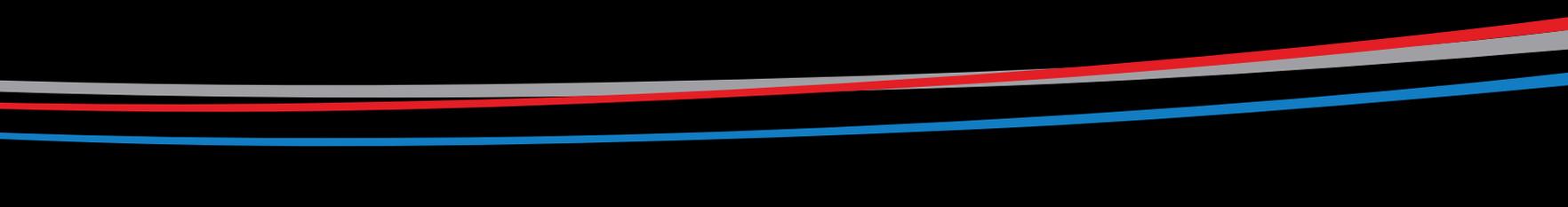


CHECKPOINT
PUMPS & SYSTEMS



WE LEAD THE WORLD
in the solution-driven design and manufacture of
process packages, control systems, and metering pumps.



CheckPoint Headquarters
21356 Marion Lane
Mandeville, Louisiana 70471
United States of America
+1 (504) 340-0770

CheckPoint UK
C2/C3 Lombard Centre
Kirkhill Place, Kirkhill Industrial Estate
Dyce, Aberdeen AB21 0GU Scotland
+44 (0)1224 775205

CP Pumps & Systems FZE
P.O. Box 262131
Jebel Ali Free Zone, FZS1 BL 06
Dubai, U. A. E.
+971 (4) 8806278

CheckPoint Systems Pte Ltd
21 Toh Guan Road East
#04-17 Toh Guan Centre
Singapore 608 609
+65 6261 7687



CHECKPOINT
PUMPS & SYSTEMS
www.cppumps.com

LETTER FROM THE PRESIDENT

I am honored to lead CheckPoint Pumps & Systems as its President, and I am privileged to work with our employees to create high-quality, innovative, and continually improving products and services for our customers.

Over the last twenty years, CheckPoint has grown. It has increased its product line to include pneumatic, electric, and solar units. It has developed methods to create highly custom packages. It has grown to accommodate the global market by opening locations to support every corner of the globe. It has succeeded in vertically integrating every aspect of production; incorporating engineering, design, fabrication, manufacturing, quality control, technical support, and service into a total chemical injection solution company. CheckPoint's development and expansion over the last twenty years have incorporated a multitude of initiatives across our product lines, regions, and operations that encapsulate our values of quality, integrity, customer focus, reliability, and innovation. Today, we are proud of where we came from, and we are optimistic and enthusiastic about where we are heading. We are a growth company.

As we evolve into a truly global organization that understands our diverse consumers' aspirations, we will not forget the principles that form the bedrock of this company. Our mission is to produce highly reliable pumps and products that deliver superior performance. We strive to conduct business with respect, professionalism, and integrity, and we build our business around our customers' needs. A CheckPoint customer is for life, not just for a convenient sale today. Quality is an absolute and non-negotiable principal at our company, and all products must and will meet our standards before they ever leave our production facility.

We will never cease to grow and adapt to the market. We will continue to invent, innovate, and engineer as processes become more efficient and energy-conscious. We encourage our customers to provide feedback and tell us what they need, and we will strive to exceed their expectations. When our customers think fluid processing, we want CheckPoint to be the first people they call. We are the chemical injection experts.

I hope you enjoy this comprehensive insight into who we are and what we do best. We are much more than a chemical injection pump company—we are a chemical injection solutions company. Thank you for your interest in our products, our brand, and our company.

Scott Fairley



President

TABLE OF CONTENTS

Certified Quality	1
Engineered Systems	2
Company Timeline	4
Rentals	6
Services	7
Machine Shop	8
Accessories	9
Complete Range	10
Series FXS Solar Injection System	12
Series FXA Electric Pump	14
Series E Electric Pump	16
Series F Electric Pump	18
Series MD Electric Pump	20
Series MDZ Electric Pump	22
Pneumatic Pump Advantages	24
Series GX15 Pneumatic Pump	26
Series 1250 Pneumatic Pump	28
Series 1500 Pneumatic Pump	30
Series 6200 Pneumatic Pump	32
Series 8400 Pneumatic Pump	34
Series 5400 Pneumatic Pump	36
Pneumatic Pumps - High Flow Selection Chart	38
Pneumatic Pumps - Low Flow Selection Chart	39
Series E Electric Pumps Selection Chart	40
Series F Electric Pumps Selection Chart	41
Series FXA Electric Pumps Selection Chart	42
Series MD Electric Pumps Selection Chart	43
Series MDZ Electric Pumps Selection Chart	44

CERTIFIED QUALITY

At CheckPoint, we strive for excellence in everything we do. We are committed to safety, environmental, and quality assurance. CheckPoint is ISO 9001:2008 certified, is a Member Contractor of ISNetworld® and complies with ATEX, NEMA, API 674/675, and NACE MR0175 standards.

ISO 9001:2008, 14001:2004, AND 18801:2007

The quality management system governing the manufacture of CheckPoint products and the provision of the services in each office location is ISO 9001:2008 certified (Certificate No. 43761). ISO 9001:2008 identifies requirements for a quality management system where an organization demonstrates its ability to consistently provide product that meets customer and applicable statutory and regulatory requirements. The use of ISO 9001:2008 enhances customer satisfaction through the effective establishment of efficient processes, including methods for continual improvement of the system, as well as the assurance of conformity to customer and applicable statutory and regulatory requirements. CheckPoint's commitment to quality continues in its UK office, where in addition to its ISO 9001:2008 quality management system, its environmental management system is certified in ISO 14001:2004, and its safety management system is certified in ISO 18801:2007.

ISNETWORLD®

CheckPoint is a Member Contractor of ISNetworld (ID 400-160980). According to the organization, "ISNetworld brings together hiring clients and contractors, creating safer work environments and lasting partnerships."

ATEX

CheckPoint pumps are manufactured in compliance with ATEX Directive 94/9/EC. ATEX product certification (or EC-Type Examination) is the verification of the design specification of a manufacturer's product in relation to a series of relevant standards laid out under the directive. This certification process must be undertaken by an ATEX Notified Body. This is an organization that is appointed by its national government to issue ATEX certificates and conduct periodic surveillance of quality management systems, where necessary. CheckPoint certifies its products through the notified body CSA Group UK (Sira). CheckPoint ensures that its products comply with ATEX through the Internal Control of Production Module found in Annex VIII of the ATEX directive, by ensuring that all products are designed and engineered to be inherently safe according to the engineering principles and essential safety and health requirements outlined in the directive.

API 674/675

The API 674 standard covers the requirements for reciprocating positive displacement pumps and pump units for use in the petroleum, petrochemical, and gas industry services. The API 675 standard indicates the requirements for reciprocating, controlled volume pumps and pump units for use in the petroleum, petrochemical, and gas industry services. CheckPoint manufactures its pumps in compliance with API 674 and 675.

NACE MR0175/ISO 15156

NACE MR0175/ISO 15156 gives requirements and recommendations for the selection and qualification of carbon and low-alloy steels, corrosion-resistant alloys, and other alloys for service in equipment used in oil and natural gas production and natural gas treatment plants in H₂S-containing environments, whose failure could pose a risk to the health and safety of the public and personnel or to the equipment itself. All CheckPoint pumps are manufactured in compliance with NACE MR0175/ISO 15156.



ENGINEERED SYSTEMS

From the heartbeat of your system — the pump — to your entire chemical injection process, we understand the vital and mission-critical elements required to keep your system operating effectively, efficiently, and consistently. Whether you require simple, manually controlled systems or complete closed-loop automated packages, we will formulate and deliver a complete, custom solution to optimize your process.

CONSULTATION

CheckPoint's experienced sales professionals have developed methods to make the process of compiling pertinent application data straightforward and efficient. We offer and recommend site surveys to determine particulars, such as footprint constraints or tubing sizes, and we can assist in preplanning so that the most ideal integration can be accomplished.

ENGINEERING

Our engineering team utilizes your application parameters to calculate any requirements and select the essential components to create the optimum solution for your system. Our clients enjoy the benefit of CheckPoint's intimate and extensive knowledge of positive displacement pumps, along with the quality of our components and auxiliary equipment.

DESIGN

Prior to fabrication, our design team generates models and technical drawings for client approval. Our clients remain involved in the design process from beginning to end. CheckPoint offers 3-D shell models in multiple CAD formats, allowing easy integration into existing site or platform plans. This grants the ability to adjust dimensions to fit a specific space, or move bulkhead connections to mate with existing pipework — potentially avoiding costly headaches once the equipment arrives onsite.

FABRICATION

Our design team derives custom frame drawings from the 3-D system model and sends them directly to CheckPoint Fabrication (CPFAB) for construction. From these drawings, CPFAB's qualified personnel fabricate in accordance with industry standards and client specifications. This example of vertical integration facilitates increased control over the process and effectively reduces lead-time. Additionally, generating the structure drawings from the approved model guarantees that all components fit as planned during assembly.



MANUFACTURING

Each CheckPoint pump is manufactured at our headquarters in Mandeville, Louisiana. From there, the pumps are either sent to the field to work individually or assembled into complete systems at one of CheckPoint's main facilities. Detailed engineering drawings drive the assembly process to ensure proper layout and orientation of all components and enable identical reproductions of systems on future repeat orders.

QUALITY CONTROL

At CheckPoint, we strive for excellence in everything we do. We inspect and test all product components, both individually and as a complete system, to ensure that each and every engineered system meets our exacting quality standards. We consistently perform test procedures constructed from established industry standards, and we welcome client or third-party inspector factory acceptance testing (FAT). We are committed to safety, environmental, and quality assurance. Our company is ISO 9001:2008-certified, and our products are compliant with standards and directives such as ATEX, NEMA, API 674/675, and NACE MR0175.

SHIPPING

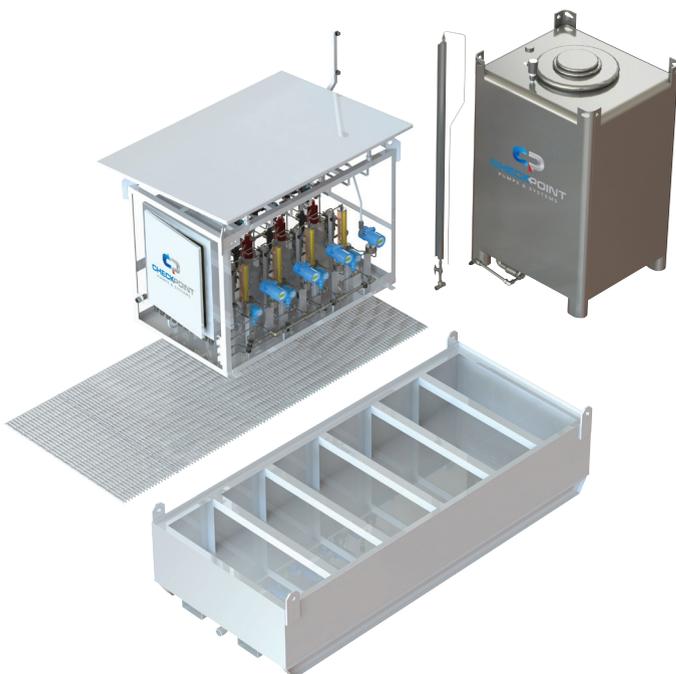
CheckPoint ensures that every product will arrive safely and on time by providing multiple packaging options, working with a multitude of carriers, and handling freight logistics, such as customs and other exportation factors, to any location.

SUPPORT

We provide all of the technical assistance required to ensure that the system is fully operational and functioning effectively for the life of your product. We also ensure that any necessary product information, documentation, and technical data are readily available through multiple media.

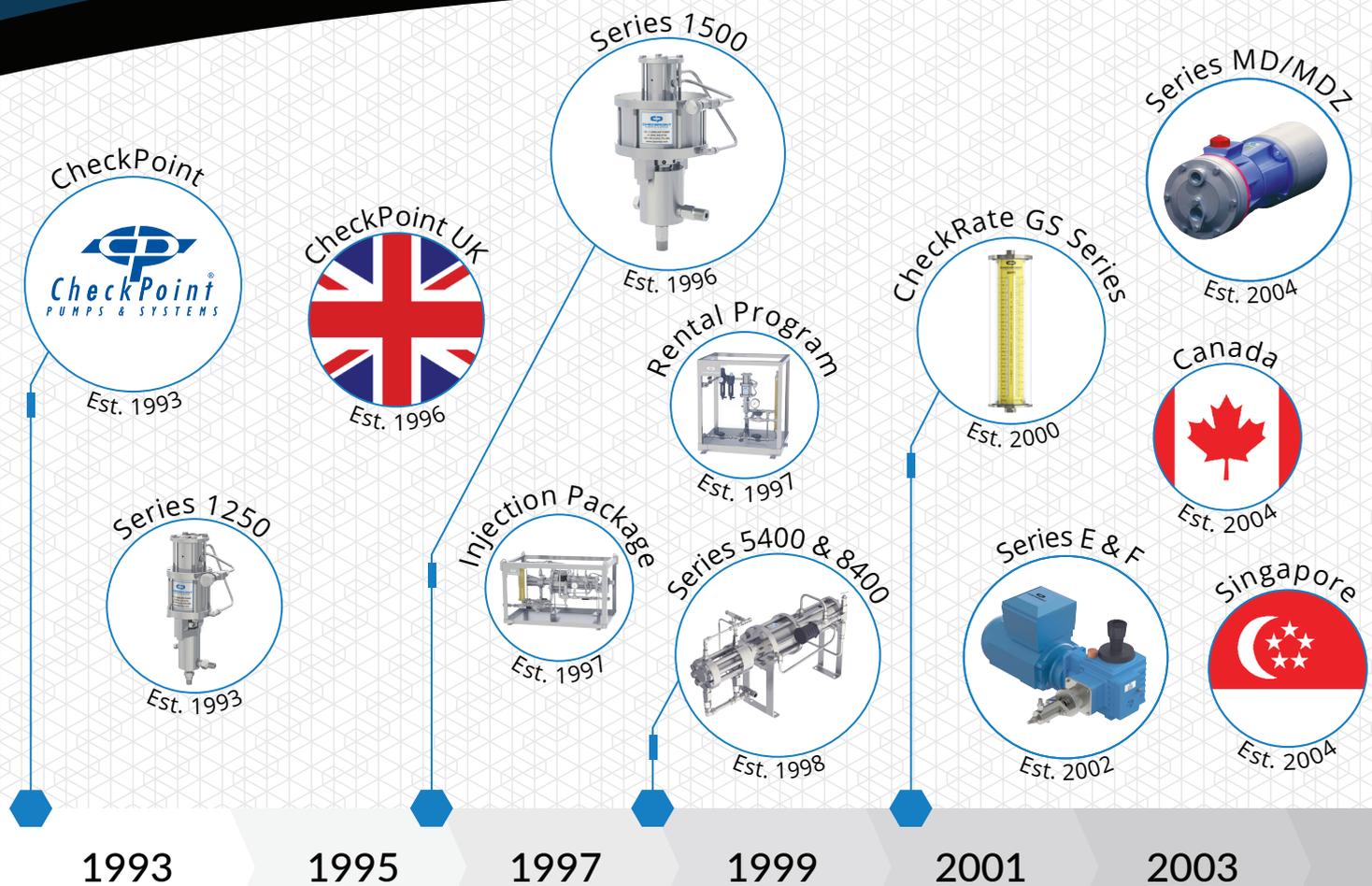
SERVICE

CheckPoint is available to engage at a moment's notice — from concept to completion, and following start-up. Once the system is delivered, our trained technicians can assist with proper installation, commissioning, and on-site training. Further, CheckPoint will always be available to provide ongoing technical support, maintenance, and troubleshooting.



EXPERIENCE

CheckPoint has been developing and producing chemical injection pumps, systems, and total solutions since 1993. With over 100,000 pumps and more than 5,100 injection packages successfully delivered thus far, our products and solutions are proven worldwide. Working together with suppliers, operators, chemical providers, and energy companies, in and out of the field, CheckPoint has developed strong relationships and extensive expertise in the important niche of fluid processing.



CheckPoint Established (1993)

In the late 70's, on the west bank of New Orleans, Louisiana, A. J. Quartana, the owner of a small shop servicing local oil and gas producers, began doing repair work on the pneumatic chemical injection pumps his customers sent him. By 1993, he had succeeded in creating a product that represented the culmination of thousands of man-hours and successfully addressed every shortcoming he had identified in other pneumatic products.

In the spring and summer of 1993, impressed with the product and intrigued by its history, CheckPoint founder Andrew C. Elliott relocated to Louisiana, evaluated the market for chemical pumps, created a business plan, and negotiated a deal to acquire the necessary patents and build a company. Operating on a shoestring budget, CheckPoint succeeded in raising enough seed capital from friends and family to close the deal. A limited partnership was structured to hold the patents, while the team

rallied to secure potential customers. CheckPoint manufactured enough parts to build the first 50 pumps.

Series 1250 (1993)

Early on, manufacturing the first parts proved to be a difficult task, and this led to significant delays as sluggish sales caused concerns to increase. Andrew dug into the issues, reworking every drawing, interfacing with parts manufacturers, building and bench testing pumps, and making calls to prospective customers. Despite his efforts, by the summer of 1994, cash reserves shrunk towards zero. Payroll was suspended, and the company was on the brink of closure. Then, a single customer order for 35 pump units came through. It was the largest order – by far – that CheckPoint had ever received. That single order marked the turning point for the company.

CPUK Established (1996)

In May of 1995, Andrew was introduced through a mutual friend to a young man by the name of Scott Fairley. The two quickly consid-

ered each other to be both friends and outliers for many reasons. In the early days, their connection was mainly due to a common interest in the niche industry of chemical injection. Over a short period of time, CheckPoint continued to grow into what looked like less of a startup and more like the beginning of a promising business.

