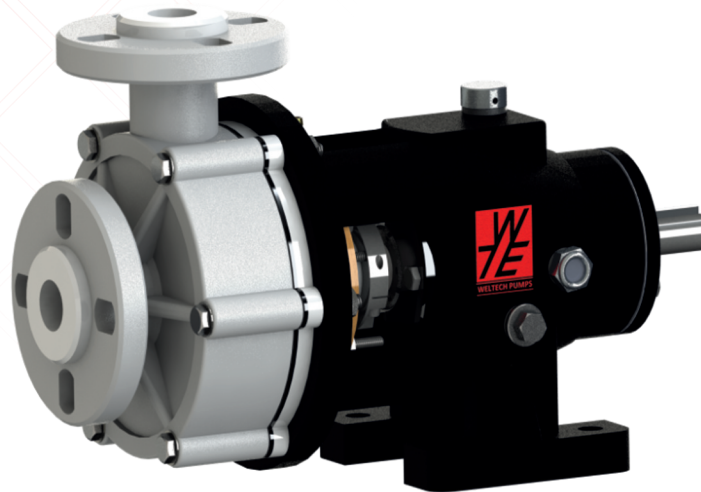




**WELTECH PUMPS**



# Product Catalogue

**Non Metallic Pumps**

## **ECHO SERIES**

Polypropylene Pump

The Range of Moulded Polypropylene Pump  
for Handling Corrosive and Aggressive Liquid

# Overview

## Our Company

**30+**

Years of Engineering  
Excellence

**10,000**

Global Customers  
Across

**3**

Global Offices —  
India, UAE & USA

Weltech Pumps designs and manufactures centrifugal pumps for water, chemical, and process industries. The ECHO Series is our answer to corrosive and aggressive duty — moulded polypropylene pumps built to move acids, alkalis, and reactive chemicals that would attack conventional metal pumps.

Every ECHO pump is engineered, moulded, machined, assembled, and tested under one roof. We control the material, the wetted-part chemistry, and the seal configuration, so the pump is matched to the fluid rather than the fluid forced onto the pump.

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An  **AIRFIN Brand**

Weltech is part of AIRFIN Group — an engineering group building water, wastewater, and fluid-handling equipment since 1990, with operations across the USA, India, and the UAE.

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Spares and technical support reach you through a connected network of dealers and suppliers, keeping lead times short and downtime shorter. Our support is hands-on and direct: you reach the people who know the pump, not a call queue.

## Polypropylene Centrifugal Process Pumps “ECHO”

When a liquid is too aggressive for metal, the ECHO Series is built to handle it. These moulded polypropylene centrifugal pumps move acids, alkalis, and corrosive or slightly contaminated media that would attack a conventional pump.

The range is engineered to be simple, rugged, and reliable. Precision moulding keeps the pump dependable in daily service, while a grouping system makes components interchangeable across models — so spares are easy to stock and downtime stays short.

A wide choice of seals — Teflon bellows, internal mechanical seals, and gland packing — lets one pump family cover clear liquids, corrosive chemicals, and mild slurries. Sleeve materials are selected to suit your fluid, from ceramic to Hastelloy and titanium.

From chemical dosing and electroplating to acid pickling, descaling, effluent treatment, and pharmaceutical CIP, the ECHO Series fits the corrosive duties that define chemical, pharma, steel, power, and process industries.

Whatever the liquid, ECHO has a configuration for it.

# ECHO SERIES

## POLYPROPYLENE CENTRIFUGAL PUMPS



### Transfer Applications

#### Operating Data:

Capacity: Up to 50 m<sup>3</sup>/ hr  
 Head: Up to 50 Mtr.  
 Discharge Size: 25 mm to 75 mm  
 Temperature: Up to 70°C  
 Speed: Up to 2900 rpm  
 Pressure: Up to 5 kg/cm<sup>2</sup>  
 MOC: PP, PPCP, UHMWPE

#### Applications :

- These pumps are normally used for transferring acids / alkalies and also for loading-unloading of acid - alkalies road tankers.
- Used for effluent treatment plants for maximum 3 mtrs. negative suction with foot valve.
- Suitable for circulation of chemicals in electro plating plants.
- Transferring for HCL, H<sub>2</sub>SO<sub>4</sub> (DIL) HNO<sub>3</sub>, NaOH.

