

ARA



SIMPLICIAMOS LA EFICIENCIA

SBS

TERMOPLASTICOS



POWERED BY SPCO 

Pump Material

Discharge Head and Motor Adapter are Precision

machined cast 304 stainless steel for superior strength and durability. The motor adapter is NEMA standard.

Impellers are floating type made with Noryl for superior handling together with glass filled polycarbonate

diffusers make the super strong pumps for maximum wear and abrasive resistance.

The materials are FDA compliant materials.

Impeller Bowls are made from Stainless steel 304, maximizing wear from abrasion.

Shaft Coupling is made from stain-

less steel 304 for easy alignment to the motor shaft.

Strainer is made from stamped stainless steel 304 for rigidity.

Non-Return valve made from stainless steel 304, fitted in the discharge to prevent any back flow of water and alleviate any water hammer to the pumps.

Pump shaft is made from hex stainless steel 304 bar material for high corrosion resistance.

Pump body is covered by a 1.5mm thick 304 polished stainless steel casing, ensures optimum resistance to abrasion.

Bearing is made with Polyacetal for strong wear and abrasive resistance.



Applications

- Water Supply.
- Irrigation.
- Pressure Boosting.

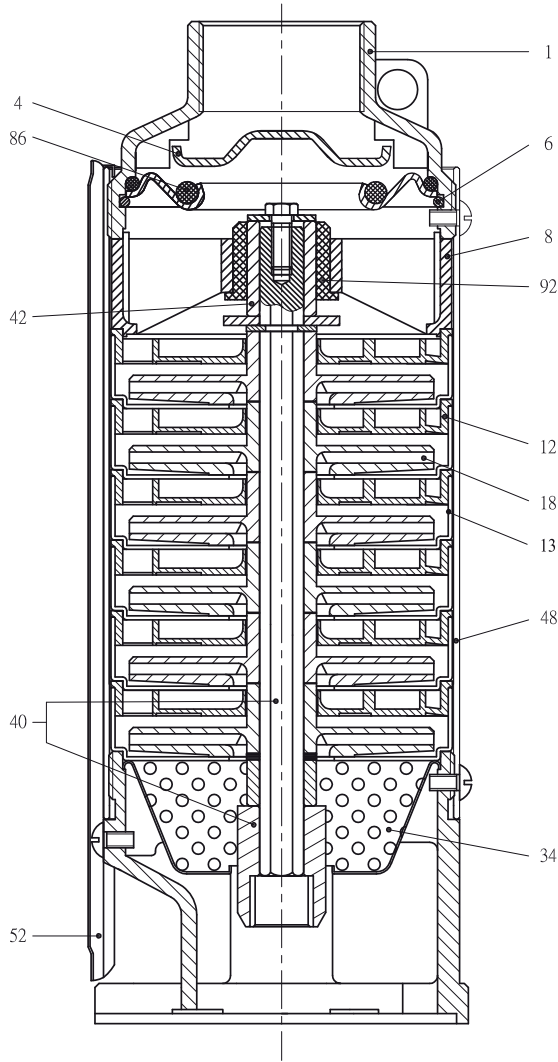
Operation Condition

Max voltage variation	+10% / -10%
Max. starts /h	40
Max water temperature	35 C
Flow rate	0.08m/sec
	2000N from 0.37kW to 2.2kW
Axial thrust	3000N 2.2kW
	5000N from 3kW to 7.5kW
Max. immersion depth	200m

Motor

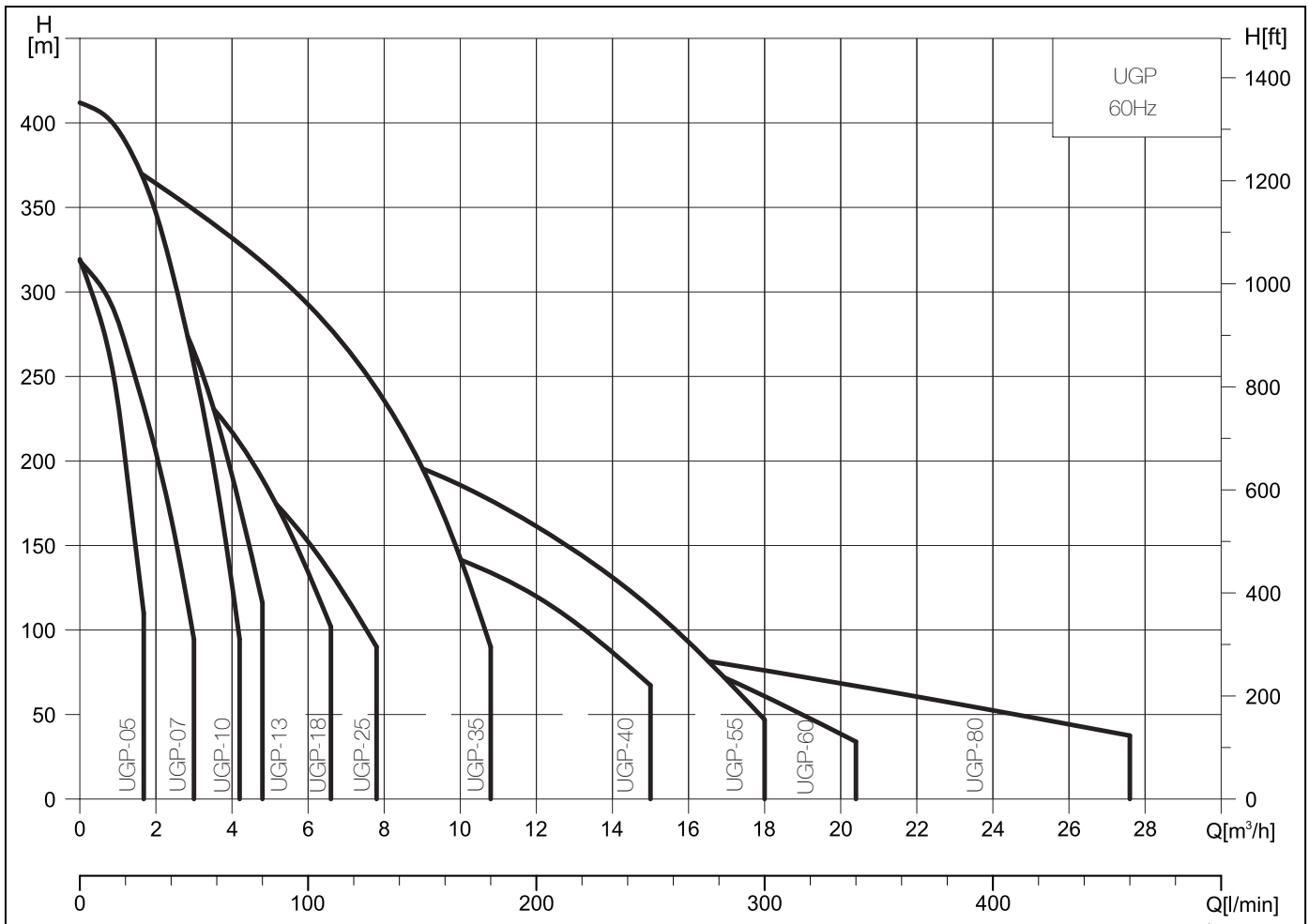
Flange	4" NEMA standard
Degree of protection	IP 68
Insulation class	Class F
Single Phase motor	0.37kW to 4kW
Three Phase Motor	0.37kW to 7.5kW
Standard Voltages	1- 115V,220V-230V
	3- 230V or 400V
Cable length	1.7M 0.37kW to 1.5kW