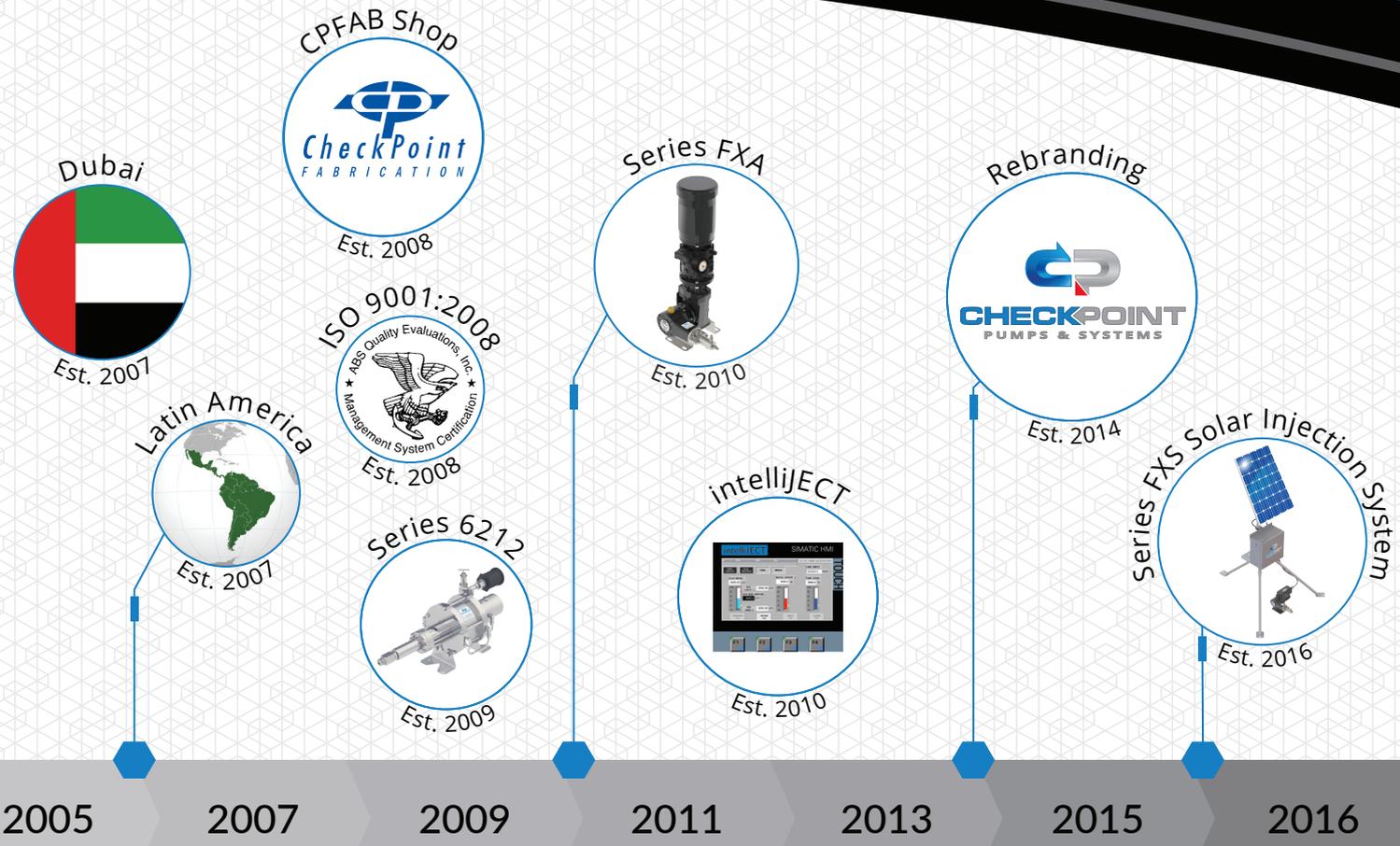
Growing up in Aberdeen, Scotland, Scott was exposed to the oil and gas boom in the North Sea region. The premium quality of CheckPoint's pneumatic pump was something that Scott and Andrew knew could hold up to the harsh realities of Aberdeen's offshore environment. Andrew maintained a vision for expanding the company and appreciated Scott's desire to grow and learn. Fresh off of the volatile yet rewarding experience of CheckPoint's initial development, Andrew believed that Scott's passion for the company would be instrumental in continuing the company's growth and in ensuring future success. He invited Scott to join the CheckPoint team. After all, the European market appeared to be an opportunity for CheckPoint

to flourish beyond the boundaries of North America.

In November of 1996, Andrew greenlighted CheckPoint UK, LTD. Young, energetic and willing to learn, Scott gathered a couple of trusted allies from his hometown who were also up for the challenge of spearheading the international success of a new, growing company. Andrew supported the team as they worked collectively, peddling pumps throughout the region. Organically, from offshore applications to refineries, CheckPoint's reputation for reliable chemical injection pumps quickly took shape throughout Europe.

Injection Systems (1997)

As the company turned to its fourth year of business, CheckPoint's UK office celebrated its first anniversary. CheckPoint's product line expanded with the addition of the Series 1500 pump. An incremental lift in sales supported product line expansion. CheckPoint's first goal was to facilitate a more complete chemical injection solution. The "Plug & Play" package line was developed to simplify the customer's buying and commissioning experience. Standardized systems simpli-



fied layers of complex decisions by placing injection pumps into a package that contained CheckPoint-approved accessories for quick and easily installation. The "Plug & Play" product line answered the call for asset protection, operational consistency, and an overall reduction in the technical knowledge required for successful fluid process management.

Rental Program (1998)
CheckPoint realized that chemical injection was often used in various phases of a project, and that its customers often required short-notice pumps and packages. The rental program was specifically designed for convenience and versatility, with the assurance of a high-quality CheckPoint product. Customers were now able to utilize this program to qualify its chemicals before buying a pump, reduce or eliminate capital expenditures, and flexibly rent for as long as necessary.

Website (2001)
With the dawn of the Internet spurring a new level of information sharing, CheckPoint created a comprehensive website to provide technical data, product details, and a new method of commu-

nication for its customers. This enabled CheckPoint to transcend borders and extend its reach globally, keeping customers aware of new products, company news, and engineering innovations.

CPSIG Established (2004)
As global demand increased, CheckPoint developed a strategy to enter the Asian market. An office was launched in Singapore to establish a center to provide sales support and customer service in the Far East. As relationships were built and as CheckPoint products earned a positive reputation in Australia and Asia, pump and package sales in the region began to grow.

CP Dubai Established (2007)
After winning a multi-million dollar contract based in Romania, the next opportunity for growth became apparent. With worldly experience developing his understanding and appreciation of the culture, Scott moved to Dubai to establish an office and even further expand CheckPoint's global presence.

Machine Shop Established (2008)
As CheckPoint transformed and improved its products in pursuit of excellence, the need for an

in-house production system arose. The machine shop was established to support engineering innovation, strengthen quality control over parts, and improve production schedules.

CPFAB Shop Established (2008)
As CheckPoint's operations grew, engineering complete chemical packages became a high priority. In order to maintain control over the quality and lead time of its packages, Andrew established CheckPoint Fabrication (CPFAB). This fabrication shop grew to become CheckPoint's provider of skids, tanks, totes, and structures commonly requiring exotic materials and highly custom builds.

IntelliJECT (2010)
CheckPoint introduced its IntelliJECT closed-loop PLC system with an auto-ready option. The system could be controlled from a local touch screen display or via a remote signal. It also enabled the operator to view the pump output percentage, flow rates, and approximate tank level measurements for each pump. Smart start-up, shutdown, and emergency procedures could be implemented, and the data logging feature allowed the tracking of package

performance over time, which made it easy for an operator to anticipate when maintenance was needed. The addition of this system to CheckPoint's offerings propelled CheckPoint into the advanced area of automation and heightened monitoring at a time when processes were starting to become more autonomous.

Rebranding (2014)
As its global reputation propelled sales, CheckPoint looked inward for improvement opportunities. With a focus on quality, CheckPoint set out to create a clear, effective brand that reflected its core values. The company endeavored to streamline all products and processes, overhaul literature, and launch a more interactive, responsive website. CheckPoint's rebranding inspired a feeling of innovation, change, and continual improvement for employees and customers, and it set the stage for success in the years to come.

Rentals

CheckPoint's rental program is designed for quality, convenience, and versatility. We offer short and long-term equipment, complete technical assistance, and flexible rental periods. When developing a rental plan for our customers, we accommodate and consider all application requirements and parameters. CheckPoint locations maintain a full selection of pumps and packages, stocked and ready to go on a moment's notice. When an immediate chemical injection pump or system is needed for a quick turnaround, it can be provided on time to any location around the globe. CheckPoint's rental program is an attractive, non-permanent solution to qualify any chemical's efficacy before system-wide implementation. Some clients value the flexibility of a system that allows them to pay as they go, with the ability to make changes or adjustments along the way. With these motivations in mind, CheckPoint will dedicatedly work to develop the perfect rental solution for any and all chemical injection needs.



SHORT NOTICE

Chemical injection systems can be available within 24 hours and can be rented for as long as necessary.



IDEAL FOR TESTING

Qualify your chemical compatibility before purchasing equipment.



ELIMINATE CAPITAL EXPENSES

A leased package can be expensed instead of capitalized.



MAINTENANCE COSTS

All maintenance costs are included in the rental price, so there are no surprise expenses.



MINIMAL DOWNTIME

Our rental process was designed to efficiently switch out and maintain equipment with minimal production disruption.



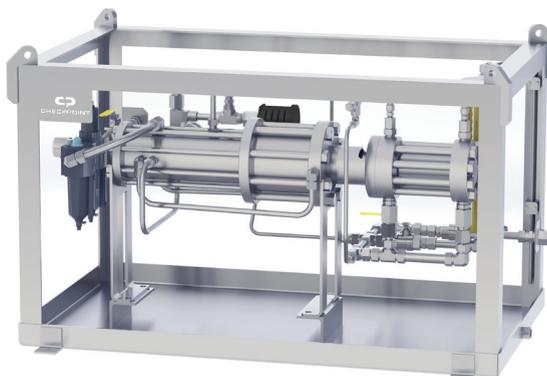
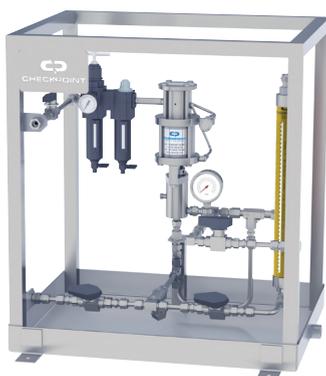
TECHNICAL ASSISTANCE

CheckPoint will train any personnel on-site to set up and maintain equipment.



BILLING

Rental charges begin the day our equipment is dispatched from your nearest CheckPoint warehouse and cease on the day our equipment is returned.



ON-SITE CALLS

CheckPoint's technicians are always available to conduct on-site surveys, perform maintenance, and answer questions related to pumps, systems, and sites. Our experienced service team will pick up, service, and troubleshoot a variety of brands and types of pumps, such as diaphragm, centrifugal, gear pumps and more. With pride and focus driving our superior service, our team is always prepared to assist our customers with any and all process equipment needs.

REPAIRS AND RETURNS

CheckPoint will restore any pump back to its factory settings and return it completely refurbished. Our customers can expect a full review and diagnosis, complete with findings. Proactive services are proven to extend the useful life of the pump, system, and process equipment. This complete refurbishment is provided by expert technicians who handle and service OEM parts, pumps, and assemblies every day. CheckPoint's repair process includes honing the cylinder and piston rod, heat-washing all parts, and replacing all seals. With thorough operations and attention to detail, this repair and return program provides a quick, efficient, and complete method of pump service. By allowing the chemical injection experts to overhaul their pumps properly and thoroughly, our customers receive the level of service and expertise that CheckPoint guarantees in every aspect of its business.

EXCHANGES

CheckPoint recognizes the cost of downtime and has developed a program to ensure expedient service. Our Exchange Program guarantees that a replacement pump will leave our facility within 24 hours of a request. Once our customer receives the exchange pump, the customer simply sends CheckPoint the pump requiring service. CheckPoint only charges for the parts and labor required to bring that pump to its original specifications. This ensures a seamless transition between pumps without any disruption to production and effectively reduces both cost and downtime.

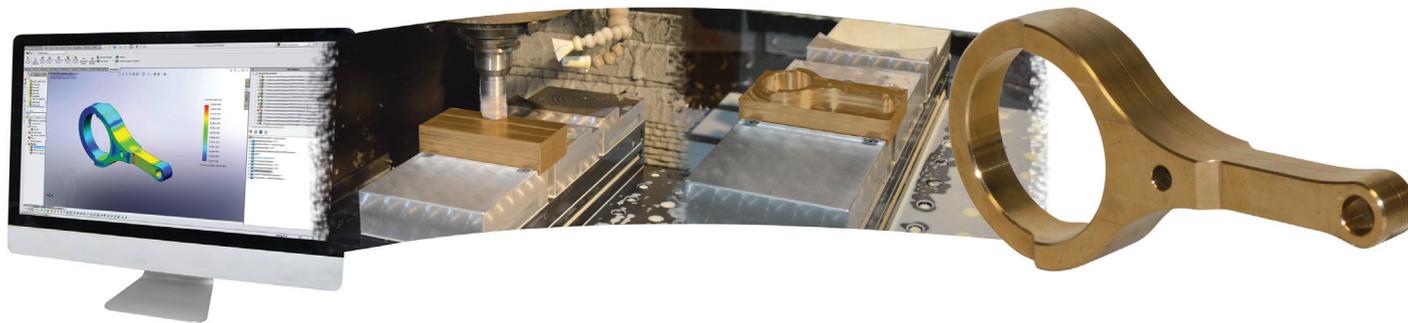
FABRICATION

CheckPoint Fabrication (CPFAB) specializes in the design and fabrication of metal structures and components. CPFAB offers plasma cutting, mechanical shearing, forming, and welding a variety of materials, including stainless steel, carbon steel, and aluminum. CPFAB, located in Marrero, Louisiana, was founded in order to satisfy CheckPoint's requirements for high-quality, timely packages and tanks. CPFAB is the exclusive fabrication provider for CheckPoint and now offers additional fabrication services for a multitude of industries.



UNIQUE ENGINEERING

CheckPoint understands the important relationship between engineering and manufacturing. Working closely with our engineering team, our skilled machinists maintain the expertise and equipment necessary to produce any product from an engineering drawing, from novel parts and components to advanced assemblies. When a client requires a custom part, CheckPoint can assist readily. The design and production capabilities of our machine shop and engineers expand beyond CheckPoint's product lines and are not limited to the realm of chemical injection. We envision the complete scope of our clients' projects and can provide in-house drawings, 3-D models, calculations, tolerances, and material yields with each solution.



PRODUCTION MACHINING

CheckPoint established a machine shop to develop high-quality precision machining services aimed at supporting the heightened level of engineering that has always driven the innovation and quality of its products. It was important to ensure that all product components met our exacting quality standards as our product line expanded. Today, CheckPoint continues to utilize its machine shop to manufacture parts, continually improve designs, and innovate new products precisely and efficiently, with quality control at the forefront.

EXOTIC MATERIALS

As the chemical industry advances and introduces new ways to treat processes, it is important to design components that will withstand any aggressive chemical. CheckPoint always considers the complete chemical injection solution and offers all components, accessories, and products in a wide array of materials to ensure the likelihood of an optimum chemical compatibility to our clients' material specifications. In addition to 316SS, CheckPoint offers products in an array of materials, such as Hastelloy, Titanium, duplex stainless steel, Aluminum, Nitronic, Carbon Steel, and Monel.

VARIABLE QUANTITIES

CheckPoint's in-house machining facility produces products in any quantity without restriction — from one-off to high volume runs. Our dedicated staff's hands-on approach ensures maximum quality, with tolerances guaranteed available to meet client and product requirements.

ADVANCED EQUIPMENT

Our machine shop utilizes highly skilled technicians and precise machining equipment to guarantee that every CheckPoint product meets our quality standards. Our professional machinists operate using the following equipment: Leadwell V-50 Machining Center, Leadwell MV-40 Machining Center, Leadwell T-8 CNC Lathe, Mori Seiki NZ-1500 T3 Y3 Machining Center, Acra Manual Lathe, and an Acra Manual Mill.



INSTALLATION KIT

CheckPoint's **Installation Kit** includes the essential pump components, fittings, and ball valves necessary to guarantee a safe and effective pump installation. CheckPoint assembled this easy-install kit to ensure that your pump is primed and functioning optimally.

For modularity, each kit contains Quik-Clamp™ Connections and a quick-release bayonet bowl. The lubricator flow sensor provides a nearly constant oil/air ratio over a wide range of airflows. The 360° visibility provided by the lubricator's sight-feed dome simplifies installation and adjustment. The regulator-balanced valve minimizes the effects of inlet pressure variation on the outlet pressure.

The installation kit also contains CheckPoint's ST Chemical Filter, CheckRate GS Calibration Gauge, 316 SS ball valves, fittings, and 1 pint of Kilfrost. Kilfrost is an anti-freeze lubricant for pneumatic products, which works to decrease pump freeze. This installation kit provides the essential accessories required for installing and maintaining a CheckPoint pump and is recommended to protect your investment while reducing field maintenance expenses.



CALIBRATION GAUGES

CheckPoint designed the **CheckRate™ GS Calibration Gauge** to support the accuracy and reliability of its pumps and systems. This calibration gauge is constructed with mandrel-formed glass to achieve an internal diameter accuracy of 0.001 in (0.025 mm), which allows for volumetric accuracy within 1%.

The CheckRate GS has an internal tensioning bar/seal system, which reduces glass forces and ensures minimal leakage, even in extreme weather conditions. In order to eliminate creep deformation, CheckPoint utilizes Pyrex® glass and 316L SS wetted components, which are sealed with fully fluorinated elastomeric O-rings. The UV-stabilized and chemically resistant PVC shield reduces cracking and yellowing in harsh offshore conditions. The highly visible decal is easy to read, and the PVC shield fully protects it from the elements. The CheckRate™ GS Calibration Gauge is also available in PVC.



Calibration certificates are available upon request; CheckPoint stands by the accuracy and quality of its products.

CHEMICAL FILTER

CheckPoint designed the **ST Chemical Filter** to fit the niche between expensive, high-pressure chemical filters and inexpensive, less protective Y-strainers. The ST Chemical Filter utilizes filtration qualities found in high-pressure filters, such as increased system protection and a chemically inert element. The ST filter is housed in 316L SS, with chemically inert filter elements available in 316L SS and UHMWP. The surface areas of both the ½" and 1" filter elements are greater than the surface area of a typical Y-strainer, which allows for tighter filtration (as little as 40 microns) and excellent C_v ratings. CheckPoint's ST filter was engineered with easy installation and maintenance in mind. Its filter element is very large relative to its connection size, which enhances system performance by maximizing the time between filter element maintenances. CheckPoint's simple flow-through design minimizes the pressure drop through the filter, allowing for the bowl to be removed for service with minimal spillage. Disassembly for maintenance requires no tools, and the unit's low clearance requirement provides easy access.



