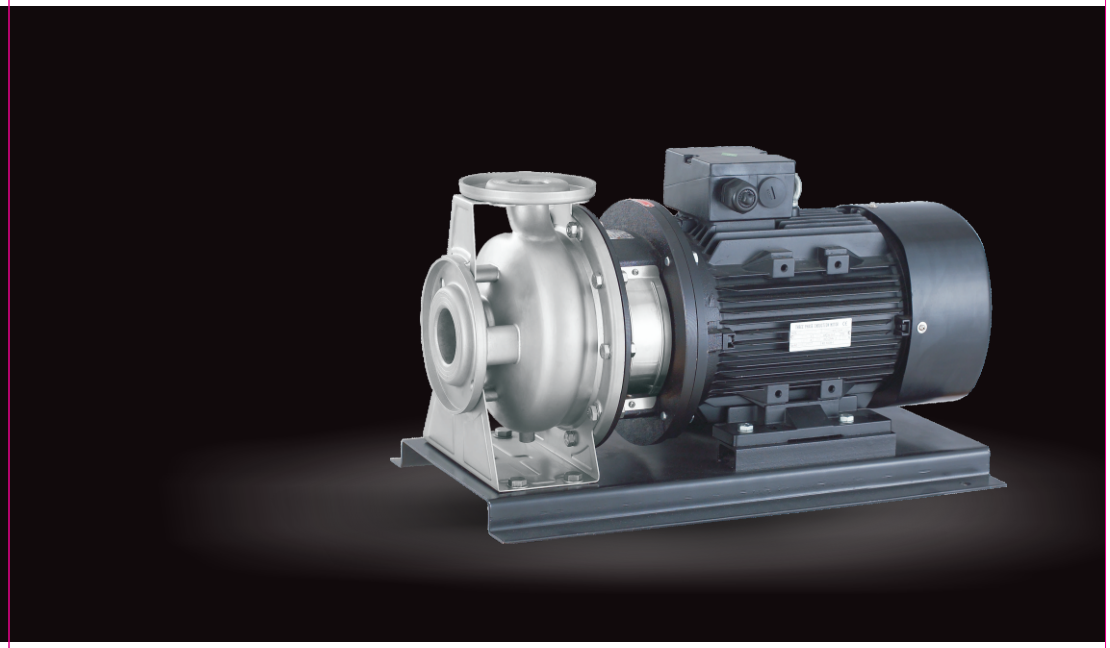
LEO®

3.0 INNOVATION



STAINLESS STEEL END-SUCTION CENTRIFUGAL PUMP

XZS

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CONTENTS

14. Troubleshooting

⚠ Check the pump after power cut-off.

Symptom	Cause	Corrective Action
The motor cannot be started.	Power failure.	Check power supply.
	Motor overload.	Check system.
	Electrical circuits problem.	Check electrical circuits.
	Foreign bodies clogged inside the pump.	Dismantle pump to remove foreign bodies.
Flow rate is insufficient.	Incorrect pump rotation.	Adjust the motor wires.
	Inlet resistance is too big.	Reduce installation height, shorten length of inlet pipe.
	Air inside pump or pipeline.	Exhaust the air or refill water.
	Pipe blockage or airbag.	Handle pump or pipeline.
	Wear ring is worn.	Replace the wear ring.
	Valve is not open or not well opened.	Open the valve wide.
	Low speed.	Check whether the voltage is too low.
	Incorrect model selection.	Select a correct model.
Pump consumes too much power.	Flow is too high. The pump is not used in the recommended range.	Adjust the flow rate.
	Serious wear of motor bearing.	Replace bearing or motor.
Abnormal noise inside the pump and no water can be pumped.	The resistance of suction pipeline is big.	Check the suction pipeline.
	Suction tube not well sealed or the suction side is infiltrated by air.	Check and fix the leaking point.
	The liquid temperature is high.	Reduce suction height or liquid temperature.
Pump has big noise.	Motor bearing damage.	Replace bearings.
	Pump parts damage.	Replace pump parts.
Pump has water leakage.	Mechanical seal is not properly installed.	Reinstall the mechanical seal.
	Mechanical seal worn or damaged.	Replace mechanical seal.
Motor temperature is too high or smoking.	Overload.	Adjusting the valve.
	Incorrect voltage.	Correct the voltage.
	Incorrect wiring.	Correct wiring.
	Bad electrical connections.	Rewiring.
	Foreign bodies clogged in fan.	Remove foreign bodies.