Material Specification

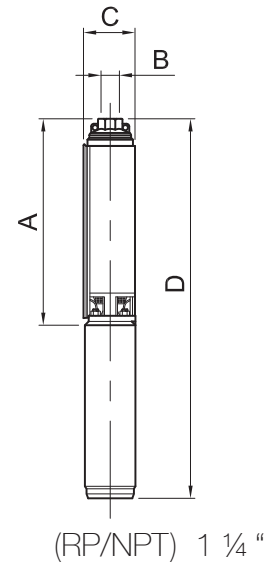
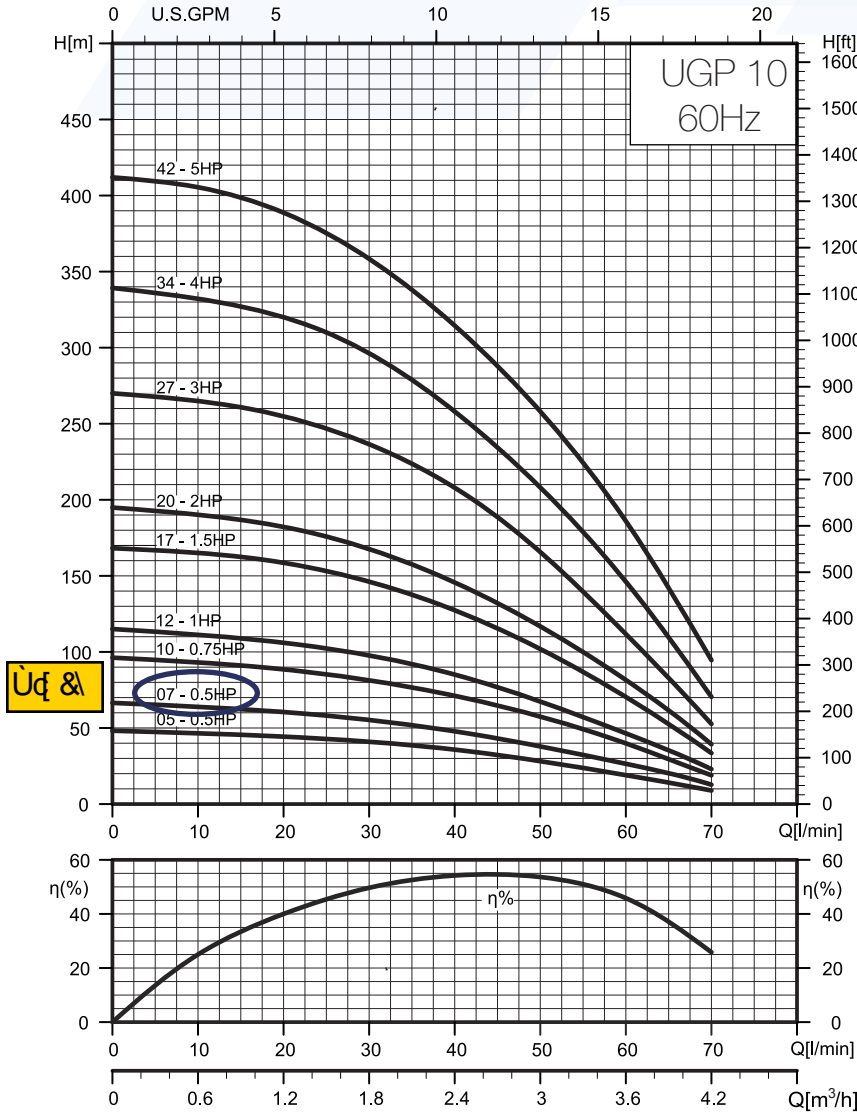


Pos.	Part Name	Material
01	Discharge Head	AISI 304 SS
04	Check Valve Cone	AISI 304 SS
06	Check Valve retaining Ring	AISI 304 SS
08	Bearing Spider	Glass Filled Polycarbonate
12	Diffuser	Glass Filled Polycarbonate
13	Bowl	AISI 304 SS
18	Impeller	Noryl
34	Strainer	AISI 304 SS
40	Pump Shaft/ Coupling	AISI 304 SS
42	Shaft Sleeve	AISI 304 SS or Noryl
48	Pump Casing	AISI 304 SS
52	Cable Guard	AISI 304 SS
86	O-Ring	NBR
92	Bearing	Polyacetal

Performance Range



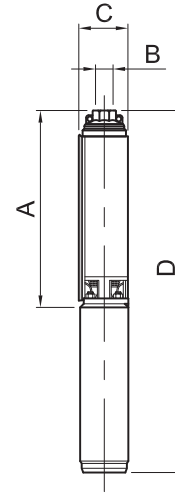
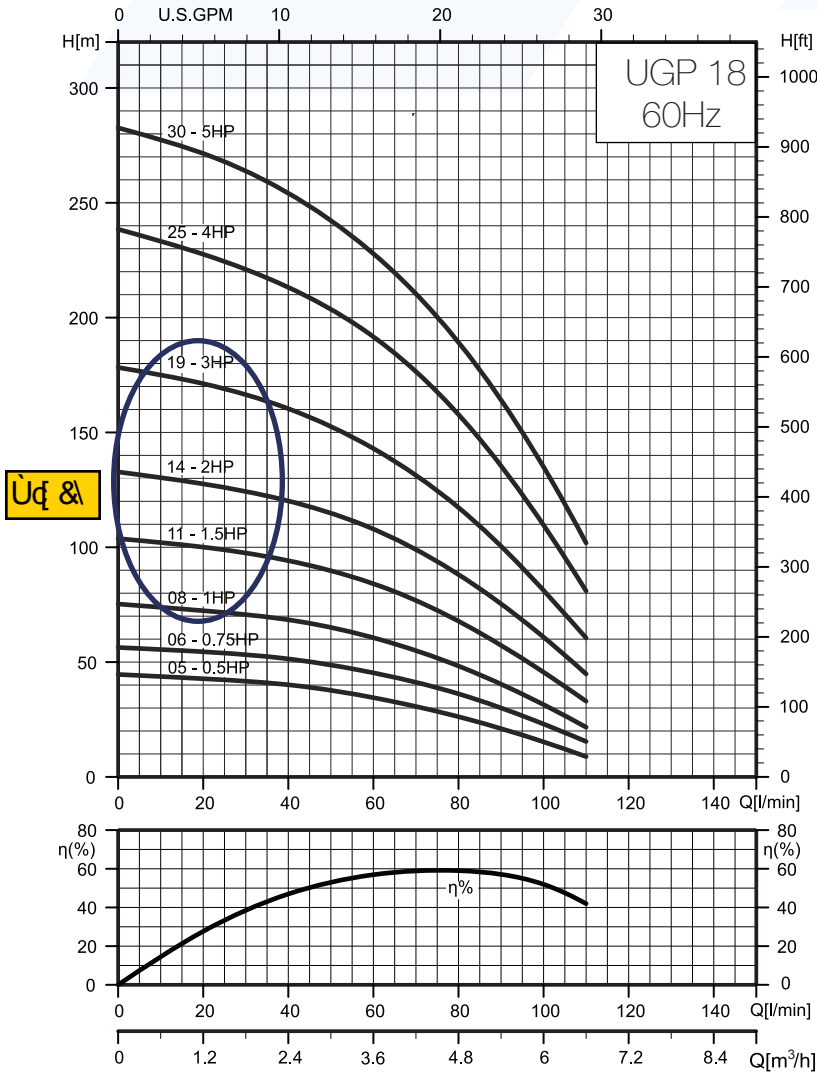
Performance Curves