FAILSAFE™ CHECK VALVES

The **FailSafe™ Check Valve** offers a patented poppet and seat design. This unique quality allows the O-ring to roll away from the seat as it swells, thereby avoiding damage while ensuring a bubble-tight seal. The grooved body interacts with the poppet and O-ring to allow foreign particles to flow through without clogging the check. FailSafe Check Valves provide outstanding chemical compatibility due to high-grade, versatile materials of construction. All 316 SS materials, combined with FKM, FFKM, BUNA-N, HNBR or Viton O-rings, ensuring compatibility with almost any chemical. As a complement to their quick-repair design, check rebuild kits are stocked for expedient handling and delivery, further ensuring minimal downtime.



* CheckPoint also offers exotic material construction of pumps and accessories upon request.

ELECTRIC



Pg. 14

Series FXA

Maximum Pressure
15,000 PSI
(1,034 BARG)

Maximum Flow Rate
35.92 USG/H (136.05 L/H)
Minimum Flow Rate
0.01 USG/H (0.038 L/H)



Pg. 12

Series FXS SOLAR

Maximum Pressure
12,000 PSI
(827 BARG)

Maximum Flow Rate
47.24 USG/H (178.82 L/H)
Minimum Flow Rate
0.34 USG/H (1.29 L/H)



Pg. 16

Series E

Maximum Pressure
12,000 PSI
(827 BARG)

Series E

Maximum Flow Rate
56.13 USG/H (212.47 L/H)
Minimum Flow Rate
0.00 USG/H (0.0 L/H)



Pg. 18

Series F

Maximum Pressure
12,000 PSI
(827 BARG)

Series F

Maximum Flow Rate
56.13 USG/H (212.47 L/H)
Minimum Flow Rate
0.0 USG/H (0.0 L/H)



Pg. 22

Series MDZ

Maximum Pressure
2,500 PSI
(172 BARG)

Maximum Flow Rate
60 USG/H (227.13 L/H)
Minimum Flow Rate
0.010 USG/H (0.038 L/H)

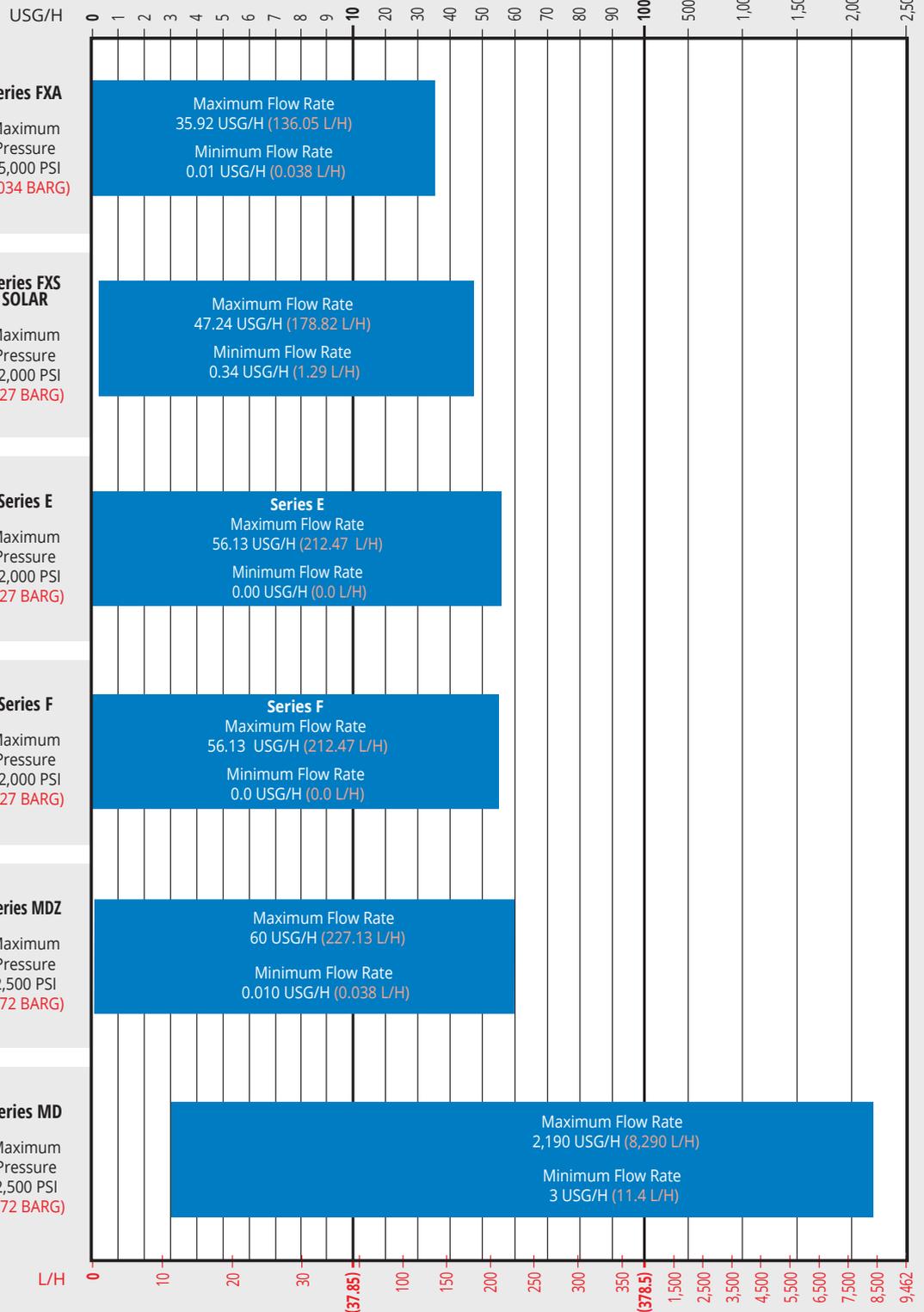


Pg. 20

Series MD

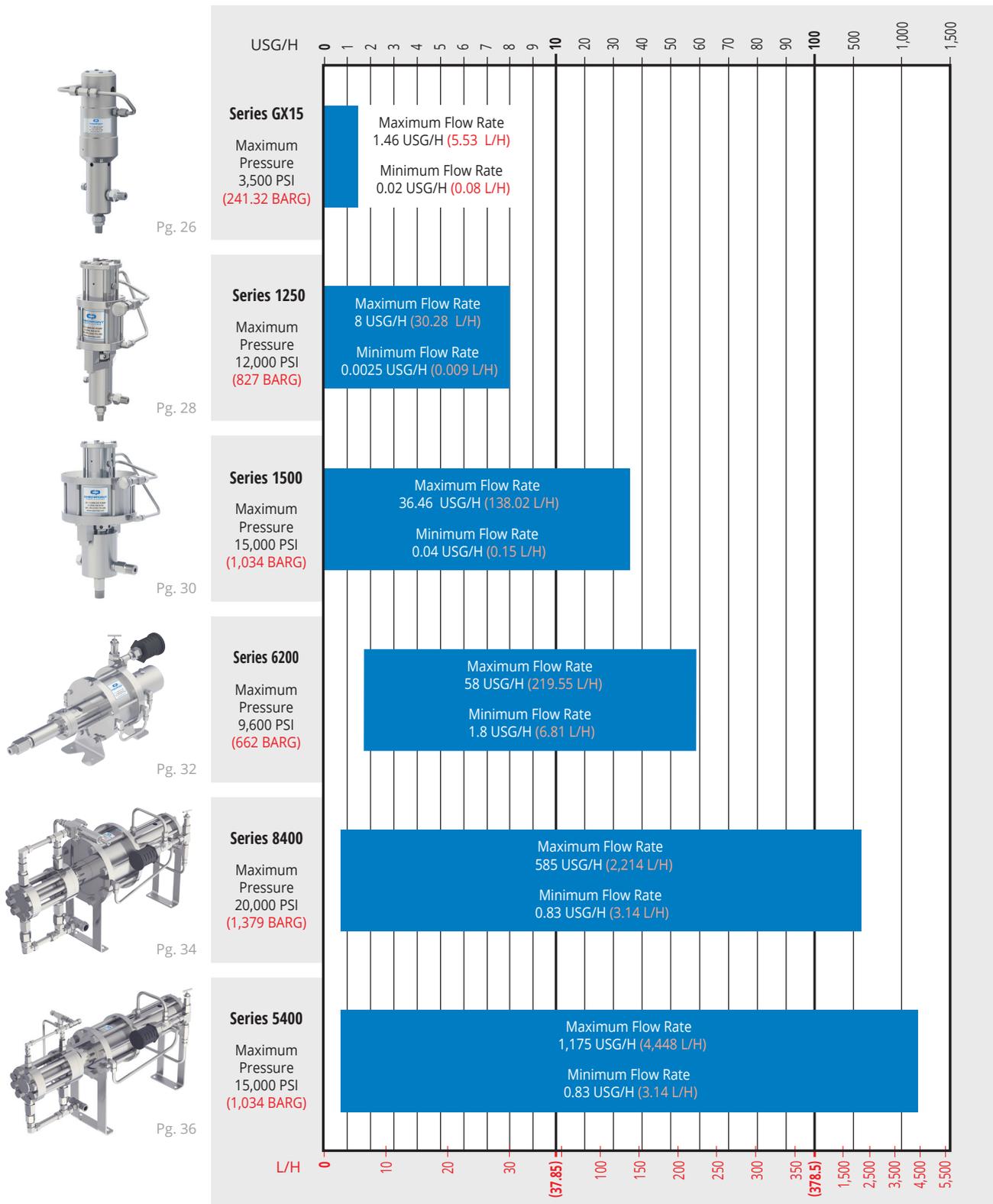
Maximum Pressure
2,500 PSI
(172 BARG)

Maximum Flow Rate
2,190 USG/H (8,290 L/H)
Minimum Flow Rate
3 USG/H (11.4 L/H)



Flow rate expressed at 0 PSIG discharge pressure.

PNEUMATIC



Flow rate expressed at 0 PSIG discharge pressure.



PUMP CATEGORY

Type: Plunger
 Control: Motor Speed
 Stroke: 0.75 in (19 mm) Fixed

FLOW RATE

0.34 - 47.24 USG/D (1.29 - 178.82 L/D)

PRESSURE

0 - 12,000 PSIG (0 - 827.37 BARG)

SUPERIOR DESIGN

- Durable, High-Quality Construction and Materials
- Lightweight, Portable, and Sturdy Tripod Stand
- Quick Installation and Maintenance
- Prewired with MC4 Quick Connectors
- Accurate and Repeatable Injection
- Class 1, Division 2 Motor
- Continuous Injection; No Timers
- Optimal Battery Life
- Safety and Environmental Benefits

CHEMICAL RESISTANCE

Proprietary, high-quality seal materials enable CheckPoint pumps to provide unparalleled chemical resistance. Wetted components are available in an array of materials. Chemical applications include, but are not limited to:

- Scavengers (H₂S, O₂, CO₂)
- Hydrate Inhibitors (MeOH, MEG, LDHI)
- Foamers and Defoamers
- Corrosion, Scale, and Paraffin Inhibitors
- Clarifiers, Biocides, Bleaches, and Acids

FXS MODEL	FLOW RATE (MINIMUM) USG/D (L/D)	FLOW RATE (MAXIMUM) USG/D (L/D)	WORKING PRESSURE (MAXIMUM) PSIG (BARG)	PLUNGER DIAMETER IN (MM)	DIMENSIONS L X W X H IN (MM)	PACKAGE WEIGHT LB (KG)	SUCTION CONNECTION	DISCHARGE CONNECTION
1250 1/8"	0.34 (1.29)	2.67(10.11)	12,000 (827.37)	1/8 (3.18)	40.34 (1,025) x 45.65 (1,160) x 85 (2,159)	254 (115)	1/4" MNPT	1/4" MNPT
1250 3/16"	0.78 (2.95)	5.73 (21.69)	7,500 (517.11)	3/16 (4.76)	40.34 (1,025) x 45.65 (1,160) x 85 (2,159)	254 (115)	1/4" MNPT	1/4" MNPT
1250 1/4"	1.47 (5.56)	12.21 (46.22)	7,500 (517.11)	1/4 (6.35)	40.34 (1,025) x 45.65 (1,160) x 85 (2,159)	254 (115)	1/4" MNPT	1/4" MNPT
1250 3/8"	2.5 (9.46)	24.88 (94.18)	3,250 (224.08)	3/8 (9.53)	40.34 (1,025) x 45.65 (1,160) x 85 (2,159)	254 (115)	1/4" MNPT	1/4" MNPT
1250 1/2"	5.66 (21.43)	47.24 (178.82)	1,850 (127.55)	1/2 (12.70)	40.34 (1,025) x 45.65 (1,160) x 85 (2,159)	254 (115)	1/4" MNPT	1/4" MNPT

Chart data reflects system as shown featuring one (1) solar panel.
 Minimum flow represents lowest capability independent of insolation factor.
 Maximum flow rates based on insolation factor of 7.0 against 0 PSIG (0 BARG) discharge pressure.
 Table data ranges above should be for quick reference only. See complete charts for system selection.

CheckPoint's **Series FXS Solar Injection System** was designed to provide a quality, low-maintenance, and environmentally friendly chemical injection solution. From its high-grade materials of construction (316SS, Hastelloy, and PVC) to its unique tripod stand, this system was designed with maximum utility in mind.

The Series FXS Solar Injection System's lightweight, portable, and sturdy design lends itself to easy mobility in the field. Each system is prewired with industry-standard MC4 quick connectors for both the panel and the pump, ensuring minimal installation and setup time. The entire system was designed to be effortlessly assembled by one person in as little as fifteen minutes. The front access enclosure containing its battery and charge controller is raised to an easy-access level that provides clearance for rain or snow. The integrated base allows the pump to dependably stand alone or to be easily bolted to a structure.

This package can accommodate multiple plunger diameters ranging from 1/8" to 1/2", which allows for a wide variety of flow rates and pressures. The pump can deliver up to 47.24 USG/D (**178.82 L/D**) and can reliably inject into pressures up to 12,000 PSIG (**827.37 BARG**).

CheckPoint's Series FXS Solar Injection System is optimized for continuous, reliable chemical injection, with precision flow rate control and no timers. Its Class 1, Division 2 pump motor ensures a heightened level of quality and safety. Each solar system is sized per application and uses a highly efficient pump designed and manufactured in-house by CheckPoint, ensuring battery longevity. In addition to diminishing the waste associated with battery failure, eliminating gas emissions further protects the environment.

From its ease of installation and maintenance, to its wide range of flow rates and pressures, to its safety and environmental benefits, every aspect of this system's design will optimize your chemical injection processes. For applications beyond those provided, please contact CheckPoint for a customized solution.





PUMP CATEGORY

Type: Plunger
 Control: DFC, HSV or Motor Speed
 Stroke: 0.75 in (19 mm) Fixed

FLOW RATE

0.01- 35.92 USG/H (0.037 - 136.05 L/H)

PRESSURE

0 - 15,000 PSIG (0 - 1,034 BARG)

SUPERIOR DESIGN

- Durable, High-Quality Materials
- Accurate and Repeatable Injection
- Quick Maintenance and Low Downtime
- High Return on Investment

CHEMICAL RESISTANCE

Proprietary, high-quality seal materials enable CheckPoint pumps to provide unparalleled chemical resistance. Wetted components are available in an array of materials. Chemical applications include, but are not limited to:

- Scavengers (H₂S, O₂, CO₂)
- Hydrate Inhibitors (MeOH, MEG, LDHI)
- Foamers and Defoamers
- Corrosion, Scale, and Paraffin Inhibitors
- Clarifiers, Biocides, Bleaches, and Acids

WARRANTY

CheckPoint guarantees 40 months of material and workmanship.

FXA MODEL	FLOW RATE (MINIMUM) USG/H (L/H)	FLOW RATE (MAXIMUM) USG/H (L/H)	WORKING PRESSURE (MAXIMUM) PSIG (BARG)	PLUNGER DIAMETER IN (MM)	DIMENSIONS L X W X H IN (MM)	WEIGHT LB (KG)	SUCTION CONNECTION	DISCHARGE CONNECTION
1250 1/8" HP	0.01 (0.04)	0.22 (0.83)	12,000 (827)	1/8 (3.2)	22 (558) X 15.3 (389) X 12.3 (312)	64 (29)	1/4" MNPT	1/4" MNPT
1250 3/16"	0.02 (0.08)	0.50 (1.91)	7,500 (517)	3/16 (4.89)	22 (558) X 15.3 (389) X 12.3 (312)	64 (29)	1/4" MNPT	1/4" MNPT
1250 1/4"	0.04 (0.15)	0.91 (3.44)	7,500 (517)	1/4 (6.4)	22 (558) X 15.3 (389) X 12.3 (312)	64 (29)	1/4" MNPT	1/4" MNPT
1250 1/4" HP	0.04 (0.15)	0.91 (3.44)	12,000 (827)	1/4 (6.4)	22 (558) X 15.3 (389) X 12.3 (312)	64 (29)	1/4" MNPT	1/4" MNPT
1250 3/8"	0.09 (0.34)	2.13 (8.08)	7,500 (517)	3/8 (9.5)	22 (558) X 15.3 (389) X 12.3 (312)	64 (29)	1/4" MNPT	1/4" MNPT
1250 1/2"	0.15 (0.57)	3.85 (14.57)	7,500 (517)	1/2 (12.7)	22 (558) X 15.3 (389) X 12.3 (312)	64 (29)	1/4" MNPT	1/4" MNPT
1500 3/8" HP	0.086 (0.33)	2.13 (8.08)	15,000 (1,034)	3/8 (9.52)	22.7 (577) X 16.6 (421) X 12.8 (325)	71 (32)	1/2" MNPT	3/8" AC
1500 1/2" HP	0.15 (0.57)	3.85 (14.57)	10,000 (689)	1/2 (12.7)	22.7 (577) X 16.6 (421) X 12.8 (325)	71 (32)	1/2" MNPT	1/2" MNPT
1500 3/4"	0.34 (1.29)	8.75 (33.15)	4,500 (310)	3/4 (19.05)	22.7 (577) X 16.6 (421) X 12.8 (325)	71 (32)	1/2" MNPT	1/2" MNPT
1500 1"	0.61 (2.31)	15.74 (59.63)	2,500 (172)	1 (25.4)	22.7 (577) X 16.6 (421) X 12.8 (325)	71 (32)	1/2" MNPT	1/2" MNPT
1500 1-1/2"	1.38 (5.22)	35.92 (136.05)	1,100 (76)	1-1/2 (38.1)	22.6 (575) X 17.7 (451) X 12.8 (325)	86 (39)	3/4" MNPT	3/4" MNPT

Tabular data represents VFD controlled version and should be used for quick reference only. See performance curves for accurate pump selection.

FXA series pumps are available in single, dual and triple-headed configurations.

Chart reflects single head pump with 1,750 RPM motor and 15:1 reducer. For 1,450 RPM motor, multiply flow by 0.83.

