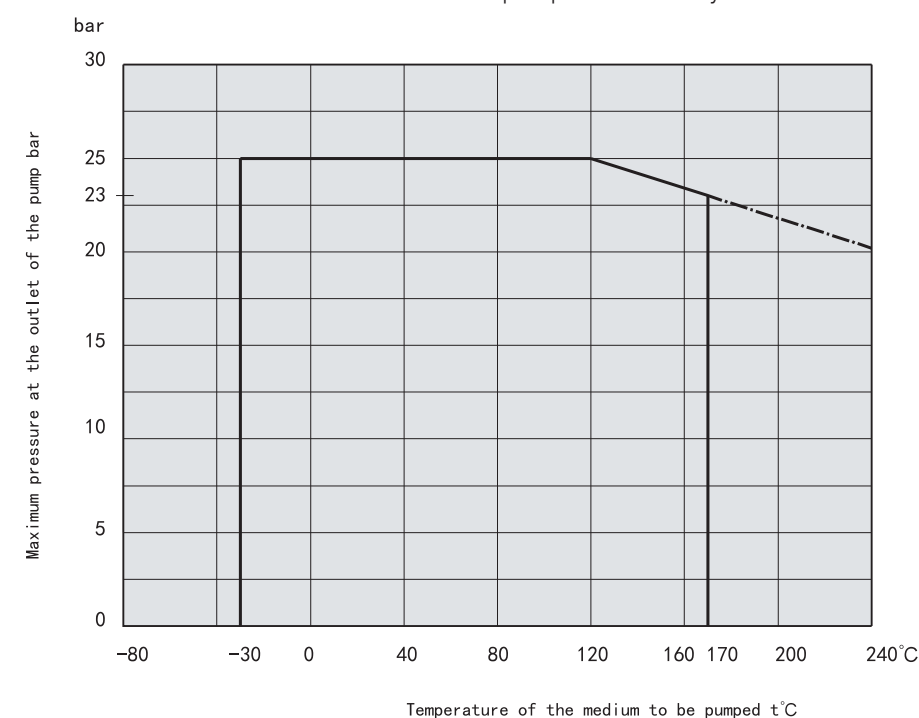
$$P_d = P_z + H_o \cdot \rho / 10 \text{ (bar)}$$
 $P_z$ : the inlet pressure of pump (bar)  
 $H_o$ : the closing head of pump (m)  
 $\rho$ : the specific gravity of the medium ( $\text{kg}/\text{dm}^3$ )  
 The permitted pressure of the pump can be checked out in the following chart "Limits of pressure and temperature".

### Limits at use of the material pressure and temperature

The following chart shows the limits of both pressure and temperature for the pump to work when the materials of the main parts in the flow-passing portion are 304, 316 and 316L and the pump can be safely to work under the heavy line.



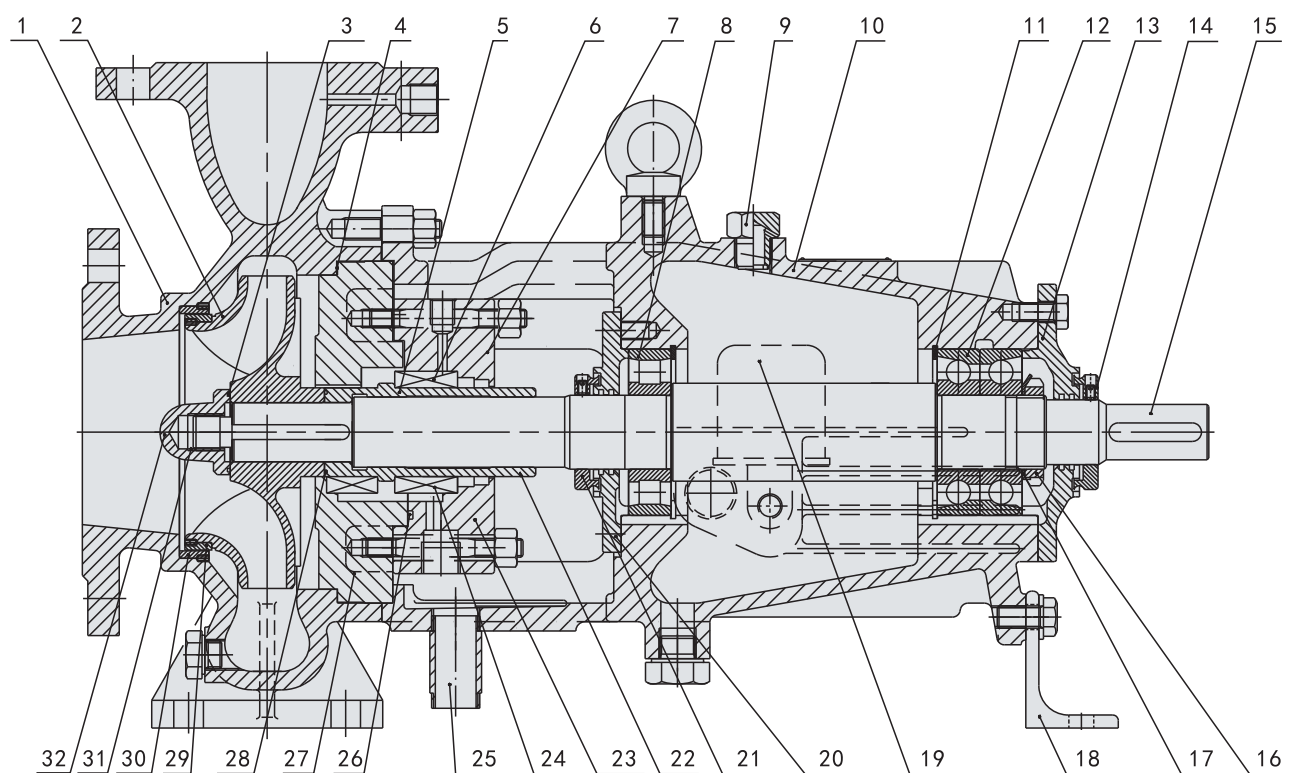
The following chart shows the limits of both pressure and temperature for the pump to work when the materials of the main parts in the flow-passing portion are ZG230-450 and the pump can be safely to work under the heavy line.





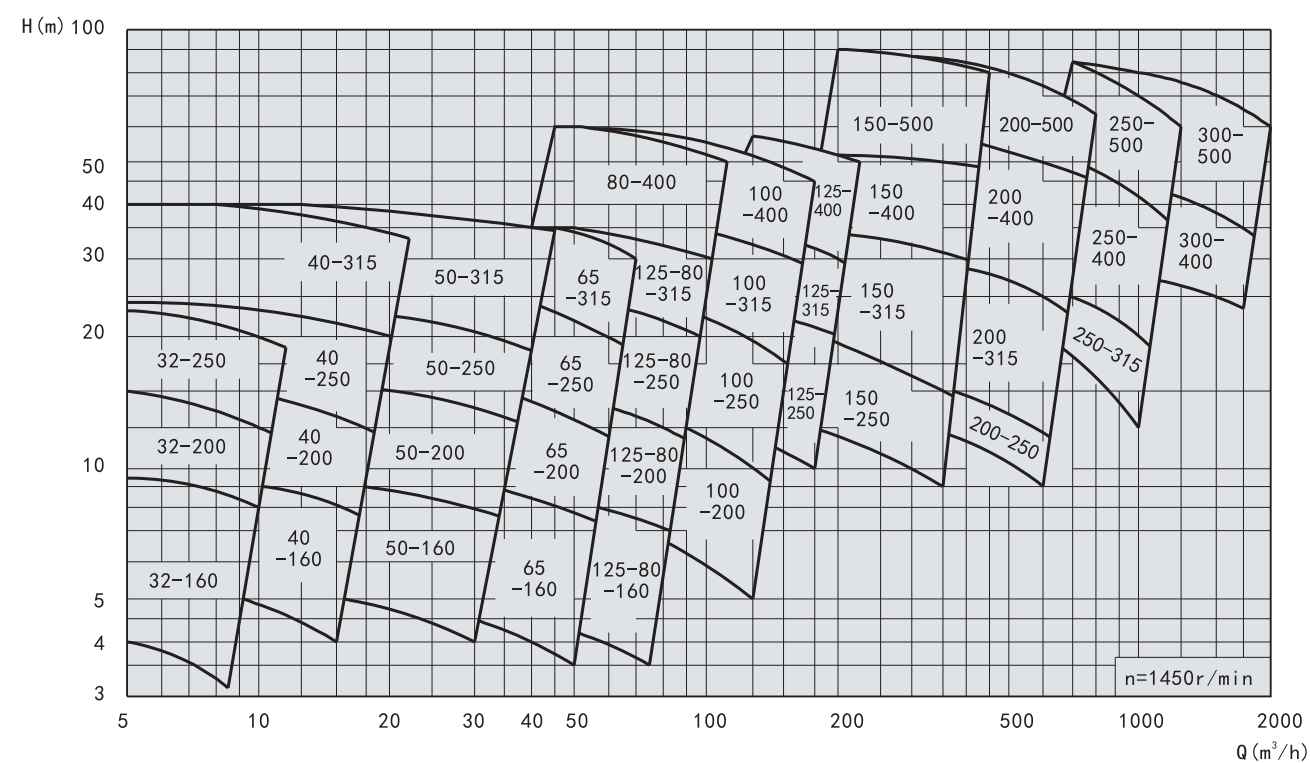
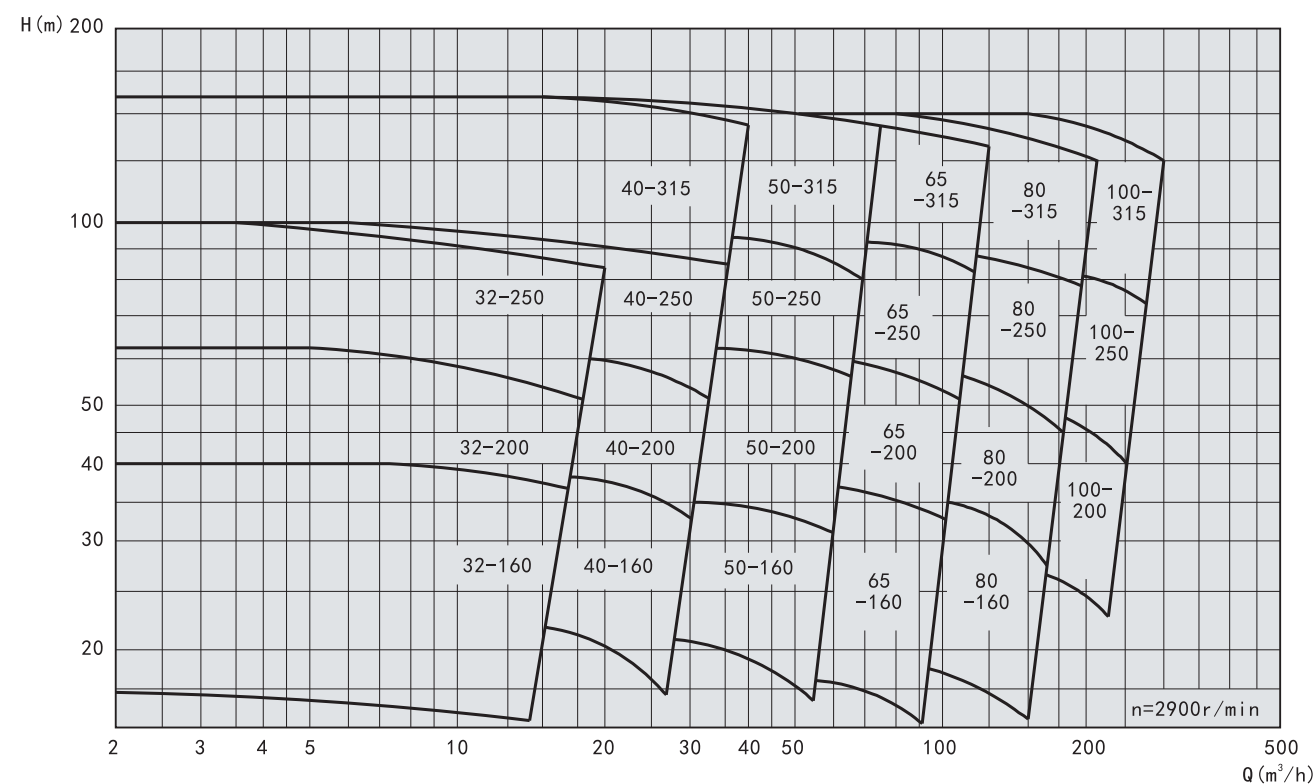
TTAAX- SLCZ SERIES STANDARD CHEMICAL PROCESS PUMP

