

Tank Agitation

FPZ high performance regenerative blowers



SIMPLIFIED FLUID HANDLING

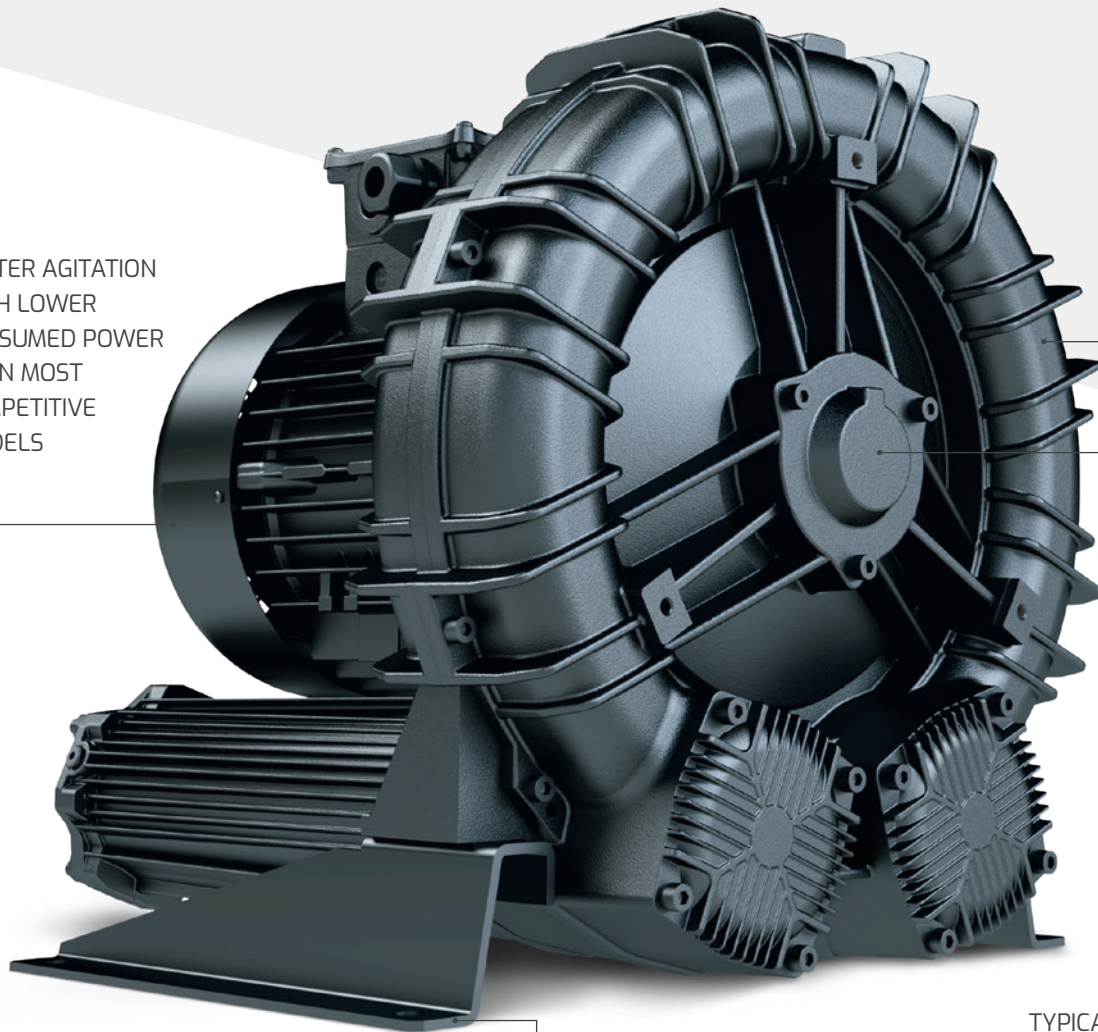
Tank Agitation

FPZ high performance regenerative blowers

FPZ blowers are ideal for applications that require agitation of plating tanks, cleaning tanks, and rinse tanks. FPZ blowers supply clean, oil-free air that will not contaminate the fluid being agitated, they do not require any maintenance (other than filter cleaning), they are extremely quiet (most models meet OSHA requirements), and they are cost effective.

