Archimedes Pump

General Overview

PT. Archimedes Global Pump

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A3SP

Multistage Submersible Electric Pump

APPLICATIONS

Submersible electric pumps for 3” wells or larger. These units have a very extensive range of applications for lifting and distribution in civil and industrial water systems, filling of pressure vessels and tanks, pressurization and irrigation systems

PERFORMANCE

Multistage centrifugal type. Pump and motor directly coupled with rigid coupling. Impellers and thrust rings in Noryl and diffusers in self-lubricating polyacetyl. Pump liner, shaft and coupling, strainer and cable sheath in stainless steel. Base support in brass and head in stainless steel, with check valve incorporated in the head.

Pump discharge head is in stainless steel and dischrge connection is 1 1/4”. The above will give better hygienic, long lasting and better pump performance because of less friction loss compare to other with 1” discharge head.

FEATURE

Submersible asynchronous two-pole motor made entirely of AISI 304 stainless steel with brass bearings. Copper squirrel cage rotor mounted on Kingsbury thrust block. The thermal protector with automatic reset is included with the motor.

Protection class : IP68
Insulation class : F
Supply voltage : single-phase
230 V / 50 Hz

ASP

Submersible Bore Hole Stainless Steel Pump

APPLICATIONS

- For water supply, Ground water lifting from well, open pit
- For boosting, transfer
- For irrigation, water spray
- Dewatering for high rise building, mining etc
- Horizontal application is possible

PERFORMANCE & FEATURE

- Capacity up to 1 ~ 95 m³/h
- Head up to 490 m
- 100% SUS 304 stainless steel
- Superior hydraulic efficiency
- Sand resistance
- Vertical or horizontal installation
- Available in cooling sleeve or booster system for horizontal installation

AMS

Submersible Motor (EBARA)

PERFORMANCE & FEATURE

- From 4 " To 8 "
- From 0.37 Kw To 55 Kw.
- Strict quality control
- 100 % Individual test
- Long experience & responsible
- Available in standard and stainless steel aisi 304 material
- Pre motor water filled

ACB

Compact Booster Inline Pump

PERFORMANCE & FEATURE

- From 4 " To 8 "
- From 0.37 Kw To 55 Kw.
- Capacity Up To 2 X (1 ~ 95) m^3/h
- Head up to 490 M
- Strict quality control
- 100 % Individual test
- Long experience & responsible
- Available in standard and stainless Steel aisi 304 material
- Including manifold and control panel

ASPCI

Submersible Bore Hole Cast Iron 6”, 8”, 10” and 12”

APPLICATIONS

- For water supply, ground
- Water lifting from well, open Pit
- For boosting, transfer
- For irrigation, water spray
- Dewatering for high rise Building, mining etc.
- Horizontal application is possible

PERFORMANCE & FEATURE

- For Radial Flow :
  - Capacity up to 150 m^3/h
  - Head Up To 600 M
- For Mixed Flow :
  - Capacity up to 600 m^3/h
  - Head up to 300 M

