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TECHNIFLO Contents



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**TECHNIFLO** are a complete range of **non-metallic sealless mag-drive** centrifugal pumps. Techniflo pumps have no mechanical seals or packed glands. The pump liquid is hermetically sealed from the driving end and the driving power is transmitted via magnetic force using powerful synchronous magnets. All of the wetted parts in a Techniflo pump are made of engineered plastics and high grade ceramics.

### 'Non-metallic' means outstanding corrosion resistance.

### 'Sealless Magnetic Drive' means zero leakage.

### > Leading Edge Technology

Techniflo is the product of over 20 years experience in Non-Metallic centrifugal pump design, featuring state-of-the-art technology and advanced manufacturing procedures.

### > Designed for the worst

Designed for extended use in the most difficult duties. Techniflo pumps can be used with confidence on a full range of extremely corrosive, hazardous. toxic, explosive and dangerous chemicals.

### > Proven Performance, Quality & Reliability

Manufactured to the highest standards with a premium on Quality Control, every Techniflo pump is factory tested to verify operational performance. Years of extended service in numerous installations are a testimony to the exceptional quality and reliability of Techniflo.

### > Rewards and Benefits

With the interests of every pump user in mind. Techniflo delivers a number of significant rewards and benefits:

- · Exceptional quality and economic prices
- · Low operational and lifetime costs
- · Reduced downtime and increased production
- · Ease of maintenance
- · User health arid safety
- · Operator confidence
- Environmental protection
- · Zero emissions







# TECHNIFLO PX & PS Series





Brushless DC motor pumps and variable speed drive





**PX Self Priming Versions** 



- **PX/PS Typical Applications**
- > Photographic solutions
- > Etching machines
- > Vending machines
- > Laboratory applications
- > Ice machines
- > Chemical controllers
- > Filtration equipment

# TECHNIFLO | PX & PS Series



### **PX/PS** Technical Features

- > Polypropylene and ETFE wet ends
- > Close coupled motors
- > Flows up to 120L/min
- > Heads up to 20m
- > Liquid SG up to 1.8
- > Liquid Temperatures: 70°C for polypropylene 90°C for ETFE
- > Self priming option on most models
- > Brushless DC motor versions available with inbuilt 4-20mA control option







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	100PX-ZZ	120	150	243.5	40	64	160	100	60	38.5	44.5	16	70W
	125PS	120	135	255	43	62	175	62	60	50	26	20	70W
	150PS	120	164	300	40	64	200	100	66	70	43.5	20	90W
	200PS	156	165	355	70	100	205	110	66	70	43.5	25	150W
	200PS.3	156	165	345	70	100	205	110	66	70	43.5	25	150W
	200PS-Z	156	165	355	70	100	205	110	66	70	43.5	25	150W
	250PS	156	165	365	70	100	195	110	66	70	43.5	25	250W
	250PS.3	156	165	355	70	100	195	110	66	70	43.5	25	250W
	250PS-IEC	164	195	424	95	140	173	134	87	80	43.5	25	250W
ſ	300PS	160	175	385	80	110	230	140	75	55	59	25/20	300W

NOTE: Pump models with suffix '.3' have 3 phase motor.

Standard hose tail ports with BSP male thread option.

All motors are IP44 except IEC versions.

All dimensions in millimetres.

# TECHNIFLO | PW Series







### **PW Typical Applications**

- > PCB machines
- > Electroplating solutions
- > Fume scrubbers
- > Salt & brine solutions
- > CIP cleaning systems
- > Deionizing equipment
- > Hydrochloric Acid
- > Sodium Hydroxide



### **PW Technical Features**

- > Solid Polypropylene (PW) and ETFE (PW-F) wet ends
- > Close coupled IEC standard motors
- > Flows up to 1400L/m (84m<sup>3</sup>/hr)
- > Heads up to 37m
- > Liquid SG up to 1.9
- > Liquid Temperatures up to 70°C for PW
  up to 90°C for PW-F
- > Flanged ports with universal bolt pattern to match Table E, DIN or ANSI 150
- > Rear earth magnets above 2.2kW motor size
- > Self priming versions up to 4kW (see page 22)



