

# PULSAR SERIES®

HYDRAULIC DIAPHRAGM METERING PUMP



**Flow:**  
up to 170 gph (643 lph)



**Pressure:**  
up to 4,000 psi (276 bar)



**Temperature:**  
up to 230°F (110°C)



**Viscosity:**  
up to 3,000 cPs



# PULSAR SERIES®

## PULSAFEEDER EXPERTISE

For over 80 years, Pulsafeeder, Inc. continues to be a proven leader in diaphragm and dosing metering technologies. With extensive experience in providing fluid handling solutions, our pumps and systems are designed to handle your toughest applications. Known for their rugged construction and dependable performance, our products are of the highest level of manufacturing excellence and quality control.

Pulsar leak-free, hydraulically balanced and mechanical diaphragm metering pumps represent a generation leap in chemical feed technology, combining optimum features and maximum benefits. They are engineered for precise dosing and long-term dependability to deliver superior value. Exclusive hydraulic diagnostics provide immediate visual intelligence about pump and system performance. The Pulsar HypoPump® configuration is the ideal choice for sodium hypochlorite, off-gassing or other difficult to handle fluids. handle most chemicals.

- Constant delivery independent of pressure changes
- High efficiency, low horsepower requirements
- Positive displacement pump, measured amount displaced with each revolution
- Accurate, repeatable, linear

## PRODUCT SPECIFICATIONS

- Flows from 0.018 gph to 170 gph (0.068 lph to 643 lph)
- Pressures to 4,000 psi (276 bar)
- Temperatures up to 230°F (110°C) Viscosities up to 3,000 cPs
- Turndown capacity adjustable up to 100:1 • 10:1 Manual • 10:1 XAE • 100:1 XAE & VFD
- Accuracy +/-0.5% of set point

## MODELS



Pulsar 25HJ  
Pulsar 25HL



Pulsar 55H  
Pulsar 55L



Pulsar Hypo Pump

## MARKETS & TYPICAL APPLICATIONS

### Markets:

- Chemical Processing
- Petrochemical
- Oil & Gas
- Water Treatment - Power
- Wastewater Treatment
- Water Treatment - Municipal

### Typical APPLICATIONS AND FLUIDS

- Corrosion inhibitors
- Anti-scalants
- Sodium Hypochlorite Injection
- Disinfectants
- pH Control
- Chemical Feed

## MATERIALS OF CONSTRUCTION

**Wet End:** 316LSS, PVC, PVDF

**Diaphragm:** Composite or Solid PTFE, PTFE-faced Composite

**Pump Body:** Aluminum

**Valve Ball:** 316LSS, Alumina Ceramic

**Valve Gaskets:** PTFE

**Valve Seat:** 316LSS, PVC, PVDF

Note: See Custom Engineering (page 7) for additional materials

## MOTOR POWER AND FRAME

- 25H: 0.33 hp (0.25 kW), NEMA 56C, IEC 71B14
- 55H: 0.75 hp (0.55 kW), NEMA 56C, IEC80B14