Selection Chart

Pump Type	Stages	Motor		Q= DELIVERY												Pump Weight	Electro Pump Weight	
		KW	HP	L/Min	15	20	25	30	35	40	50	60	70	80	1 Ø		3 Ø	
				m³/h 0	0.9	1.2	1.5	1.8	2.1	2.4	3.0	3.6	4.2	4.8	H= TOTAL HEAD IN METERS			
UGP-1005	5	0.37	0.5	48		44	42	40	38	36	29	19	9		2.5	9.8	9.2	
UGP-1007	7	0.37	0.5	67		60	58	55	52	49	39	27	13		2.8	10.1	9.5	
UGP-1010	10	0.55	0.75	96		89	85	81	77	71	58	40	19		3.3	11.5	10.7	
UGP-1012	12	0.75	1	115		106	102	98	92	85	68	47	23		3.6	12.4	11.8	
UGP-1017	17	1.1	1.5	168		159	152	147	138	128	102	70	35		4.4	14.4	13.3	
UGP-1020	20	1.5	2	195		181	177	168	158	146	118	82	40		4.9	16.4	14.9	
UGP-1027	27	2.2	3	270		255	247	237	223	209	167	111	53		6	20	17.6	
UGP-1034	34	3	4	339		320	310	296	280	259	209	146	70		7.5	26.9	22.7	
UGP-1042	42	3.7	5	412		389	375	358	338	315	258	186	95		8.8	31.5	N/A	

Performance Curves

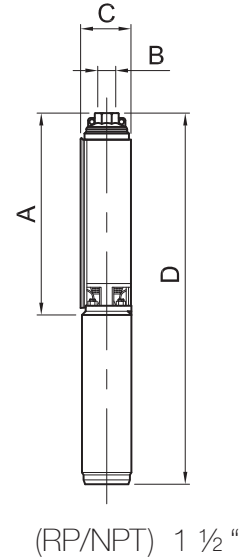
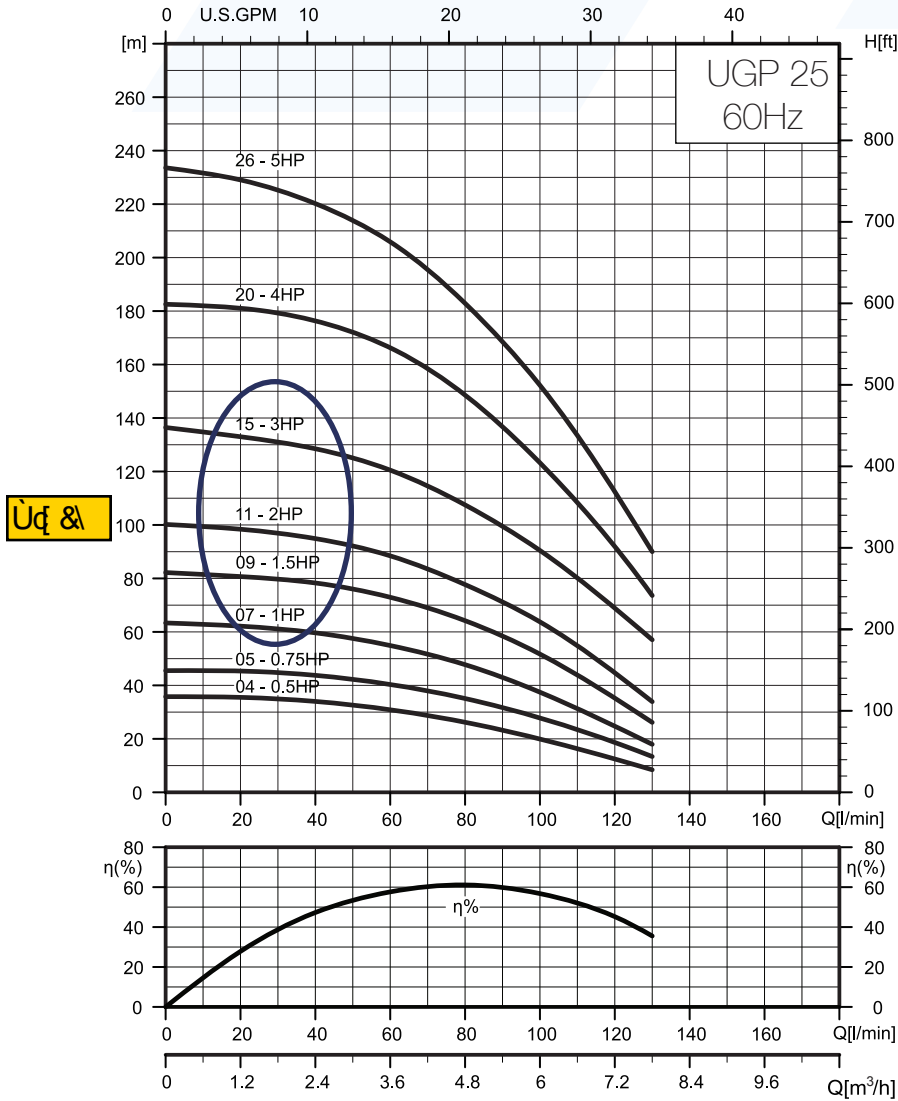


(RP/NPT) 1 1/4"

Selection Chart

Pump Type	Stages	Motor		Q= DELIVERY												Pump	Electro Pump	
		KW	HP	L/Min 0	30	35	40	50	60	70	80	90	100	110	Weight			
				m³/h 0	1.8	2.1	2.4	3.0	3.6	4.2	4.8	5.4	6.0	6.6	1 Ø	3 Ø		
				H= TOTAL HEAD IN METERS														
UGP-1805	5	0.37	0.5	45		41	40	38	35	31	27	21	15	9	2.7	10	9.4	
UGP-1806	6	0.55	0.75	56		53	52	49	45	41	37	30	23	16	2.8	11	10.2	
UGP-1808	8	0.75	1.0	75		70	68	65	61	55	49	41	32	22	3.1	11.9	11.3	
UGP-1811	11	1.1	1.5	104		96	94	90	84	77	68	58	46	33	3.6	13.6	12.5	
UGP-1814	14	1.5	2.0	133		123	120	115	108	99	88	75	61	45	4.1	15.6	14.1	
UGP-1819	19	2.2	3.0	178		164	160	153	143	131	117	100	81	61	4.9	18.9	16.5	
UGP-1825	25	3.0	4.0	238		217	213	204	192	176	158	136	110	81	5.9	25.3	21.1	
UGP-1830	30	3.7	5.0	283		260	254	242	228	210	189	164	135	102	7.1	29.8	N/A	