### PART DESCRIPTION

- 1 Front Support
- (2) Rear Casing
- <u>3</u> Spindle
- (4) O Ring
- 5 Bearing
- 6 Mag Capsule
- **7** Impeller
- 8 Front Casing

### MATERIALS OF CONSTRUCTION

### **PW VERSION**

Cast Iron

- Polypropylene
- High purity alumina ceramic
- Viton or EPDM

Carbon

Polypropylene

Polypropylene

Polypropylene

### **PW-F VERSION**

- Cast Iron
- EFTE
- High purity alumina ceramic
- Viton or EPDM
- High purity alumina ceramic
- EFTE
- EFTE
- EFTE

# TECHNIFLO | PW Series



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TECHNIFLO | PW Series



403PW/-F	260	255	591	208	65	200	115	140	89	158	158	14	50/40	2.2kW
405PW/-F	260	270	617	208	65	200	130	140	89	158	158	14	50/40	4.0kW
655PW/-F	260	360	715	210	85	270	175	185	118	240	158	14	80/65	4.0kW
657PW/-F	260	360	746	210	85	270	175	185	118	240	249	14	80/65	5.5kW
6510PW/-F	260	360	746	210	85	270	175	185	118	240	249	14	80/65	7.5kW
6515PW/-F	350	385	904	300	85	270	200	185	118	240	287	14	80/65	11.0kW

NOTE: Explosion proof motors available on request. Motor dimensions may vary slightly depending on type used. All dimensions in millimetres.

# TECHNIELO | PW-C Series







### **PW-C Typical Applications**

- > Fume scrubbers
- > Water treatment plants
- > Tanker unloading
- > Battery industry
- > Metal degreasing
- > Glass etching
- > Pulp & paper industry
- > Chemical refining
- > Sulphuric Acid
- > Hydrofluoric Acid
- > Flousilicic Acid
- > Sodium Hypochlorite

## TECHNIFLO PW-C Series



### **PW-C Technical Features**

- > Heavy duty cast iron casing with moulded EFTE liner for extreme chemical reistance
- > Close coupled IEC standard motors
- > Flows up to 1500L/m
- > Heads up to 44m
- > Liquid SG's up to 1.9
- > Liquid Temperatures to 90°C
- > Choice of bearing and shaft materials
- > Flanged ports with universal bolt pattern to match Table E, DIN or ANSI 150
- > Rare earth magnets above 2.2kW motor size
- > Epoxy resin paint finish

### **TECHNICAL ILLUSTRATION**



- **Rear Casing**
- Spindle
- O Ring
- (4) Bearing
- Mag Capsule
- 6 Impeller
- Inner Casing (Lining)
- **Outer Casing**
- 9 Foot Support & Motor Bracket

### EFTE

- High purity alumina ceramic or silicon carbide
- Viton, EPDM or Aflas
- Carbon, 99.5% high purity alumina ceramic or silicon carbide
- EFTE
- EFTE
- EFTE
- Cast Iron
- Cast Iron

# TECHNIFLO | PW-C Series





Model	w	н	L	Α	В	С	D	E	F	G	J	к	inlet/ motor outlet size
250PW-C	155	237	490	110	51	88	115	122	147	95	146	14	25/25 0.37kW
401PW-C	195	275	528.5	130	57.5	104.5	135	140	152	111	250	14	40/40 0.75kW
402PW-C	200	295	603	140	65	87	155	140	166	106	275	14	50/40 1.5kW
403PW-C	200	295	603	140	65	87	155	140	166	106	275	14	50/40 2.2kW
405PW-C	200	295	675.5	140	65	87	155	140	188	106	275	14	50/40 4.0kW
505PW-C	260	325	720	210	62	110	175	150	188	130	305	14	65/50 4.0kW
507PW-C	260	325	786	210	62	110	175	150	261	130	305	14	65/50 5.5kW
657PW-C	280	360	797.5	220	0	118	175	185	261	193	320	14	80/50 5.5kW
6510PW-C	280	360	797.5	220	0	118	175	185	261	193	320	14	80/50 7.5kW
6515PW-C	350	385	983.5	300	0	118	200	185	281	193	320	14	80/50 11.0kW