13. Disassembly and Assembly

⚠	Only qualified persons are allowed to assemble and disassemble as following.

Disassembly

1). Unscrew the bolts between pump body and bracket. Remove the pump body and gasket.
2). Loosen the impeller nut with a socket wrench. Remove the impeller.
3). Remove the rotating ring of the mechanical seal with care.
4). Remove the rear cover and the stationary ring of the mechanical seal. If necessary, remove the stationary ring from the rear cover. Do not scratch the mechanical seal surface.
5). When removing the guard plate, loosen the screws from it for 1-4 circles, then move the plate along the direction of the arrow (as shown in figure 1) to make the screws on point B , turn off the plate. When assembling the guard plate, press the screw into the plate from the B point (as shown in figure 2), move plate to point A, then tighten the screw.

Figure1

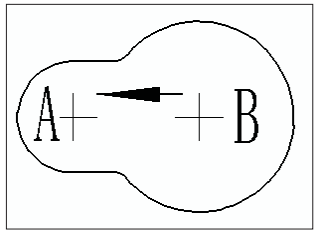
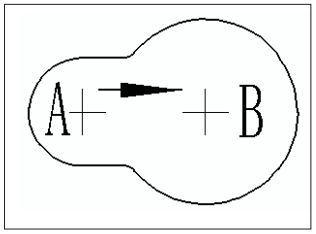


Figure2



Assembly

1). Wipe the hole on rear cover for stationary ring mounting. Press the stationary ring into the hole. Do not scratch the mechanical seal surface.
2). Clean the surface before installing the rotating ring.
3). Install the impeller, flat washer, spring washer and nut in sequence and tighten them.
4). Mount O-ring on the rear cover.
5). Mount the pump body on the bracket flange, so that the pump outlet aligns with the terminal box and the pump plate is flush with motor foot.
6). Fasten the pump body and bracket with bolts. Rotate the impeller with a screwdriver through pump inlet to ensure a flexible rotation of the impeller.

This appliance can be used by children aged from 8 years and above and persons with reduced physical, sensory or mental capabilities or lack of experience and knowledge if they have been given supervision or instruction concerning use of the appliance in a safe way and understand the hazards involved.
Children shall not play with the appliance. Cleaning and user maintenance shall not be made by children without supervision.

Attention!
If the appliance or the supply cord is damaged, it must be repaired by manufacturer, its service agent or qualified person.

Meaning of crossed –out wheeled dustbin:
Do not dispose of electrical appliances as unsorted municipal waste, use separate collection facilities.
Contact you local government for information regarding the collection systems available.

Before installation, you should carefully read this manual, and pay attention to safety cautions and instructions in this manual.
Our factory is neither responsible for nor is reliable for paying compensation for personal injury, pump damage and other property losses caused by violation of safety cautions.

1. General

XZS series is a stainless steel end suction single-stage centrifugal pump.
The pump has a compact structure with direct-coupled motor or coupled with extension shaft.
All pump flow components are made of AISI 304 which is mild corrosion-resistant.
The pump is widely used in pressure boosting and transfer of clean water, water treatment systems, water circulation systems and agricultural irrigation, etc.

2. Operating Conditions

- Applicable to transfer thin, clean, non-flammable liquid not containing solid particles and fibers.
- Applicable to transfer light corrosive media
- A high-power motor is required to transfer liquid whose density or viscosity is greater than water.
- Liquid temperature: -15℃-+80℃
- Max. liquid temperature: +40℃
- Altitude: Up to 1000 m
- Max. operation pressure: 10 bar
- Installation height: It's affected by medium temperature, altitude of the installation location, pipeline losses, etc. The distance between pump inlet and suction surface shall be less than the maximum suction.

3. Code Identification

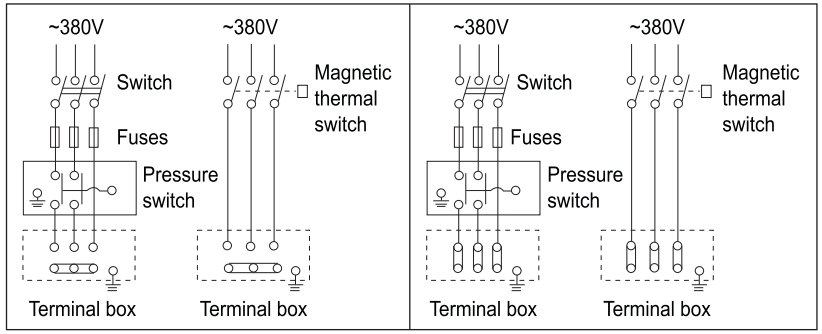
XZS 50-32-125/11

- Power X 10 kW
- Impeller Nominal Diameter (mm)
- Outlet Diameter (mm)
- Inlet Diameter (mm)
- Leo3.0 Product Style