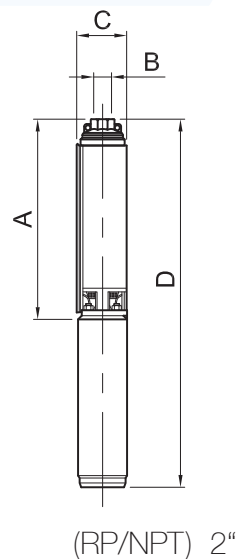
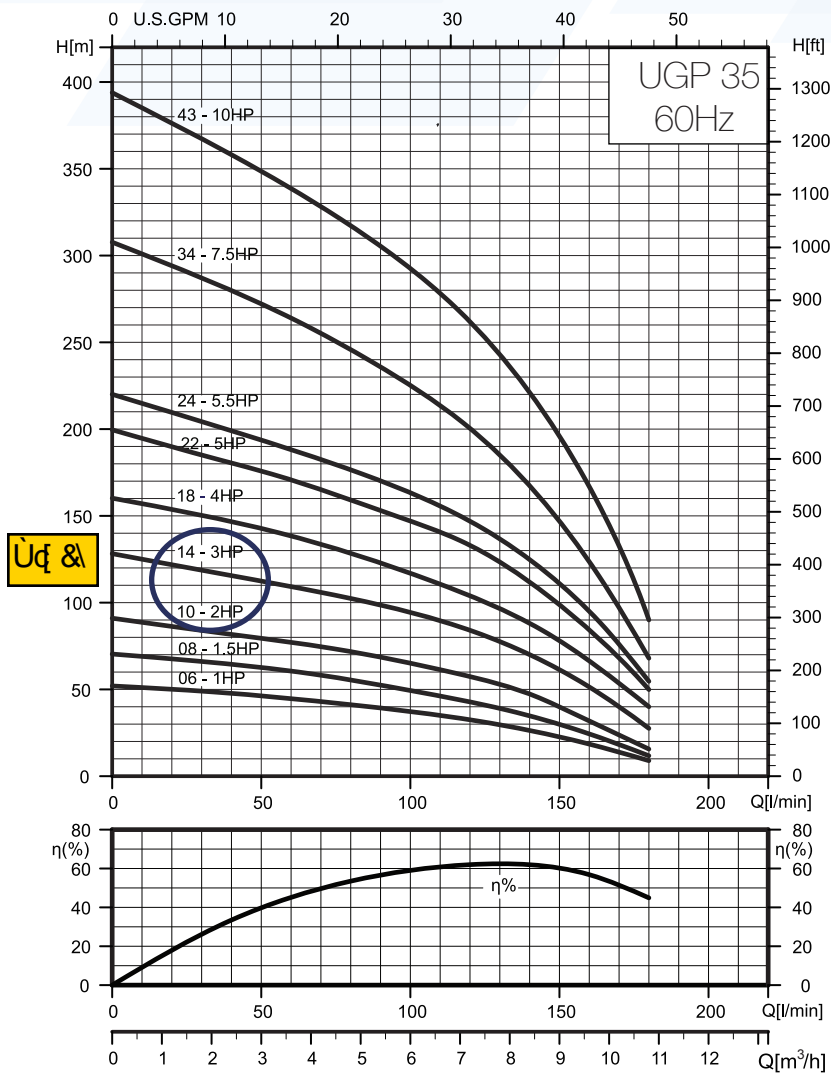
Performance Curves



Selection Chart

Pump Type	Stages	Motor		Q= DELIVERY												Pump Weight	Electro Pump Weight	
		KW	HP	L/Min 0	40	50	60	70	80	90	100	120	140	1 Ø	3 Ø			
				m³/h 0	2.4	3.0	3.6	4.2	4.8	5.4	6.0	7.2	8.4					
H= TOTAL HEAD IN METERS																		
UGP-2504	4	0.37	0.5	36		33	31	29	27	23	20	12		2.4	9.7	9.1		
UGP-2505	5	0.55	0.75	46		42	40	38	35	32	28	19		2.6	10.8	10		
UGP-2507	7	0.75	1.0	63		58	55	52	48	43	37	25		3.1	11.9	11.3		
UGP-2509	9	1.1	1.5	82		76	73	69	64	58	52	35		3.5	13.5	12.4		
UGP-25-11	11	1.5	2.0	100		92	88	84	78	71	64	45		3.9	15.4	13.9		
UGP-2515	15	2.2	3.0	136		125	121	115	107	100	90	69		4.7	18.7	16.3		
UGP-2520	20	3.0	4.0	183		172	166	158	148	137	122	92		5.8	25.2	21		
UGP2526	26	3.7	5.0	234		214	206	196	183	169	152	112		7.1	29.8	N/A		

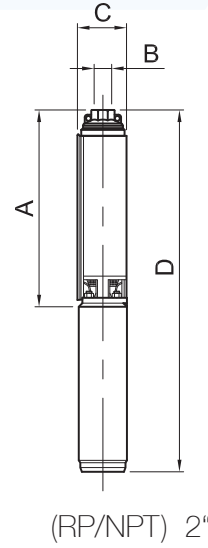
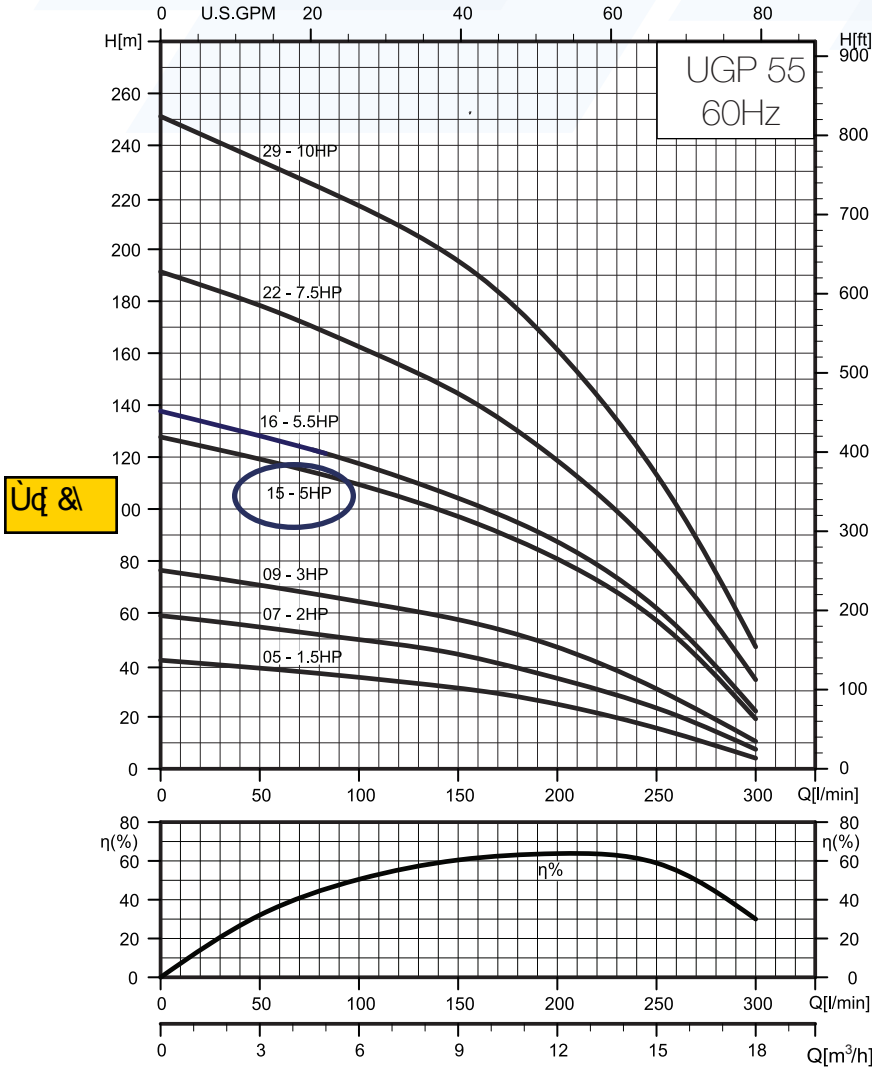
Performance Curves