NOTE: Explosion proof motors available on request. Motor dimensions may vary slightly depending on type used. All dimensions in millimetres.

# TECHNIFLO | TB Series







### **TB Typical Applications**

- > Petrochemical industry
- > Volatile & low flashpoint liquids
- > Mineral processing
- > Chemical manufacturing
- > Chemical processing
- > Steel making industry
- > Heat transfer liquids
- > Hot liquors
- > Water & wastewater treatment
- > Sulphuric acid
- > Hydrofluoric acid
- > Methyl Chloride
- > Chromic acid
- > Hydrogen peroxide
- > Titanium Pentachloride
- > Ammonia

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### **TB Series Technical Features**

- > Heavy duty ductile casing with bonded PTFE or PFA lining
- > Patented world first thrust balanced design (see page 19)
- > Completely open impeller eye on all models for optimum NPSHr and efficiency
- > One bolt size for ease of maintenance
- > Close coupled and bare shaft versions
- > ANSI 150 flanges
- > Fluid temperatures from -29° to 120°C
- > System pressures up to 20.6 bar (300psi)
- > Conforming with ASME/ANSI B73.1 M footprint
- > Back pullout design liquid end and drive end independently serviceable
- > Flows up to 300 m<sup>3</sup>/hr
- > Heads up to 100m
- > Fluid SG up to 2.5
- > Rare earth magnets on all pumps
- > Secondary containment design available
- > Epoxy resin paint finish with all AAPU top coat
- > Two bolt flanged drain
- > 100% replaceable wearing parts



**TB Series Bare Shaft Pump** 

### **TECHNICAL ILLUSTRATION - TB SERIES**

### OUTER MAGNET ASSEMBLY

One drive size per motor frame. Simple keyless design means assembly with motor shaft is quick and easy. Magnets bolted and sealed inside 316 stainless steel carrier. Epoxy paint with AAPU top coat.

### CONTAINMENT SHELL

One-pice carbon fibre Teflon<sup>®</sup> moulding for a combination of strength and chemical resistance. Patented reinforced socket for shaft mounting. Outer pressure housing made from a Kevlar<sup>®</sup> composite.

### **RADIAL BEARINGS**

Dual carbon graphite or sintered silicon carbide (SiC). Individually replaceable and flexibly mounted for full alignment with shaft.

### IMPELLER/MAG CAPSULE

Unique one-piece design with magnets potted and sealed inside 316 stainless steel cover, and all encapsulated in Teflon<sup>®</sup> for optimum chemical resistance.

### ADAPTER

Mates flanged motors to the pump. Can mount a range of sizes directly without spacer plates. Integral foot mates to existing ANSI base plates. All mounting bolts conveniently accessed from outside the adapter to simplify motor/pump mating. Epoxy paint finish with AAPU top coat.

### CONTAINMENT RING

Extra-heavy duty one piece cast ductile iron casting. Precisely aligns and supports the containment shell in the casing. Is separate from the adapter to allow servicing motor without opening the liquid end of the pump. Epoxy paint finish with AAPU top coat.

### SHAFT

Replaceable, straight, sintered silicon carbide shaft cantilevered from the containment shell. Oversized to safely handle all load combinations. Cantilever design leaves impeller suction open for best possible performance.

