# G GENESYS PUMPS

## Model 4X3-9 DIMENSIONS & PERFORMANCE







The GENESYS<sup>®</sup> non-metallic, end-suction centrifugal pump line is designed and engineered to provide highly efficient pumping solutions. The composite construction with the option of no wetted metal parts, gives it compatibility with many aggressive chemistries. The unique closed-impeller and timetested volute design render performances up to 3550 RPM.

- 1100 GPM
- 335' HEAD SHUT-OFF
- Peak Efficiency 78.5%
- ANSI/ASME B73lean
- Highly Corrosion Resistant Proprietary FRP Formulation



GENESYS' PUMPS

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# *ஞ* Genesys<sup>®</sup> Pumps

## Model 4X3-9 DESIGN AND FEATURES

### **Mechanical Seal**



Impenatra® II Sea

The Impenatra<sup>®</sup> II Seal is an innovative new approach to solve many shaft sealing problems. When used in the GENESYS<sup>®</sup> 4x3-9, it isolates all metallic parts from contact with the fluid. Alternately, corrosive chemicals require seals made of exotic alloys.

You can expect unprecedented corrosion resistance and protection from attack by contained fluid and surrounding environment. Easy to install and field adjustment not required. Offers great versatility at an excellent price. Reliability due to simplicity of design and quality components.

#### **TECHNICAL DATA**

Seal Type – stationary wave spring, reverse mount Maximum temperature 194 °F

#### MATERIALS OF CONSTRUCTION

O-rings and elastomers available in Buna, Viton<sup>®</sup>, EPDM, Kalrez<sup>®</sup> and Alfas<sup>®</sup> Seal case – injection molded polypropylene Seal face – carbon graphite resin, binderless graphite or silicon carbide Seal seat – silicon carbide

## **Seal Flushing Arrangements**

The GENESYS® 4x3-9 model provides a seal flush port, also known as a water-wash, to keep the mechanical seal surfaces cool and clean. Seal flushing helps provide an optimal environment around the Impenatra® II seal faces. They are highly recommended for longevity of the seal and reducing maintenance costs.

The GENESYS<sup>®</sup> 4x3-9 seal chamber flush ports are offered in two common piping configurations:

#### PLAN 11

Seal flush from pump discharge port to seal chamber flush port on pump bracket.

- Seal chamber heat removal.
- Increase seal chamber pressure and fluid vapor margin.
- Keeps seal surfaces clean in applications with fluids that crystallize

#### PLAN 13

Recirculation from seal chamber to pump suction through port.

- Seal chamber heat removal.
- Keeps seal surfaces clean in applications with fluids that crystallize

## **Enclosed impeller**



Enclosed impeller design provides high efficiency performance.

- Ultrasonically welded impeller shroud and vane
- Motor shaft o-rings not required
- No balancing and shaft alignment required for impeller assembly



GENESYS® PLAN 11 Seal Flush Arrangement



GENESYS® PLAN 13 Seal Flush Arrangement

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# IMPENATRA<sup>®</sup> II



## WHAT'S DIFFERENT ABOUT THE IMPENATRA® II?

• A proven, balanced design approach which eliminates hang up.

- Seal case is Injection molded polypropylene.
- All metal surfaces, springs and shafts are isolated from fluid contact.
- Easily handles a wide range of chemical solutions including most acids, bases and inorganics.
- Every seal is individually inspected to ensure consistent quality and is readily available.

The Impenatra® II Seal is an innovative new approach to solve many shaft sealing problems. When used in the GENESYS® 4x3-6, it isolates all metallic parts from contact with the fluid. Alternately, corrosive chemicals require seals made of exotic alloys.

You can expect excellent corrosion resistance and protection from attack by contained fluid and surrounding environment. Easy to install and field adjustment not required. Offers great versatility at an excellent price. Reliability due to simplicity of design and quality components.

#### WHAT THIS MEANS TO YOU.

• OUTSTANDING CORROSION RESISTANCE, protects from attack by contained fluid and from surrounding environment.

- Easy to install, field adjustment not required.
- Offers good versatility at an excellent price.
- Reliability, due to simplicity of design and quality components.

#### **TECHNICAL DATA:**

Seal Type: Stationary wave spring, reverse mount Maximum temperature 194 °F

#### **MATERIALS OF CONSTRUCTION:**

O-rings and elastomers available in Buna,

Viton<sup>®</sup>, EPDM, Kalrez<sup>®</sup> and Alfas<sup>®</sup> a registered trademark of Asahi Glass Co., Ltd.

Seal case - injection molded polypropylene

Seal face – carbon graphite resin, binderless graphite or silicon carbide

Seal seat - silicon carbide

#### **EXAMPLE CORROSION RESISTANCE:**

- Deionized Water
- Ferrous Chloride 100%
- Hydrochloric Acid 37%
- Hypo Acid Fixing Baths
- Nitric Acid 10%
- Phosphoric Acid
- Photographic Developers
- Plating Solutions
- Sodium Hydroxide
- Sodium Hypochlorite
- Sulfuric Acid (aerated)
- And much more...



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