Selection Chart

Pump Type	Stages	Motor		Q= DELIVERY												Pump		Electro Pump	
		KW	HP	L/Min 0	50	60	70	80	90	100	120	140	160	180	200	Weight	1 Ø	3 Ø	
				m³/h 0	3.0	3.6	4.2	4.8	5.4	6.0	7.2	8.4	9.6	10.8	12				
H= TOTAL HEAD IN METERS																			
UGP-3506	6	0.75	1.0	52		44	43	42	40	38	33	27	18	9		3.4	12.2	11.6	
UGP-3508	8	1.1	1.5	70		60	58	55	52	50	43	35	24	12		4	14	12.9	
UGP-3510	10	1.5	2.0	91		77	75	72	69	65	58	48	32	17		4.6	16.1	14.6	
UGP-3514	14	2.2	3.0	128		109	106	102	99	94	83	70	51	29		5.7	19.7	17.3	
UGP-3518	18	3.0	4.0	160		139	133	129	123	117	104	89	67	40		6.9	26.3	22.1	
UGP-3522	22	3.7	5.0	200		170	165	159	152	147	132	111	84	50		8.1	30.8	N/A	
UGP-3524	24	4.0	5.5	220		189	182	177	170	162	148	125	95	55		8.7	31.5	28.2	
UGP-3534	34	5.5	7.5	308		263	255	246	236	225	200	167	122	69		11.6	N/A	34.7	
UGP-3543	43	7.5	10	394		339	328	317	305	292	261	220	167	90		14.2	N/A	41.7	

Performance Curves



Selection Chart

Pump Type	Stages	Motor		Q= DELIVERY																		Pump	Electro Pump	
				L/Min	70	80	90	100	120	140	160	180	200	220	240	260	280	300	Weight					
		KW	HP	m³/h 0	4.2	4.8	5.4	6.0	7.2	8.4	9.6	10.8	12	13	14	16	17	18	1 Ø	3 Ø				
H= TOTAL HEAD IN METERS																								
UGP-5505	5	1.1	1.5	42		38	37	36	34	32	30	28	25	22	18	14	9	5	4.3	13.2	13.2			
UGP-5507	7	1.5	2.0	59		52	51	50	48	46	43	40	36	31	26	21	15	8	5.3	16.8	15.3			
UGP-5509	9	2.2	3.0	76		67	66	64	62	59	56	52	47	42	35	28	19	11	6.2	20.2	17.8			
UGP-5515	15	3.7	5.0	128		113	112	109	105	100	94	88	80	72	63	51	37	20	9	31.7	24.2			
UGP-5516	16	4.0	5.5	137		122	120	117	112	107	101	95	88	79	68	55	40	23	9.5	32.3	29			
UGP-5522	22	5.5	7.5	191		169	166	162	156	149	140	131	118	106	91	75	55	35	12.3	N/A	35.4			
UGP-5529	29	7.5	10	251		225	221	218	209	200	190	177	161	144	125	101	75	48	15.6	N/A	43.1			

MATERIALS

Component	Material
Motor Shell	304 Stainless steel
Sand Guard	NBR
Cable Connector	EPDM
Upper end bracket cover	304 Stainless steel
Upper end bracket	Zinc plated cast iron
Mechanical seal	Ceremic/Carbon
Shaft (0.5 - 3 HP)	304 Stainless steel
Shaft (4 - 10HP)	630 Stainless steel
Rotor (0.5 - 3 HP)	Aluminum
Rotor (4 - 10HP)	Copper
Connector	PPS
Winding	Copper
Lower end bracket	Aluminum
Lower end bracket cover	304 Stainless steel
Diaphragm	NBR

UGMO Series 4" Oil Filled Submersible Motors 3Wire, 60Hz

OPERATING CONDITIONS

Max. voltage variation	10% / -10%
Max. starts	40 h
Max. water temperature	35 ° C
Max. immersion depth	200 m

GENERAL SPECIFICATIONS

Mounting flange:	4" NEMA standard
Insulation class:	F
Standard Voltage:	3~230V or 400V 60 Hz: 1~ 110V or 230V

Cable length:	
0.37 ~1.5kW:	1.7m
2.2 ~ 7.5kW:	2.5m

IP68

FEATURES

- SPCO rewindable 4" oil filled submersible motors are designed to operate dependably in 4" and larger boreholes.
- Removable waterproof cable connector for easy maintenance operations.
- Cable materials are CE approved (for potable water applications).
- Non-toxic oil - Premium quality, colorless white oil meeting the requirements of international and national authorities for pharmacopoeia white oils.
- Special stator design for high starting torque in single-phase models.
- Unique single-phase electrical design for PSC starting, and starting capacitor + PSC starting.
- Motor casing, shaft, upper cover and bottom end made of stainless steel.
- Zinc-plate cast iron upper bracket.
- Stators are designed for higher efficiency and the ability to operate within wider voltage fluctuations.
- Use of high quality European made components such as mechanical seal, cable connectors, copper winding wires and insulations.
- All motors are 100% tested.