## CONNECTION TYPES

- NPT
- Raised-face Flange
- ANSI

## ALTERNATE MATERIALS AND OPTIONS

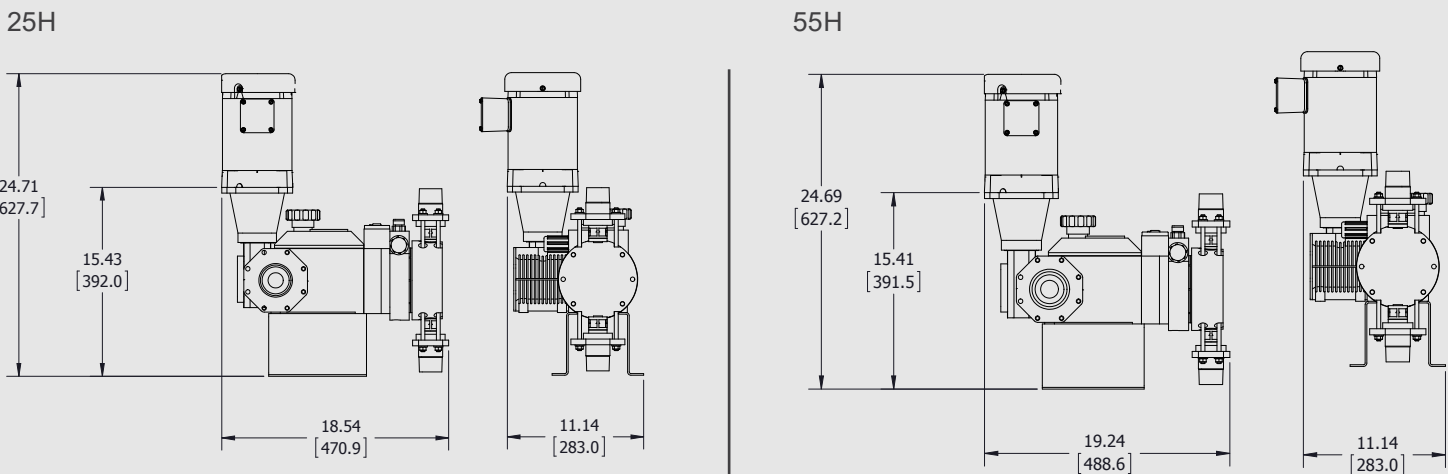
**Additional materials:** Alloy C, Alloy 20, Monel, DuplexSS, Titanium, PVDF

**Minimum temperature:** to -10°F (-23°C)

**Multiplex configurations:** up to eight reagent heads

- Manual de-gas valve
- Custom electronic controls
- Chemical feed systems
- Application consulting

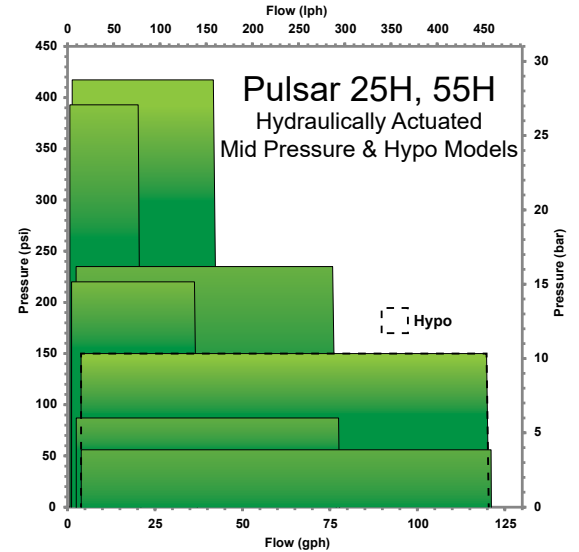
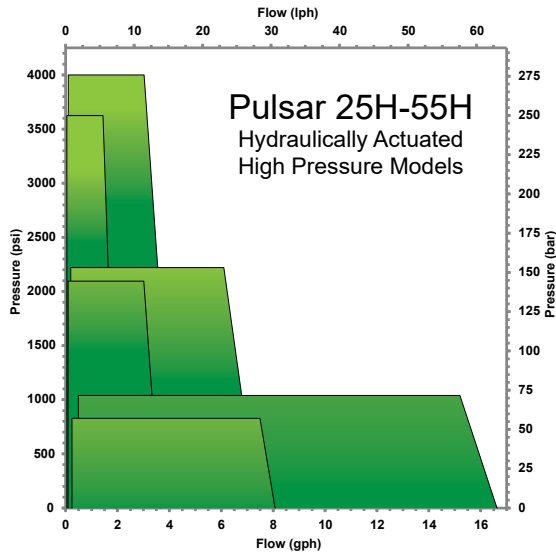
## DIMENSIONAL DRAWINGS - PULSAR 25H & 55H



The dimensions shown may differ depending on pump configuration. Dimensions subject to change without notice.