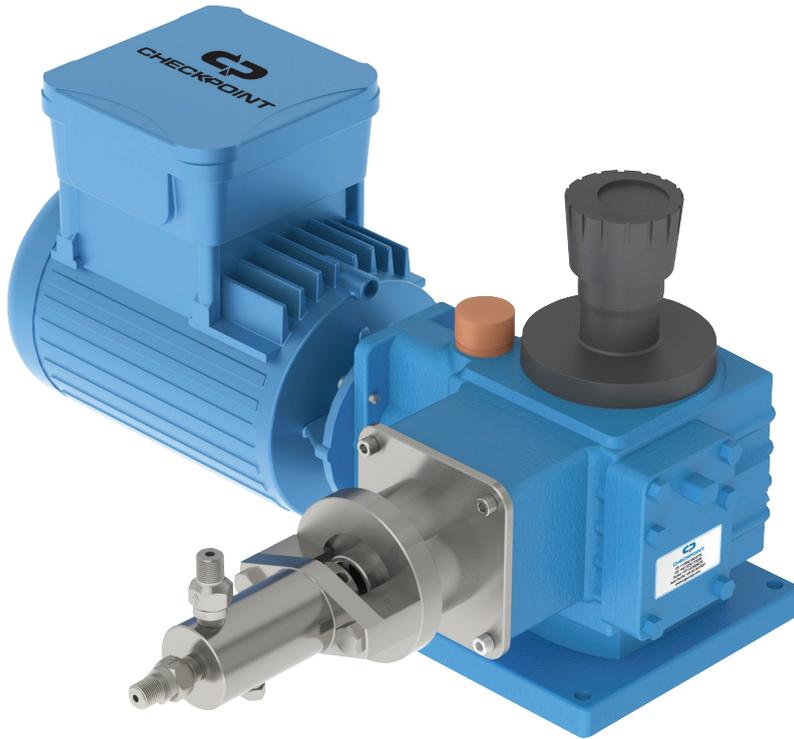
Gearboxes vary. Contact CheckPoint for additional data.

CheckPoint's **Series FXA** represents a modular, scalable electric pump with a highly efficient drive mechanism. Single and multiple FXA drives accommodate a variety of motors and a full range of plunger diameters from 1/8" to 1-1/2", in conjunction with any **Series 1250 or 1500** chemical head. Flow can be controlled mechanically by a CheckPoint Direct Flow Controller (DFC), or hydrostatic speed variator (HSV), or electronically by a variable frequency drive (VFD).

The Series FXA pump delivers up to 35.92 USG/H (136.05 L/H) and can reliably inject into pressures up to 15,000 PSIG (1,034 BARG). CheckPoint's modularly designed chemical heads and range of plunger sizes meet a wide variety of injection applications. Our pumps maintain unparalleled chemical resistance due to the essential integration of high-quality, proprietary seal materials. In order to meet a wide variety of chemical compatibility needs, wetted parts are available in an array of materials, such as 316 SS, Hastelloy C-276, Duplex 2205, Super Duplex 2507, PVC, ceramic and titanium, and seals are available in Viton, HNBR, FKM, and FFKM. All wet end construction materials meet the requirements of NACE MRO175 and ISO 15156.

We recommend "Plug & Play" injection packages (as pictured below) as an optimum solution to efficiently and effectively integrate chemical injection into your process. CheckPoint has engineered, manufactured, and sourced high-quality components which, combined in a package with our pumps, maximize product life and optimize productivity. We also offer custom system design and technical services to meet specialty product requirements. CheckPoint will create a solution that meets your specific chemical injection needs, from concept to completion.





PUMP CATEGORY

Type: Plunger
 Control: Stroke Length Adjustment
 Stroke: 0-0.6 in (0-15 mm)
 Maximum Rod Load: 450 lb_f (2 kN)

FLOW RATE

0.0 - 53.33 USG/H (0.0 - 201.88 L/H)

PRESSURE

0 - 12,000 PSIG (0 - 827 BARG)

SUPERIOR DESIGN

- Durable, High-Quality Materials
- Accurate and Repeatable Injection
- Quick Maintenance and Low Downtime
- High Return on Investment
- Pump Type: Plunger
- Flow Control: Stroke Length Adjustment
- Stroke Length: 0-0.6 in (0-15mm)
- Maximum Rod Load: 450 lb_f (2 kN)

CHEMICAL RESISTANCE

Proprietary, high-quality seal materials enable CheckPoint pumps to provide unparalleled chemical resistance. Wetted components are available in an array of materials. Chemical applications include, but are not limited to:

- Scavengers (H₂S, O₂, CO₂)
- Hydrate Inhibitors (MeOH, MEG, LDHI)
- Foamers and Defoamers
- Corrosion, Scale, and Paraffin Inhibitors
- Clarifiers, Biocides, Bleaches, and Acids

WARRANTY

CheckPoint guarantees 12 months of material and workmanship.

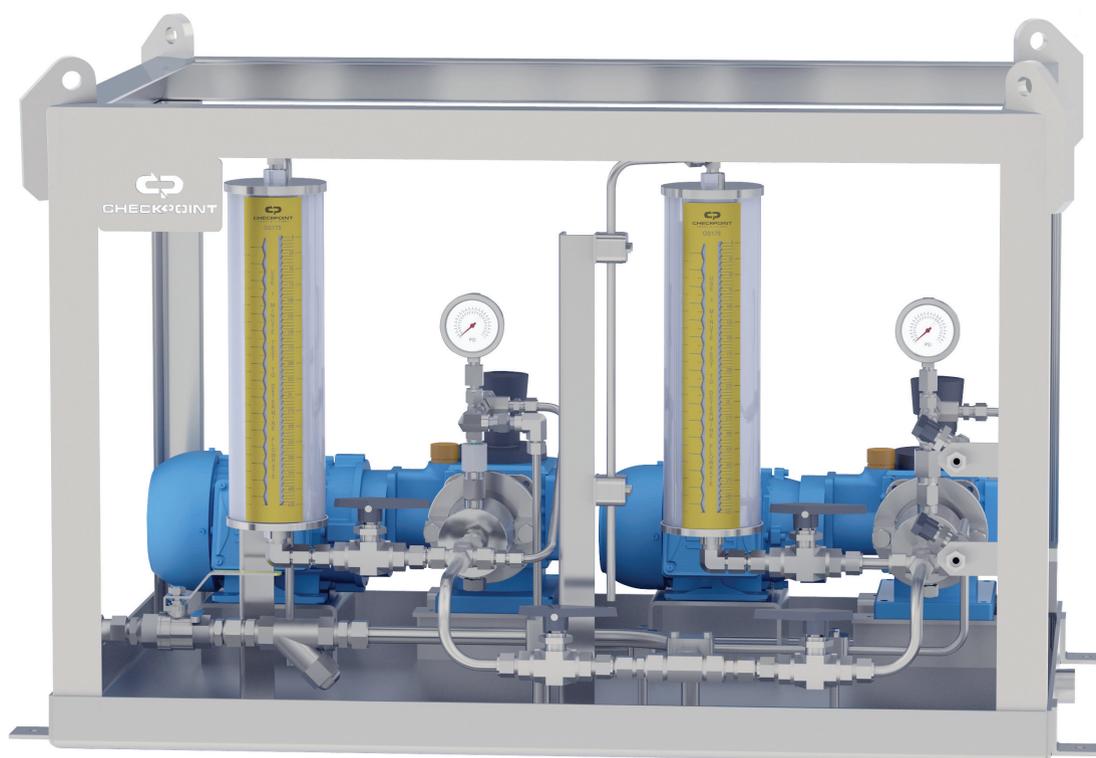
E MODEL	^{1/2"} FLOW RATE (MINIMUM) USG/H (L/H)	FLOW RATE (MAXIMUM) USG/H (L/H)	WORKING PRESSURE (MAXIMUM) PSIG (BARG)	PLUNGER DIAMETER IN (MM)	DIMENSIONS L X W X H IN (MM)	WEIGHT LB (KG)	SUCTION CONNECTION	DISCHARGE CONNECTION
1250 1/8"	0.0 (0.0)	0.34 (1.29)	12,000 (827)	1/8 (3.2)	18.1 (460) X 16.4 (417) X 10.1 (257)	58.4 (26)	1/4" MNPT	1/4" MNPT
1250 3/16"	0.0 (0.0)	0.77 (2.91)	7,500 (517)	3/16 (4.89)	18.1 (460) X 16.4 (417) X 10.1 (257)	58.4 (26)	1/4" MNPT	1/4" MNPT
1250 1/4"	0.0 (0.0)	1.37 (5.19)	9,000 (620)	1/4 (6.4)	18.1 (460) X 16.4 (417) X 10.1 (257)	58.4 (26)	1/4" MNPT	1/4" MNPT
1250 3/8"	0.0 (0.0)	3.16 (11.96)	4,000 (276)	3/8 (9.5)	18.1 (460) X 16.4 (417) X 10.1 (257)	58.4 (26)	1/4" MNPT	1/4" MNPT
1250 1/2"	0.0 (0.0)	5.92 (22.41)	2,200 (152)	1/2 (12.7)	18.1 (460) X 16.4 (417) X 10.1 (257)	58.4 (26)	1/4" MNPT	1/4" MNPT
1500 3/4"	0.0 (0.0)	13.33 (50.46)	1,000 (69)	3/4 (19.05)	18.8 (478) X 17.4 (442) X 10 (254)	66 (30)	1/2" MNPT	1/2" MNPT
1500 1"	0.0 (0.0)	23.70 (89.71)	570 (39)	1 (25.4)	18.8 (478) X 17.4 (442) X 10 (254)	66 (30)	1/2" MNPT	1/2" MNPT
1500 1-1/2"	0.0 (0.0)	53.33 (201.88)	250 (17)	1-1/2 (38.1)	18.8 (478) X 17.9 (455) X 10 (254)	79 (36)	3/4" MNPT	3/4" MNPT

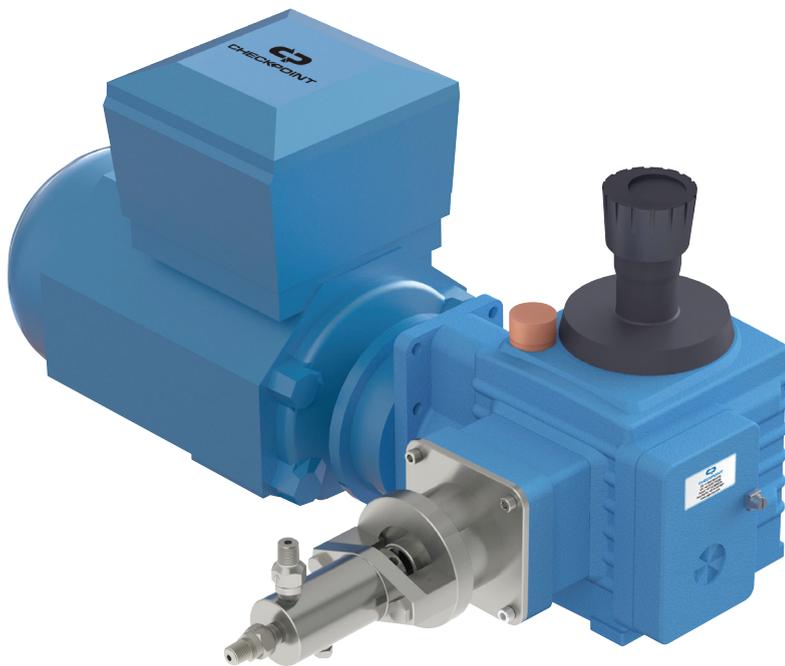
Tabular data should be used for quick reference only. See performance curves for accurate pump selection. Graph reflects single head pump with 1,750 RPM motor and 8.33:1 reducer. Multiply flow by 0.83 for 1,450 RPM motor. Series E pumps are available with other gear reduction ratios and multiple heads. Contact CheckPoint for additional data.

CheckPoint's **Series E** pump delivers up to 53.33 USG/H (201.88 L/H) and can reliably inject into pressures up to 12,000 PSIG (827 BARG) per head. It features a robust casing and a variable eccentric drive designed to withstand harsh conditions of oil and gas installations, and it contains minimal moving parts to further guarantee long-term reliability and superior uptime. An infinitely adjustable stroke length of 0-0.6 in (0-15 mm) ensures extremely precise and accurate dosing. The flow rate can be controlled while the unit is stopped or running by a single hand with the manual Vernier scale dial, or remotely using a 4-20mA signal with a rotary actuator upgrade. Multiple drives may be combined with one motor to provide redundancy, or to service several injection points. This feature aids in minimizing cost, footprint, and weight, while maintaining a high degree of accuracy at each individual point regardless of differences in operating pressures. CheckPoint's Series E and Series F drives can be coupled, and a large selection of motors can be accommodated. These features provide a wide variety of solutions and ensure compliance to any electrical requirements. To meet a wide array of chemical injection applications and to reduce spares inventory through part interchangeability, Series E pumps utilize CheckPoint's distinguished Series 1250 and 1500 modular chemical heads, which offer a full range of plunger diameters from 1/8" to 1-1/2".

Our pumps maintain unparalleled chemical resistance due to the essential integration of high-quality, proprietary seal materials. In order to meet a wide variety of chemical compatibility needs, wetted parts are available in an array of materials, such as 316 SS, Hastelloy C-276, Duplex 2205, Super Duplex 2507, PVC, ceramic and titanium, and seals are available in Viton, HNBR, FKM, and FFKM. All wet end construction materials meet the requirements of NACE MRO175 and ISO 15156.

We recommend "Plug & Play" injection packages (as pictured below) as an optimum solution to efficiently and effectively integrate chemical injection into your process. CheckPoint has engineered, manufactured, and sourced high-quality components which, combined in a package with our pumps, maximize product life and optimize productivity. We also offer custom system design and technical services to meet specialty product requirements. CheckPoint will create a solution that meets your specific chemical injection needs, from concept to completion.





PUMP CATEGORY

Type: Plunger
 Control: Stroke Length Adjustment
 Stroke: 0-0.6 in (0-15 mm)
 Maximum Rod Load: 1,124 lb_f (5 kN)

FLOW RATE

0.0 - 53.33 USG/H (0.0 - 201.88 L/H)

PRESSURE

0 - 12,000 PSIG (0 - 827 BARG)

SUPERIOR DESIGN

- Durable, High-Quality Materials
- Accurate and Repeatable Injection
- Quick Maintenance and Low Downtime
- High Return on Investment
- Pump Type: Plunger
- Flow Control: Stroke Length Adjustment
- Stroke Length: 0-0.6 in (0-15 mm)
- Maximum Rod Load: 1,124 lb_f (5 kN)

CHEMICAL RESISTANCE

Proprietary, high-quality seal materials enable CheckPoint pumps to provide unparalleled chemical resistance. Wetted components are available in an array of materials. Chemical applications include, but are not limited to:

- Scavengers (H₂S, O₂, CO₂)
- Hydrate Inhibitors (MeOH, MEG, LDHI)
- Foamers and Defoamers
- Corrosion, Scale, and Paraffin Inhibitors
- Clarifiers, Biocides, Bleaches, and Acids

WARRANTY

CheckPoint guarantees 12 months of material and workmanship.

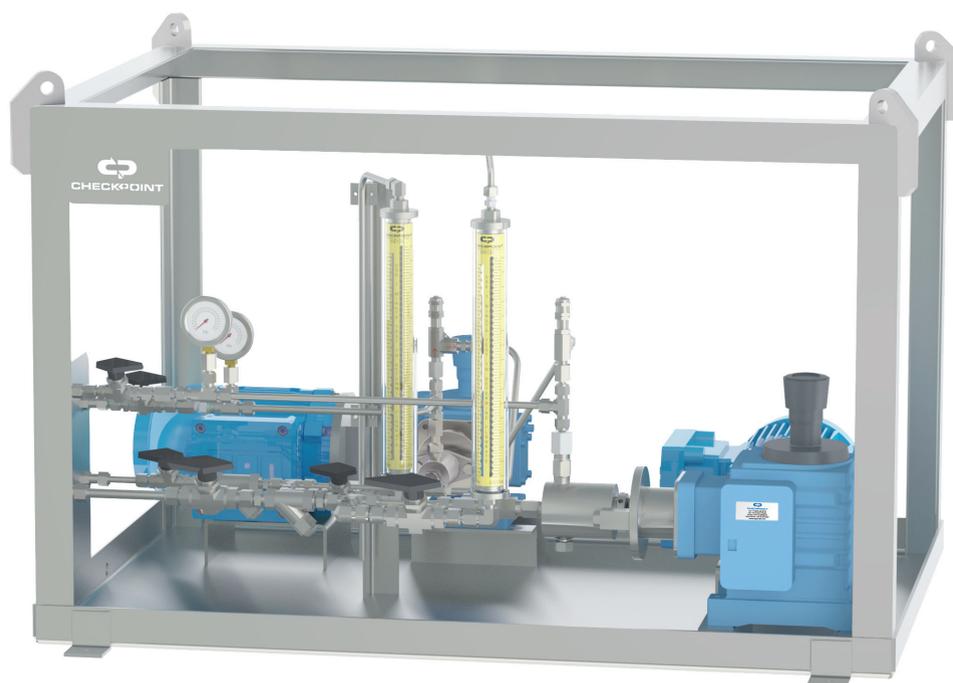
F MODEL	FLOW RATE (MINIMUM) USG/H (L/H)	FLOW RATE (MAXIMUM) USG/H (L/H)	WORKING PRESSURE (MAXIMUM) PSIG (BARG)	PLUNGER DIAMETER IN (MM)	DIMENSIONS L X W X H IN (MM)	WEIGHT LB (KG)	SUCTION CONNECTION	DISCHARGE CONNECTION
1250 1/8"	0.0 (0.0)	0.34 (1.29)	12,000 (827)	1/8 (3.2)	25.1 (645) X 17.8 (452) X 12.5 (318)	58.4 (26)	1/4" MNPT	1/4" MNPT
1250 3/16"	0.0 (0.0)	0.77 (2.91)	7,500 (517)	3/16 (4.89)	25.1 (645) X 17.8 (452) X 12.5 (318)	58.4 (26)	1/4" MNPT	1/4" MNPT
1250 1/4"	0.0 (0.0)	1.37 (5.19)	12,000 (827)	1/4 (6.4)	25.1 (645) X 17.8 (452) X 12.5 (318)	58.4 (26)	1/4" MNPT	1/4" MNPT
1250 3/8"	0.0 (0.0)	3.16 (11.96)	7,500 (517)	3/8 (9.5)	25.1 (645) X 17.8 (452) X 12.5 (318)	58.4 (26)	1/4" MNPT	1/4" MNPT
1250 1/2"	0.0 (0.0)	5.92 (22.41)	5,700 (393)	1/2 (12.7)	25.1 (645) X 17.8 (452) X 12.5 (318)	58.4 (26)	1/4" MNPT	1/4" MNPT
1500 3/8"	0.0 (0.0)	3.16 (11.96)	10,000 (689)	3/8 (9.5)	25.1 (645) X 18.9 (480) X 12.5 (318)	110 (50)	1/2" MNPT	3/8" AC
1500 3/4"	0.0 (0.0)	13.33 (50.46)	2,500 (172)	3/4 (19.05)	25.1 (645) X 18.9 (480) X 12.5 (318)	110 (50)	1/2" MNPT	1/2" MNPT
1500 1"	0.0 (0.0)	23.70 (89.71)	1,400 (97)	1 (25.4)	25.1 (645) X 18.9 (480) X 12.5 (318)	110 (50)	1/2" MNPT	1/2" MNPT
1500 1-1/2"	0.0 (0.0)	53.33 (201.88)	630 (43)	1-1/2 (38.1)	25.1 (645) X 19.3 (490) X 12.5 (318)	124.3 (56)	3/4" MNPT	3/4" MNPT

Tabular data should be used for quick reference only. See performance curves for accurate pump selection. Graph reflects single head pump with 1,750 RPM motor and 8.33:1 reducer. Multiply flow by 0.83 for 1,450 RPM motor. Series F pumps are available with other gear reduction ratios and multiple heads. Contact CheckPoint for additional data.