TECHNICAL DATA

SINGLE-PHASE MOTORS 60 Hz PSC

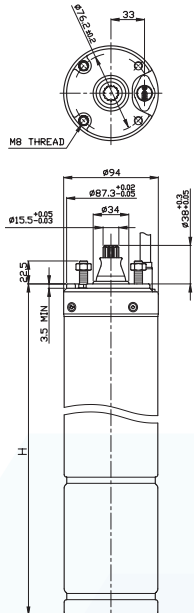
Motor Type	P2		Voltage	S.F	In	Imax	Istart	Efficiency	Nn	Thrust Load	Capacitor	Cable	
	kW	HP	V	--	A	A	A	%	RPM	N	µF	mm2	m
4R261	0.37	0.5	110	1.6	8.5	9.8	30	64	3430	2000	65	1.5	1.7
4R251	0.37	0.5	230	1.6	4.8	5.2	15	64	3430	2000	16	1.5	1.7
4R291	0.37	0.5	254	1.6	4.3	4.7	13.8	58	3430	2000	12.5	1.5	1.7
4R262	0.55	0.75	110	1.5	10.9	12.8	38	65	3440	2000	80	1.5	1.7
4R252	0.55	0.75	230	1.5	5.6	6.6	19	65	3440	2000	20	1.5	1.7
4R292	0.55	0.75	254	1.5	5.3	6	17.1	62	3430	2000	16	1.5	1.7
4R263	0.75	1	110	1.4	11.5	14.5	50	68	3440	2000	100	1.5	1.7
4R253	0.75	1	230	1.4	6.3	7.6	25	68	3440	2000	25	1.5	1.7
4R293	0.75	1	254	1.4	5.5	6.7	19.3	66	3430	2000	20	1.5	1.7
4R264	1.1	1.5	110	1.3	17.4	20.2	50.69	68	3440	2000	140	1.5	1.7
4R254	1.1	1.5	230	1.3	8.7	10.3	34	69	3450	2000	35	1.5	1.7
4R294	1.1	1.5	254	1.3	7.9	9.2	25.7	65	3450	2000	30	1.5	1.7
4R256	1.5	2	230	1.25	10.6	12.2	41	72	3450	2000	40	1.5	1.7
4R296	1.5	2	254	1.25	11	12	38	68	3450	2000	35	1.5	1.7
4R357	2.2	3	230	1.15	14.4	16.1	45	70	3450	3000	55	1.5	2.5
4R397	2.2	3	254	1.15	14	15.4	48.9	71	3450	3000	45	1.5	2.5
4R558	3.7	5	230	1.15	25	28	64	71	3450	5000	75	2	2.5

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THREE-PHASE MOTORS 60 HZ DOL

Motor Type	P2		Voltage	S.F	In	Imax	Istart	Efficiency	Nn	Thrust Load		Cable	
	kW	HP	V	--	A	A	A	%	RPM	N		mm2	m
4R280	0.37	0.5	230	1.6	2.8	3.3	10	68	3450	2000		1.5	1.7
4R281	0.55	0.75	230	1.5	3.8	4.3	17	69	3450	2000		1.5	1.7
4R282	0.75	1	230	1.4	4.5	5.2	24	72	3450	2000		1.5	1.7
4R283	1.1	1.5	230	1.3	5.7	6.6	33	72	3450	2000		1.5	1.7
4R284	1.5	2	230	1.25	7.6	8.5	40	74	3450	2000		1.5	1.7
4R386	2.2	3	230	1.15	10.3	11.2	48	74	3450	3000		1.5	2.5
4R587	3.7	5	230	1.15	17.5	18.7	109	75	3450	5000		1.5	2.5
4R566	4	5.5	230	1.15	18.1	20	109	75	3450	5000		1.5	2.5
4R588	5.5	7.5	230	1.15	25.3	27.6	134	75	3450	5000		2.0	2.5
4R270	0.37	0.5	400	1.6	1.6	1.9	9	68	3450	2000		1.5	1.7
4R271	0.55	0.75	400	1.5	2.2	2.5	11	69	3450	2000		1.5	1.7
4R272	0.75	1	400	1.4	2.6	3	14	72	3450	2000		1.5	1.7
4R273	1.1	1.5	400	1.3	3.3	3.8	19	72	3450	2000		1.5	1.7
4R274	1.5	2	400	1.25	4.4	4.9	23	74	3450	2000		1.5	1.7
4R376	2.2	3	400	1.15	6	6.5	28	74	3450	3000		1.5	2.5
4R577	3.7	5	400	1.15	10	11	63	75	3450	5000		1.5	2.5
4R567	4	5.5	400	1.15	10.5	11.6	63	76	3450	5000		1.5	2.5
4R578	5.5	7.5	400	1.15	14.5	15.9	78	75	3450	5000		2.0	2.5
4R579	7.5	10	400	1.15	20	21.8	92	76	3450	5000		2.0	2.5

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SINGLE-PHASE MOTORS

P2		H	Weight	Thrust Load
kW	HP	mm	Kg	N
0.37	0.5	346	7.3	2000
0.55	0.75	365	8.2	2000
0.75	1	380	8.8	2000
1.1	1.5	405	10.0	2000
1.5	2	440	11.5	2000
2.2	3	495	14.0	3000
3	4	607	19.4	5000
3.7	5	683	22.7	5000
4	5.5	683	22.8	5000

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THREE-PHASE MOTORS

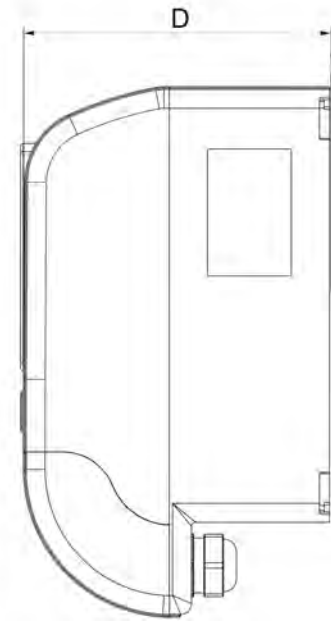
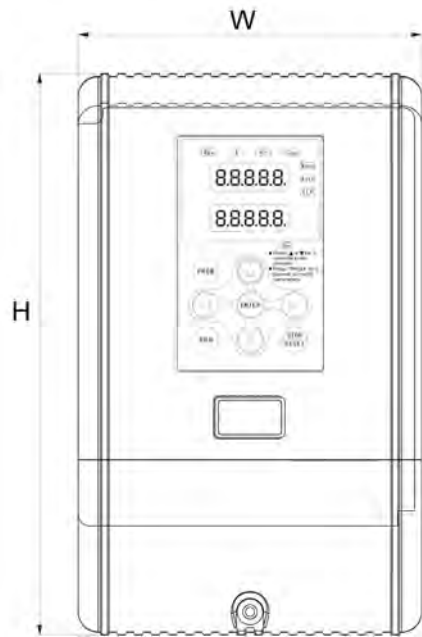
P2		HP	H	Weight	Thrust Load
kW	HP	mm	Kg	N	
0.37	0.5	330	6.7	2000	
0.55	0.75	346	7.4	2000	
0.75	1	365	8.2	2000	
1.1	1.5	380	8.9	2000	
1.5	2	405	10.0	2000	
2.2	3	440	11.6	3000	
3	4	516	15.2	5000	
3.7	5	607	19.5	5000	
4	5.5	607	19.5	5000	
5.5	7.5	683	23.1	5000	
7.5	10	783	27.5	5000	

Technical Specifications

Item	Technical Index	Specification
Input	Input voltage	1AC/3AC 220V±15%, 3AC 460V±15%
	Input frequency	50/60Hz±5%
Control functions	Output voltage	0~rated input voltage
	Output frequency	0~600Hz
	Operation command mode	Keypad control Terminal control Serial communication control (Modbus)
	Overload capacity	150% / 60s, 180% / 10s, 200% / 1s.
	Built-in PID	Built-in PID control function, special for constant pressure water supply.
Input/output terminals	Input terminals	Programmable digital input: 5 multifunctional inputs 2 programmable analog input: VI: 0~10V CI: 4~20mA
	Output terminals	Refer to typical wiring for details
	Communication terminals	RS485 communication interface, support MODBUS-RTU communication protocol
Display	LED display	Display frequency setting, output frequency, output voltage, output current, etc. Two lines display.
Environment	Ambient temperature	-10°C~40°C, without direct sunshine.
	Humidity	90%RH or less (non-condensing)
	Altitude	≤1000M: output rated power, >1000M: output derated.
	Storage temperature	-20°C~60°C