Low Head (**up to 15 mtrs.**) medium capacity pumps coupled to **1450** rpm motor

| Model      | Suction In mm | Delivery in mm | Impeller DIA in mm | HP   | RPM  | Head in m.<br>Capacity in m <sup>3</sup> / hr |           |          |          |             |            | m.<br>m <sup>3</sup> /hr |
|------------|---------------|----------------|--------------------|------|------|-----------------------------------------------|-----------|----------|----------|-------------|------------|--------------------------|
| ECHO - 50R | 40            | 40             | 190                | 2    | 1450 | 08<br>24                                      | 8.5<br>20 | 09<br>15 | 10<br>10 | 10.5<br>0.5 | 11<br>00   |                          |
| ECHO - 50  | 75            | 40             | 205                | 3    | 1450 | 10<br>32                                      | 11<br>25  | 12<br>15 | 13<br>05 | 14<br>0     |            |                          |
| ECHO - 55  | 75            | 50             | 212                | 5    | 1450 | 06<br>50                                      | 10<br>45  | 12<br>35 | 14<br>16 | 15<br>0.5   | 15.5<br>00 |                          |
| ECHO - 40  | 50            | 40             | 190                | 12.5 | 2900 | 25<br>40                                      | 30<br>35  | 35<br>30 | 40<br>25 | 45<br>10    | 50<br>00   |                          |

Note: Above Performance Table as per full Impeller Dia - of pump

### Process Applications

#### Operating Data:

Capacity: Up to 55 m<sup>3</sup>/ hr  
 Head: Up to 35 Mtr.  
 Discharge Size: 25 mm to 75 mm  
 Temperature: Up to 70°C  
 Speed: Up to 2900 rpm  
 Pressure: Up to 3.5 kg/cm<sup>2</sup>  
 MOC: PP, PPCP, UHMWPE

#### Applications :

- Used in continuous processing acid pickling line in steel industries.
- For filtration and pressure feeding in dyes and intermediate industries.
- Excellent for vacuum ejectors.
- Scrubbing of corrosive gases like Cl<sub>2</sub>, Br<sub>2</sub>, I<sub>2</sub>, SO<sub>2</sub>
- For descaling of tubes

These pumps are high head (**up to 35 mtrs.**) with different capacity coupled to **2900 rpm** motors.

| Model      | Suction in mm | Delivery in mm | Impeller DIA in mm | HP  | RPM  | Head in m.<br>Capacity in m <sup>3</sup> / hr |          |          |          |          |            | m.<br>m <sup>3</sup> /hr |
|------------|---------------|----------------|--------------------|-----|------|-----------------------------------------------|----------|----------|----------|----------|------------|--------------------------|
| ECHO - 100 | 25            | 25             | 100                | 1   | 2900 | 04<br>13                                      | 06<br>11 | 07<br>08 | 09<br>05 | 10<br>2  | 11.5<br>00 |                          |
| ECHO - 120 | 40            | 32             | 120                | 2   | 2900 | 05<br>22                                      | 07<br>19 | 11<br>13 | 13<br>10 | 15<br>5  | 17<br>00   |                          |
| ECHO - 130 | 40            | 40             | 135                | 3   | 2900 | 08<br>25                                      | 10<br>20 | 15<br>15 | 18<br>10 | 20<br>05 | 23<br>00   |                          |
| ECHO- 160R | 40            | 40             | 142                | 3   | 2900 | 10<br>25                                      | 15<br>20 | 20<br>10 | 21<br>05 | 23<br>02 | 24<br>00   |                          |
| ECHO - 160 | 75            | 40             | 157                | 5   | 2900 | 10<br>35                                      | 15<br>30 | 20<br>20 | 25<br>10 | 27<br>05 | 29<br>00   |                          |
| ECHO - 170 | 75            | 50             | 160                | 7.5 | 2900 | 10<br>55                                      | 15<br>45 | 20<br>40 | 25<br>30 | 30<br>10 | 33<br>00   |                          |