CheckPoint's **Series F** pump delivers up to 53.33 USG/H (201.88 L/H) and can reliably inject into pressures up to 12,000 PSIG (827 BARG) per head. The Series F features a robust casing and a variable eccentric drive designed to withstand harsh conditions of oil and gas installations, and it contains minimal moving parts to further guarantee long-term reliability and superior uptime. Its drive is similar to that of CheckPoint's Series E pump, but its size is larger due to a greater maximum rod load rating which allows for higher pressures to be achieved with certain plunger sizes. An infinitely adjustable stroke length of 0-0.6 in (0-15 mm) ensures extremely precise and accurate dosing. The flow rate can be controlled while the unit is stopped or running by a single hand with the manual Vernier scale dial, or remotely using a 4-20mA signal with a rotary actuator upgrade. Multiple drives may be combined with one motor to provide redundancy, or to service several injection points. This feature aids in minimizing cost, footprint, and weight, while maintaining a high degree of accuracy at each individual point regardless of differences in operating pressures. CheckPoint's Series F and Series E drives can be coupled, and a large selection of motors can be accommodated. These features provide a wide variety of solutions and ensure compliance to any electrical requirements. To meet a wide array of chemical injection applications and to reduce spares inventory through part interchangeability, Series F pumps utilize CheckPoint's distinguished Series 1250 and 1500 modular chemical heads, which offer a full range of plunger diameters from 1/8" to 1-1/2".

Our pumps maintain unparalleled chemical resistance due to the essential integration of high-quality, proprietary seal materials. In order to meet a wide variety of chemical compatibility needs, wetted parts are available in an array of materials, such as 316 SS, Hastelloy C-276, Duplex 2205, Super Duplex 2507, PVC, ceramic and titanium, and seals are available in Viton, HNBR, FKM, and FFKM. All wet end construction materials meet the requirements of NACE MRO175 and ISO 15156.

We recommend "Plug & Play" injection packages (as pictured below) as an optimum solution to efficiently and effectively integrate chemical injection into your process. CheckPoint has engineered, manufactured, and sourced high-quality components which, combined in a package with our pumps, maximize product life and optimize productivity. We also offer custom system design and technical services to meet specialty product requirements. CheckPoint will create a solution that meets your specific chemical injection needs, from concept to completion.





PUMP CATEGORY

Type: Multiple Elastomer Diaphragm
Control: Motor Speed

FLOW RATE

3 - 2,190 USG/H (11.36 - 8,290.1 L/H)

PRESSURE

0 - 2,500 PSIG (0 - 172.4 BARG)

SUPERIOR DESIGN

- Durable, High-Quality Materials
- Accurate and Repeatable Injection
- Quick Maintenance and Low Downtime
- High Return on Investment
- Nearly Pulse-Free Flow
- Particulate Tolerant
- Zero Leakage

CHEMICAL RESISTANCE

Proprietary, high-quality seal materials enable CheckPoint pumps to provide unparalleled chemical resistance. Wetted components are available in an array of materials. Chemical applications include, but are not limited to:

- Scavengers (H₂S, O₂, CO₂)
- Hydrate Inhibitors (MeOH, MEG, LDHI)
- Foamers and Defoamers
- Corrosion, Scale, and Paraffin Inhibitors
- Clarifiers, Biocides, Bleaches, and Acids

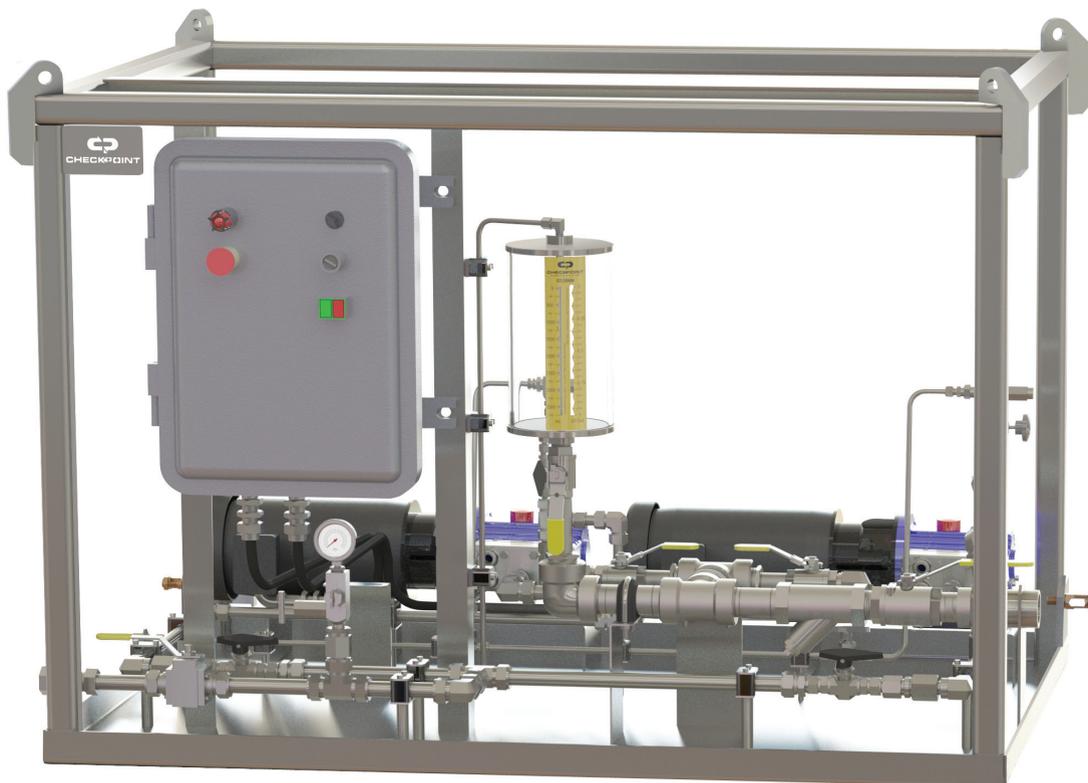
MD MODEL	FLOW RATE (MINIMUM) USG/H (L/H)	FLOW RATE (MAXIMUM) USG/H (L/H)	WORKING PRESSURE (MAXIMUM) PSIG (BARG)	DRIVE MECHANISM	PUMP ONLY DIMENSIONS L X W X H IN (MM)	PUMP ONLY WEIGHT LB (KG)	SUCTION CONNECTION	DISCHARGE CONNECTION
MDA	3 (11.4)	180 (681.4)	1,200 (82.7)	Cam Shaft	9.92 (252) x 10.1 (256.5) x 7.5 (190.5)	28 (12.7)	1/2" NPT	3/8" NPT
MDB	10.8 (40.9)	180 (681.4)	2,500 (172.4)	Cam Shaft	9.93 (252.2) x 10.38 (263.7) x 8.71 (221.2)	37 (16.8)	1/4" NPT	1/2" NPT
MDC	2.4 (9.1)	480 (1,817)	1,000 (68.9)	Wobble Plate	11.2 (284.5) x 7.3 (185.4) x 9.5 (241.3)	48 (21.7)	1" NPT	3/4" NPT
MDD	80.4 (304.3)	804 (3,043.5)	2,500 (172.4)	Wobble Plate	16.0 (406.4) x 10.0 (254) x 12.42 (315.5)	145 (66)	1-1/4" NPT	3/4" NPT
MDE	72 (272.5)	1,200 (4,542.5)	1,000 (68.9)	Wobble Plate	17.01 (432.1) x 9.44 (239.8) x 10.34 (262.6)	125 (56.8)	1-1/2" NPT	1" NPT
MDF	21 (79.5)	2,190 (8,290.1)	1,100 (75.8)	Wobble Plate	17.01 (432.1) x 9.44 (239.8) x 10.34 (262.6)	240 (109)	2-1/2" NPT	1-1/4" NPT

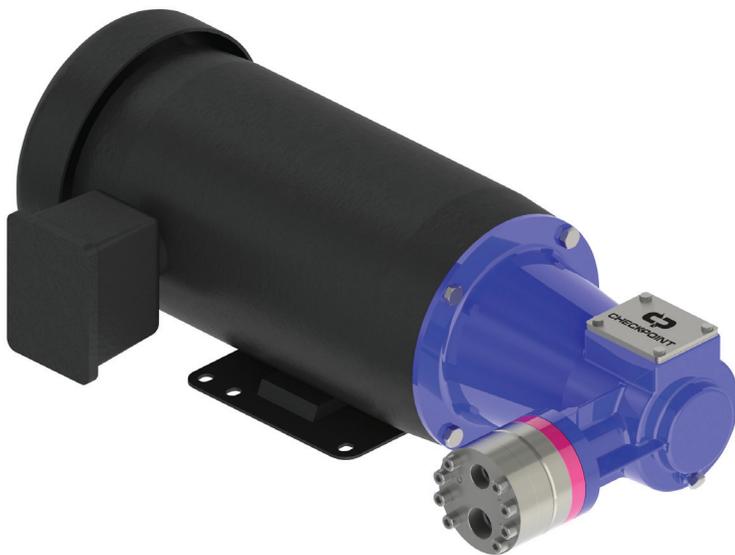
Tabular data should be used for quick reference only. See performance curves for accurate pump selection. This tabular data represents the metallic head configuration. Non-metallic head data available upon request. Contact CheckPoint for additional data.

CheckPoint's **Series MD** pump delivers up to 2,190 USG/H (8,290.1 L/H) and can reliably inject into pressures up to 2,500 PSIG (172.4 BARG). The Series MD features hydraulically actuated balanced diaphragms, with each containing an internal suction and discharge check. Each diaphragm is sequentially actuated by a cam shaft or wobble plate design, delivering up to 90 discharge cycles per second. The Series MD has low-mass poppet check valves, and none of its sliding parts ever come into contact with the chemical. These features allow particles to pass through the pump without causing damage, guaranteeing long-term reliability and superior uptime. Further, most models may also be equipped with a diaphragm vacuum safety (DVS) enhancement. This offers additional protection against diaphragm rupture in any condition that results in excess vacuum on the pump inlet. The flow rate is controlled by varying the speed of the motor with a variable-frequency drive (VFD). Any changes can be easily implemented while the unit is running, either locally at the device or remotely using a 4-20mA signal. The Series MD can accommodate a variety of motors, ensuring compliance to any stringent electrical requirements. Every aspect of the construction of this pump ensures high stability, low downtime, and the immense dependability that CheckPoint consistently guarantees.

Our pumps maintain unparalleled chemical resistance due to the essential integration of high-quality, proprietary seal materials. In order to meet a wide variety of chemical compatibility needs, wetted parts are available in an array of materials, such as 316 SS, Hastelloy C-276, Duplex 2205, Super Duplex 2507, brass, Kynar, and Polypropylene, and seals are available in EPDM, Viton-XT, Teflon, Neoprene, and Buna-NXS.

We recommend "Plug & Play" injection packages (as pictured below) as an optimum solution to efficiently and effectively integrate chemical injection into your process. CheckPoint has engineered, manufactured, and sourced high-quality components which, combined in a package with our pumps, maximize product life and optimize productivity. We also offer custom system design and technical services to meet specialty product requirements. CheckPoint will create a solution that meets your specific chemical injection needs, from concept to completion.





PUMP CATEGORY

Type: Non-metallic Monodiaphragm

Control: Motor Speed

FLOW RATE

0.05 - 60 USG/H (0.19 - 227.13 L/H)

PRESSURE

0 - 1,500 PSIG (0 - 103 BARG)

SUPERIOR DESIGN

- Durable, High-Quality Materials
- Accurate and Repeatable Injection
- Quick Maintenance and Low Downtime
- High Return on Investment
- Runs Dry Without Damage
- Particulate Tolerant
- Zero Leakage

CHEMICAL RESISTANCE

Proprietary, high-quality seal materials enable CheckPoint pumps to provide unparalleled chemical resistance. Wetted components are available in an array of materials. Chemical applications include, but are not limited to:

- Scavengers (H₂S, O₂, CO₂)
- Hydrate Inhibitors (MeOH, MEG, LDHI)
- Foamers and Defoamers
- Corrosion, Scale, and Paraffin Inhibitors
- Clarifiers, Biocides, Bleaches, and Acids

WARRANTY

CheckPoint guarantees 12 months of material and workmanship.

MDZ MODEL	GEARBOX RATIO	FLOW RATE (MINIMUM)	FLOW RATE (MAXIMUM)	FLOW RATE (MAXIMUM)	PUMP ONLY DIMENSIONS L X W X H IN (MM)	PUMP ONLY WEIGHT LB (KG)	SUCTION CONNECTION	DISCHARGE CONNECTION
		USG/H (L/H) 250 RPM	USG/H (L/H) 1,750 RPM (60Hz)	USG/H (L/H) 1,450 RPM (50Hz)				
MDZ-001	N/A	8.57 (32.44)	60 (227.13)	49.71 (188.17)	7.09 (180) X 10.02 (255) X 6.5 (165)	12 (5.4)	1/2" FNPT	3/8" FNPT
MDZ-005	5:1	1.72 (6.51)	12.04 (45.58)	9.98 (37.78)	9.07 (230) X 11.57 (294) X 5.9 (150)	18.5 (8.4)	1/2" FNPT	3/8" FNPT
MDZ-010	10:1	0.84 (3.18)	5.87 (22.22)	4.86 (18.40)	9.07 (230) X 11.57 (294) X 5.9 (150)	18.5 (8.4)	1/2" FNPT	3/8" FNPT
MDZ-025	25:1	0.31 (1.17)	2.17 (8.21)	1.80 (6.81)	9.07 (230) X 11.57 (294) X 5.9 (150)	18.5 (8.4)	1/2" FNPT	3/8" FNPT
MDZ-050	50:1	0.13 (0.49)	0.94 (3.56)	0.78 (2.95)	9.07 (230) X 11.57 (294) X 5.9 (150)	18.5 (8.4)	1/2" FNPT	3/8" FNPT
MDZ-100	100:1	0.05 (0.19)	0.32 (1.21)	0.27 (1.02)	9.07 (230) X 11.57 (294) X 5.9 (150)	18.5 (8.4)	1/2" FNPT	3/8" FNPT

Reduction ratios other than shown here are available upon request.

MDZ-001 model does not use a reduction gear drive.

Flow Rate values shown are at 1,000 PSIG (69.0 BARG) discharge with elastomeric diaphragms. Consult factory for PTFE diaphragms.

Tabular data should be used for quick reference only. See performance curves for accurate pump selection.

A minimum of 50 PSIG (3.45 BARG) back pressure is required to maintain flow accuracy.

Maximum Head Discharge Pressure: 1,500 PSIG (103 BARG) Metallic; 350 PSIG (24 BARG) PVDF; 250 PSIG (17 BARG) Polypropylene.

Maximum Inlet Pressure: 250 PSIG (All Head Materials).

Max Suspended Solids Size: 200 microns.

Weight & dimensions exclude motor. Weights shown are for metallic head.

CheckPoint's **Series MDZ** pump delivers up to 60 USG/H (**227 L/H**) and can reliably inject into pressures up to 1,500 PSIG (**103 BARG**). The Series MDZ features a unique drive system which efficiently converts the rotational energy of the motor to axial energy and pressurizes hydraulic oil, actuating a single nonmetallic diaphragm. The process pressure is constantly balanced by hydraulic pressure on its opposing side so the flexible diaphragm essentially experiences zero differential pressure – enabling incredibly low diaphragm failure rates. The Series MDZ has low-mass poppet check valves, and none of its sliding parts ever come into contact with the chemical. These features allow particles to pass through the pump without causing damage, guaranteeing long-term reliability and superior uptime. The flow rate is controlled by varying the speed of the motor with a variable-frequency drive (VFD). Any changes can be easily implemented while the unit is running, either locally at the device or remotely using a 4-20mA signal. The Series MDZ can accommodate a variety of motors, ensuring compliance to any stringent electrical requirements. The construction of this pump ensures high stability, low downtime, and the immense dependability that CheckPoint consistently guarantees.

Our pumps maintain unparalleled chemical resistance due to the essential integration of high-quality, proprietary seal materials. In order to meet a wide variety of chemical compatibility needs, wetted parts are available in an array of materials, such as 316 SS, Hastelloy C-276, brass, PVDF, and polypropylene, and seals are available in EPDM, FKM, PTFE, Neoprene, and Buna-N.

We recommend “Plug & Play” injection packages (as pictured below) as an optimum solution to efficiently and effectively integrate chemical injection into your process. CheckPoint has engineered, manufactured, and sourced high-quality components which, combined in a package with our pumps, maximize product life and optimize productivity. We also offer custom system design and technical services to meet specialty product requirements. CheckPoint will create a solution that meets your specific chemical injection needs, from concept to completion.



LOW COST OF OWNERSHIP

CheckPoint's family of products was developed to provide high-quality chemical injection solutions, with focused continual improvement propelling more than 20 years of innovation. An investment in CheckPoint promises dependability, minimal maintenance costs, and optimal process efficiency.

NO TIMING DIAPHRAGMS

CheckPoint pneumatic pumps use a patented switching spool that offers a robust alternative to timing diaphragms or spring loaded switching valves, which are commonly associated with premature failure. CheckPoint's motor design is unsusceptible to chemical attack while offering greater durability and flexibility among temperature and pressure fluctuations.

H₂S COMPATIBLE

CheckPoint's construction materials are compatible with sour gas according to NACE MRO175 and ISO 15156.