External and keypad dimensions

ARA388

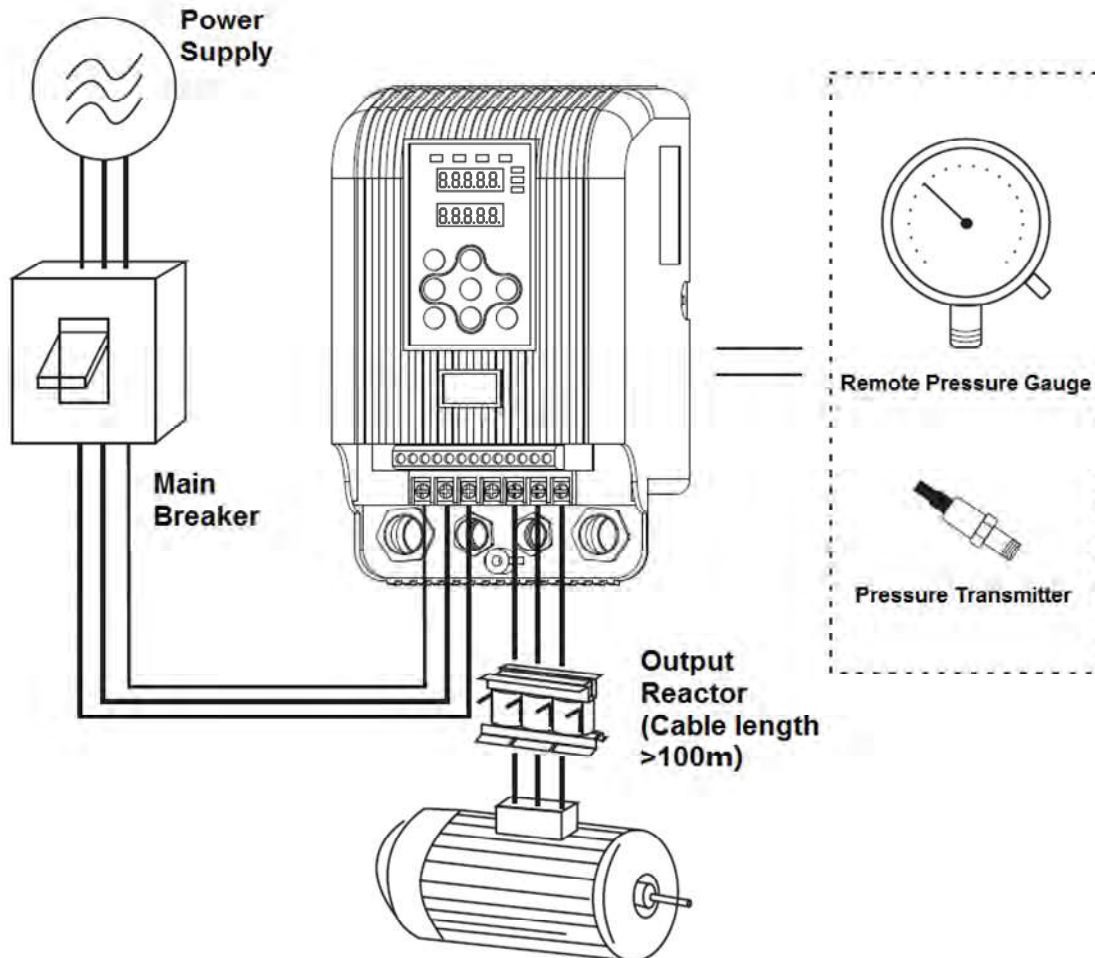


Unit (mm)

Model	W	H	D
ARA388-00040S2	120	196.2	112.1
ARA388-00075S2			
ARA388-00150S2			
ARA388-00220S2			
ARA388-00075T4			
ARA388-00150T4			
ARA388-00220T4			
ARA388-00400T4	150	241	142.5
ARA388-00550T4			
ARA388-00750T4			

Chapter 3 Installation and wiring

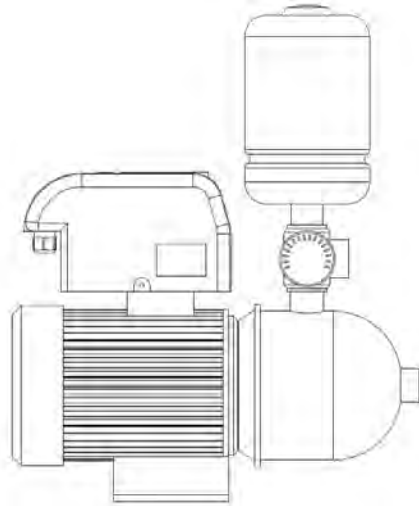
3.1 System wiring connection



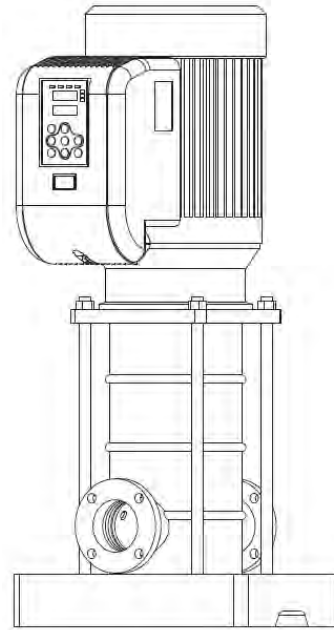
- (1) ARA388/KD386 build-in a lightning protection device, it will be self-protected for induction thunder. But for some special places where the thunder happens very frequently, it is better to add an additional lightning protection device.
- (2) If the installation place's altitude is higher than 1000m, the output power of ARA388/ARA386 will be derated.

Installation

ARA388 is designed to install on the water pump directly, it has the below two installation types:

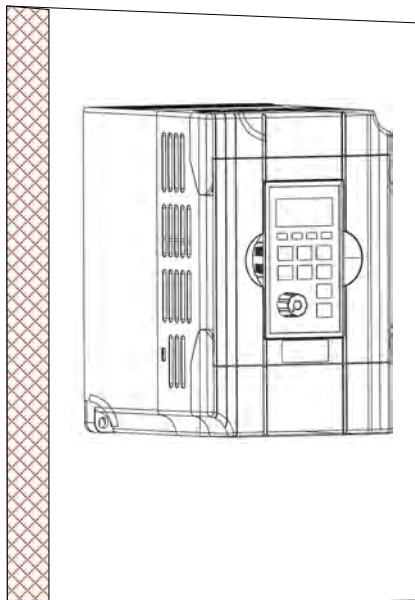


Horizontal type



Vertical type

2, ARA386 is designed to install on the wall or in the control cabinet.