BETTER AGITATION
WITH LOWER
CONSUMED POWER
THAN MOST
COMPETITIVE
MODELS

ALL ALUMINUM
CONSTRUCTION
MINIMIZES WEIGHT
AND ALLOWS FOR
UNIFORM THERMAL
EXPANSION



ALL BLOWERS CAN
BE MOUNTED IN ANY
ORIENTATION

BEARINGS ARE
TYPICALLY RATED FOR
OVER 70,000 HOURS OF
CONTINUOUS OPERATION

Sizing for tank agitation

To calculate pressure, use the following formula:

$$P = 0.43 DS + 0.75$$

Where: P = Pressure (psig)
D = Depth of solution (feet)
S = Specific Gravity of solution (see chart)

To calculate flow, use the following formula:

$$V = A F$$

Where: V = Flow Rate (SCFM)
A = Tank Surface Area (ft²)
F = Agitation Factor (see table)

Agitation factor/Specific gravity table

| Solution | Agitation factor (F) | Specific gravity |
|------------|----------------------|------------------|
| Al plating | 1.2 - 1.8 | 1.2 |
| Cu plating | 1.1 - 1.5 | 1.2 |
| Ni plating | 1.5 - 2.0 | 1.2 |
| Cleaning | 1.0 - 1.5 | 1.1 |
| Rising | 0.8 - 1.5 | 1.0 |

Example

A nickel plating tank is to be agitated that is 8' long x 4' wide x 4' high. The solution depth is 3'.

To calculate pressure:

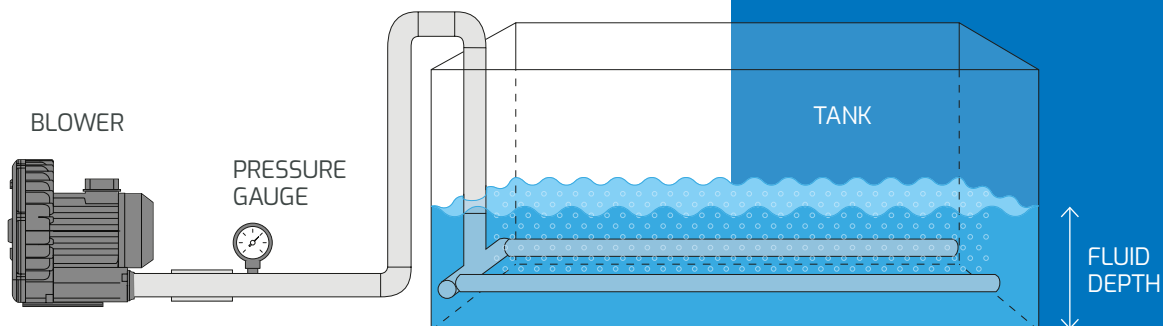
$$P = 0.43 \times 3 \times 1.2 + 0.75 = 2.3 \text{ psig}$$

To calculate flow:

$$\text{First determine tank surface area} = 8' \times 4' = 32 \text{ ft}^2$$
$$V = 32 \times 1.7 = 55 \text{ scfm}$$

A blower capable of providing 55 scfm @ 2.3 psig is required.

Typical plating system



Benefits



BLOWER DESIGN

FPZ blowers have no wearing parts other than the bearings



COST EFFECTIVE

Some companies use a house air compressor to agitate tanks. House air compressors usually supply 75 to 110 psig air while most tanks only require air at 5 psig or less.

Typically the initial capital cost of a blower can be paid back through electrical savings in less than a year.



QUALITY

FPZ has been manufacturing High Performance Regenerative blowers since 1975.

All blowers are 100% tested before they leave our factory and are backed by our Three-Year Warranty.

FPZ
Worldwide
sales network



Direct
presence

FPZ UK Ltd.
Andover Hampshire, UK

**FPZ Austria GmbH
& Germany**
Krems, Austria

FPZ France S.a.r.l.
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Zapopan, Jalisco, México

FPZ Middle East
Dubai, United Arab
Emirates

FPZ APAC
Singapore

Agents and
distributors

Headquarter

FPZ
Concorezzo (MB), Italy

T. +39 039 690981
info@fpz.com

www.fpz.com

4
production plants

9
subsidiary branches

70
countries

FPZ, Inc
150 N. Progress Drive,
Saukville WI 53080, U.S.A.

Tel +1 262 268-0180
usa@fpz.com
www.fpzusa.com

This brochure contains information that we believe to be correct, and blowers have been successfully selected with this information. FPZ, however, cannot guarantee that the blower selected will work successfully as there maybe additional factors such as, but not limited to, pipe size, sparger design, and plumbing configuration that are not covered in this brochure. It is the users responsibility to determine the suitability of the product for his or her intended use and the user assumes all risk and liability whatsoever in connection therewith.