EXHAUST GAS RECOVERY

Only CheckPoint's pneumatic pumps can recover exhaust gas under significant backpressure. This unique gas recovery system enables processes to reuse drive gas after it has powered the pump. Consider the environmental benefits, as well as the cost savings, achieved by rerouting spent drive gas to the suction side of a gas compressor. Energy recaptured by CheckPoint's proprietary recovery feature has been used to power thermoelectric generators, feed catalytic heaters, and even vent externally while running within enclosures, all while lowering emissions.

HIGH FLOW TURNDOWN

CheckPoint offers industry-leading turndown ratios, which represent the versatility of the pneumatic product line. As an example, the CheckPoint Series 1250's maximum stroke rate is 220 times its minimum, allowing the single pump to accommodate multiple applications and a wider range of flow rates.

NO RETURN SPRINGS

CheckPoint pneumatic pumps do not include any return springs in the motor. A pneumatic return spring's function typically forces it to work beyond its endurance limits, thereby causing it to weaken and fail. A pneumatic pump functioning without a return spring reduces motor maintenance and ensures a more consistent rate of injection over the pump's life.

ISOLATED CHEMICAL HEAD

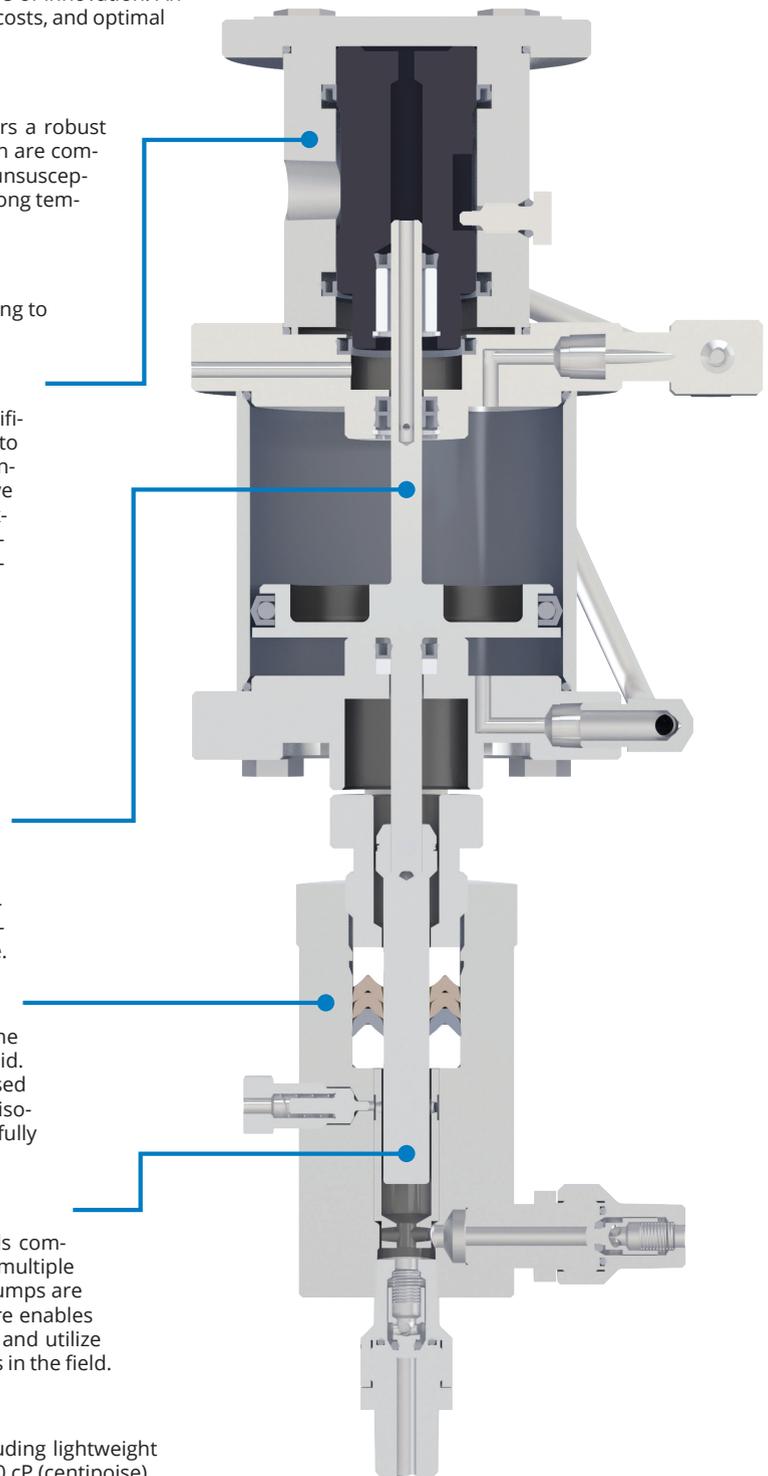
The pneumatic motor, composed entirely 316 SS, remains isolated from the wet end and is capable of running dependably on pressurized gas or liquid. When chemicals mix with driver gas, atomized chemicals can be dispersed into the environment, creating a significant health hazard. CheckPoint's isolated chemical head design completely eliminates this risk, while also fully protecting seals from the adverse effects of corrosive chemicals.

MODULAR DESIGN

CheckPoint pumps use commonly designed motors and chemical heads combined with several plunger sizes. Each chemical head accommodates multiple plunger sizes and converts at a very low cost. CheckPoint Type E and F pumps are also modular between heads and gearboxes. This modular design feature enables a pump to be moved to a different location, handle multiple chemicals, and utilize various line pressures, thus reducing the need for plumbing modifications in the field.

HIGH CHEMICAL VISCOSITY

CheckPoint pumps inject a variety of viscous chemicals worldwide, including lightweight greases and drag reducing agents with viscosities as high as 1,500–2,000 cP (centipoise).



EASE OF ADJUSTMENT

Because of their tremendous turndown capabilities, CheckPoint pumps do not require stroke length adjustment to achieve desired flow rates. This eliminates the degree of complexity and potential for pump failure associated with other chemical injection pumps, which manipulate flow rates with a mechanical stroke length adjuster. CheckPoint pumps utilize a simple, integrated needle valve to adjust the flow rate, allowing for maximum reliability in the field.

INTEGRAL CONTROLLER

CheckPoint's integral pneumatic needle valve controller contains only three moving parts. It contains no springs and no diaphragms. This eliminates problems commonly associated with external controllers, which can be bulky and often contain a multitude of springs, valves, assorted seals, and diaphragms. CheckPoint's pneumatic motors avoid the use of springs, diaphragms, and other small, sensitive components, thereby mitigating the liability associated with multiple internal parts.

NO LUBRICATION REQUIRED

CheckPoint's pneumatic motor runs without lubrication on wet air, dry air, or gas. Our competitors' manuals specify using only "clean, dry regulated air," and field experience shows they require continuous lubrication to prevent early pump failure. While CheckPoint recommends lubrication, our pneumatic motors are highly durable and can operate without lubrication when required.

RUNS ON FLUIDS

CheckPoint's pneumatic motor will run on many pressurized liquids; for example, several customers have experienced great results running their pump's motor using only pressurized seawater.

FLOW RATE CONSISTENCY

CheckPoint's patented pneumatic switching valve maintains its set stroke rate. Normal wear and tear, fluctuating gas inlet pressures, temperature changes, and liquid carryovers will not greatly affect the pump's chemical delivery rate. Introducing liquids into many pneumatic pumps will cause them to stall, whereas when necessary, CheckPoint pumps can run using only liquid as its power source.

CERTIFIED QUALITY

At CheckPoint, we strive for excellence in everything we do. We are committed to safety, environmental, and quality assurance. CheckPoint is ISO 9001:2008 certified, is a Member Contractor of ISNetworld® and is compliant with ATEX, NEMA, API 674/675, and NACE MR0175 standards.

WORLD-CLASS CHEMICAL RESISTANCE

In order to meet a wide variety of chemical compatibility needs, wetted parts are available in an array of materials, such as 316 SS, Hastelloy C-276, Duplex 2205, Super Duplex 2507, PVC, ceramic and titanium, and seals are available in Viton, HNBR, FKM, and FFKM.

BUBBLE-TIGHT, REBUILDABLE CHECK VALVES

CheckPoint pumps use poppet-style check valves that ensure bubble-tight sealing on both suction and discharge sides, at high or low pressures. If a check clogs or malfunctions, it can easily be cleaned and rebuilt in the field with minimal cost and downtime. Check valve rebuild kits are always in stock for your convenience.

SUPERIOR SERVICE & SUPPORT

From superior warranty protection to knowledgeable, continuous support, we strive to maintain a close relationship with our customers:

- Full one-year warranty on parts and labor covering materials and workmanship
- Next-day shipment for standard orders available upon request*
- Worldwide customer support including a 24-hr troubleshooting service by phone
- Qualified repair services and exchange program

* CheckPoint strives to offer next day service when requested; however, this service cannot be guaranteed. Please ask, and we will do our very best to accommodate your request.



PUMP CATEGORY

Type: Plunger
 Control: Cycle Speed
 Stroke: 1 in (25 mm) Fixed

FLOW RATE

0.02 - 1.46 USG/H (0.08 - 5.53 L/H)

PRESSURE

0 - 3,500 PSIG (0 - 241.32 BARG)

SUPERIOR DESIGN

- Durable, High-Quality Materials
- No Springs or Diaphragms
- Accurate and Repeatable Injection
- Quick Maintenance and Low Downtime
- Optimized for Shale Oil and Gas Production
- High Return on Investment

CHEMICAL RESISTANCE

Proprietary, high-quality seal materials enable CheckPoint pumps to provide unparalleled chemical resistance. Wetted components are available in an array of materials. Chemical applications include, but are not limited to:

- Scavengers (H₂S, O₂, CO₂)
- Hydrate Inhibitors (MeOH, MEG, LDHI)
- Foamers and Defoamers
- Corrosion, Scale, and Paraffin Inhibitors
- Clarifiers, Biocides, Bleaches, and Acids

ZERO EMISSIONS

CheckPoint offers standard integrated gas recovery capable of 120 PSIG (8.3 BARG) exhaust backpressure.

WARRANTY

CheckPoint guarantees 40 months of material and workmanship.

MODEL	FLOW RATE (MINIMUM) USG/H (L/H)	FLOW RATE (MAXIMUM) USG/H (L/H)	WORKING PRESSURE (MAXIMUM) PSIG (BARG)	PISTON DIAMETER IN (MM)	PLUNGER DIAMETER IN (MM)	DIMENSIONS L X W X H IN (MM)	WEIGHT LB (KG)	SUCTION CONNECTION	DISCHARGE CONNECTION
GX15 1/8"	0.02 (0.08)	0.41 (1.55)	3,500 (241.32)	1.5 (38.10)	1/8 (3.18)	4.75 (121) X 5.47 (139) X 10.6 (269)	8.00 (3.63)	1/4" MNPT	1/4" MNPT
GX15 1/4"	0.04 (0.15)	1.46 (5.53)	3,500 (241.32)	1.5 (38.10)	1/4 (6.35)	4.75 (121) X 5.47 (139) X 10.6 (269)	8.05 (3.65)	1/4" MNPT	1/4" MNPT

Tabular data should be used for quick reference only. See performance curves for accurate pump selection.

CheckPoint's positive displacement, reciprocating chemical injection pumps are specifically designed for, and extensively proven in, demanding oil and gas production applications worldwide. Both the design and construction of this pump produce a perfect balance of quality, price, and long-term cost of ownership. The pneumatic motor, composed entirely 316 SS, remains isolated from the wet end and is dependably able to run on pressurized gas or liquid without stalling. CheckPoint's double-acting design eliminates a return spring, which greatly increases repeatability and reliability over time. Our proprietary, integrated speed control offers simple, intuitive, and precise settings.

The **Series GX15** pump delivers up to 1.46 USG/H (5.53 L/H) and can reliably inject into pressures up to 3,500 PSIG (241.32 BARG). The chemical heads are interchangeable between the 1/8" and 1/4" models in order to serve a wide range of applications. Our pumps maintain unparalleled chemical resistance due to the essential integration of high-quality, proprietary seal materials. In order to meet a wide variety of chemical compatibility needs, wetted parts are available in an array of materials, such as 316 SS, Hastelloy C-276, Duplex 2205, Super Duplex 2507, ceramic and titanium, and seals are available in Viton, HNBR, FKM, and FFKM. All construction materials are compatible with sour gas according to NACE MRO175 and ISO 15156.

Only CheckPoint's pneumatic pumps can recover exhaust gas under significant backpressure. This unique gas recovery system enables processes to reuse drive gas after it has powered the pump. Consider the environmental benefits, as well as the cost savings, achieved by rerouting spent drive gas to the suction side of a gas compressor. This exclusive feature aids in lowering gas emissions while powering thermoelectric generators, feeding catalytic heaters, and even running within enclosures while venting externally.

We recommend "Plug & Play" injection packages (as pictured below) as an optimum solution to efficiently and effectively integrate chemical injection into your process. CheckPoint has engineered, manufactured, and sourced high-quality components which, combined in a package with our pumps, maximize product life and optimize productivity. We also offer custom system design and technical services to meet specialty product requirements. CheckPoint will create a solution that meets your specific chemical injection needs, from concept to completion.





PUMP CATEGORY

Type: Plunger
Control: Cycle Speed
Stroke: 1 in (25mm) Fixed

FLOW RATE

0.002 - 8.0 USG/H (0.007 - 30.28 L/H)

PRESSURE

0 - 12,000 PSIG (0 - 827.4 BARG)

SUPERIOR DESIGN

- Durable, High-Quality Materials
- No Springs or Diaphragms
- Accurate and Repeatable Injection
- Quick Maintenance and Low Downtime
- High Return on Investment

CHEMICAL RESISTANCE

Proprietary, high-quality seal materials enable CheckPoint pumps to provide unparalleled chemical resistance. Wetted components are available in an array of materials. Chemical applications include, but are not limited to:

- Scavengers (H₂S, O₂, CO₂)
- Hydrate Inhibitors (MeOH, MEG, LDHI)
- Foamers and Defoamers
- Corrosion, Scale, and Paraffin Inhibitors
- Clarifiers, Biocides, Bleaches, and Acids

OPTIONS

GR: Zero emissions with 170 PSIG (11.7 BARG) gas recovery capability
EV: Extreme Viscosity for liquids up to 2,500 cP

WARRANTY

CheckPoint guarantees 40 months of material and workmanship.

MODEL	FLOW RATE (MINIMUM) USG/H (L/H)	FLOW RATE (MAXIMUM) USG/H (L/H)	WORKING PRESSURE (MAXIMUM) PSIG (BARG)	PISTON DIAMETER IN (MM)	PLUNGER DIAMETER IN (MM)	DIMENSIONS L X W X H IN (MM)	WEIGHT LB (KG)	SUCTION CONNECTION	DISCHARGE CONNECTION
1250B 1/8"	0.002 (0.007)	0.47 (1.8)	12,000 (827.4)	2.5 (63.5)	1/8 (3.2)	5.54 (141) x 6.50 (165) x 12.07 (307)	11 (5)	1/4" MNPT	1/4" MNPT
1250B 3/16"	0.007 (0.026)	1.14 (4.3)	7,500 (517.1)	2.5 (63.5)	3/16 (4.9)	5.54 (141) x 6.50 (165) x 12.07 (307)	11 (5)	1/4" MNPT	1/4" MNPT
1250B 1/4"	0.013 (0.05)	2.0 (7.6)	12,000 (827.4)	2.5 (63.5)	1/4 (6.4)	5.54 (141) x 6.50 (165) x 12.07 (307)	11 (5)	1/4" MNPT	1/4" MNPT
1250B 3/8"	0.04 (0.16)	4.67 (17.7)	9,000 (620.5)	2.5 (63.5)	3/8 (9.5)	5.54 (141) x 6.50 (165) x 12.07 (307)	11 (5)	1/4" MNPT	1/4" MNPT
1250B 1/2"	0.08 (0.31)	8.0 (30.3)	5,000 (344.7)	2.5 (63.5)	1/2 (12.7)	5.54 (141) x 6.50 (165) x 12.07 (307)	11 (5)	1/4" MNPT	1/4" MNPT

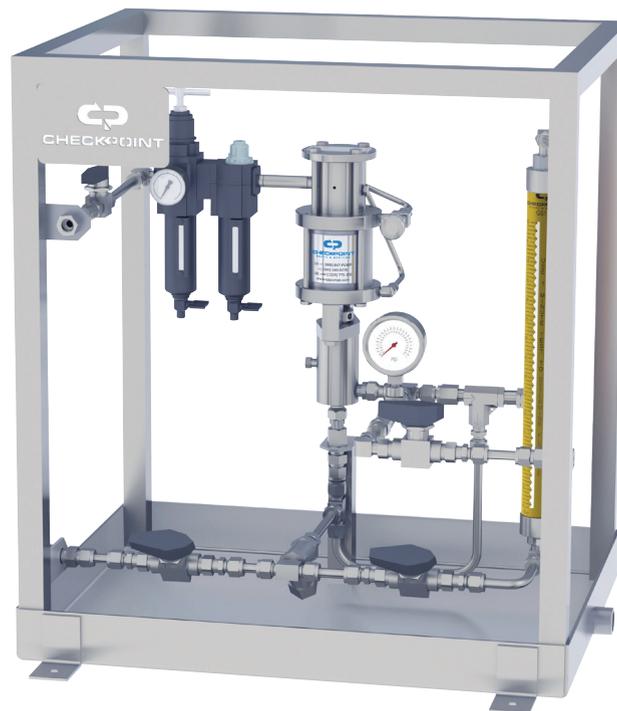
Tabular data should be used for quick reference only. See performance curves for accurate pump selection. This performance data represents the standard Series 1250. Contact CheckPoint for additional data.

CheckPoint's positive displacement, reciprocating chemical injection pumps are specifically designed for, and extensively proven in, demanding oil and gas production applications worldwide. Our pumps are utilized in various industries, such as pulp, water treatment, fertilizer dosing, paper, and fluid processing applications, where precise delivery is operationally paramount. The pneumatic motor, composed entirely 316 SS, remains isolated from the wet end and is dependably able to run on pressurized gas or liquid without stalling. CheckPoint's double-acting design eliminates a return spring, which greatly increases repeatability and reliability over time.

The **Series 1250** pump delivers up to 8.0 USG/H (30.38 L/H) and can reliably inject into pressures up to 12,000 PSIG (827 BARG). CheckPoint's modularly designed chemical heads and range of plunger sizes meet a wide variety of injection applications. Our pumps maintain unparalleled chemical resistance due to the essential integration of high-quality, proprietary seal materials. In order to meet a wide variety of chemical compatibility needs, wetted parts are available in an array of materials, such as 316 SS, Hastelloy C-276, Duplex 2205, Super Duplex 2507, PVC, ceramic and titanium, and seals are available in Viton, HNBR, FKM, and FFKM. All construction materials are compatible with sour gas according to NACE MRO175 and ISO 15156.