# PULSAR SERIES

## PERFORMANCE



## CONTROL OPTIONS

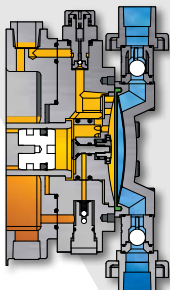
### XAE ELECTRONIC STROKE CONTROL



- API compliant design to meet tough industrial specifications
- NEMA 4 or NEMA4X/ 7 option for protection in most hazardous environments
- Simple user interface – manual override
- Isolated 0-20 mA input and output to assure signal integrity for accurate position control and feedback
- Brushless DC stepper motor for precise positional control and long life
- Sealed planetary gear box generates high output torque for actuation under pressure
- Continuously tracks manual setting adjustments (even when the power is removed) eliminating zeroing on startup for ready-to-go operation
- Designed for control panel integration – accommodates industrial grade wire gauges, dry contact inputs

# TECHNOLOGY

## HYDRAULICALLY ACTUATED DIAPHRAGM TECHNOLOGY (PULSAR 25H, 55H)



Pulsar's diaphragm is hydraulically balanced between the process and hydraulic fluids. The piston reciprocates through a precisely sized cylinder resulting in positive displacement of a controlled volume of hydraulic fluid. This action causes the diaphragm to reciprocate and precisely dose process fluid through the suction and discharge valve mechanism. The benefits of this include:

- Hydraulically balanced diaphragm does no work
- Pump and diaphragm life is maximized
- Optimum accuracy and performance
- Maximized pressure capabilities

## DUPLEX CONFIGURATIONS

The coupling of two pumps to provide one or all of the following features:

- Provide precise proportioning or synchronization
- Provide a greater turndown ratio
- Improve efficiency
- Reduce pulsations

## DE-GAS SOLUTION: HYPO VALVE OPTION

- The ideal solution for injection of sodium hypochlorite and other off-gassing fluids
- Fully integrated closed loop design, no external valves or piping required
- Balanced, low stress, dynamic seal ensures extended operating life
- 3 year valve warranty
- Prevents vapor lock

## PULSALARM PRESSURE LEAK DETECTION



System health monitoring such as PULSAlarm® leak detection systems respond to diaphragm rupture.

- Activates an alarm or stops the pump at the first sign of leakage
- Designed to contain full rated pressure up to 3,000 psi (207 bar)
- Supplied with a dual Teflon® diaphragm
- Can be directly interfaced with XAE
- Available for both metallic and non-metallic reagent heads
- Rated NEMA Type 7, EEMAC7 Class 1, Division 1, Groups C&D, Class 1, Zone 1, Groups IIA and IIB
- UL, cUL, CE, ATEX



## PATENTED HYDRAULIC DIAGNOSTICS

- Immediate visual indication of pump performance
- Simple to monitor
- Instantaneous auditing of system overpressurization, entrained air in hydraulic oil, diaphragm integrity and proper oil level

## PUSH-TO-PRIME VALVE

- External spring-loaded button allows hydraulic fluid priming
- Releases entrained air trapped in the oil
- Visual indication of air bleed through diagnostic window

## HYDRAULIC PERFORMANCE VALVE

- Threads directly into pump head for a secure, leak-free attachment
- Provides resilience to system upsets
- Replenishes hydraulic oil on suction stroke only
- Eliminates the need for process side dish plate
- Lowers NPIP requirement to 3 psi

## HYDRAULIC BYPASS VALVE

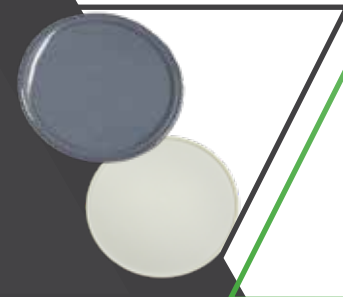
- Provides protection for pump overpressurization
- Externally adjustable
- Continuous visual inspection