Structural drawing



1	Pump casing	9	Ventfilter plug	17	Locking gasket	25	Pipe
2	Impeller	10	Bearing bracket	18	Support foot	26	O-ring
3	O-ring	11	Circlip	19	Constant-level-oiler	27	Pump cover
4	Gasket	12	Ball bearing	20	Bearing cover	28	O-ring
5	Shaft sleeve	13	Bearing cover	21	Dust-proof ring	29	Impeller seal ring
6	Mechanical seal	14	Dust-proof ring	22	Shaft sleeve	30	Seal ring of pump casing
7	Seal cover	15	Shaft	23	Sealing cover	31	Threaded insert
8	Ball bearing	16	Bearing nut	24	Mechanical seal	32	Impeller nut

Atlas of stype







TTAAX- SLCZ SERIES STANDARD CHEMICAL PROCESS PUMP

TTAAX- SLCZ type performance table

Pump type	Impeller type	Rated rotary speed of pump n=2900r/min								Rated rotary speed of pump n=1450r/min										
		Q (m³/h)	H (m)	Specific gravity=1.00		Specific gravity=1.35		Specific gravity=1.84		Q (m³/h)	H (m)	Specific gravity=1.00		Specific gravity=1.35		Specific gravity=1.84				
				Power and model of motor								Power and model of motor								
				KW	Type	KW	Type	KW	Type			KW	Type	KW	Type	KW	Type			
SLCZ32-160	A	20	35						11	8										
	B			5.5	Y132S1-2	7.5	Y132S2-2	11	Y160M1-2	10	7	1.5	Y90L-4	1.5	Y90L-4	2.2	Y100L1-4			
	C	17	28	4	Y112M-2	5.5	Y132S1-2	7.5	Y132S1-2	9	6					1.5	Y90L-4			
	D	15	20	3	Y100L-2	4	Y112M-2	5.5	Y132S1-2	7	5	1.1	Y90S-4	1.1	Y90S-4	1.1	Y90S-4			
	E	13	14	2.2	Y90L-2	3	Y100L-2	4	Y112M-2	6	3									
SLCZ32-200	A	19	51	11	Y160M1-2			11	Y160M1-2	15	Y160M2-2	10	12	2.2	Y100L1-4		3	Y100L2-4		
	B	18	48	7.5	Y132S2-2				9	11					2.2	Y100L1-4				
	C	16	40	5.5	Y132S1-2	7.5	Y132S2-2	11	Y160M1-2	8	10	1.5	Y90L-4		1.5	Y90L-4				
	D	15	30	4	Y112M-2	5.5	Y132S1-2	7.5	Y132S2-2	8	8					1.5	Y90L-4			
SLCZ32-250	A	20	82	18.5	Y160L-2				22	Y180M-2	30	Y200L1-2	11	19	3	Y100L2-4	4	Y112M-4	5.5	Y132S-4
	B	20	74						10	18							3	Y100L2-4	4	Y112M-4
	C	18	61	15	Y160M2-2	18.5	Y160L-2	22	Y180M-2	9	15	2.2	Y100L1-4							
	D	15	48	7.5	Y132S2-2	11	Y160M1-2	15	Y160M2-2	8	11			2.2	Y100L1-4	2.2	Y100L1-4			
SLCZ40-160	A	30	32	7.5	Y132S2-2	11	Y160M1-2	15	Y160M2-2	15	8	1.5	Y90L-4		1.5	Y90L-4	2.2	Y100L1-4		
	B	28	30					11	Y160M1-2	15	7									
	C	16	26	5.5	Y132S1-2	7.5	Y132S2-2		14	6	1.1	Y90S-4		1.1	Y90S-4	1.5	Y90L-4			
	D	14	18	4	Y112M-2	5.5	Y132S1-2	7.5	Y132S1-2	12	4					1.1	Y90S-4			
SLCZ40-200	A	34	49	11	Y160M1-2	15	Y160M2-2	18.5	Y160L-2	16	13	2.2	Y100L1-4		2.2	Y100L1-4	3	Y100L2-4		
	B	30	47						15	12	1.5	Y90L-4					2.2	Y100L1-4		
	C	26	37	7.5	Y132S2-2	11	Y160M1-2	15	Y160M2-2	14	9	1.1	Y90S-4		1.5	Y90L-4				
	D	22	30	5.5	Y132S1-2	7.5	Y132S2-2	11	Y160M1-2	12	7			1.1	Y90S-4	1.5	Y90L-4			
SLCZ40-250	A	36	85	22	Y180M-2	30	Y200L1-2	45	Y225M-2	20	21	5.5	Y132S-4		5.5	Y132S-4	7.5	Y132M-4		
	B	34	80					37	Y200L2-2	18	20	4	Y112M-4							
	C	30	65	15	Y160M2-2	22	Y180M-2	30	Y200L1-2	16	15	3	Y100L2-4	4	Y112M-4	5.5	Y132S-4			
	D	26	50			15	Y160M2-2	18.5	Y160L-2	13	12	2.2	Y100L1-4	3	Y100L2-4	4	Y112M-4			
SLCZ40-315	A	46	138	45	Y225M-2	55	Y250M-2	75	Y280S-2	22	36	11	Y160M1-4		11	Y160M1-4	15	Y160M2-4		
	B	44	130						22	31	7.5	Y132M-4					11	Y160M1-4		
	C	40	100	30	Y200L1-2	37	Y200L2-2	55	Y250M-2	20	24	5.5	Y112M-4	7.5	Y132M-4					
	D	34	80			30	Y200L1-2	37	Y200L2-2	18	19	4	Y112M-4	4	Y112M-4	5.5	Y132S-4			
SLCZ50-160	A	55	33	15	Y160M2-2	15	Y160M2-2	18.5	Y160L-2	30	8	2.2	Y100L1-4		2.2	Y100L1-4	3	Y100L2-4		
	B	50	29	11	Y160M1-2				26	7	1.5	Y90L-4					2.2	Y100L1-4		
	C	46	26	7.5	Y132S2-2	11	Y160M1-2	15	Y160M2-2	24	6			1.1	Y90S-4	1.5	Y90L-4			
	D	40	18	5.5	Y132S1-2	7.5	Y132S2-2	11	Y160M1-2	20	4			1.1	Y90S-4	1.5	Y90L-4			
SLCZ50-200	A	65	55	18.5	Y160L-2	22	Y180M-2	45	Y225M-2	34	14	4	Y112M-4	5.5	Y112M-4	7.5	Y132M-4			
	B	65	50	15	Y160M2-2	18.5	Y160L-2	45	Y225M-2	32	12	3	Y100L2-4	4	Y112M-4	5.5	Y112M-4			
	C	50	41	11	Y160M1-2	15	Y160M2-2	18.5	Y160L-2	30	10	2.2	Y100L1-4	3	Y100L2-4	4	Y112M-4			
	D	40	32	7.5	Y132S2-2	11	Y160M1-2	15	Y160M2-2	24	7	1.5	Y90L-4	2.2	Y100L1-4	3	Y100L2-4			