12. Maintenance

1). If pressure, voltage, vibration, noise, etc. is quite different as usual, stop and check the pump immediately.
2). The max temperature allowed for the motor bearings is 95℃.
3). The leakage of mechanical seal is normally less than 3 ml/h. If the leakage is more than this volume and gradually increased, stop and check the pump immediately.
4). If the pressure of the pipeline on the pump is too big or the foundation bolts are loose, strong vibration will occur during operation.
5). Do not operate the pump in case of no liquid inside the pump or air not completely exhausted. Otherwise it will cause damage of the mechanical seal.
6). Do not operate the pump beyond maximum flow rate (see performance curve) to avoid motor burn-out.
7). Do not start the pump too often. The maximum interval is 40 times per hour.
8). It is not allowed to run the pump for longer time while the valve is closed. The risk of explosion exists if the water temperature in the pump chamber is too high.
9). Cut off the power supply during power failure to prevent danger caused by sudden start while the power supply is recovered.
10). In case of any possible frost and ice damages, drain all liquid inside the pump after the pump is stopped.
11). Operate the standby pump periodically to make sure it's available at any time.
12). Cut off the power supply before maintenance.

Check whether operation of the pump is normal and rotation direction is correct, which could be observed from the end cover. Clockwise rotation of the fan means that the pump direction is correct. If the rotation is incorrect, cut off power and exchange the two power cables.



11. Use and Operation

Preparation before start-up

1). Check if the base plate, motor bolts and other connections are tightly fixed.
2). Before installing outlet pipeline, fill the inlet pipeline and pump chamber with water.

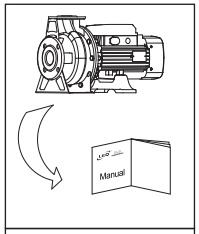
Start-up

1). Start the motor. Make sure the motor rotation is consistent with the direction of the arrow on the pump casing, and then open the valve slowly to adjust it to the desired working condition. The flow rate of the pump should be controlled within the recommended range.
2). Check the pressure gauge on outlet pipeline. Release the bypass pipe of the outlet pipeline to fill water, if the liquid insides the pump contains air.
3). Stop the pump to check and remove the trouble if some abnormal noise is found during operation.

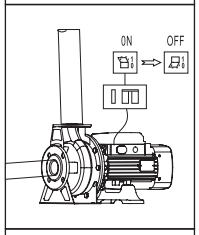
Stopping

1). Close outlet valve and all instruments, and then cut off the power.

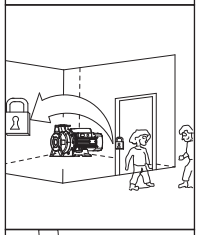
4. Safety Precautions



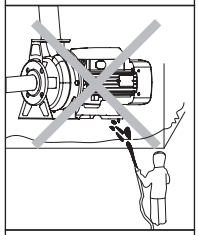
1. Please read the manual carefully before use, in order to ensure a normal and safe operation of the pump.



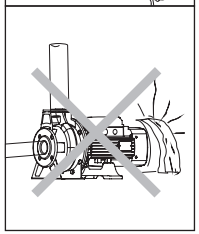
2. The electric pump should be reliably grounded. Install an electric leakage circuit breaker to prevent the electric shock. Make sure the power plug and socket are dry and not affected by moisture.



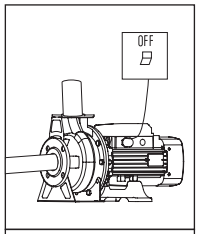
3. It is strictly prohibited to touch the pump during operation.



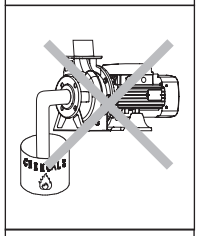
4. Do not allow pressurized water sprayed to the pump.



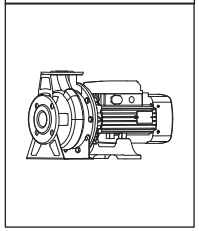
5. Keep the pump in a well-ventilated place.