AES
End Suction Pump

FEATURES

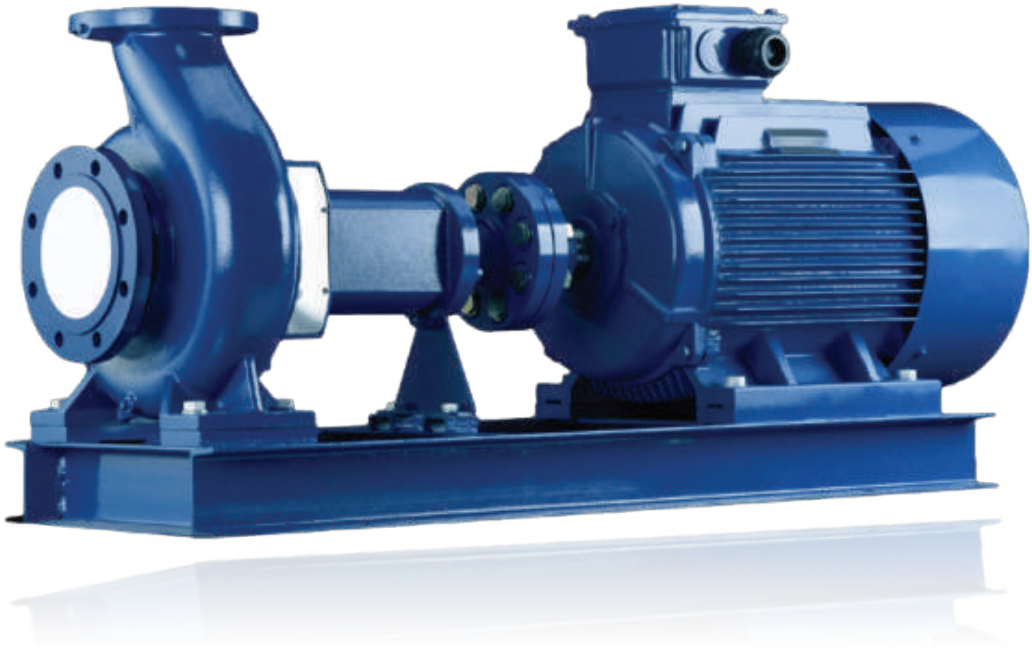
- Wide operation range
- Pn 16 discharge flange
- Easy maintenance without having to remove pump body or pipeline discharge
- Flexible prime mover option, electric motor, engine driven

APPLICATIONS

- For water supply, boosting, transfer, distribution
- For boosting in high-rise buildings.
- Fire fighting applications
- For civil and industrial applications.
- Cooling and air-conditioning systems

PERFORMANCE

- Capacity up to 4000 m^3/h
- Head up to 160 M.
- Rated motor power output 0,55 Kw up to 160 Kw.
- Available in 2 poles and 4 poles
- Option for mechanical seal or gland packing solution



AHMCI

Horizontal Multi Stage Pump (Cast Iron)

APPLICATIONS

- For water supply, boosting, transfer
- For boosting in high-rise buildings.
- For civil and industrial applications.
- Cooling and air-conditioning systems

FEATURES

- Horizontal multistage centrifugal pump,
- Bronze or cast iron impeller.
- Cast iron pump body.
- Flanges according to DIN standars.
- Vertical execution is possible

PERFORMANCE

- Capacity up to 1000 m^3/h
- Head up to 400 m.
- Class F insulation, IP 55 protection.
- Rotation speed up to 2900 rpm.

AVMP, AVMB

Vertical Multi Stage Pump

FEATURES

- Wide range
- Available in stainless steel aisi 304 or aisi 316
- Impellers and diffusers made of stainless
- Steel in order to achieve durability, superior
- Efficiency and the highest performances

APPLICATIONS

- For water supply, boosting, transfer, distribution
- For boosting in high-rise buildings
- Fire fighting applications
- For civil and industrial applications.
- Cooling and air-conditioning systems

PERFORMANCE

- Capacity up to 180 m^3/h
- Head up to 300 M.
- Rated motor power output 0,55 Kw up to 75 Kw.
- Available in 2 poles

AHMP, AHMB
Horizontal Multi Stage Pump

APPLICATIONS

- For small scale domestic water
- Supply, boosting, transfer, distribution
- Liquid transfer and circulation of liquids within light industry and farming
- Heating and cooling systems specialized oem equipment

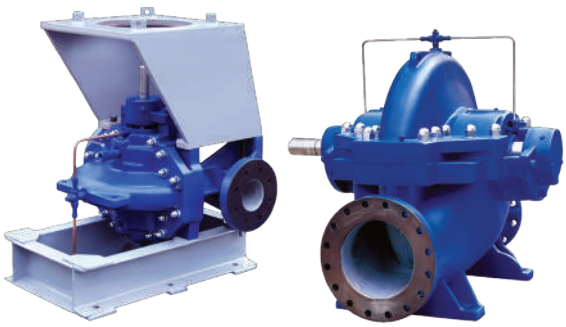
PERFORMANCE

- Liquid temperature : 0° C to+90° C
- Capacity up to 14 m³/h for individual pump
- Head up to 57 m
- Available in 1 phase 220V and 3 phase 3x380 V
- Liquid temperature : 0° C to +90° C