TTAAX- SLCZ type performance table

Pump type	Impeller type	Rated rotary speed of pump n=2900r/min								Rated rotary speed of pump n=1450r/min											
		Q (m³/h)	H (m)	Specific gravity=1.00		Specific gravity=1.35		Specific gravity=1.84		Q (m³/h)	H (m)	Specific gravity=1.00		Specific gravity=1.35		Specific gravity=1.84					
				Power and model of motor								Power and model of motor									
				KW	Type	KW	Type	KW	Type			KW	Type	KW	Type	KW	Type				
SLCZ50-250	A	65	82						34	20	7.5	Y132M-4		7.5	Y132M-4	11	Y160M-4				
	B	60	80	30	Y200L1-2	37	Y200L2-2	55	Y250M-2	30	19	5.5	Y132S-4								
	C	55	65	22	Y180M-2	30	Y200L1-2	45	Y225M-2	26	16	4	Y112M-4	5.5	Y132S-4	7.5	Y132M-4				
	D	45	53	15	Y160M2-2	22	Y180M-2	30	Y200L1-2	24	12	3	Y100L2-4	4	Y112M-4	5.5	Y132S-4				
SLCZ50-315	A	80	138	75	Y280S-2	90	Y280M-2		110	Y315S-2	42	35	15	Y160L-4		15	Y160L-4	22	Y180L-4		
	B	75	135						55	Y250M-2	75	Y280S-2						18.5	Y180M-4		
	C	70	110							90	Y280M-2	40	26	11	Y160M-4			15	Y160L-4		
	D	65	85	37	Y200L2-2	55	Y250M-2	75	Y280S-2	36	21					11	Y160M-4	11	Y160M-4		
SLCZ65-160	A	100	32	18.5	Y160L-2	30	Y200L1-2	37	Y200L2-2	50	8			3	Y100L2-4	4	Y112M-4	5.5	Y132S-4		
	B	90	32						22	Y180M-2	30	Y200L1-2	48	7							
	C	90	24	15	Y160M2-2	18.5	Y160L-2	22	Y180M-2	46	6	2.2	Y100L1-4			3	Y100L2-4	4	Y112M-4		
	D	80	14	7.5	Y132S2-2	11	Y160M1-2	15	Y160M2-2	38	4			2.2	Y100L1-4	3	Y100L2-4				
SLCZ65-200	A	100	52	30	Y200L1-2	37	Y200L2-2		45	Y225M-2	50	13	5.5	Y132S-4	7.5	Y132M-4	11	Y160M-4			
	B	90	49	22	Y180M-2				30	Y200L1-2	46	12	4	Y112M-4	5.5	Y132S-4	7.5	Y132M-4			
	C	90	40	18.5	Y160L-2				37	Y200L2-2	42	10	3	Y100L2-4	4	Y112M-4	5.5	Y132S-4			
	D	70	30	15	Y160M2-2	18.5	Y160L-2	30	Y200L1-2	36	7	2.2	Y100L1-4	3	Y100L2-4	4	Y112M-4				
SLCZ65-250	A	115	83	55	Y250M-2	75	Y280S-2			54	21	11	Y160M-4		11	Y160M-4	15	Y160L-4			
	B	115	75	45	Y225M-2			55	Y250M-2	75	Y280S-2	50	19	7.5	Y132M-4						
	C	100	64	37	Y200L2-2					46	16	5.5	Y132S-4	7.5	Y132M-4	11	Y160M-4				
	D	80	50	30	Y200L1-2	37	Y200L2-2	45	Y225M-2	40	10	4	Y112M-4	5.5	Y132S-4	7.5	Y132M-4				
SLCZ65-315	A	135	130						90	Y280M-2	110	Y315S-2	160	Y315L1-2	64	31	15	Y160L-4	18.5	Y180M-4	
	B	130	125								61	30							22	Y180L-4	
	C	115	115							110	Y315S-2	132	Y315M-2	56	28			15	Y160L-4	18.5	Y180M-4
	D	110	102	75	Y280S-2				90	Y280M-2	110	Y315S-2	54	24	11	Y160M-4			11	Y160M-4	
	E	90	85	55	Y250M-2	75	Y280S-2	90	Y280M-2	50	20	7.5	Y132M-4								
	F	75	70	37	Y200L2-2	45	Y225M-2	75	Y280S-2	52	16	5.5	Y132S-4	7.5	Y132M-4	11	Y160M-4				
SLCZ80-160	A	170	29	30	Y200L1-2	37	Y200L2-2	55	Y250M-2	75	8	4	Y112M-4	5.5	Y132S-4	7.5	Y132M-4				
	B	160	26	22	Y180M-2	30	Y200L1-2	45	Y225M-2	70	7	3	Y100L2-4	4	Y112M-4	5.5	Y132S-4				
	C	150	22	18.5	Y160L-2	22	Y180M-2	30	Y200L1-2	70	5	2.2	Y100L1-4			3	Y100L2-4	4	Y112M-4		
	D	130	16	15	Y160M2-2	18.5	Y160L-2	22	Y180M-2	65	4			2.2	Y100L1-4	3	Y100L2-4				
SLCZ80-200	A	150	50						37	Y200L2-2	55	Y250M-2	75	Y280S-2	80	12	7.5	Y132M-4	11	Y160M-4	
	B	140	46							45	Y225M-2	55	Y250M-2	75	11					11	Y160M-4
	C	130	38	30	Y200L1-2	37	Y200L2-2	45	Y225M-2	65	9	5.5	Y132S-4	7.5	Y132M-4						
	D	110	27	18.5	Y160L-2	30	Y200L1-2	37	Y200L2-2	60	6	3	Y100L2-4	4	Y112M-4	5.5	Y132S-4				





### TTAAX-SLCZ type performance table

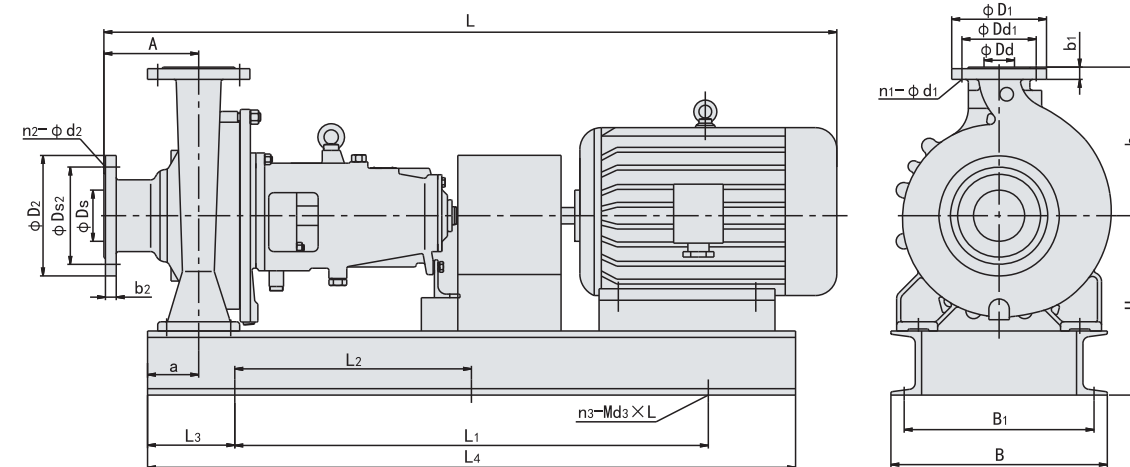
Pump type	Impeller type	Rated rotary speed of pump n=2900r/min						Rated rotary speed of pump n=1450r/min									
		Q (m³/h)	H (m)	Specific gravity=1.00		Specific gravity=1.35		Specific gravity=1.84		Q (m³/h)	H (m)	Specific gravity=1.00		Specific gravity=1.35		Specific gravity=1.84	
				Power and model of motor								Power and model of motor					
				KW	Type	KW	Type	KW	Type			KW	Type	KW	Type	KW	Type
SLCZ200-400	A							650	52	132	Y315M-4						
	B							550	45	110	Y315S-4	132	Y315M-4				
	C							500	40	90	Y280M-4	110	Y315S-4	160	Y315L1-4		
	D							450	30	75	Y280S-4	90	Y280M-4	110	Y315S-4		
SLCZ200-500	A							700	75								
	B							650	65	160	Y315L1-4						
	C							550	55	132	Y315M-4	160	Y315L1-4				
	D							450	40	90	Y280M-4	110	Y315S-4	160	Y315L1-4		
SLCZ250-315	A							950	22			110	Y315S-4	160	Y315L1-4		
	B							900	20	75	Y280S-4	90	Y280M-4	132	Y315M-4		
	C							800	16					110	Y315S-4		
SLCZ250-400	A							1000	44								
	B							900	38	132	Y315M-4						
	C							850	30	110	Y315S-4	160	Y315L1-4				
	D							800	25	90	Y280M-4	110	Y315S-4	160	Y315L1-4		
SLCZ250-500	A							1200	80								
	B							1100	70								
	C							1000	58								
	D							850	45	160	Y315L1-4						
SLCZ300-500	A							1500	39								
	B							1400	30	160	Y315L1-4						
	C							1300	25	132	Y315M-4						
	D							1300	20	110	Y315S-4	160	Y315L1-4				
SLCZ300-400	A							1700	70								
	B							1500	61								
	C							1300	50								
	D							1100	40								

\*The power grades of the motor corresponded to every model are different upon different densities and, in case of a density 1.2, then selection shall be made per the motor's power of density 1.35.

\*For the model in the table available with parameters but without motor, please contact the technical center in advance when to select in order to confirm if it can be made!