6. Cut off power supply before maintenance.



7. Do not pump any flammable or explosive liquids.



8. Follow the voltage and frequency stated in the nameplate while using the pump.

9. Installation

1). The pump should be installed in a well-ventilated, anti-freeze place without exposure to the sun and rain.
2). The inlet pipe should be as short as possible. Use an elbow with larger bend radius at the corner to reduce pipeline losses.
3). The diameter of inlet pipe should be larger than that of pump inlet. The inlet pipe couples to the pump after diameter reducing.
4). To prevent from producing of air bubble inside, the front position of inlet pipe should not be higher than back one.
5). The suction of the inlet pipe should be fully immersed in liquid. Make sure that all joints are well sealed.
6). The installation height of the pump should not exceed the allowed suction height.
7). Suction and discharge pipes should be separately fixed to avoid pump deformation due to gravity of the pipes.
8). A pressure gauge should be installed at pump outlet to observe and control the pump operation.
9). A foot valve is required when the liquid level is below the pump inlet.
10). The motor should be reliably grounded. The electrical equipment should be free from damage caused by open phase, instable voltage, overload, etc.

10. Electrical Connection

⚠	Do not connect wires on terminal box unless the power is turned off. The pump should be reliably grounded. Install an electric leakage circuit breaker to prevent the electric shock.

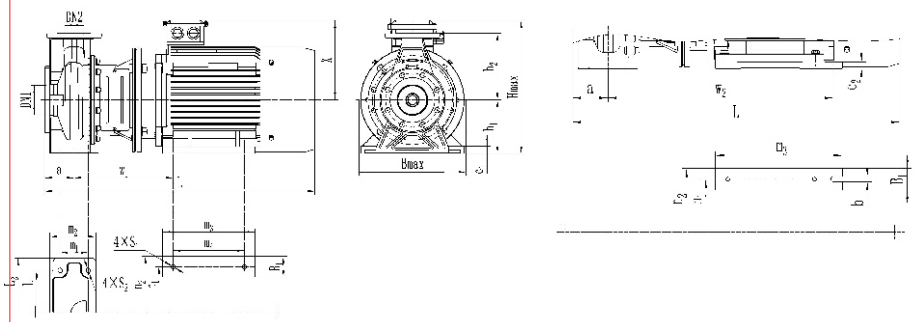
The electrical connection and protection shall comply with local regulations. Make sure the motor matches power supply according to the working voltage marked on nameplate.

In case the working area of the pump is too far from the power supply, power transmission lines should be of a heavier gauge, otherwise the pump cannot work normally because the voltage drop is too dramatic.

A rubber extension cable should be applied for the pump in case of outdoor use.

Check rotation of the motor (three-phase motor).

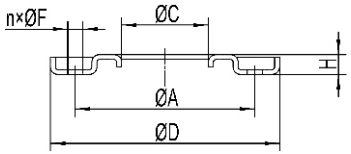
⩾7.5 kW



PUMP TYPE	DN1	DN2	a	W1	W2	L1	L2	m1	m2	m3	m4	n1	n2
XZS80-50-200/92	80	50	100	314		212	265	70	146	210	260	254	320
XZS80-50-200/110													
XZS100-80-160/92	100	80		321			280	95	155	260	210		
XZS100-80-160/110													
XZS100-65-200/150		65			581	250	320			310			314
XZS100-65-200/185					625					354			
XZS100-65-200/220				334						311	241	279	355

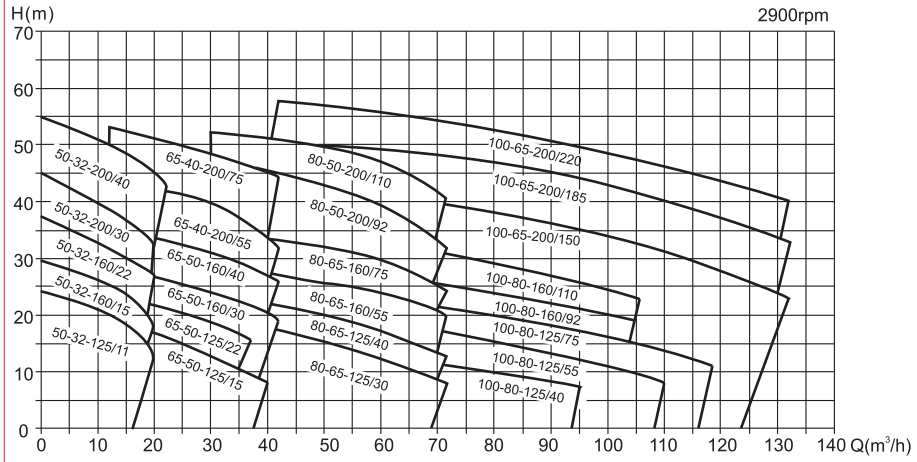
PUMP TYPE	h1	h2	4-S1	4-S2	B1	b	c1	c2	X	Bmax	Hmax	L
XZS80-50-200/92	160	200	4-ø14.5	4-ø15	65		20		260	350	420	816
XZS80-50-200/110												
XZS100-80-160/92												823
XZS100-80-160/110												
XZS100-65-200/150	180	225			60	14.5		20			440	
XZS100-65-200/185												868
XZS100-65-200/220			4-ø14.5		70		22		280	355	460	913