Note: Above Performance Table as per full Impeller Dia - of pump

#### Volute Casing

Top centreline discharge, self venting volute casing formed out of injection moulded polypropylene

#### Backplate

Made of thick walled solid injection moulded polypropylene

#### Adopter

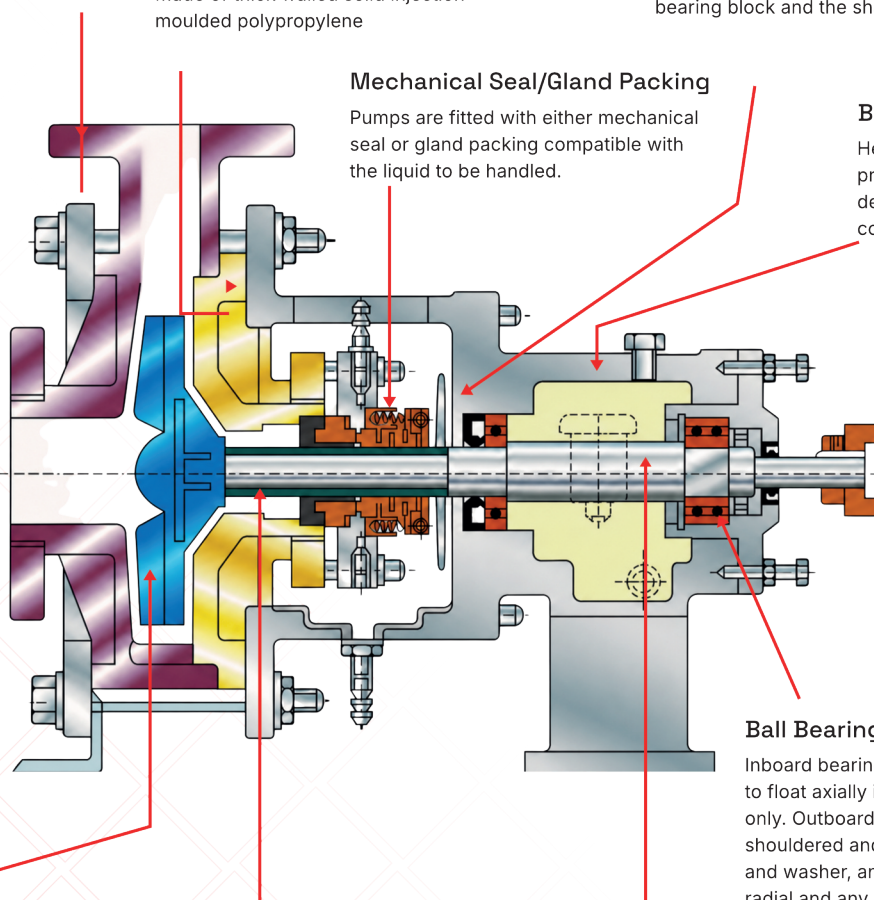
Cast Iron Adopter for bearing block-3 piece design. The corroded adopter can be replaced without disturbing the bearing block and the shaft.

#### Mechanical Seal/Gland Packing

Pumps are fitted with either mechanical seal or gland packing compatible with the liquid to be handled.

#### Bearing Frame

Heavy Cast Iron construction, precision machined for no shaft deflection of more than 0.05 mm contains large oil reservoir



#### Impeller

All impeller are precision moulded light in weight, semi open construction with large, contoured flow passages for maximum handling of the liquid and that will meet NPSH requirements.

#### Sleeve

Shaft sleeve of different material depending on the compatibility of the liquid to be handled.