### TTAAX-SLCZ SERIES STANDARD CHEMICAL PROCESS PUMP

### TTAAX-SLCZ Drawing and table of out-form installation dimensions



Model of pump	Model of motor	Name of shaft	A	a	L1	L2	L3	L4	L	B1	B	h	H	n3-Md3 x L	Weight (kg)
SLCZ32-160	Y90S-4/1.1	1	130	75	660		170	1000	1050	400	440	180	300	4-M12 x 220	127
	Y90L-4/1.5								1075						127
	Y90L-2/2.2								1075						127
	Y100L-2/3								1120						138
	Y112M-2/4								1140						151
	Y132S1-2/5.5								1215						183
	Y132S2-2/7.5								1215						183
SLCZ32-200	Y90L-4/1.5	1	140	75	660		170	1000	1085	400	440	200	300	4-M12 x 220	131
	Y100L1-4/2.2								1130						142
	Y112M-2/4								1150						155
	Y132S1-2/5.5								1225						187
	Y132S2-2/7.5								1225						187
	Y160M1-2/11								1350						256
	Y160M2-2/15								1350						256
SLCZ32-250	Y00L1-4/2.2	1	140	90	740		190	1120	1130	400	440		300	4-M12 x 220	163
	Y100L2-4/3								1150						163
	Y112M-4/4								1150						163
	Y132S2-2/7.5								1400						176
	Y160M1-2/11								1440						225
	Y160M2-2/15								1440						225
	Y160L-2/18.5								1485						305
SLCZ40-160	Y200L1-2/30	2	140	90	1060		270	1600	1485	400	440		305	4-M16 x 220	303
	Y90S-4/1.1								1050						127
	Y90L-4/1.5								1075						127
	Y90L-2/2.2								1075						127
	Y100L-2/3								1120						138
	Y112M-2/4								1140						151
	Y132S1-2/5.5								1215						183
SLCZ40-200	Y132S2-2/7.5	1	140	75	660		170	1000	1215	400	440	180	300	4-M12 x 220	183
	Y160M1-2/11								1340						252
	Y90S-4/1.1								1060						131
	Y90L-4/1.5								1085						131
	Y00L1-4/2.2								1130						142
	Y112M-4/4								1150						155
	Y112M-2/4								1150						155
Y132S-4/5.5	1225	176													
Y132S1-2/5.5	1225	176													
Y132S2-2/7.5	1225	176													
Y160M1-2/11	1350	256													
Y160M2-2/15	1350	256													
Y160L-2/18.5	1395	256													







TTAAX- SLCZ SERIES STANDARD CHEMICAL PROCESS PUMP

Model of pump	Model of motor	Name of shaft	A	a	L1	L2	L3	L4	L	B1	B	h	H	n3-Mds×L	Weight (kg)
SLCZ65-315	Y132S-4/5.5	2	185	105	740		230	1400	1400	490	530	300	365	4-M16×220	1288
	Y132M-4/7.5								1440						288
	Y160M-4/11								1525						354
	Y160L-4/15								1570						354
	Y180M-4/18.5								1595						415
	Y200L1-2/30								1700						502
	Y225M-2/45				1740	588									
	Y250M-2/55				1855	710									
	Y280S-2/75				1925	838									
	Y280M-2/90				1975	889									
	Y315S-2/110				2075	1250									
	Y315M-2/132				2175	1338									
	Y315L1-2/160				2175	1413									
	SLCZ80-160				Y90S-4/1.1	2	155	90	740		190	1120	1165	400	440
Y90L-4/1.5		1190	166												
Y00L1-4/2.2		1235	177												
Y100L2-4/3		1235	177												
Y112M-4/4		1235	190												
Y132S1-2/5.5		1330	221												
Y132S2-2/7.5		1330	221												
Y160M1-2/11		1455	297												
Y160M2-2/15		1455	297												
Y160L-2/18.5		1500	297												
Y200L1-2/30		1625	384												
Y90L-4/1.5		1150	154												
Y00L1-4/2.2		1150	169												
Y100L2-4/3		1150	169												
Y112M-4/4	1170	182													
Y132S-4/5.5	1245	210													
Y132M-4/7.5	1285	210													
Y160M1-2/11	1370	280													
Y160M2-2/15	1370	280													
Y180M-2/22	1440	348													
Y200L1-2/30	1545	424													
Y200L2-2/37	1545	442													
Y225M-2/45	1595	504													
SLCZ80-200	Y100L2-4/3	2	160	90	660		190	1120	1150	400	440	240	300	4-M14×220	154
	Y00L1-4/2.2								1150						169
	Y100L2-4/3								1150						169
	Y112M-4/4								1170						182
	Y132S-4/5.5								1245						210
	Y132M-4/7.5								1285						210
	Y160M1-2/11				1370	280									
	Y160M2-2/15				1370	280									
	Y180M-2/22				1440	348									
	Y200L1-2/30				1545	424									
	Y200L2-2/37				1545	442									
	Y225M-2/45				1595	504									
	Y100L2-4/3				1245	205									
	Y112M-4/4				1265	219									
Y132S-4/5.5	1340	247													
Y132M-4/7.5	1380	247													
Y160M-4/11	1465	324													
Y160L-4/15	1510	324													
Y180M-2/22	1535	380													
Y200L1-2/30	1640	468													
Y200L2-2/37	1640	468													
Y225M-2/45	1680	563													
Y250M-2/55	1795	686													
Y280S-2/75	1865	948													
Y280M-2/90	1915	948													
SLCZ80-250	Y100L2-4/3	2	165	105	840		205	1250	1245	400	440	260	350	4-M12×220	205
	Y112M-4/4								1265						219
	Y132S-4/5.5								1340						247
	Y132M-4/7.5								1380						247
	Y160M-4/11								1465						324
	Y160L-4/15								1510						324
	Y180M-2/22				1535	380									
	Y200L1-2/30				1640	468									
	Y200L2-2/37				1640	468									
	Y225M-2/45				1680	563									
	Y250M-2/55				1795	686									
	Y280S-2/75				1865	948									
	Y280M-2/90				1915	948									
	SLCZ80-315				Y132S-4/5.5	2	185	105	940		230	1400	1400	490	530
Y132M-4/7.5		1440	288												
Y160M-4/11		1525	354												
Y160L-4/15		1570	354												
Y180M-4/18.5		1595	415												
Y180L-4/22		1635	415												
Y200L2-2/37		1700	492												
Y225M-2/45		1740	588												

Model of pump	Model of motor	Name of shaft	A	a	L1	L2	L3	L4	L	B1	B	h	H	n3-Mds×L	Weight (kg)				
SLCZ80-315	Y250M-2/55	2	185	105	1200	600	300	1800	1855	670	720	290	450	6-M16×220	710				
	Y280S-2/75								1925						972				
	Y280M-2/90								1975						972				
	Y315S-2/110				2075	1250													
	Y315M-2/132				2175	1338													
	Y315L1-2/160				2175	1413													
	SLCZ80-400				Y160M-4/11	2	185	105	940		230	1400	1520	490	530	350	430	4-M16×220	398
Y160L-4/15		1565	398																
Y180M-4/18.5		1590	432																
Y180L-4/22		1630	459																
Y200L-4/30		1695	537																
Y225S-4/37		1740	631																
Y225M-4/45		1765	631																
Y280S-2/75		1985	1049																
Y280M-2/90		2035	1049																
Y315M-2/132		2235	1463																
Y315L1-2/160		2235	1463																
SLCZ100-160		Y90S-4/1.1	2	175	90	740		190	1120	1185	400	440	260	300	4-M12×220	174			
		Y90L-4/1.5								1210						174			
		Y00L1-4/2.2								1255						185			
	Y100L2-4/3	1255								185									
	Y112M-4/4	1275								198									
	Y132S-4/5.5	1350				229													
	Y132S2-2/7.5	1350				229													
	SLCZ100-200	Y100L2-4/3				2	165	90	840		205	1250	1285	400	440	270	350	4-M12×220	204
		Y112M-4/4											1305						217
		Y132S-4/5.5											1380						246
Y132M-4/7.5		1420	246																
Y160M-4/11		1505	322																
Y160L-2/18.5		1550	322																
Y180M-2/22		1575	378																
Y200L1-2/30		1680	467																
Y200L2-2/37		1680	467																
Y225M-2/45		1720	561																
Y250M-2/55		1835	684																
Y280S-2/75		1905	947																
Y132S-4/5.5		1415	296																
Y132M-4/7.5		1455	296																
Y160M-4/11	1540	362																	
Y160L-4/15	1585	362																	
Y180M-4/18.5	1610	423																	
Y200L2-2/37	1715	500																	
Y225M-2/45	1755	595																	
Y250M-2/55	1775	670																	
Y280S-2/75	1940	980																	
Y280M-2/90	1990	980																	
Y315M-2/132	2000	1313																	
SLCZ100-250	Y160M-4/11	2	195	105	940		230	1400	1535	490	530	320	430	4-M16×220	366				
	Y160L-4/15								1580						366				
	Y180M-4/18.5								1650						430				
	Y180L-4/22				1645	430													
	Y200L-4/30				1710	509													
	Y225S-4/37				1710	509													
	Y280S-2/75				2000	1001													
	Y280M-2/90	2050	1001																
	Y315S-2/110	2000	1334																
	Y315M-2/132	2250	1334																
	Y315L1-2/160	2250	1334																



TTAAX- SLCZ SERIES STANDARD CHEMICAL PROCESS PUMP

Model of pump	Model of motor	Name of shaft	A	a	L1	L2	L3	L4	L	B1	B	h	H	n3-Md3×L	Weight (kg)
SLCZ100-400	Y160L-4/15	3	210	125	1060	530	270	1600	1660	550	600	380	430	6-M16×220	493
	Y180M-4/18.5								1725						552
	Y180L-4/22								1725						552
	Y200L-4/30								1790						630
	Y225S-4/37								1835						725
	Y225M-4/45								1860						725
	Y250M-4/55								1945						838
	Y280S-4/75								2015						1077
	Y315S-2/110								2265						1542
	Y315L1-2/160								2315						1542
SLCZ100-500	Y200L-4/30	3	220	125	1200	600	300	1800	1875	670	720	150	530	6-M16×220	730
	Y225S-4/37								1915						826
	Y225M-4/45								2025						865
	Y250M-4/55								2025						917
	Y280S-4/75								2095						1163
	Y280M-4/90								2145						1475
	Y315S-4/110								2295						1475
SLCZ125-250	Y160M-4/11	3	200	105	940		230	1400	1540	490	530	315	430	4-M16×220	379
	Y160L-4/15								1585						379
	Y180M-4/18.5								1610						443
	Y180L-4/22								1650						443
SLCZ125-315	Y160L-4/15	3	205	125	1060	530	270	1600	1655	550	600	370	450	6-M16×220	448
	Y180M-4/18.5								1680						480
	Y200L-4/30								1785						559
	Y225S-4/37								1830						600
	Y225M-4/45								1855						633
SLCZ125-400	Y200L-4/30	3	230	125	1200	600	300	1800	1880	670	720	410	530	6-M16×220	676
	Y225S-4/37								1925						772
	Y225M-4/45								1950						863
	Y250M-4/55								2035						917
	Y280S-4/75								2105						1109
	Y280M-4/90								2155						1109
SLCZ150-200	Y100L2-4/3	2	200	105	940		230	1400	1320	490	530	310	365	4-M16×220	274
	Y112M-4/4								1340						274
	Y132S-4/5.5								1415						274
	Y132M-4/7.5								1455						274
	Y160M-4/11								1540						340
	Y160L-4/15								1585						340
	Y180M-2/22								1610						401
	Y200L1-2/30								1715						478
	Y200L2-2/37								1715						478
	Y225M-2/45								1755						573
	Y250M-2/55								1870						550
	Y280S-2/75								1940						600
Y280M-2/90	1990	670													
Y315S-2/110	2140	720													
SLCZ150-250	Y160M-4/11	2	200	105	940		230	1400	1540	490	530	315	430	4-M16×220	379
	Y160L-4/15								1585						379
	Y180M-4/18.5								1610						443
	Y180L-4/22								1650						443
	Y200L-4/30								1715						521
	Y280S-2/75	2005			1017										
	Y280M-2/90	2055			1017										
	Y315S-2/110	2205			1350										
	Y315M-2/132	2255			1350										
	Y315L1-2/160	2255			1350										