Only CheckPoint's pneumatic pumps can recover exhaust gas under significant backpressure. This unique gas recovery system enables processes to reuse drive gas after it has powered the pump. Consider the environmental benefits, as well as the cost savings, achieved by rerouting spent drive gas to the suction side of a gas compressor. This exclusive feature aids in lowering gas emissions while powering thermoelectric generators, feeding catalytic heaters, and even running within enclosures while venting externally.

We recommend "Plug & Play" injection packages (as pictured below) as an optimum solution to efficiently and effectively integrate chemical injection into your process. CheckPoint has engineered, manufactured, and sourced high-quality components which, combined in a package with our pumps, maximize product life and optimize productivity. We also offer custom system design and technical services to meet specialty product requirements. CheckPoint will create a solution that meets your specific chemical injection needs, from concept to completion.





PUMP CATEGORY

Type: Plunger
 Control: Cycle Speed
 Stroke: 1 in (25 mm) Fixed

FLOW RATE

0.002 - 36.04 USG/H (0.007 - 136.41 L/H)

PRESSURE

0 - 15,000 PSIG (0 - 1,034 BARG)

SUPERIOR DESIGN

- Durable, High-Quality Materials
- No Springs or Diaphragms
- Accurate and Repeatable Injection
- Quick Maintenance and Low Downtime
- High Return on Investment

CHEMICAL RESISTANCE

Proprietary, high-quality seal materials enable CheckPoint pumps to provide unparalleled chemical resistance. Wetted components are available in an array of materials. Chemical applications include, but are not limited to:

- Scavengers (H₂S, O₂, CO₂)
- Hydrate Inhibitors (MeOH, MEG, LDHI)
- Foamers and Defoamers
- Corrosion, Scale, and Paraffin Inhibitors
- Clarifiers, Biocides, Bleaches, and Acids

OPTIONS

- GR: Zero Emissions with 170 PSIG (11.7 BARG) gas recovery capability
- EV: Extreme Viscosity for liquids up to 2,500 cP

WARRANTY

CheckPoint guarantees 40 months of material and workmanship.

MODEL	FLOW RATE (MINIMUM) USG/H (L/H)	FLOW RATE (MAXIMUM) USG/H (L/H)	WORKING PRESSURE (MAXIMUM) PSIG (BARG)	PISTON DIAMETER IN (MM)	PLUNGER DIAMETER IN (MM)	DIMENSIONS L X W X H IN (MM)	WEIGHT LB (KG)	SUCTION CONNECTION	DISCHARGE CONNECTION
1500B 3/8"	0.041 (0.16)	2.3 (8.44)	15,000 (1,034)	5 (127)	3/8 (9.5)	7.33 (186) x 6.75 (171) x 13.10 (333)	27 (12.24)	1/2" MNPT	3/8" AC
1500B 1/2"	0.06 (0.24)	3.42 (12.93)	10,000 (689)	5 (127)	1/2 (12.7)	7.33 (186) x 6.75 (171) x 13.10 (333)	26 (11.79)	1/2" MNPT	1/2" FNPT
1500B 3/4"	0.12 (0.47)	9.58 (36.27)	9,000 (621)	5 (127)	3/4 (19)	7.33 (186) x 6.75 (171) x 13.10 (333)	26 (11.79)	1/2" MNPT	1/2" FNPT
1500B 1"	0.79 (3)	16.04 (60.72)	5,000 (345)	5 (127)	1 (25)	7.33 (186) x 6.75 (171) x 13.10 (333)	26 (11.79)	1/2" MNPT	1/2" FNPT
1500B 1-1/2"	1.42 (5.36)	36.25 (137.21)	2,275 (157)	5 (127)	1-1/2 (38)	6.75 (171) x 8.40 (213) x 14.29 (363)	40 (18.14)	3/4" MNPT	3/4" FNPT

Tabular data should be used for quick reference only. See performance curves for accurate pump selection. This performance data represents the standard Series 1500. Contact CheckPoint for additional data.

CheckPoint's positive displacement, reciprocating chemical injection pumps are specifically designed for, and extensively proven in, demanding oil and gas production applications worldwide. Our pumps are utilized in various industries, such as pulp, water treatment, fertilizer dosing, paper, and fluid processing applications, where precise delivery is operationally paramount. The pneumatic motor, composed entirely 316 SS, remains isolated from the wet end and is dependably able to run on pressurized gas or liquid without stalling. CheckPoint's double-acting design eliminates a return spring, which greatly increases repeatability and reliability over time.

The **Series 1500** pump delivers up to 36.25 USG/H (137.21 L/H) and can reliably inject into pressures up to 15,000 PSIG (1,034 BARG). CheckPoint's modularly designed chemical heads and range of plunger sizes meet a wide variety of injection applications. Our pumps maintain unparalleled chemical resistance due to the essential integration of high-quality, proprietary seal materials. In order to meet a wide variety of chemical compatibility needs, wetted parts are available in an array of materials, such as 316 SS, Hastelloy C-276, Duplex 2205, Super Duplex 2507, PVC, ceramic and titanium, and seals are available in Viton, HNBR, FKM, and FFKM. All construction materials are compatible with sour gas according to NACE MRO175 and ISO 15156.

Only CheckPoint's pneumatic pumps can recover exhaust gas under significant backpressure. This unique gas recovery system enables processes to reuse drive gas after it has powered the pump. Consider the environmental benefits, as well as the cost savings, achieved by rerouting spent drive gas to the suction side of a gas compressor. This exclusive feature aids in lowering gas emissions while powering thermoelectric generators, feeding catalytic heaters, and even running within enclosures while venting externally.

We recommend "Plug & Play" injection packages (as pictured below) as an optimum solution to efficiently and effectively integrate chemical injection into your process. CheckPoint has engineered, manufactured, and sourced high-quality components which, combined in a package with our pumps, maximize product life and optimize productivity. We also offer custom system design and technical services to meet specialty product requirements. CheckPoint will create a solution that meets your specific chemical injection needs, from concept to completion.





PUMP CATEGORY

Type: Plunger
 Control: Cycle Speed
 Stroke: 2 in (51 mm) Fixed

FLOW RATE

1.8 - 58.0 USG/H (6.8 - 219.5 L/H)

PRESSURE

0 - 10,000 PSIG (0 - 689 BARG)

SUPERIOR DESIGN

- Durable, High-Quality Materials
- No Springs or Diaphragms
- Accurate and Repeatable Injection
- Quick Maintenance and Low Downtime
- High Return on Investment

CHEMICAL RESISTANCE

Proprietary, high-quality seal materials enable CheckPoint pumps to provide unparalleled chemical resistance. Wetted components are available in an array of materials. Chemical applications include, but are not limited to:

- Scavengers (H₂S, O₂, CO₂)
- Hydrate Inhibitors (MeOH, MEG, LDHI)
- Foamers and Defoamers
- Corrosion, Scale, and Paraffin Inhibitors
- Clarifiers, Biocides, Bleaches, and Acids

ZERO EMISSIONS

CheckPoint offers standard integrated gas recovery capable of 120 PSIG (8.3 BARG) exhaust backpressure.

WARRANTY

CheckPoint guarantees 40 months of material and workmanship.

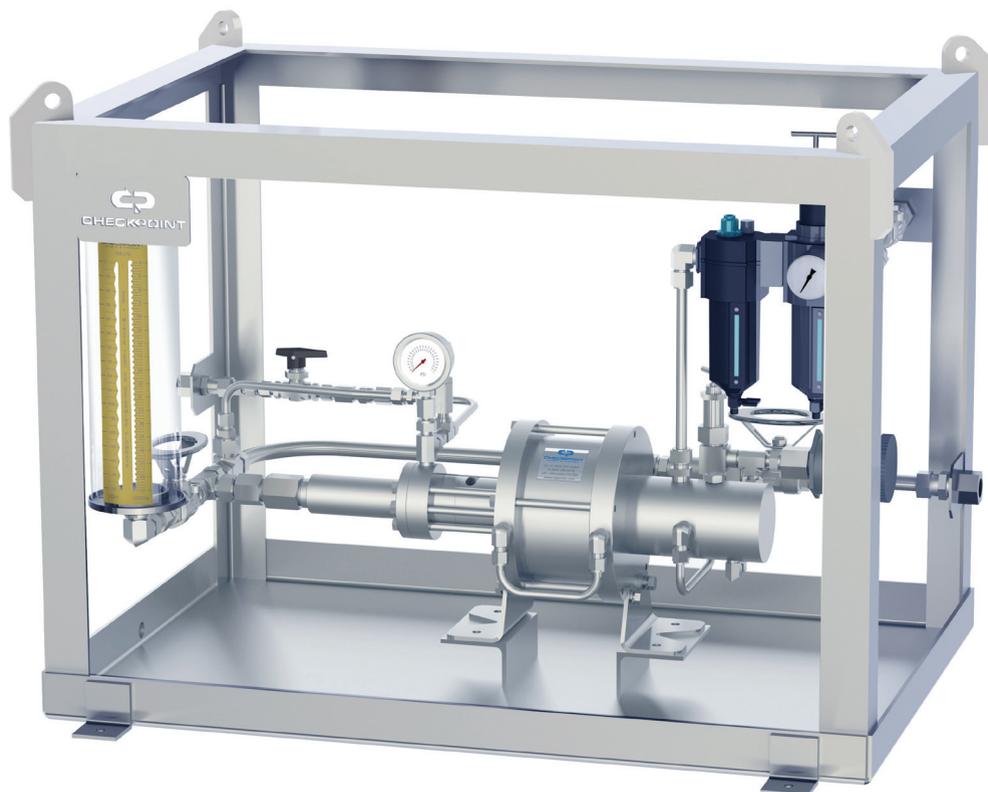
MODEL	FLOW RATE (MINIMUM) USG/H (L/H)	FLOW RATE (MAXIMUM) USG/H (L/H)	WORKING PRESSURE (MAXIMUM) PSIG (BARG)	PISTON DIAMETER IN (MM)	PLUNGER DIAMETER IN (MM)	DIMENSIONS L X W X H IN (MM)	WEIGHT LB (KG)	SUCTION CONNECTION	DISCHARGE CONNECTION
6212	1.8 (6.8)	58.0 (219.5)	10,000 (689)	6 (152.4)	3/4 (19)	28.39 (721) X 10.17 (258) X 11.51 (292)	68 (30.8)	3/4" MNPT	3/8" FNPT

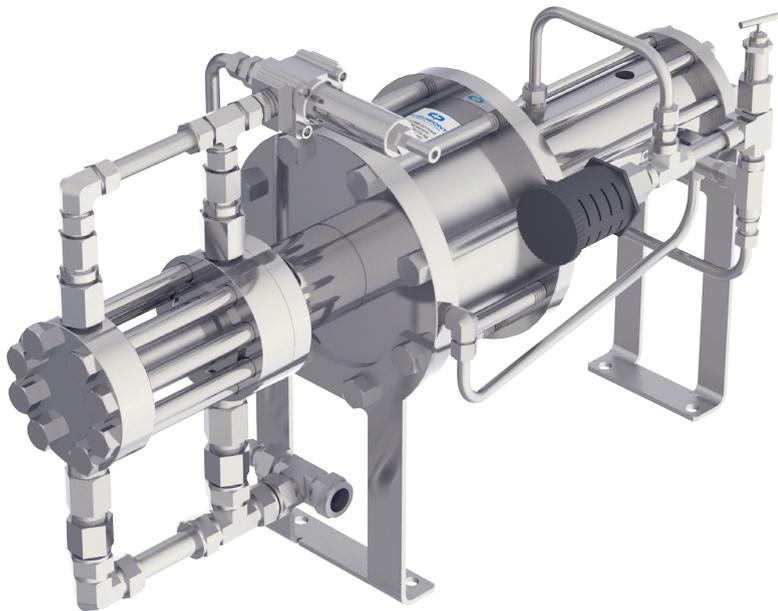
Tabular data should be used for quick reference only. See performance curves for accurate pump selection.

CheckPoint's positive displacement, reciprocating chemical injection pumps are specifically designed for, and extensively proven in, demanding oil and gas production applications worldwide. Our pumps are utilized in various industries, such as pulp, water treatment, fertilizer dosing, paper, and fluid processing applications, where precise delivery is operationally paramount. The pneumatic motor, composed entirely 316 SS, remains isolated from the wet end and is dependably able to run on pressurized gas or liquid without stalling. CheckPoint's double-acting design eliminates a return spring, which greatly increases repeatability and reliability over time.

The **Series 6200** pump features a unique head design, which integrates a check valve into the plunger tip and moves liquid on both sides of the stroke, thus increasing flow output and providing continuous injection. The Series 6200 maintains flow rates that range from 1.8 – 58.0 USG/H (6.8 – 219.5 L/H) and reliably injects into pressures up to 10,000 PSIG (689 BARG). Our pumps maintain unparalleled chemical resistance due to the essential integration of high-quality, proprietary seal materials. In order to meet a wide variety of chemical compatibility needs, wetted parts are available in an array of materials, such as 316 SS, Hastelloy C-276, Duplex 2205, Super Duplex 2507, PVC, ceramic and titanium, and seals are available in Viton, HNBR, FKM, and FFKM. All construction materials are compatible with sour gas according to NACE MRO175 and ISO 15156.

We recommend "Plug & Play" injection packages (as pictured below) as an optimum solution to efficiently and effectively integrate chemical injection into your process. CheckPoint has engineered, manufactured, and sourced high-quality components which, combined in a package with our pumps, maximize product life and optimize productivity. We also offer custom system design and technical services to meet specialty product requirements. CheckPoint will create a solution that meets your specific chemical injection needs, from concept to completion.





PUMP CATEGORY

Type: Plunger
 Control: Cycle Speed
 Stroke: 4 in (102 mm) Fixed

FLOW RATE

0.82 - 654 USG/H (3.10 - 2,476 L/H)

PRESSURE

0 - 20,000 PSIG (0 - 1,379 BARG)

SUPERIOR DESIGN

- Durable, High-Quality Materials
- No Springs or Diaphragms
- Accurate and Repeatable Injection
- Quick Maintenance and Low Downtime
- High Return on Investment

CHEMICAL RESISTANCE

Proprietary, high-quality seal materials enable CheckPoint pumps to provide unparalleled chemical resistance. Wetted components are available in an array of materials. Chemical applications include, but are not limited to:

- Scavengers (H₂S, O₂, CO₂)
- Hydrate Inhibitors (MeOH, MEG, LDHI)
- Foamers and Defoamers
- Corrosion, Scale, and Paraffin Inhibitors
- Clarifiers, Biocides, Bleaches, and Acids

ZERO EMISSIONS

CheckPoint offers standard integrated gas recovery capable of 170 PSIG (11.7 BARG) exhaust backpressure.

WARRANTY

CheckPoint guarantees 40 months of material and workmanship.

MODEL	FLOW RATE (MINIMUM) USG/H (L/H)	FLOW RATE (MAXIMUM) USG/H (L/H)	WORKING PRESSURE (MAXIMUM) PSIG (BARG)	PISTON DIAMETER IN (MM)	PLUNGER DIAMETER IN (MM)	DIMENSIONS L X W X H IN (MM)	WEIGHT LB (KG)	SUCTION CONNECTION	DISCHARGE CONNECTION
8408	0.82 (3.1)	15.2 (57.5)	20,000 (1,379)	8 (203.2)	1/2 (12.7)	31 (787) X 15.12 (384) X 21.17 (538)	186 (84.3)	1/2" MNPT	3/8" MP AC
8412	3.0 (11.4)	56.0 (212.0)	20,000 (1,379)	8 (203.2)	3/4 (19.2)	34.03 (864) X 15.12 (384) X 21.17 (538)	222 (100.7)	3/4" Tube	3/8" MP AC
8416	3.7 (14.0)	87.75 (332.2)	12,750 (879)	8 (203.2)	1 (25.4)	38.74 (984) X 15.12 (384) X 21.99 (559)	222 (100.7)	3/4" Tube	3/8" MP AC
8428	17.0 (64.3)	327.0 (1,237.8)	4,000 (276)	8 (203.2)	1-3/4 (44.5)	34.03 (864) X 15.28 (388) X 22.97 (583)	223 (101)	1" Tube	3/4" FNPT
8440	35.0 (132.4)	654.0 (2,475.7)	2,075 (143)	8 (203.2)	2-1/2 (63.5)	34.03 (864) X 15.12 (384) X 22.97 (583)	226 (102.5)	1" Tube	3/4" FNPT

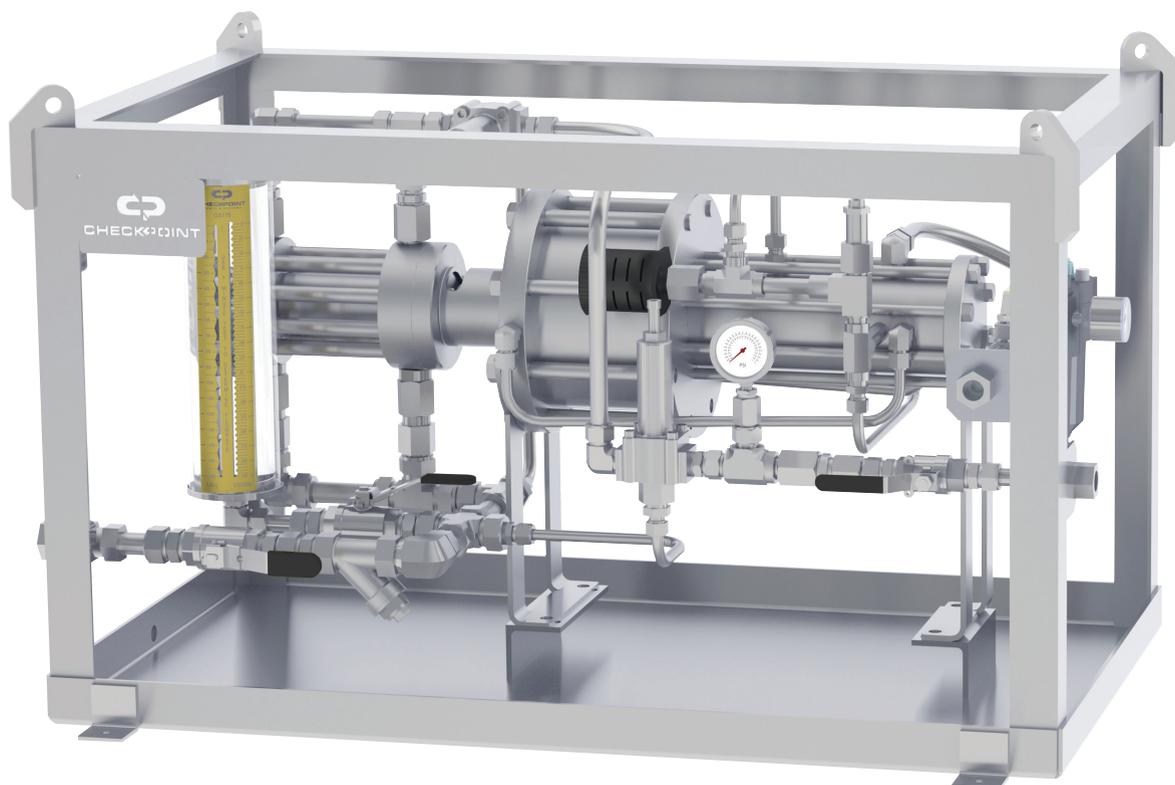
Tabular data should be used for quick reference only. See performance curves for accurate pump selection.