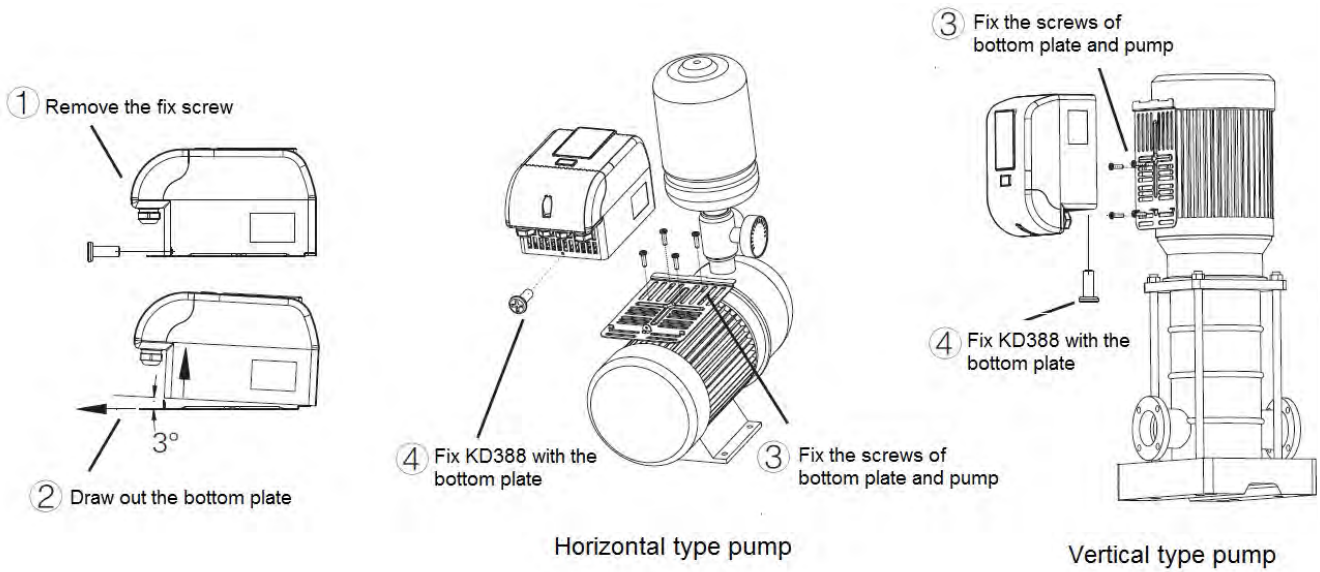


On the wall



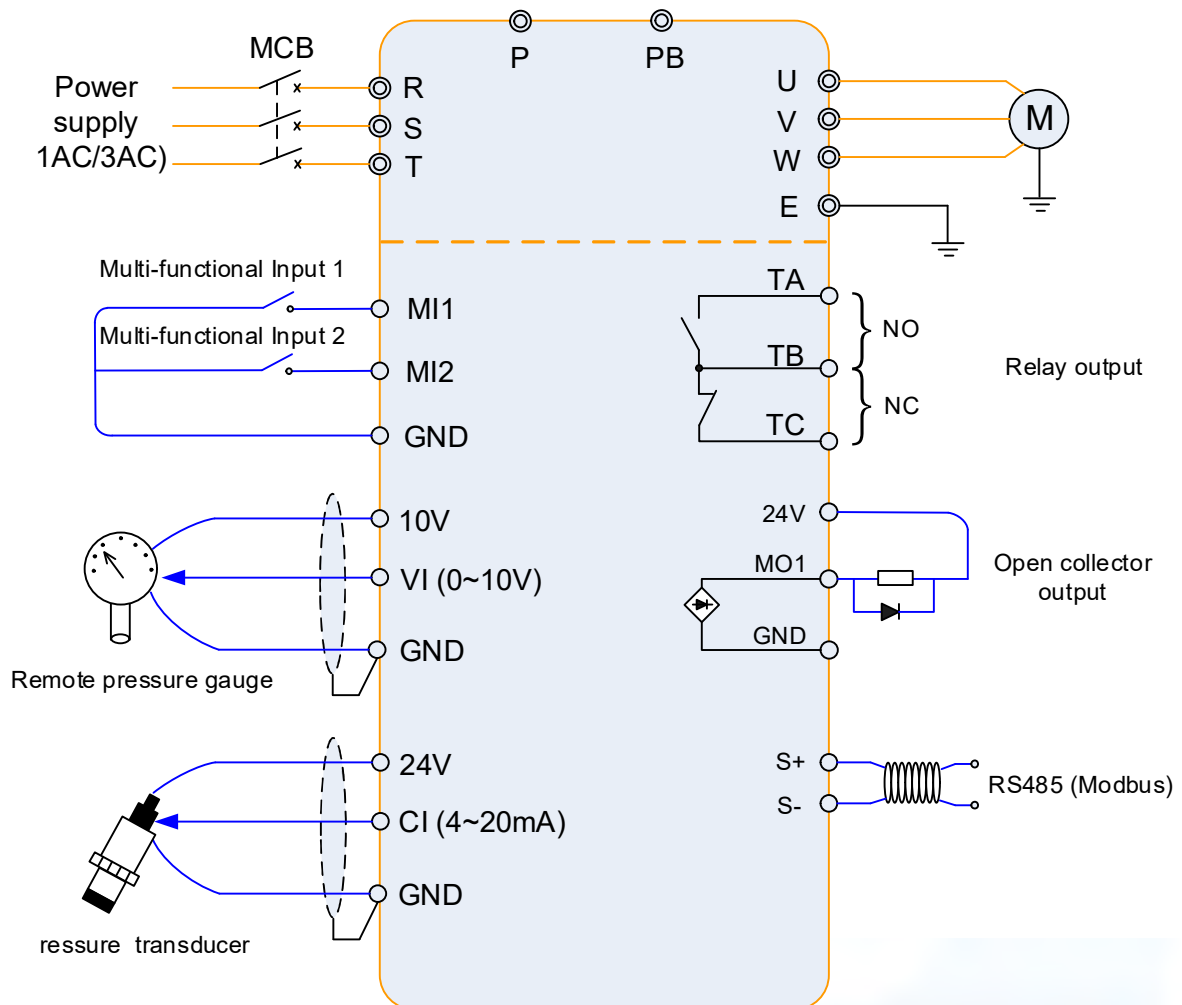
In the control cabinet

ARA388 disassemble and install diagram



Typical diagram

ARA388



Keypad operation instruction

diagram of keypad

ARA388 keypad



ARA386 keypad











0.75~2.2kW



≥4kW

functions description of keypad

Button	Name	Function
	Programming key	Entry and exit of primary menu
	Confirmation key	Progressively enter menu, and confirm parameters
	Run key	Start ARA388/ARA386 under keyboard control mode (F1-00=0)
	Stop / Reset	Stop ARA388/ARA386 in running status and reset operation in fault alarm status.
	Increase key	Increase the setting value or function codes
	Decrease key	Decrease the setting value or function codes
	Left shift key	Left shift while parameters changing, shift the parameters display on main LED (Top LED)
	Right shift key	Right shift while parameters changing, shift the parameters display on main LED (Top LED)

Functions description of indicators

Indicators	Function
Mpa	When LED display the pressure of pipe line, the indicator will light-on
A	When LED display the output current, the indicator will light-on
Hz	When LED display the running frequency, the indicator will light-on
Auto	Light-on: Auto operation mode light flicker: stand by
Com	When multiple KD388 inter connected successfully, the indicator will light-on
Manu	ARA388 under Manual operation mode
SLP	ARA388 under sleep mode



SIMPLIFICANOS LA EFICIENCIA