Model of pump	Model of motor	Name of shaft	A	a	L1	L2	L3	L4	L	B1	B	h	H	n3-Md3×L	Weight (kg)
SLCZ150-315	Y160L-4/15	3	205	125	1060	530	270	1600	1655	550	600	370	450	6-M16×220	448
	Y180M-4/18.5								1680						507
	Y180L-4/22								1720						507
	Y200L-4/30								1785						585
	Y225S-4/37								1830						679
	Y225M-4/45								1855						679
	Y250M-4/55								1940						793
	Y280M-2/90								2060						1032
	Y315S-2/110								2210						1446
	Y315M-2/132								2260						1446
Y315L1-2/160	2260	1446													
SLCZ150-400	Y200L-4/30	3	230	125	1200	600	300	1800	1880	670	720	410	530	6-M16×220	676
	Y225S-4/37								1925						772
	Y225M-4/45								2035						863
	Y250M-4/55								2035						863
	Y280S-4/75								2105						1109
	Y280M-4/90								2155						1109
	Y315S-4/110								2305						1421
SLCZ150-450															
SLCZ150-500	Y225M-4/45	3	240	125	1200	600	300	1800	1960	670	720	500	600	6-M16×220	861
	Y250M-4/55								2115						950
	Y280S-4/75								2115						1199
	Y280M-4/90								2165						1199
	Y315S-4/110								2240						1594
	Y315M-4/132								2240						1594
Y315L1-4/160	2240	1594													
SLCZ150-560	Y280S-4/75	4	250	155	1400	700	300	2000	2175	670	720	500	600	6-M16×220	1358
	Y280M-4/90								2225						1358
	Y315S-4/110								2375						1752
	Y315M-4/132								2425						1752
	Y315L1-4/160								2425						1752
SLCZ150-630	Y280S-4/75	4	260	160	1600	800	300	2240	2235	920	970	540	700	6-M16×220	1524
	Y280M-4/90								2285						1524
	Y315S-4/110								2435						1847
	Y315M-4/132								2435						1847
	Y315L1-4/160								2435						1847
SLCZ200-250	Y160L-4/15	3	235	125	1060	530	270	1600	1755	550	600	300	450	6-M16×220	486
	Y180M-4/18.5								1780						545
	Y180L-4/22								1820						545
	Y200L-4/30								1855						645
	Y225S-4/37								1930						741
	Y225M-4/45								1955						741
	Y280S-2/75				2110	1092									
	Y280M-2/90				2160	1092									
	Y315S-2/110				2310	1484									
	Y315M-2/132				2360	1484									
	Y315L1-2/160				2360	1484									
	SLCZ200-315				Y180M-4/18.5	3	245	125	1060	530	270		2600	1790	550
Y180L-4/22		1830	563												
Y200L-4/30		1895	665												
Y225S-4/37		1940	761												
Y225M-4/45		1965	761												
Y250M-4/55		2050	852												
Y280S-4/75		2120	1098												





TTAAX- SLCZ SERIES STANDARD CHEMICAL PROCESS PUMP

Model of pump	Model of motor	Name of shaft	A	a	L1	L2	L3	L4	L	B1	B	h	H	n3-Mds×L	Weight (kg)
SLCZ200-400	Y225M-4/45	3	260	125	1200	600	300	1800	1980	670	720	470	530	6-M16×220	823
	Y250M-4/55								2065						914
	Y280S-4/75								2135						1160
	Y280M-4/90				2185	1160									
	Y315S-4/110				2335	1552									
	Y315M-4/132				2385	1552									
Y315L1-4/160	2385	1552													
SLCZ200-450															
SLCZ200-500	Y280S-4/75	4	265	155	1400	700	300	2000	2190	670	720	540	600	6-M16×220	1299
	Y280M-4/90								2240						1299
	Y315S-4/110								2390						1694
	Y315M-4/132				2440	1694									
	Y315L1-4/160				2440	1694									
SLCZ200-560	Y315S-4/110	5	270	155	1600	800	320	2240	2550	730	780	570	640	6-M20×400	1855
	Y315M-4/132								2600						1855
	Y315L1-4/160								2600						1855
SLCZ200-630	Y315M-4/132	5	280	155											
SLCZ250-315	Y200L-4/30	3	255	125	1200	600	300	1800	1905	670	720	470	530	6-M16×220	729
	Y225S-4/37								1950						825
	Y225M-4/45								1975						825
	Y250M-4/55				2060	916									
	Y280S-4/75				2130	1162									
	Y280M-4/90				2180	1162									
	Y315S-4/110				2330	1474									
SLCZ250-400	Y250M-4/55	4	280	155	1400	700	300	2000	2135	670	720	520	530	6-M16×220	1043
	Y280S-4/75								2205						1283
	Y280M-4/90								2255						1283
	Y315S-4/110				2405	1283									
	Y315M-4/132				2455	1675									
	Y315L1-4/160				2455	1675									
SLCZ250-500	Y315S-4/110	5	300	155	1600	800	320	2240	2580	730	780	610	640	6-M20×400	1846
	Y315M-4/132								2630						1846
	Y315L1-4/160								2630						1846
SLCZ250-560	Y315L1-4/160	5	290	155											
SLCZ300-400	Y280M-4/90	4	300	155	1400	700	320	2000	2275	670	720	590	600	6-M16×220	1368
	Y315S-4/110								2475						1763
	Y315M-4/132				2475	1763									
	Y315L1-4/160				2475	1763									
SLCZ300-500	Y315L1-4/160	5													
SLCZ300-560															
SLCZ300-630															
SLCZ400-500															
SLCZ400-560															
SLCZ400-630															

Note: here in this table only the installation dimensions equipped with Y, YB series motors less than 160kW are offered, for those equipped with the motors bigger than 185kW, please provide the motor model and then ask for the related installation dimensions.

TTAAX-SLCZ Inlet & outlet flange dimensions table

Model of pump	φ Dd	φ Dd1	φ D1	b1	n1- φ d1	φ Ds	φ Ds2	φ D2	b2	n2- φ d2										
SLCZ32-160	32	100	140	18	4- φ 16	50	125	165	20	4- φ 18										
SLCZ 32-200																				
SLCZ 32-250																				
SLCZ 40-160	40	110	150	18	4- φ 18	80	160	200	24	8- φ 18										
SLCZ 40-200																				
SLCZ 40-250																				
SLCZ 40-315	50	125	165	20	4- φ 18	80	160	200	24	8- φ 18										
SLCZ 50-160																				
SLCZ 50-200																				
SLCZ 50-200						100	190	235	24	8- φ 23										
SLCZ 50-315																				
SLCZ 50-400																				
SLCZ 65-160	65	145	185	22	8- φ 18	100	190	235	24	8- φ 23										
SLCZ 65-200																				
SLCZ 65-250																				
SLCZ 65-315																				
SLCZ 80-160	80	160	200	24	8- φ 18	100	190	235	24	8- φ 23										
SLCZ 80-200																				
SLCZ 80-250																				
SLCZ 80-315																				
SLCZ 80-400																				
SLCZ 100-160	100	190	235	24	8- φ 23	100	190	235	24	8- φ 23										
SLCZ 100-200																				
SLCZ 100-250																				
SLCZ 100-315						150	250	300	28	8- φ 27										
SLCZ 100-400																				
SLCZ 100-500	125	220	270	26	8- φ 27	150	250	300	28	8- φ 27										
SLCZ 125-250																				
SLCZ 125-315																				
SLCZ 125-400																				
SLCZ 150-200											150	250	300	28	8- φ 27	150	250	300	28	8- φ 27
SLCZ 150-250																				
SLCZ 150-315																				
SLCZ 150-400																				
SLCZ 150-450																				
SLCZ 150-500																				
SLCZ 150-560																				
SLCZ 150-630																				
SLCZ 200-250	200	310	360	30	12- φ 27	200	310	360	30	12- φ 27										
SLCZ 200-315																				
SLCZ 200-400																				
SLCZ 200-500																				
SLCZ 200-560																				
SLCZ 200-630	250	370	425	32	12- φ 30	250	370	425	32	12- φ 30										
SLCZ 250-315																				
SLCZ 250-400																				
SLCZ 250-500																				
SLCZ 250-560																				
SLCZ 250-630	300	430	485	34	16- φ 30	300	430	485	34	16- φ 30										
SLCZ 300-400																				
SLCZ 300-500																				
SLCZ 300-560																				
SLCZ 300-630	400	450	515	42	16- φ 33	400	450	515	42	16- φ 33										
SLCZ 400-500																				
SLCZ 400-560																				
SLCZ 400-630																				



TTAAX- SLCZ SERIES STANDARD CHEMICAL PROCESS PUMP

Maximum allowed test pressure(20°C)

Pump casing	Material
I	1.4312(B), 1.4308(304), 1.4446(304L)
II	1.4410(M4), 1.4408(316), 1.6902(316L), 24879(804) 1.4500(904), 1.4536(904L)
III	E, HT200
IV	ZG25
V	ZG1Cr13