#### Shaft

The shaft is made of EN STEEL Protected by shaft sleeve of different material compensent to handle different liquids.The shaft is design for 0.05 mm maximum deflection at mechanical seal.

#### Ball Bearings

Inboard bearing is pressed on shaft and free to float axially in frame-carries radial load only. Outboard double row ball bearing is shouldered and locked on shaft with lock-nut and washer, and in bearing housing to carry radial and any unbalanced thrust load. All bearing fits are precision bored.

## SHAFT SLEEVE OPTIONS

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|                             |                                                                                                                                                                                                                    |
|-----------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 1) F.R.B. (BISPHENOL RESIN) | Used for mechanical seal arrangement only for handling HCl 33% Conc. service<br>Also used for dilute H <sub>2</sub> SO <sub>4</sub> (not recommended for gland packing arrangement & for HCL containing solvents.) |
| 2) CERAMIC                  | HCL (ACID) + Solvents (Acids & solvents)<br>and generally for all liquids                                                                                                                                          |
| 3) HASTELLOY 'B'            | For effluents.                                                                                                                                                                                                     |
| 4) ALLOY-20                 | Dilute Sulphuric Acid (H <sub>2</sub> SO <sub>4</sub> ) concentration less than 70%<br>NaOH upto 48%, HNO <sub>3</sub> upto 60%                                                                                    |
| 5) TITANIUM                 | BRINE                                                                                                                                                                                                              |
| 6) MONEL                    | HF (40%)                                                                                                                                                                                                           |

## ECHO pumps are widely used for the following applications

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- Conc. HCl loading and Unloading of Road Tanker.
- Filter Press for Dyes.
- Descaling.
- Water Treatment.
- Effluent Treatment
- Electroplating
- Pickling of Steel in Cold Rolling Mills.
- Scrubbing of Corrosive Gases like Cl<sub>2</sub>, Br<sub>2</sub>, F<sub>2</sub>, I<sub>2</sub>, SO<sub>2</sub>, SO<sub>3</sub>, CO<sub>2</sub>, NH<sub>3</sub>

## ECHO pumps are serving the following industries

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- Caustic Soda Plants (Chlor Alkali Industries)
- Dyes and Chemicals
- Drugs and Pharmaceuticals
- Fertiliser Plants
- Thermal and Atomic Power Plants
- Steel Plants.
- Paper and Pulp Industries. (for alum & NaOCl)
- Electronic Industries
- Sea Water Treatment
- Rayon and Staple Fibre Plant (Bleach Liquor)
- Copper, Zinc Smelter
- TiO<sub>2</sub> Plant
- Glass Industries
- Textile Industries

# ECHO-HD SERIES

## CORROSION RESISTANT HEAVY DUTY POLYPROPYLENE CENTRIFUGAL PUMPS



### Operating Data:

Capacity : Up to 295 m<sup>3</sup>/ hr

Head : Up to 65 Mtr.

Discharge Size : 50 mm to 100 mm

Temperature : Up to 80°C

Speed : Up to 3500 rpm

Pressure : Up to 6.5 kg/cm<sup>2</sup>

M.O.C. : PP, UHMWPE

### Applications:

- ✓ Water treatment plant, effluent treatment plant, electro plating, pickling & steel rolling mills.
- ✓ Excellent for transfer and loading – unloading like HCL, Sulphuric Acid/Alkali, Caustic Liquid.
- ✓ Scrubbing of corrosive gases like NH<sub>3</sub>, CO<sub>2</sub>, SO<sub>3</sub>, SO<sub>2</sub>, I<sub>2</sub>, F<sub>2</sub>, Br<sub>2</sub>, Cl<sub>2</sub>, etc.
- ✓ For handling liquids in various industries like textile, paper, cellulose, sugar, steel, food, having temperature range, materials, etc.
- ✓ Ideal for circulation of chemical in metal finishing industry.
- ✓ Natural choice for pipe line & scrubber in steel plants.
- ✓ High capacity transfer pump, filter press for dyes & chemicals, descaling, oil & Other fuels, in chemical processing industries.