8. Flange Dimension



DN	Ø A	Ø C	Ø D	n x ØF	H
Ø32	100	32	140	4xØ18	14
Ø40	110	40	150		14.5
Ø50	125	50	165		15
Ø65	145	65	185		16
Ø80	160	80	200		18
Ø100	180	100	220	8xØ18	

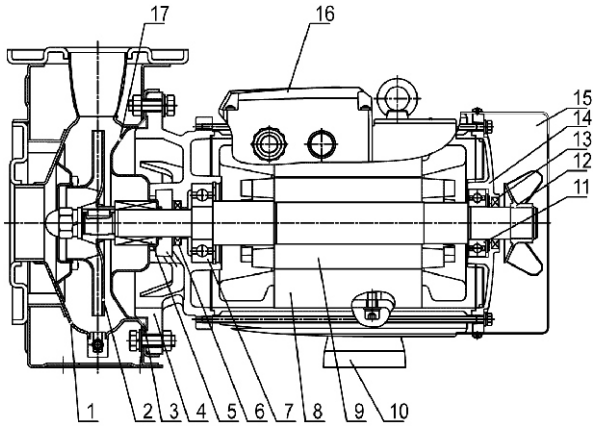
5. Technical Data



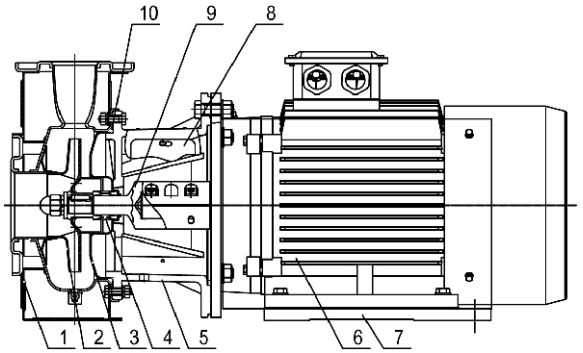
PUMP TYPE	POWER (kw)	POWER (HP)	Q(l/min)	0	100	150	200	300	333	360	400	450	500	600	700	800	1000	1200
			Q(m³/h)	0	6	9	12	18	20	22	24	27	30	36	42	48	60	72
XZS50-32-125/11	1.1	1.5	H(m)	24	21.5	20.5	19.5	16	13									
XZS50-32-160/15	1.5	2		29.5	27	26	25	21	18									
XZS50-32-160/22	2.2	3		37	33.5	32.5	32	28.5	27									
XZS50-32-200/30	3	4		45	41	40	38	34	32									
XZS50-32-200/40	4	5.5		55	51	50	49	46	45	43								
XZS65-50-125/15	1.5	2		20			19	18	17	16.5	15	14	12.5	10				
XZS65-50-125/22	2.2	3		26			23.5	22.5	22	21.5	21	20.5	19.5	16.5				
XZS65-50-160/30	3	4		31			29	27.5	27	26.5	25.5	25	24	22	19			
XZS65-50-160/40	4	5.5		39			35.5	34.5	34	33.5	32.5	32	31	29	26			
XZS65-40-200/55	5.5	7.5		47			43	42.5	42	41.5	41	40.5	39	37	33			
XZS65-40-200/75	7.5	10		57			53	52.5	52	51	50	49	48	46.5	44.5			
XZS80-65-125/30	3	4		22.5							20	19.5	19	18.5	17.5	16	13	9
XZS80-65-125/40	4	5.5		25.5							23	22.5	22	21.5	20.5	20	17	13.5
XZS80-65-160/55	5.5	7.5		33							29.5	29	28.5	28	27	26	24	20
XZS80-65-160/75	7.5	10		39							36	35	34.5	34	33.5	32.5	29	24
XZS80-50-200/92	9.2	12.5		53									47	46.5	45	43.5	39	32
XZS80-50-200/110	11	15		57.5									52	51	50.5	50	47	41