	Material	Pump casing MPa	Flange						
			Bolt on the pump casing	GB PN25	DN			ANSI	
					PN10	PN16	PN25	Class 125	Class 150
I II	1Cr18Ni9	3.0		-	2543	2544	-	B16.5	
III	2Cr13	1.2	2565-81	2532	2533	2534	B16.1	-	
IV	2Cr13	3.75		-	2543	2544	-	B16.5	
V	2Cr13	3.75		-	2543	2544	-	B16.5	

Table of the pump casing materials suitable for the media

Symbol meaning	symbol	Notice(about corrosion resisting, corrosive rate:mm/year)
	A	Excellent, <0.05
	B	Good, <0.05~0.5
	C	Use, but severe corrosive, 0.5~1.5
	D	Unsuitable, severe corrosive, >1.5
	*	Possibly to produce stress corroded cracking
	△	Color change with solution or medium
	∅	Possibly to form corrosion between crystals
	∞	Possibly to produce hole corrosion

Table of the media suitable to both cast iron and low carbon steel made pumps

Medium name	Concentration (%)	Temperature (°C)			
		25	50	80	100
Hydrogen peroxide	10	B	B	B	B
	20~40	D			
Ammonia	<30	A	B	B	B
	40	A			
Methanol	<100	B	B	B	B
	100	A	A	A	A
Ethanol	<100	A	A	A	
	100	A	A	A	A
Propyl alcohol		A	A	A	A
Butanol		A	A	A	A
		B(120)			
Ormaldehyde	10~30	D			
	40~50	C			
	80~90			D	D
	100	A	A	A	A
Acetaldehyde	10	C	C		
	100	A	A	A	
Propionic aldehyde		A	A		
Butyric aldehyde		A	A	A	A
Dimethyl ether			B	B	B
Acetone	<100	B			
	100	A	A	A	A
	100	A(120)			
Methane		A	A	A	A
		A(120)			
Elay1		A	A	A	A
		A(120)			
Ethane		A	A	A	A
Propane		A	A	A	A
		A(120)			
Tetrane		A	A	A	A
Gasoling(high octane value)		B	B	B	
Gasoling(fuel for oil sprayer)		B	B	B	

Medium name	Concentration (%)	Temperature (°C)			
		25	50	80	100
Gasoling(containing H <sub>2</sub> S)	100	B			
Gasoling(containing HCL,SO <sub>2</sub> ,H <sub>2</sub> O)		C	C		
Coal oil	90	B	B	B	B
Triethanolamine		B	B	B	B
Vegetable oil		A	A	A	A
		A	D		
		D			
Soy bean oil		B	B		
Corn oil		B	B	B	B
Cottonseed oil		B	B	B	B
Drinking water		B	B	B	B
High pure water		A			
		A	A		
Sea water	Flowrate				
	<1.5m/s	B			
	>1.5m/s	D	D		
Water PH=7		C	C	C	C
Water PH<7		D			
Water PH>7		A	B		
Sulphuric acid	<65	D	D		
	65~75	C	C	D	D
	75~100 <sup>①</sup>	B	C	D	D
Hydrofluoric acid (containing no oxygen)	<70	D	D		
	70~90	C			
	100	B	B		
Hydrofluoric acid (containing oxygen)	<70	B	B		
	70~90	C			



TTAAX- SLCZ SERIES STANDARD CHEMICAL PROCESS PUMP

Table of the media suitable to both cast iron and low carbon steel made pumps

Medium name	Concentration (%)	Temperature (°C)			
		25	50	80	100
Chromic acid	>25	D			
	30~80	B			
	100	A			
Boric acid	<10	C	C	C	C
	<10	C(120)			
	>10	D		D	
70~90% Sulphuric acid+nitric acid		A			
Sodium hydroxide	<30 <sup>②</sup>	A	B	B	B*
	<30 <sup>③</sup>	D*(200)			
	30~40	A	B	B	C
	50~60	B	B	D	D
	50~60	D*(200)			
	80	B	D	D	D
	90			D	D
	100	B		D	
Ammonium hydride	<10	C	D		
	10~99	D	D		
	100	B			
	100	D*(370)			
Sodium sulphate(PH>7)		B	B	B	B
Sodium nitrate	<90	A	A	B	C
	100	A	A	A	A
	100	B(120)			
Sodium carbonate		A	A	A	A
Sodium chloride (containing oxygen)	10	D <sup>④</sup>	C	C	D
	20~30	C			D
	100	A			
Sodium cyanide	10	A	A	A	A
	10	A(120)			
	20~90	A	A	A	A

Medium name	Concentration (%)	Temperature (°C)			
		25	50	80	100
Sodium bicarbonate	<100	B	B	B	B
	100	C			
Sodium silicate		B	B	B	B
		B(120)			
Sodium citrate	10	D			
	100	A			
Potassium sulphate <sup>△</sup>	10~20	B	B	B	D <sup>④</sup>
	10~20	D			
	100	A			
Potassium nitrate	<90	B	B	B	B
	100	A	A	A	A
	100	A(120)			
Potassium fluoride	20	B	B	B	B
	100	A	B	B	C
Potassium cyanide	<50	C <sup>③</sup>	C	C	C
	60~70			C	C
	80~90	B			B
	100	B	B	B	
Heavy potassium chromate	<60	B	B	B	
		B	120		B
	100	B	B	B	C
Potassium permanganate	<100	B	B	B	
	100	B			A
Lime chloride	10	A	A	A	
	10	A(120)			
	20~70	B	B	C	A
	100	A	A	A	
	100	A(120)			
Calcium fluoride	90	C			
	100	B	B	B	B

Note: ① It is better to use the high Cr-Ni stainless steel for the pump and valve of a high rotating speed. Cast iron is better than carbon steel. May be used below 80~100°C.  
 ② Cast iron does not withstand 100°C.  
 ③ Cast iron to be C.  
 ④ Cast iron to be D.

Table of the media suitable to the pump made of Cr18Ni9 stainless steel(304, 304L)

Medium name	Concentration (%)	Temperature (°C)			
		25	50	80	100
Inorganic acid					
Sulphuric acid <sup>⊕</sup> (without gas filled)	<5	B	D		
	10~80	D	D		
	90	B	D		
Sulphuric acid <sup>⊕</sup> (gas filled)	100	B	C		D
	<20	C	D		
	30~60	D	D		
	70~80	C	D		
Fuming sulphuric acid	90~100	B	C	D	D
		D			
Nitric acid	<30	A	A	A	A
	<30	C(120)		D(150)	
	40~60				
	40~60				
	70				
Chlorhydric acid		D			
Phosphoric acid	<5	B	B	B	B
		B(Boiling point)			
	10	B	D	D	D
	10	D(Boiling point)			
	10~85	D			
Hydrofluoric acid (without gas filled) <sup>⊕</sup>	100	D			
	100	B	D		
Hydrofluoric acid (gas filled) <sup>⊕</sup>		D		D	
Chromic acid <sup>⊕</sup>	<10	B	C	C	
	<10	C(Boiling point)			
	20~30	B	D	D	D
	50	D			
	100	D			
	100	A(120)			
Boric acid <sup>⊕</sup>	<30	A	A	A	A
	<30	A(Boiling point)			
	40	B	B	B	B
	40	B(150)			
50	B	B	B	B	

Medium name	Concentration (%)	Temperature (°C)			
		25	50	80	100
	70~80	D(120)			
	100	B	B		
		D(200)			
Mixed acid: sulphuric acid>50%+nitric acid<50%+water>20%		B	B	B	D(Boiling point)
Sulphuric acid 20~60%+nitric acid<25%+water>20%		D			
Sulphuric acid 15%+nitric acid 5%+water 80%		B	B	B	B(Boiled 104)
Sodium hydroxide	<50	A	C	C	D
	<50	D*(200)			
	70*	B	B	B	D*
	70*	D*(200)			
	80*	B	B	B	D
	80*	D*(200)			
	100	B	B	B	B
Potassium hydroxide*	100	C(316)		D(370)	
	<50	B	B	B	B
	<50	B(Boiling point)			
	50	B	B	B	D
	50	D(200)			
	60~70	B	B	B	C
	60~70	C(120)			
	80	B			D
Potassium hydroxide	80	D(200)			
	100	A			
Sodium sulphate*	100	D(250)			
		A	A	A	A
		A(200)		B(840)	





Table of the media suitable to the pump made of Cr18Ni9 stainless steel(304, 304L)

Medium name	Concentration (%)	Temperature (°C)			
		25	50	80	100
Sodium nitrate™	<70	A	A	A	A
	<70	A(Boiling point)			
	100	B		D	
	100	D(510)			
Sodium carbonate	10	A	A	A	A
	10	A(Boiling point)			
	20~40	B	B	A	A
	100	A	A	A	B
Sodium carbonate	100	D*(400)		D*(900)	
Sodium chloride™	10~30	B	B	B	B
	10~30	B(Boiling point)			
	90	D			
	100	B	B	B	
	100	D(260)		D(700)	
Sodium cyanide	10	A	A	A	A
	20~30	A			
	40~100	A	A	A	D
	40~100	D(700)			
Sodium silicate		A	A	A	A
		D(800)			
Sodium acetate™	10	A	A	A	A
	10	A(150)			
	20~60	B	B	B	B
	100	B	B	B	B
	100	B(370)			
Sodium citrate	<40	B	B	B	B
	100	B			
Potassium sulphate		A	A	A	A
		A(Boiling point)			
	100	B			
	100	D(200)			
Saturation	<80	B	B	B	B
	<80	B(Boiling point)			
	100	A	A	A	A
	100	A(560)			
Potassium fluoride		B	B	B	B
Potassium cyanide	<30	A	A	A	A
	40~	B	B	B	B

