
Self-Priming Pumps

Model ESPT
Model ESPU



Specifications

Specification

Model ESPT/U

ESPT2

ESPT3

ESPT4

ESPT6

ESPT8

ESPT10

ESPU3

ESPU4

ESPU6



Specification

Model Designation

Skid Package Configuration

Bare Pump

ESP T 6 A E F - 4 326 40 T PB

Model Type

ESP - Self Priming Pump

Hydraulics

T - Standard U - High Head

Connection Size

2: 2"(50mm)x 2"(50mm) 6: 6"(150mm)x 6"(150mm)
 3: 3"(80mm)x 3"(80mm) 8: 8"(200mm)x 8"(200mm)
 4: 4"(100mm)x 4"(100mm) 10: 10"(250mm)x 10"(250mm)

Material of Construction

A - Ductile Iron Impeller/Cast Iron Casing (Standard)
 G - 304SS Impeller/Casing
 L - 316SS Impeller/Casing
 C - CD4MCu Impeller/Casing

Mechanical Seal

E - Tungsten Carbide/ Tungsten Carbide/ Viton
 S - Silicon Carbide/ Silicon Carbide/ Viton

Flange Type

F - ANSI
 N - NPT Connection

Speed

4 - 1800 RPM

Motor Frame Size

145 256 365
 184 286 405
 215 326 445

Motor HP

1 - 1HP 2 - 2HP 3 - 3HP 5 - 5HP 7.5 - 7.5HP
 10 - 10HP 15 - 15HP 20 - 20HP 25 - 25HP 30 - 30HP
 40 - 40HP 50 - 50HP 60 - 60HP 75 - 75HP 100 - 100HP

Motor Enclosure

T - TEFC D - ODP

Package Type

DD - Direct Package
 PB - Piggy Back
 SB - Side By Side



Specification

Overview

Pump Model	ESPT	ESPU
Size (inches)	2" to 10"	3" to 6"
Capacity (USGpm)	to 3400	to 1300
Head (ft)	to 130	to 226
Power (HP)	1 to 100	2 to 60
Connections	Flanged, 125 R.F ANSI; NPT connection (option)	
Maximum Solid Diameter (inches)	3	1.25
Operational Speed (rpm)	650 to 2900	
Materials (*)	Casing Impeller Wear Plate Cover Plate Shaft Bearing Housing Flap Valve Seal Plate Flanges O-Rings Mechanical Seals (***)	Cast Iron Ductile Iron Carbon Steel Ductile Iron Alloy Steel 4140 Cast Iron NBR Cast Iron Cast Iron NBR TC/TC/Viton 316SS
Motor (**)	TEFC/ODP	
Options	Base plate mounting, coupling guards Horizontal V-Belt Vertical V-Belt Flex Coupled	

NOTE(*): Alternate construction materials (304SS, 316SS, CDu4MCu) are available upon request

NOTE()**: Motor options are available upon request

NOTE(*)**: SiC/SiC Mechanical Seal is available upon request



Specification**Specification - ESPT/U**

A. General:

The pump(s) provided by Ebara are designed to provide maximum up time and ease of maintenance. They shall be horizontal, radial split, single stage, single suction and of a self priming design. The rotating element will be of back pullout design which can be removed without disturbing the flanged piping connections. The suction flange (front of casing) and discharge flange (top of casing) shall have a minimum rating of 125#.

B. Manufacturer:

Ebara Pumps Americas Corporation

C. Pump Characteristics:

Pumps shall conform to the following requirements:

Number of units	
Design Flow (gpm)	
Design TDH (ft)	
Minimum shut off head (ft)	
Synchronous RPM	650 to 2900
Maximum HP	~100HP

D. Pump Construction:

- CASING:** The pump casing will be a material minimum of Grade A48, CI 35 Cast Iron. Mounting feet will be integrally cast and sized to prevent tipping. Castings shall be smooth surfaces and free of blow holes and other casting irregularities.

The casing cover plate (top) used for filling will be 3 ½" in diameter and will be opened with a threaded hand clamp bar assembly.

Casing drain plug will be a minimum of 1-1/4" NPT for complete and rapid draining.

The front cover plate must be of sufficient size to permit removal of stoppages and allow service to the impeller, wear plate, and check valve without removing the suction or discharge piping. The cover plate is fitted with a handle for ease of maintenance.

A pressure relief valve will be mounted on the front cover plate and designed to open at 75-200 psi.

The suction and discharge spool flanges shall be of one piece design and each fitted with a 1/4" NPT tapped holes with pipe plugs suitable for mounting gages and other equipment as desired.

The bearing housing will contain a fill plug and a sight gage for ease of monitoring oil level.

An integral suction check valve shall be provided, made of reinforced neoprene. The function of the check valve is to prevent reprime after every cycle, thereby, saving energy.



Specification

2. **IMPELLER:** The impeller shall be Ductile Iron A 65-45-12, single suction type, semi-open, non-clog type and threaded to the shaft and positively locked in position. The impeller shall be dynamically balanced and clearance shall be adjusted externally without use of shims or the dismantling of the pump. External clearance adjustment optimizes pump efficiency while extending the life of the impeller and the wear plate. The unique collar and the adjusting screw allow for incremental adjustments of the wear plate clearance with the turn of a hand. Once Adjustment have been done, the collar locks in place maintaining the clearance setting even if the coverplate is removed. The impeller will be slid and screwed onto the shaft until it is seated firmly against the shaft shoulder.

The Model ESPT impeller is designed to handle solids up to 3" and the Model ESPU up to 1.25".

3. **SHAFT:** The heavy duty shaft is made of Alloy Steel 4140 and designed such that the minimum shaft deflection does not exceed .002 at the stuffing box.
4. **REAR COVER PLATE:** The rear cover plate is made of Ductile Iron A 65-45-12, which has a "easy grip" handle and pusher bolt capability, providing quick and easy Access to the pump interior without disconnecting the piping during inspection or services.
5. **BEARINGS:** Inboard and outboard bearings shall be anti-friction ball type, single or double row depending on pump model. Bearings shall be deep groove arranged for radial and / or axial loads as required by model configuration. Both sets of bearings shall be lubricated from a common reservoir.
6. **MECHANICAL SEALS:** The Cartridge Mechanical Seal with shaft seal faces shall be oil lubricated and the face material shall be TC/TC. The cage and spring shall be made of stainless steel and the elastomers shall be Viton.
7. **BASE:** Pump and motor/drive assembly shall be mounted on a common fabricated steel baseplate.