FEATURES

- Wide operation range especially for booster system
- Robust, easy maintenance with direct couple motor to pump
- Available in booster paralel alternate both variable speed or fixed speed

ASC
Split Case Pump



APPLICATIONS

- For water supply, boosting, transfer, distribution
- Power station
- Factories, irrigation
- Fire fighting systems
- For civil and industrial applications
- Cooling and air-conditioning systems

PERFORMANCE

- Capacity up to 30 - 5000 m³/h
- Head up to 15 - 160 m
- Suction dia DN 80-DN250, discharge-dia DN 65D200
- Operating pressure 16 - 20 Bar
- Speed range 960 - 3600 rpm

FEATURES

- Robust construction, easy for maintenance
- Horizontal or vertical shaft installation
- Double suction impeller will reduce npsh and increase suction lift.
- Long shaft design for gland packing and short shaft design for mech seal

ASP SO

Solar Deep Well Pumps

All wett parts from stainless steel AISI 304

Complete program up to 11 m³/h as centrifugal pump type or helenic rotor pump type for high efficiency.

All types with build in inverter and soft ware which will adjust the powering automatically to the available power source . (AC or DC)

Max. water temperature 40 degrees C

Integrated on board protection against voltage or motor overload and dry running.

No Sun?

With the standard build in Inverter for AC & DC the powering will be automaticly adjusted to the available power source and can be direct connected to :

- Battery
- Generator
- Wind turbine

APPLICATIONS

- Very usefull for remote area
- For water supply, transfer, distribution
- Realible water solution for area do not have electricity

PERFORMANCE

- Capacity up to 11 m³/h
- Head up to 160 m.
- Rated motor power output 4 kW

FEATURES

- Wide operation range
- Single stage in-line circulation non-self priminig horizontal non-self priming centrifugal pump, attached with shaft electric motor
- Easy maintenance without having to remove pump body or pipeline discharge
- Available in sus 304 and 316

AVT
Vertical Turbine Pump

APPLICATIONS

- For clean water, sea water, ground water, etc
- For water supply, intake, transfer
- For flood control, irrigation
- For civil and industrial applications.
- For fire fighting applications.

FEATURES

- Vertical turbine cast iron or stainless steel pumps
- Delivery casing with built-in non-return valve.
- Impellers made of cast iron, bronze or stainless steel.
- Flexible prime mover option, electric motor, engine driven

PERFORMANCE

- Capacity up to 10,000 m^3/h
- Head up to 600 M.
- Suitable to connect with pulley, tractor, right angle gearbox

AIL
In Line Pump

APPLICATIONS

- For water supply, boosting, transfer, distribution
- For civil and industrial applications.
- Cooling and air-conditioning systems
- Industrial applications

FEATURES

- Wide operation range
- Single stage in-line circulation non-self priminig horizontal non-self priming centrifugal pump, attached with shaft electric motor
- Easy maintenance without having to remove pump body or pipeline discharge
- Available in sus 304 and 316

PERFORMANCE

- Capacity up to 1200 m^3/h
- Head up to 90 m
- Rated motor power output 1.1 kW up to 75 kW
- Available in 2 poles and 4 poles

AICP
Inteligent Controller And Protector

PRODUCT FUNCTION

- Protect againt short circuit
- Protect againt over current
- Protect againt open phase
- Protect againt lighting strike
- Protect againt dry running
- Voltage-current digital display

TECHNICAL INDEX

- Action time of short circuit: <0.1 sec
- Action time of open phase: <2 sec
- Action time of over current: 5 sec
- Recovery time of over current: 30 min
- Action time of dry-running protection: 6 sec
- Recovery time of dry-running: 30 min
- Double liquid level transfer distance: >1000m

PRODUCT RANGE

- Available from 0.37 kW to 18.5 kW

Friction Loss Table

Head Loss in mWC / 100 m Pipe Due to Friction (C = 150)

C = 150 for High Density Polyethylene Pipe (HDPE)