These pumps are high head (**up to 65 mtrs.**) with different capacity coupled to **2900 rpm** motors.

| HEAVY DUTY PUMP |               |                |                    |      |      |                                               |           |           |           |           |          |
|-----------------|---------------|----------------|--------------------|------|------|-----------------------------------------------|-----------|-----------|-----------|-----------|----------|
| Model           | Suction In mm | Delivery in mm | Impeller DIA in mm | HP   | RPM  | Head in m.<br>Capacity in m <sup>3</sup> / hr |           |           |           |           |          |
| ECHO-HD-50      | 50            | 50             | 210                | 15   | 2900 | 45<br>60                                      | 50<br>52  | 55<br>45  | 58<br>35  | 60<br>20  | 64<br>00 |
| ECHO-HD-50L     | 50            | 50             | 220                | 5    | 1450 | 04<br>50                                      | 06<br>44  | 10<br>34  | 13<br>23  | 15<br>14  | 17<br>00 |
| ECHO-HD-75      | 75            | 50             | 185                | 20   | 2900 | 30<br>108                                     | 35<br>93  | 40<br>78  | 43<br>58  | 45<br>24  | 47<br>00 |
| ECHO-HD-75L     | 75            | 50             | 192                | 5    | 1450 | 03<br>65                                      | 05<br>56  | 07<br>52  | 09<br>42  | 11<br>30  | 13<br>00 |
| ECHO-HD-100     | 100           | 75             | 265                | 20   | 1450 | 14<br>170                                     | 16<br>162 | 18<br>150 | 20<br>120 | 22<br>100 | 25<br>00 |
| ECHO-HD-100R    | 100           | 75             | 255                | 12.5 | 1450 | 14<br>115                                     | 16<br>105 | 19<br>88  | 21<br>75  | 23<br>50  | 24<br>00 |
| ECHO-HD-150     | 150           | 100            | 320                | 50   | 1450 | 25<br>295                                     | 27<br>285 | 29<br>270 | 30<br>250 | 32<br>200 | 34<br>00 |
| ECHO-HD-150R    | 150           | 100            | 300                | 40   | 1450 | 22<br>250                                     | 25<br>230 | 28<br>200 | 30<br>185 | 32<br>150 | 34<br>00 |

Note: Above Performance Table as per full Impeller Dia - of pump

# Selection Guidance

Selecting the right ECHO pump is a simple, five-step process. Define the liquid and the duty, then match the configuration, sealing system and materials of construction to the service.

## How to Select Your ECHO Pump

### 1. Define the Liquid

Identify the chemical, its concentration, temperature and any suspended solids or slurry content.

### 2. Establish the Duty Point

Fix the required flow rate (m3/hr) and total head (m), then match against the ECHO performance tables.

### 3. Pick Process or Transfer

Process Pumps for high-head continuous duty; Transfer Pumps for loading, unloading and circulation.

### 4. Select the Sealing System

Choose Teflon bellows, an internal mechanical seal or gland packing to suit the liquid — see the selector opposite.

### 5. Select the Shaft Sleeve / MOC

Match the sleeve and material of construction to the media for long, trouble-free service life.

## Sealing System Selector

| Sealing Option      | Best Suited For                                                                           |
|---------------------|-------------------------------------------------------------------------------------------|
| Teflon Bellows      | Clear corrosive chemicals — HCl, dilute H2SO4, HNO3, NaOH. Not for slurries or abrasives. |
| Internal Mech. Seal | Slurry up to 20%, flooded suction, HF up to 40%, and liquids that crystallise on cooling. |
| Gland Packing       | Caustic 40% transfer, primary effluents, and liquids carrying slurry and solid particles. |