### CASING

Top centreline discharge, one piece cast ductile iron with bonded Teflon<sup>°</sup> lining. Lining minimum of 1/8" (3mm). Provides nearly universal corrosion resistance and extremely low maintenance. Casing drain is standard. Epoxy paint finish with AAPU top coat.

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### Figure 4





### **Unique Patented Thrust Balancing Feature**

The TB Sries 'Thrust Balancing' is a revolutionary engineering concept.

As seen in Fig.1 the discharge pressure causes liquid to flow past the clearance rings and around the Magnet Capsule. At higher flows the variable orifice opens and decreases the balance pressure to negate forward thrust of the impeller (Fig. 2).

At lower flows the variable orifice closes and increases the balance pressure to negated the backthrust of the impeller (Fig. 3).

The net result is an extremely stable axial position that does not require axial bearings. Compare the axial thrust loads of the TB Series to other mag drive pumps. (see Fig. 4).



Figure 2 Opening at higher flows.



Figure 3 Closing at lower flows.

### **Clearance Rings & Solids**

TB Series clearance rings restrict solids greater than 0.1mm from entering the containment shell area, keeping all bearings and critical flow paths clear. this enables the pump to successfully handle solids. Concentrations up to 30% and particle sizes to 6mm in size are possible.

### **Pressurised Radial Bearings & Volatile Liquids**

The TB Series radial bearings operate in a pressurised fluid environment, which enables volatile liquids to be pumped safely without flashing off.

# TECHNIFLO | TB Series





Pump Size	Α	В	С	D	E1	E2	F	G	н	J	L	inlet/ outlet	Bare Pump kg
1.5 x 1 x 6A	133	165	298	300	152	0	184	102	16	221	718	40/25	34
3 x 2 x 6A	133	165	298	300	152	0	184	102	16	287	784	80/50	39
1.5 x 1 x 8B	133	165	298	300	152	0	184	102	16	287	784	40/25	59
3 x 2 x 6B	210	209	419	281	248	184	318	102	16	312	809	80/50	63
3 x 1.5 x 8B	210	216	425	316	248	184	318	102	16	287	784	80/40	64
4 x 3 x 6B	210	209	419	350	248	184	318	102	16	287	946	100/80	75
3 x 2 x 8C	210	241	451	306	248	184	318	102	16	287	784	80/50	67
4 x 3 x 8C	210	279	489	372	248	184	318	102	16	287	784	100/80	83
2 x 1 x10C	210	216	425	351	248	184	318	102	16	287	784	50/25	93
3 x 1.5 x 10C	210	216	425	361	248	184	318	102	16	287	784	80/40	96
3 x 2 x 10C	210	241	451	306	248	184	318	102	16	287	784	80/50	101
4 x 3 x 10C	210	279	489	372	248	184	318	102	16	287	784	100/80	107
4 x 3 x 10H	210	279	489	372	248	184	318	102	16	287	784	100/80	113
6 x 4 x 10C	254	343	597	477	248	184	318	102	16	287	784	150/100	116

NOTE: Pump flanges are ANSI 150. Other drillings are available on request. Explosion proof motors are available on request. Motor dimensions will vary depending on size and type used. All dimensions in millimetres.



All dimensions in mm

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### EVERY REQUIREMENT COVERED

### **Stock Availability**

> A comprehensive range of pumps & spares is held in stock to meet immediate requirements

### **Expertise**

> Trained and experienced product specialists with expertise in the complete range of Techniflo products

### **Technical Support**

> Full Technical Information covering all aspects of pump performance including material compatibility and system design

### **Advice**

> Reliable advice regarding pump unit assembly, installation, operation, preventative maintenance programming and spare parts inventory

### **Service Support**

> Full repair and service capability including scheduled servicing

### **Quality Control**

> Techniflo pumps are manufactured strictly in accordance with the requirements of ISO 9001:2001 to ensure the highest levels of product quality

### **ALL PUMPS SUPPLIES**

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