Flow			Fr Loss & Velocity	Pipe Diameter (Inch)													
GPM	M3/H	L/sec		½"	¾"	1"	1-¼"	1-½"	2"	2-½"	3"	4"	5"	6"	8"	10"	12"
0.5	0.1	0.0	Friction loss (m WC)	0.8	0.1												
		0.0	*Velocity (m/s)*	0.25	0.11	0.06											
1	0.2	0.1	Friction loss (m WC)	**2.9**	**0.4**	**0.1**											
			Velocity (m/s)	*0.50*	*0.22*	*0.12*	*0.08*										
2	0.5	0.1	Friction loss (m WC)	**10.5**	**1.5**	**0.4**	**0.1**										
			Velocity (m/s)	*1.00*	*0.44*	*0.25*	*0.16*										
3	0.7	0.2	Friction loss (m WC)	**22.2**	**3.1**	**0.8**	**0.3**	**0.1**									
			Velocity (m/s)	*1.49*	*0.66*	*0.37*	*0.24*	*0.17*									
4	0.9	0.3	Friction loss (m WC)	**37.9**	**5.3**	**1.3**	**0.4**	**0.2**									
			Velocity (m/s)	*1.99*	*0.89*	*0.50*	*0.32*	*0.22*									
5	1.1	0.3	Friction loss (m WC)	**57.2**	**7.9**	**2.0**	**0.7**	**0.3**	**0.1**								
		0.3	*Velocity (m/s)*	*2.49*	*1.11*	*0.62*	*0.40*	*0.28*	*0.16*								
10	2.3	0.6	Friction loss (m WC)		**28.6**	**7.1**	**2.4**	**1.0**	**0.2**	**0.1**							
			Velocity (m/s)		*2.21*	*1.24*	*0.80*	*0.55*	*0.31*	*0.20*							
15	3.4	0.9	Friction loss (m WC)		**60.6**	**14.9**	**5.0**	**2.1**	**0.5**	**0.2**	**0.1**						
			Velocity (m/s)		*3.32*	*1.87*	*1.19*	*0.83*	*0.47*	*0.30*	*0.21*						
20	4.5	1.3	Friction loss (m WC)			**25.4**	**8.6**	**3.5**	**0.9**	**0.3**	**0.1**						
			Velocity (m/s)			*2.49*	*1.59*	*1.11*	*0.62*	*0.40*	*0.28*						
30	6.8	1.9	Friction loss (m WC)				**18.2**	**7.5**	**1.8**	**0.6**	**0.3**	**0.1**					
			Velocity (m/s)				*2.39*	*1.66*	*0.93*	*0.60*	*0.41*	*0.23*					
40	9.1	2.5	Friction loss (m WC)				**30.9**	**12.7**	**3.1**	**1.1**	**0.4**	**0.1**					
			Velocity (m/s)				*3.19*	*2.21*	*1.24*	*0.80*	*0.55*	*0.31*					
50	11.4	3.2	Friction loss (m WC)				**46.7**	**19.2**	**4.7**	**1.6**	**0.7**	**0.2**	**0.1**				
			Velocity (m/s)				*3.98*	*2.77*	*1.56*	*1.00*	*0.69*	*0.39*	*0.25*				
60	13.6	3.8	Friction loss (m WC)				**65.5**	**26.9**	**6.6**	**2.2**	**0.9**	**0.2**	**0.1**				
			Velocity (m/s)				*4.78*	*3.32*	*1.87*	*1.19*	*0.83*	*0.47*	*0.30*				
70	15.9	4.4	Friction loss (m WC)					**35.8**	**8.8**	**3.0**	**1.2**	**0.3**	**0.1**				
			Velocity (m/s)					*3.87*	*2.18*	*1.39*	*0.97*	*0.54*	*0.35*				
80	18.2	5.0	Friction loss (m WC)					**45.9**	**11.3**	**3.8**	**1.6**	**0.4**	**0.1**	**0.1**			
			Velocity (m/s)					*4.43*	*2.49*	*1.59*	*1.11*	*0.62*	*0.40*	*0.28*			
90	20.4	5.7	Friction loss (m WC)						**14.1**	**4.7**	**2.0**	**0.5**	**0.2**	**0.1**			
			Velocity (m/s)						*2.80*	*1.79*	*1.24*	*0.70*	*0.45*	*0.31*			
100	22.7	6.3	Friction loss (m WC)						**17.1**	**5.8**	**2.4**	**0.6**	**0.2**	**0.1**			
			Velocity (m/s)						*3.11*	*1.99*	*1.38*	*0.78*	*0.50*	*0.35*			