## Shaft Sleeve / Material Selector

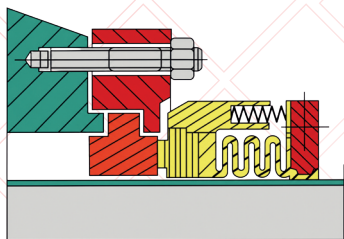
| Material                 | Recommended Service                                     |
|--------------------------|---------------------------------------------------------|
| F.R.B. (Bisphenol Resin) | HCl 33% conc.; dilute H2SO4 (mechanical seal only).     |
| Ceramic                  | HCl (acid) + solvents; general service for all liquids. |
| Hastelloy 'B'            | For effluents.                                          |
| Alloy-20                 | Dilute H2SO4 <70%, NaOH ≤48%, HNO3 ≤60%.                |
| Titanium                 | Brine.                                                  |
| Monel                    | HF (40%).                                               |

## ECHO Duty Range at a Glance

|            |                 |                |                         |
|------------|-----------------|----------------|-------------------------|
| Up to 60 m | Up to 295 m³/hr | Up to 2900 rpm | Up to 3 m               |
| TOTAL HEAD | FLOW CAPACITY   | MOTOR SPEED    | NEG. SUCTION (TRANSFER) |

**Typical duties:** acid loading & unloading, filter-press feeding, electroplating and pickling, effluent and water treatment, descaling, and scrubbing of corrosive gases.

# SEALING OPTIONS



## Teflon Bellows

(GFT V/S Ceramic) externally mounted mechanical seal

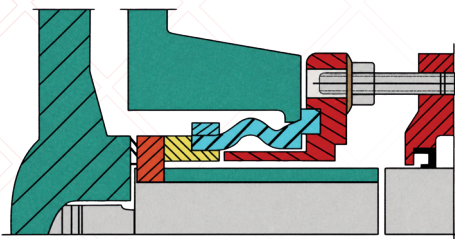
## Teflon bellows mechanical seals

These seals have ceramic as stationary unit and teflon bellows as rotary unit. These are recommended for clear and corrosive chemicals like HCl, H<sub>2</sub>SO<sub>4</sub>, (DIL), HNO<sub>3</sub>, NaOH, H<sub>2</sub>O<sub>2</sub>, etc.

These seals are not recommend for :

- Liquid containing solids or slurry or abrasive particles.
- Liquids which get crystallised on cooling e.g. NaOH, CuSO<sub>4</sub>, NiSO<sub>4</sub>, etc.

**NB :** For this seal, external water cooling is necessary for better service & longer life.



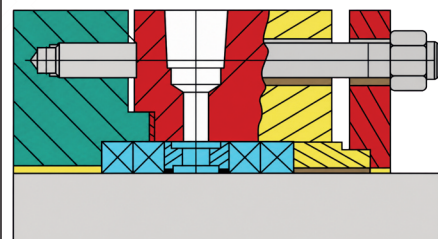
## Internal Mechanical seal

with Elastomer bellows (Neoprene/ Hypolene) with carbon v/s carbon face combination

## Internal Mechanical seal

This seal is developed by **ECHO** for handling liquids containing slurry upto 20% (not abrasive slurry). This seal consists of carbon as stationary ring fixed in a neoprene/hypolene rubber bellows and carbon as rotary ring. The stationary ring and bellows are held by a non metallic bellows holder.

- Seal recommended for flooded suction
- Excellent for HF upto 40 % concentration.
- Can be used for liquids getting crystallised on cooling like NaOH, Electroplating solution, etc.
- Not recommended for liquids containing organic compound or solvents due to rubber bellows.



## Gland Packing

T.I.B.A. (Teflon impregnated blue asbestos)

## Gland Packing

Teflon impregnated blue asbestos (TIBA) 10 mm & 12.5 mm square gland packings are put in **ECHO** series, respectively.

- Gland packed pumps are normally recommended for transfer of caustic 40% concentration and primary effluents.
- Liquid contains Slurry and Solid particles



**WEL-TECH EQUIPMENTS PVT. LTD.**

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