## FOUR BOLT TIE BAR

- Provides stability and resistance to pipe stress
- Helps to promote leak free operation
- Contributes to quick removal of check valves without removing piping
- Integral O-ring eliminates leaks

## HYDRAULICALLY BALANCED DIAPHRAGM DESIGN

- Diaphragm is “sandwiched” between process fluid and hydraulic oil
- No stress on diaphragm contributes to a longer life
- Assists in providing a precise, metered dose every time
- Integral O-ring eliminates leaks



# FEATURES & BENEFITS



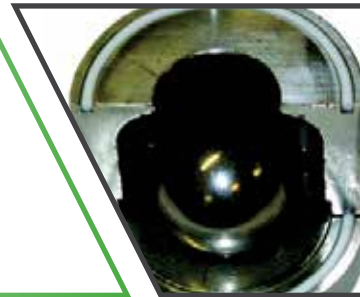
## MANUAL STROKE ADJUSTMENT

- Large easy-grip hand wheel with easy-to-read dial
- Adjustable from 0%-100% stroke length
- Resolution of +/-1.0% for accurate control
- Stroke length control ready



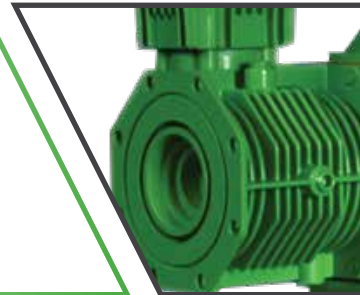
## PRECISION BALL VALVE DESIGN

- Knife edge seats to maintain top-notch accuracy
- Accurate, efficient flow transfer
- Simple, four-point guiding to assure precise valve action
- Easily replaced without disconnecting piping seat life



## NON-VENTED GEAR BOX DESIGN

- Designed with fins for strength and heat dissipation
- Double rotary lip seals protect against contaminants
- Can be mounted on either side of the eccentric box
- Modular design for easy removal



## 3 MOTOR MOUNT ARRANGEMENTS

- Provide options for placement in existing footprints
- Vertical, Horizontal and 45° inclines
- Sturdy, safe and secure



## CLOSE-COUPLED MOUNTING

- Eliminates the potential for damage due to misalignment
- Helps eliminate replacement costs due to wear and tear from misalignment
- Motor orientation does not affect pump performance



# CUSTOM ENGINEERING

## ENGINEERED SOLUTIONS

Pulsafeeder, Inc. is a leader in providing metering pump technologies for both stand-alone pumps and skid mounted configurations. By listening to the needs of our customers, Pulsafeeder engineers and fabricates skids to your specifications, and ensures they are compliant with industry and international standards.

We understand that each chemical has its own unique set of challenges that must be taken into consideration in the design, selection, and application of the pump systems. No matter what chemicals you are dosing, safety, reliability, and precise control are required to optimize the chemical reaction and reduce operating costs.

Known for their rugged construction and dependability, our pumps and systems are manufactured to the highest level of performance and quality. Along with providing integrated engineering solutions, we offer full warranty packages along with exceptional after-sales service.



## PARTS, KITS & ACCESSORIES



### KOPKIT® (KEEP ON PUMPING KIT)

Designed to guard against unnecessary downtime and assure the highest level of efficient and uninterrupted service from your pump. In the event of a breakdown, KOPkit® will put you back in business fast!



### METERING PUMP ACCESSORIES:

- Pulsation Dampeners
- Back Pressure Valves
- Pressure Relief Valves
- Calibration Columns
- Y-Strainers
- Pressure Gauges



#### Pulsafeeder, Inc.

2883 Brighton Henrietta Town Line Rd  
Rochester, NY 14623  
Phone: +1 (585) 292-8000  
pulsa@idexcorp.com  
[pulsafeeder.com](http://pulsafeeder.com)



VISIT OUR  
SALES CONTACT