PUMP TYPE	POWER (kw)	POWER (HP)	Q(l/min)	600	650	700	800	1000	1200	1500	1800	1900	2000	2100	2200
			Q(m³/h)	36	39	42	48	60	72	90	108	114	120	126	132
XZS100-80-125/40	4	5.5	H(m)	18	17.5	17	16	14	11.5	7					
XZS100-80-125/55	5.5	7.5		22.5	22	21.5	20.5	18.5	16	11.5	6.5				
XZS100-80-125/75	7.5	10		27.5	27	26.5	26	24	21.5	18	14	12			
XZS100-80-160/92	9.2	12.5				31	30	28	26	23					
XZS100-80-160/110	11	15				36	35	33	31	28					
XZS100-65-200/150	15	20				44	43	41	39	36	32	30	28	26	23
XZS100-65-200/185	18.5	25				51	50	49	48	45	41	39	37	35	33
XZS100-65-200/220	22	30				57	56	55	54	51	47	45.5	44	42	40

6. Product Structure



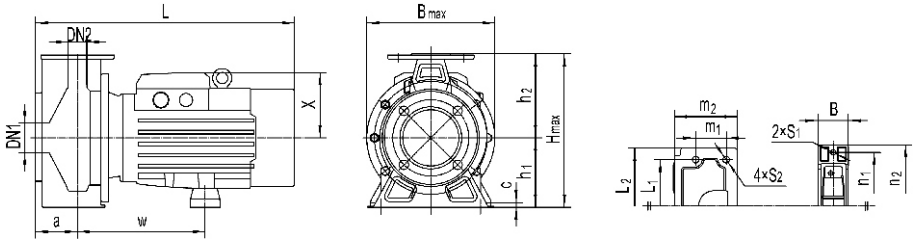
No.	Part
1	Pump body
2	Impeller
3	O-ring
4	Support
5	Mechanical seal
6	Oil seal
7	Bearing
8	Stator
9	Rotor
10	Foot
11	Bearing
12	Fan
13	Oil seal
14	Rear cover
15	Fan cover
16	Terminal box
17	Back cover



No.	Part
1	Pump body
2	Impeller
3	Rear cover
4	Mechanical seal
5	Coupling
6	Motor
7	Cushion
8	Baffle
9	Shaft
10	O-ring

7. Dimensions

≤7.5 kW



PUMP TYPE	DN1	DN2	a	w	L1	L2	m1	m2	n1	n2
XZS50-32-125/11	50	32	80	205	140	190	70	122	205	240
XZS50-32-160/15				207	190	240				
XZS50-32-160/22										
XZS50-32-200/30				244				124	225	260
XZS50-32-200/40										
XZS65-50-125/15	65	50		205	160	210		121	205	240
XZS65-50-125/22										
XZS65-50-160/30				244	190	240		123	225	260
XZS65-50-160/40										
XZS65-40-200/55		40	100	246	212	265		146	245	280
XZS65-40-200/75										
XZS80-65-125/30	80	65		254	190	240		158	225	260
XZS80-65-125/40										
XZS80-65-160/55				256	212	265		150	245	280
XZS80-65-160/75										
XZS100-80-125/40	100	80				280	95	155	225	260
XZS100-80-125/55				258					245	280
XZS100-80-125/75										

PUMP TYPE	h1	h2	2-S1	4-S2	B	c	X	Bmax	Hmax	L
XZS50-32-125/11	112	140	2-Ø12	4-Ø15	65	12	127	240	252	475
XZS50-32-160/15	132	160						244	292	477
XZS50-32-160/22										
XZS50-32-200/30	160	180			75	15	124	295	340	492
XZS50-32-200/40										
XZS65-50-125/15	112	140			65	12	127	240	252	475
XZS65-50-125/22										
XZS65-50-160/30	132	160			75	15	124	260	292	492
XZS65-50-160/40										
XZS65-40-200/55	160	180			70		142	295	340	563
XZS65-40-200/75										
XZS80-65-125/30	132	160			75		124	260	292	522
XZS80-65-125/40										
XZS80-65-160/55	160	180			70		142	280	340	573
XZS80-65-160/75										
XZS100-80-125/40					75		124			524
XZS100-80-125/55					70		142			575
XZS100-80-125/75										