Medium name	Concentration (%)	Temperature (°C)			
		25	50	80	100
Heavy potassium chromate	90				
	100	B			
	<30	A	A	A	A
	<30	A(Boiling point)			
Potassium permanganate	40~60	A	A	A	A
	100	B			
	<30	B	B	B	B
Calcium chloride™	<20	A	A	A	D
	30~80	B	B	B	D
Calcium fluoride	100	D(150)			
	10	A	A	A	A
(Hydrogen peroxide solution)	10~40	B	B	B	B
	10~40	B(Boiling point)			
	90	A	A		
	100	B			C
Ammonium water		A	A	A	A
Ammonium (free of water)		A	A	A	A
		A(316)		A(500)	
Methand	<100	A	A	A	A
	100	A	A	A	C
Alcohol		A	B	B	B
Propyl alcohol		A	A	A	A
Butanol		A	A	A	A
Ormaldehyde™	<40	A	A	A	A
	<40	A(150)			
	50	A	A	B	B
	50	B(300)			
	60~70	A	A		
	80~90	A	A	A	
100	A				
Acetaldehyde		A	A	A	A
Propionic aldehyde		A			
Butyric aldehyde		A	A	A	A
Dimethyl ether		B	B	B	B

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Medium name	Concentration (%)	Temperature (°C)			
		25	50	80	100
Ethyl ether		A	A	A	A
Acetone		A	A	A	A
Methane		A	A	A	A
		A(370)			
Elayl		A	A	A	A
		A(315)			
Propane(liuid and gas)		A	A	A	A
Tetrane		A	A	A	A
Gasoling(high octane value)		B	B	B	
Gasoling(fuel for oil sprayer)		B	B	B	
Coal oil		A	A	A	A
		A(200)			
Triethanolamine		B	B	B	B

Medium name	Concentration (%)	Temperature (°C)			
		25	50	80	100
Vegetable oil		A	A	A	A
		A(350)			
Soy bean oil		A	A	A	A
Corn oil		A	A	A	A
Cottonseed oil		A	A	A	A
Drinking water		A	A	A	A
Sea water	Flowrate				
	<1.5m/s	A™		A	
	>1.5m/s	A™			

Table of the media suitable to the pump made of Cr18Ni12Mo(Ti)(316,316L) stainless steel

Medium name	Concentration (%)	Temperature (°C)			
		25	50	80	100
Shlphuric acid <sup>+</sup> (gas filled)	<5	B	B	D	D
	10~30	B	C	D	D
	40~50	C	D	D	
	60~70	D	D	D	
	90	B <sup>①</sup>	C	D	D
	100	B	C	C	C
Shlphuric acid <sup>+</sup> (without gas filled)	100	D(120)			
	<5	B	D	D	D
	20~80	D	D	D	D
	80~90	B	D	D	
Nitric acid	100	B	B	B	C
	<20	A	A	A	A
	<20	C(120)		D(150)	
	30~60	A	B	B	B
	30~60	D(120)			
	70	A	B	B	
	80	A	B	D	
	90	A	D		
	100	A <sup>②</sup>	D		
	Phosphoric acid (gas filled)	<25	A	A	A
<25		A(Boiling point)			
25~50		A	A	A	B

Medium name	Concentration (%)	Temperature (°C)			
		25	50	80	100
Phosphoric acid(containing no oxygen)		D(120)			
	50~85	A	B	B	B
	50~85	D(120)			
	90	D			
	100	B			
Hydrofluoric acid (without gas filled)	<100	D			
Hydrofluoric acid (gas filled)	100	B			
	<10	B			
Carbethyllic acid	10~90	D			
	100	B			
	10	B			
	30				A
Chromic acid	100	A	A	A	A
	100	A(816)			
		D			D
Chloric acid™		D			
Tetra-phosphoric acid		B			
Boratic acid™	<10	A	A	A	A
	<10	A(Boiling point)			
	20~50	B	B	B	B



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Medium name	Concentration (%)	Temperature (°C)			
		25	50	80	100
		B(150)		B(Boiling point)	
	70~80	B		D(120)	
	100	B	B	D(250)	
Nitro-hydrochloric acid		D			
Mixed acid: sulphuric acid>50%+nitric acid<50%+water>20%		B	B	B	
		D(Boiling point)			
Sulphuric acid 20~60%+nitric acid<25%+water>20%		D			
Mixed acid: sulphuric acid30%+nitric acid15%+water55%		B	B	B	
		B(Boiling point)(110)			
Mixed acid: sulphuric acid15%+nitric acid5%+water80%		B	B	B	
		B(Boiling point)(110)			
Aminic acid	<5	B	B	B	B
	>5	C	C	C	C
	>5	D(Boiling point)			
Acetic acid (without gas filled)	<50	A	A	A	A
	60~90	B	B	B	B
	100	B	B	B	B
	100	D(200)			
Acetic acid (gas filled)	<40	A	A	A	A
	<40	B(150)		D(200)	
	50	A	B	B	B
	60~90	A	B	B	C
	100	A	B	B	C
	100	D(150)			
Sodium hydroxide	<20	A	A	A	A
	<20	B(Boiling point)		D(150)	
	30~50	A	A	B	D
	30~50	D*(150)			
	70	A	A	B	B
	70	D*(150)			
80	A	A	B	D*	

Medium name	Concentration (%)	Temperature (°C)			
		25	50	80	100
		D(250)		D(370)	
	100	A	A	A	A
		C(260)		D(370)	
Potassium hydroxide*	<50	A	A	A	A
	<50	A(Boiling point)			
	50	B	B	B	D
	50	D(200)			
	60~70	B	B	B	C
	60~70	C(150)			
	80	B			
	80	D(200)			
	100	A			
	100	D(260)			
Sodium sulphate		A	A	A	A
		A(200)		B(840)	
Sodium nitrate	<70	A	A	A	A
	<70	A(Boiling point)			
	100	B			
Sodium carbonate	100	A(510)			
	10	A	A	A	A
	10	A(Boiling point)			
	20~40	B	B	A	A
	20~40	A(Boiling point)			
	100	B	B	B	B(260)
100	D*(400) D*(900)				
Sodium chloride™	10	B	D		
	20~30	B	B	B	B
	20~30	B(Boiling point)		D(120)	
	90	D			
	100	A	D(700)		
Sodium bicarbonate		A	A	A	A
Sodium cyanide	<10	A	A	A	A
	20~30	A			
	40~100	B			D
	40~100	D(700)			
Sodium silicate		A	A	A	A
		D(800~1000)			
Potassium sulphate	<100	A	A	A	A
	<100	A(Boiling point)			

Medium name	Concentration (%)	Temperature (°C)			
		25	50	80	100
		A			
Saturation	<80	B	B	B	B
		A(Boiling point)			
	100	B			
		B(550)			
Potassium bicarbonate	<70	B	B	B	B
	<70	B(Boiling point)			
	100	B	B	B	B
Potassium fluoride		B	B	B	B
Potassium cyanide	<90	B	B	B	B
	100	B			
Heavy potassium chromate	<30	A	A	A	A
	<30	A(Boiling point)			
	40~60				A
	10	B			
Potassium permanganate	<30	B	B	B	B
Calcium chloride™	10	B	D		
	20~30	B	B		
	40~90	B	B	B	
	40~90	D(Boiling point)			
	100	A	A	A	A
Calcium fluoride	50	C(-18)			
	10	A	A	A	A
	100	A	A	A	A
Methand	<100	A	A	A	A

Medium name	Concentration (%)	Temperature (°C)			
		25	50	80	100
		A	A	A	A
Alcohol		A	A	A	A
Ethandiol		A	A	A	A
Ormaldehyde™	<40	A	A	A	A
	<40	A(150)			
	50	A	A	B	B
	50	B(300)			
	60~70	A	A		
80~90	A	A	A		
100	A				
Ethyl ether		A	A	A	A
Acetone		A	A	A	A
Ethyl ester acetate		A	A	B	B
Toluene		A	A	A	A
		A(Boiling point)			
Gasoline		A	A	A	A
		A(175)			
Coal oil		A	A	A	A
		A(200)			
Phenyl hydroxide	70~90	B	B	B	B
	70~90	B(150)		D(200)	
Sea water	Flowrate				
	<1.5m/s	A**			A(PH≈7)
	>1.5m/s	A**			

Note: ① Cr26MoL ferritic steel does not withstand corrosion;  
 ② High flowrate and friction may increase corrosion;  
 ③ Not allowed to contain micro chlorhydric acid, sulphuric acid or sodium chloride. Cr26MoL ferritic steel is of a better corrosion resistance.

Table of the media suitable to the pump of titanium and titanium alloy

Medium name	Concentration (%)	Temperature (°C)			
		25	50	80	100
Shlphuric acid <sup>+</sup> (gas filled)	1	B	B	B	B
	1	B(Boiling point)			
	<3	B	B		D
	<10	B	C	D	D
	10~30	B	C	D	
Shlphuric acid <sup>+</sup> (without gas filled)	40~50	C	D		
	50~100	D	D		
	<10	B			
10~100	D				

Medium name	Concentration (%)	Temperature (°C)			
		25	50	80	100
Nitric acid	10	A	A	A	A(150)
	10	B(200)			
	20	A	A	A	
	20	A(150)			
	20	D(316)			
	30~80	A	A	A	A(150)
	30~80	D(200)			
	80~100	A	A	B	
	80~100	B(150)			

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Medium name	Concentration (%)	Temperature (°C)			
		25	50	80	100
Chlorhydric acid <sup>®</sup> (without gas filled)	10	B	D		
	20	C	D		
	>30	D			
Chlorhydric acid <sup>®</sup> (gas filled)	1	B	B	B	B(Boiling point)
	<20	B			
					D(35)
	30	B	D		
	>50	D			
Phosphoric acid (gas filled)	5	B	B	B	B
	<10	B	B	B	
Phosphoric acid (gas filled)		D(Boiling point)			
	10~20	B	D		
	30	B	C		D
	40	C	C		
	50~70	C	C	D	
	100	D			
Phosphoric acid <sup>®</sup> (without gas filled)		D			
Chromic acid	10	A	A	A	A
	10	A(Boiling point)			
	<90	A	A	A	A
Boric acid	10	A	A	A	A
	10	A(Boiling point)			
	<Saturation	A	A	A	A
Chlorhydric acid 1%+nitric acid 3%		A			
Chlorhydric acid 2%+nitric acid 1%		A			
Nitro-hydrochloric acid		A	A	B	B
Chlorhydric acid 4%+nitric acid 1%		A			

Medium name	Concentration (%)	Temperature (°C)			
		25	50	80	100
Aminic acid (without gas filled)	<10	A	A	A	
	<10	A(Boiling point)			
	30	D			D
	<50	B	B	D	D
	90			D	D
Aminic acid (gas filled)		B	B	B	B
Acetic acid		A	A	A	A
		A(200)			
Potassium hydroxide	10	A	A	A	A
Potassium hydroxide		A(Boiling point)			
	20~100	B			D(Boiling point)
	20~100	D(260)			
Sodium hydroxide	10	A	A	A	A
	10	A(Boiling point)			
Sodium sulphate	10~30	A	A	A	A
	10~30	A(Boiling point)			
	<Saturation	A			D(900)
Sodium nitrate	<Saturation	A	A	A	A
Sodium chloride	<Saturation	A	A	A	A
	100	A'(Boiling point)			
*Alcohol		A	A	A	A
Ethandiol		A	A	A	A
Ethyl ether		A	A	A	A
Acetone		A	A	A	A
Ethyl ester acetate		A	A	A	A
Toluene		A	A	A	A
Phenyl hydroxide		A			

Note: ① Containing Cu, Ni etc. ions or other oxidants can lower the corrosion.  
 ② Both methanol and alcohol containing micro CL may produce stress corrosive cracking, which can be avoided by containing more than 2% water.