150	34.1	9.5	Friction loss (m WC)						**36.1**	**12.2**	**5.0**	**1.2**	**0.4**	**0.2**			
			Velocity (m/s)						*4.67*	*2.99*	*2.07*	*1.17*	*0.75*	*0.52*			
200	45.4	12.6	Friction loss (m WC)							**20.8**	**8.5**	**2.1**	**0.7**	**0.3**	**0.1**		
			Velocity (m/s)							*3.98*	*2.77*	*1.56*	*1.00*	*0.69*	*0.39*		
250	56.8	15.8	Friction loss (m WC)								**12.9**	**3.2**	**1.1**	**0.4**	**0.1**		
			Velocity (m/s)								*3.46*	*1.94*	*1.24*	*0.86*	*0.49*		
300	68.1	18.9	Friction loss (m WC)								**18.1**	**4.5**	**1.5**	**0.6**	**0.2**	**0.1**	
			Velocity (m/s)								*4.15*	*2.33*	*1.49*	*1.04*	*0.58*	*0.37*	
400	90.8	25.2	Friction loss (m WC)									**7.6**	**2.6**	**1.1**	**0.3**	**0.1**	
			Velocity (m/s)									*3.11*	*1.99*	*1.38*	*0.78*	*0.50*	
500	113.6	31.5	Friction loss (m WC)									**11.5**	**3.9**	**1.6**	**0.4**	**0.1**	**0.1**
			Velocity (m/s)									*3.89*	*2.49*	*1.73*	*0.97*	*0.62*	*0.43*
600	136.3	37.9	Friction loss (m WC)										**5.4**	**2.2**	**0.5**	**0.2**	**0.1**
			Velocity (m/s)										*2.99*	*2.07*	*1.17*	*0.75*	*0.52*
700	159.0	44.2	Friction loss (m WC)										**7.2**	**3.0**	**0.7**	**0.2**	**0.1**
			Velocity (m/s)										*3.48*	*2.42*	*1.36*	*0.87*	*0.61*
800	181.7	50.5	Friction loss (m WC)										**9.2**	**3.8**	**0.9**	**0.3**	**0.1**
			Velocity (m/s)										*3.98*	*2.77*	*1.56*	*1.00*	*0.69*
900	204.4	56.8	Friction loss (m WC)											**4.7**	**1.2**	**0.4**	**0.2**
			Velocity (m/s)											*3.11*	*1.75*	*1.12*	*0.78*
1000	227.1	63.1	Friction loss (m WC)											**5.7**	**1.4**	**0.5**	**0.2**
			Velocity (m/s)											*3.46*	*1.94*	*1.24*	*0.86*
1200	272.5	75.7	Friction loss (m WC)											**8.0**	**2.0**	**0.7**	**0.3**
			Velocity (m/s)											*4.15*	*2.33*	*1.49*	*1.04*
1500	340.7	94.6	Friction loss (m WC)											**12.1**	**3.0**	**1.0**	**0.4**
			Velocity (m/s)											*5.19*	*2.92*	*1.87*	*1.30*
2000	454.2	126.2	Friction loss (m WC)												**5.1**	**1.7**	**0.7**
			Velocity (m/s)												*3.89*	*2.49*	*1.73*
3000	681.4	189.3	Friction loss (m WC)													**3.6**	**1.5**
			Velocity (m/s)													*3.73*	*2.59*

Notes:

1. Values shown above are used in the Hazen-Williams Equation for flow in pipes. Feet of head loss values shown in the tables were developed using the Hazen-Williams equation.
2. Feet of head loss values are subject to the following conditions:

a) Pipes carrying clear water at approximately 60° F (15.6° C).

b) Pipes are flowing full.

c) Velocities of water are generally less than 3 m/sec.

Note: HDPE is commonly sized by outside diameter. If in doubt, use the next smaller pipe size.

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