ZG00Cr20Ni25Mo4.5Cu1.5(904L) table of anti-corrosive performance

Medium name	Medium condition		Corrosion condition
	Concentration(%)	Temperature(°C)	
Shlphuric acid	5-40	1	1
	10	1	1
	20	<3	<3
	30	<10	<10
	40	10~30	10~30
	50	40~50	40~50
	50	50~100	50~100
	60	<10	<10
	60	10~100	10~100
	80-98		

Medium name	Medium condition		Corrosion condition
	Concentration(%)	Temperature(°C)	
Nitric acid	10-40	20-Bolling	A
	50	100	A
	60	90	A
	70	100	B
	80	80	B
Acetic acid	1-80	Bolling	A
	99.5	200	A
	100	20-75	A
	100	100	A
	100	Bolling	A

ZG1Cr13(410) table of anti-corrosive performance

Medium name	Medium condition		Extended time (h)	Corrosion condition	
	Concentration(%)	Temperature(°C)			
Nitric acid	5	20		A	
	7	20	720	A	
	5	Bolling		D	
	20	20		A	
	20	Bolling		A	
	50	20		A	
	50	Bolling	24	C	
	65	20		A	
	65	Bolling	24	D	
	90	20		A	
	90	Bolling		D	
	Acetic acid	10-50	20		C
		10	Bolling		D
	Formic acid	10-50	20		A
10-50		Bolling		D	

Medium name	Medium condition		Extended time (h)	Corrosion condition
	Concentration(%)	Temperature(°C)		
Citric acid	1	20		A
	1	Bolling		D
	25	20	720	C
Ammonia	Solution or air	20-100		A
Sodium hydroxide	20	20		A
	20	Bolling		A
	50	100		D
Oxalic acid	Thick liquid	20		A
	Thick liquid	Bolling		D
Ammonium nitrate	About 65	20	1127	A
	About 65	125	110	C



### Notice at order

- Decide the pump's norm, material, axle seal type and motor upon the conditions of use.
- For fitting with a special motor, please indicate the explosion-proof class, power, voltage, frequency etc.
- Make a special note at order if selecting packing seal.
- Users may select the performance parameters within

the range listed in this catalog.

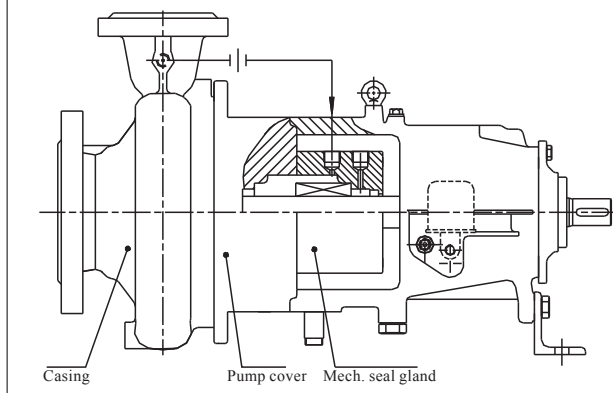
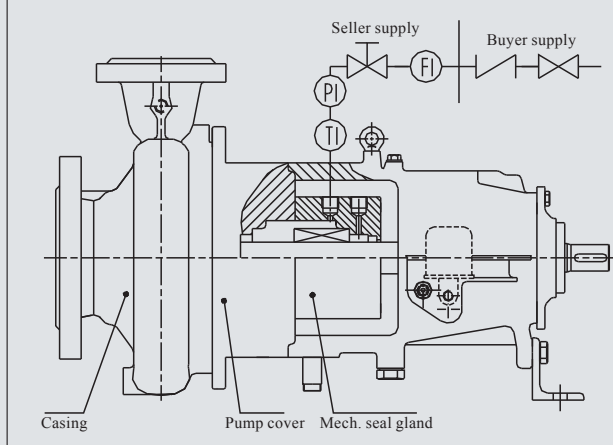
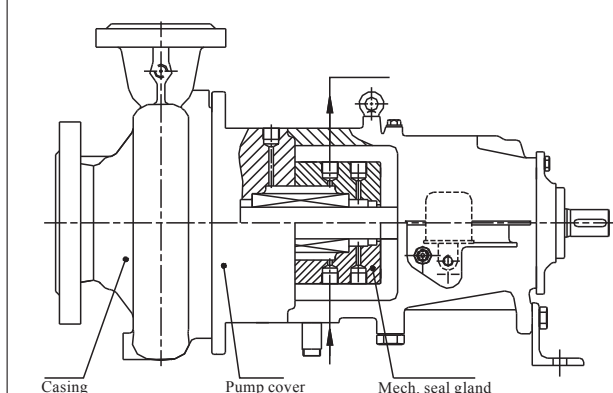
- At signing the contract, please fill in the data table of centrifugal pump attached thereafter completely and upon reality and, if not, this Co. will not bear any loss caused therefrom.

### Range of supply

The standard allocation of the pump at ex-works includes pump head, motor, foundation, clutch and clutch cover. Additional charge is necessary at order if other accessories are required.

### TTAAX- SLCZ SERIES STANDARD CHEMICAL PROCESS PUMP

### Several common typical mechanical seal rinsing proposals

Seal rinsing plan	Legend	Description
Plan11		<p>The cycling liquid gets to the seal via the flow control orifice from the pump exit and the rinsing liquid flows into the place adjacent to the sealing face in the seal cavity and, after rinsing the said face, flows back into the pump.</p> <p>Usually used for the mechanical seal with a single end-face.</p>
Plan32		<p>The cycling liquid gets to the seal cavity via the filter, the flow control orifice and the cooler from the pump exit. The filter is not recommended to use in case of a normal condition, as it may cause the seal to be out of work if it is possibly blocked.</p> <p>Usually used for the mechanical seal with a single end-face.</p>
Plan54		<p>A pressured external isolating liquid vessel or system provides the seal cavity with clean medium, the cycling liquid is cycled via an external pump or a pressure system and the pressure of the isolating liquid is bigger than that of the flow path required to be sealed.</p> <p>Usually used with a pressured mechanical seal with double end-faces.</p>

Note: please note it in advance and in the contract if other rinsing proposal(s) is required.



Parameter data of product		Pump name			Pump model			
<b>OPERATING CONDITION</b>								
1	Liquid handled				2	Operating	Continuous Intermittent	
3	Liquid characteristic	Toxic	Corrossive	Erosive	4	Inlet press.	Rated Max. MPa.G	
5	Solid content	Wet	Particle size mm		6	Outlet press.	Rated Max. MPa.G	
7	Temp.	Nor.	Max.	Min. °C	8	Vapor press. at nor. temp. MPa.G		
9	Density at nor. temp.	kg/m <sup>3</sup>			10	Rated difference of press. MPa		
11	Viscosity at nor. temp.	cp.			12	Head	Rated Max. m	
13	Flow rate	Nor.	Rated	m <sup>3</sup> /h	14	NPSHa	m	
<b>CONSTRUCTION FEATURES</b>								
15	Standard	Type	Horiz.	Verti.	16	Casing	Mount Foot C.L. Bracket	
17	Impeller	Closed	Semi-closed	Open	18	Casing	Split Radial Axial	
19		Installation		Overhung	Between bearings		20	Insulating jacket Electric heating Steam
21	Clutch	Flexible	With spacer	Membrane clutch	22	Foundation	Common foundation Separated foundation	
23	Packing seal	Mechanical seal						
24	Mechanical seal	Model			25	Bearing	Radial Rolling Sleeve	
26		Single	Inside	Unbalanced	Tandem		27	
28		Double	Outside	Balanced	Cartridge		29	Lubrication Greases Oil Forced Flood
30		Manufacturer			31		Manufacturer	
<b>MATERIAL</b>								
32	Casing	Cover	Impeller	Shaft				
	Shaft sleeve	Wear ring (casing/impeller)		Other				
<b>AUXILIARY PIPING (PER API 610)</b>								
33	Flush plan				35	Cooling water	Cover Base plate	
34	Provided accessories	heat exchanger	Buffering tank	Pipeline and fittings	36		Cooling part	Bearing Suspension tackle
36	Shaft seal flush liquid	Name			38	Cooling water	Press. Inlet Return MPa.G	
37		Capacity	m <sup>3</sup> /h	Press. MPa.G	38		Temp. °C	
<b>DRIVER</b>								
39	Elec. motor	Model	Rated power	kW	40	Speed	r/min Insulation class	
41		Elec. power	V	Hz	PH.	42	Enclosure	Explosive-proof
43		Manufacturer			44	Bearing vendor		
45		Other requirement						
<b>ACCESSORIES</b>								
46	Pump	Driver	Coupling & guard	Foundation	Anchor bolts, Nuts			
	Pairing counter-flange	Joint bolt, gasket						



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