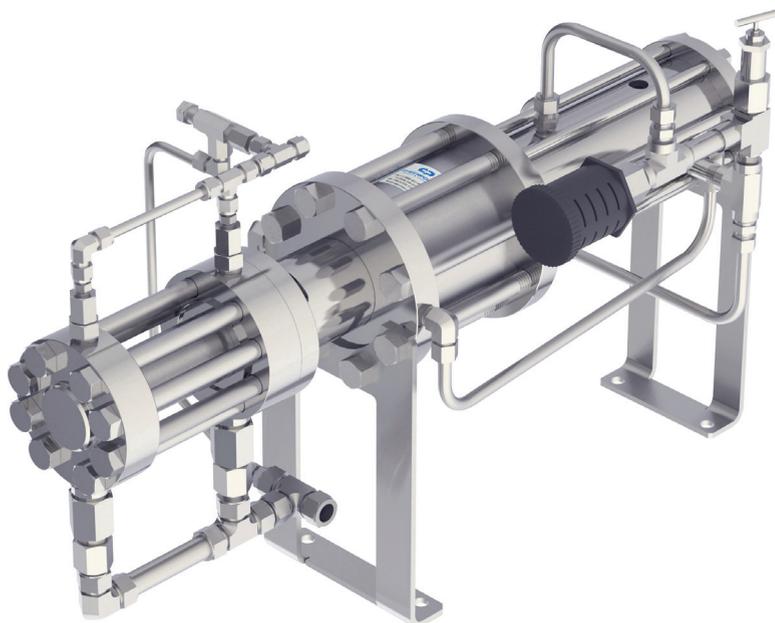
From the isolated chemical head to the switching valve to the materials of construction, CheckPoint's **Series 8400** pump was developed for continuous, accurate, and reliable injection in harsh offshore and remote locations. No compromises were made. We designed this pump for vital, mission-critical chemicals like methanol, drag reducer, and other expensive, hazardous, and corrosive production compounds.

In order to meet a wide variety of chemical compatibility needs, wetted parts are available in an array of materials, such as 316 SS, Hastelloy C-276, Duplex 2205, Super Duplex 2507, ceramic and titanium, and seals are available in Viton, HNBR, FKM, and FFKM. All construction materials are compatible with sour gas according to NACE MRO175 and ISO 15156. CheckPoint pumps do not contain any springs and have fewer moving parts than any other pneumatic pump in the industry, resulting in minimal wear, effective maintenance, and ultimately an increased life span.

Our pneumatic pumps can recover exhaust gas, even under significant backpressure. This unique gas recovery system enables processes to reuse drive gas after it has powered the pump. Consider the environmental benefits, as well as the cost savings, achieved by rerouting spent drive gas to the suction side of a gas compressor. This exclusive feature aids in lowering gas emissions while powering thermoelectric generators, feeding catalytic heaters, and even running within enclosures while venting externally.

We recommend "Plug & Play" injection packages (as pictured below) as an optimum solution to efficiently and effectively integrate chemical injection into your process. CheckPoint has engineered, manufactured, and sourced high-quality components which, combined in a package with our pumps, maximize product life and optimize productivity. We also offer custom system design and technical services to meet specialty product requirements. CheckPoint will create a solution that meets your specific chemical injection needs, from concept to completion.





PUMP CATEGORY

Type: Plunger
 Control: Cycle Speed
 Stroke: 4 in (102 mm) Fixed

FLOW RATE

0.83 - 1,107 USG/H (3.14 - 4,190 L/H)

PRESSURE

0 - 15,000 PSIG (0 - 1,034 BARG)

SUPERIOR DESIGN

- Durable, High-Quality Materials
- No Springs or Diaphragms
- Accurate and Repeatable Injection
- Quick Maintenance and Low Downtime
- High Return on Investment

CHEMICAL RESISTANCE

Proprietary, high-quality seal materials enable CheckPoint pumps to provide unparalleled chemical resistance. Wetted components are available in an array of materials. Chemical applications include, but are not limited to:

- Scavengers (H₂S, O₂, CO₂)
- Hydrate Inhibitors (MeOH, MEG, LDHI)
- Foamers and Defoamers
- Corrosion, Scale, and Paraffin Inhibitors
- Clarifiers, Biocides, Bleaches, and Acids

ZERO EMISSIONS

CheckPoint offers standard integrated gas recovery capable of 170 PSIG (11.7 BARG) exhaust backpressure.

WARRANTY

CheckPoint guarantees 40 months of material and workmanship.

MODEL	FLOW RATE (MINIMUM) USG/H (L/H)	FLOW RATE (MAXIMUM) USG/H (L/H)	WORKING PRESSURE (MAXIMUM) PSIG (BARG)	PISTON DIAMETER IN (MM)	PLUNGER DIAMETER IN (MM)	DIMENSIONS L X W X H IN (MM)	WEIGHT LB (KG)	SUCTION CONNECTION	DISCHARGE CONNECTION
5408	0.83 (3.1)	26.5 (100.3)	15,000 (1,034)	5 (127)	1/2 (12.7)	30.75 (781) X 13.35 (339) X 20.88 (530)	148 (67)	1/2" MNPT	3/8" MP AC
5412	3.0 (11.4)	122 (461.8)	6,500 (448)	5 (127)	3/4 (19.2)	33.78 (858) X 13.35 (339) X 20.88 (530)	177 (80.5)	3/4" Tube	3/8" Tube
5416	4.79 (18.1)	175 (662.4)	5,200 (359)	5 (127)	1 (25.4)	33.78 (858) X 13.35 (339) X 20.88 (530)	177 (80.5)	3/4" Tube	3/8" Tube
5428	19.0 (71.9)	640 (2,422.7)	1,775 (122)	5 (127)	1-3/4 (44.5)	33.78 (858) X 13.35 (339) X 22.78 (579)	185 (84)	1" Tube	3/4" FNPT
5440	36.0 (136.3)	1,107 (4,190.4)	650 (45)	5 (127)	2-1/2 (63.5)	33.53 (852) X 13.35 (339) X 22.78 (579)	188 (85.4)	1" Tube	3/4" FNPT

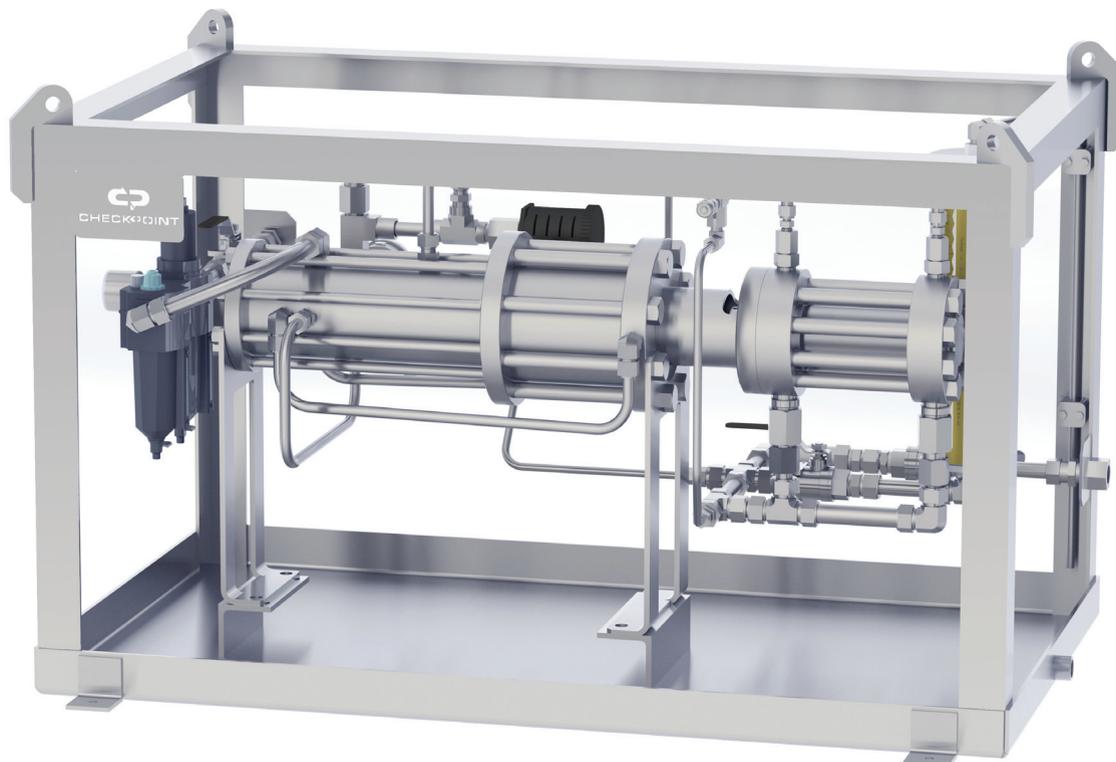
Tabular data should be used for quick reference only. See performance curves for accurate pump selection.

From the isolated chemical head to the switching valve to the materials of construction, CheckPoint's **Series 5400** pump was developed for continuous, accurate, and reliable injection in harsh offshore and remote locations. No compromises were made. We designed this pump for vital, mission-critical chemicals like methanol, drag reducer, and other expensive, hazardous, and corrosive production compounds.

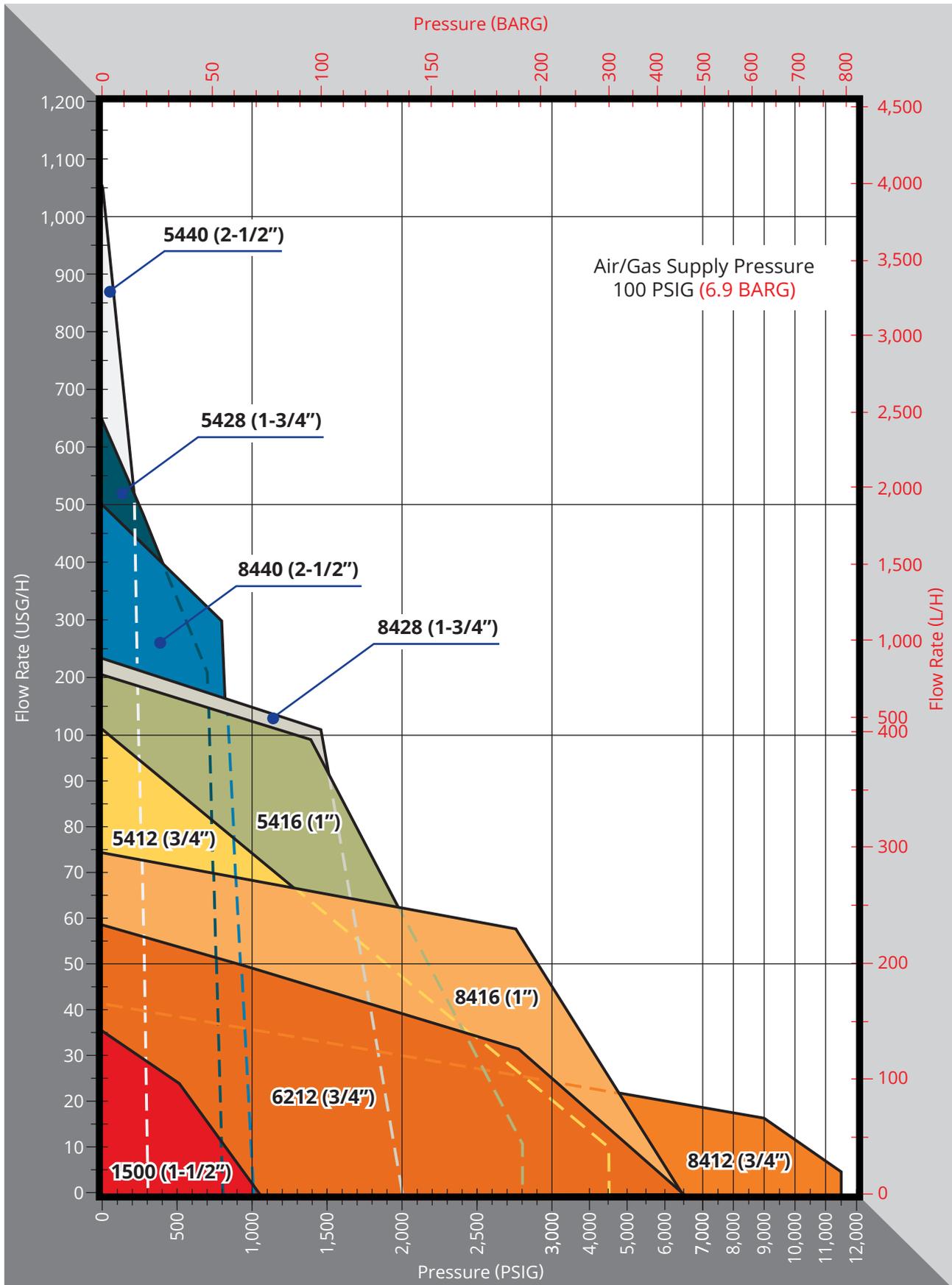
In order to meet a wide variety of chemical compatibility needs, wetted parts are available in an array of materials, such as 316 SS, Hastelloy C-276, Duplex 2205, Super Duplex 2507, ceramic and titanium, and seals are available in Viton, HNBR, FKM, and FFKM. All construction materials are compatible with sour gas according to NACE MRO175 and ISO 15156. CheckPoint pumps do not contain any springs and have fewer moving parts than any other pneumatic pump in the industry, resulting in minimal wear, effective maintenance, and ultimately an increased life span.

Our pneumatic pumps can recover exhaust gas, even under significant backpressure. This unique gas recovery system enables processes to reuse drive gas after it has powered the pump. Consider the environmental benefits, as well as the cost savings, achieved by rerouting spent drive gas to the suction side of a gas compressor. This exclusive feature aids in lowering gas emissions while powering thermoelectric generators, feeding catalytic heaters, and even running within enclosures while venting externally.

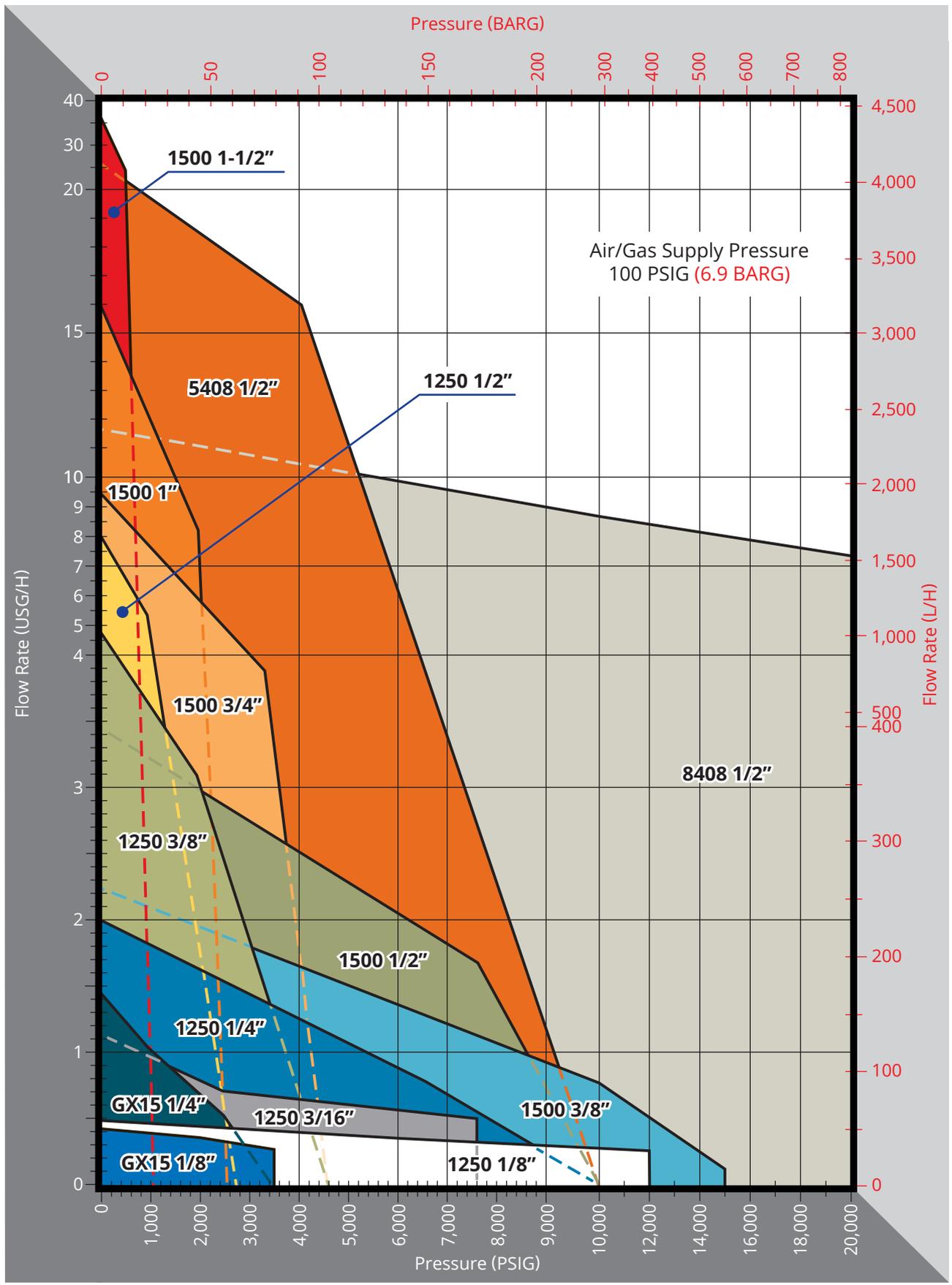
We recommend "Plug & Play" injection packages (as pictured below) as an optimum solution to efficiently and effectively integrate chemical injection into your process. CheckPoint has engineered, manufactured, and sourced high-quality components which, combined in a package with our pumps, maximize product life and optimize productivity. We also offer custom system design and technical services to meet specialty product requirements. CheckPoint will create a solution that meets your specific chemical injection needs, from concept to completion.



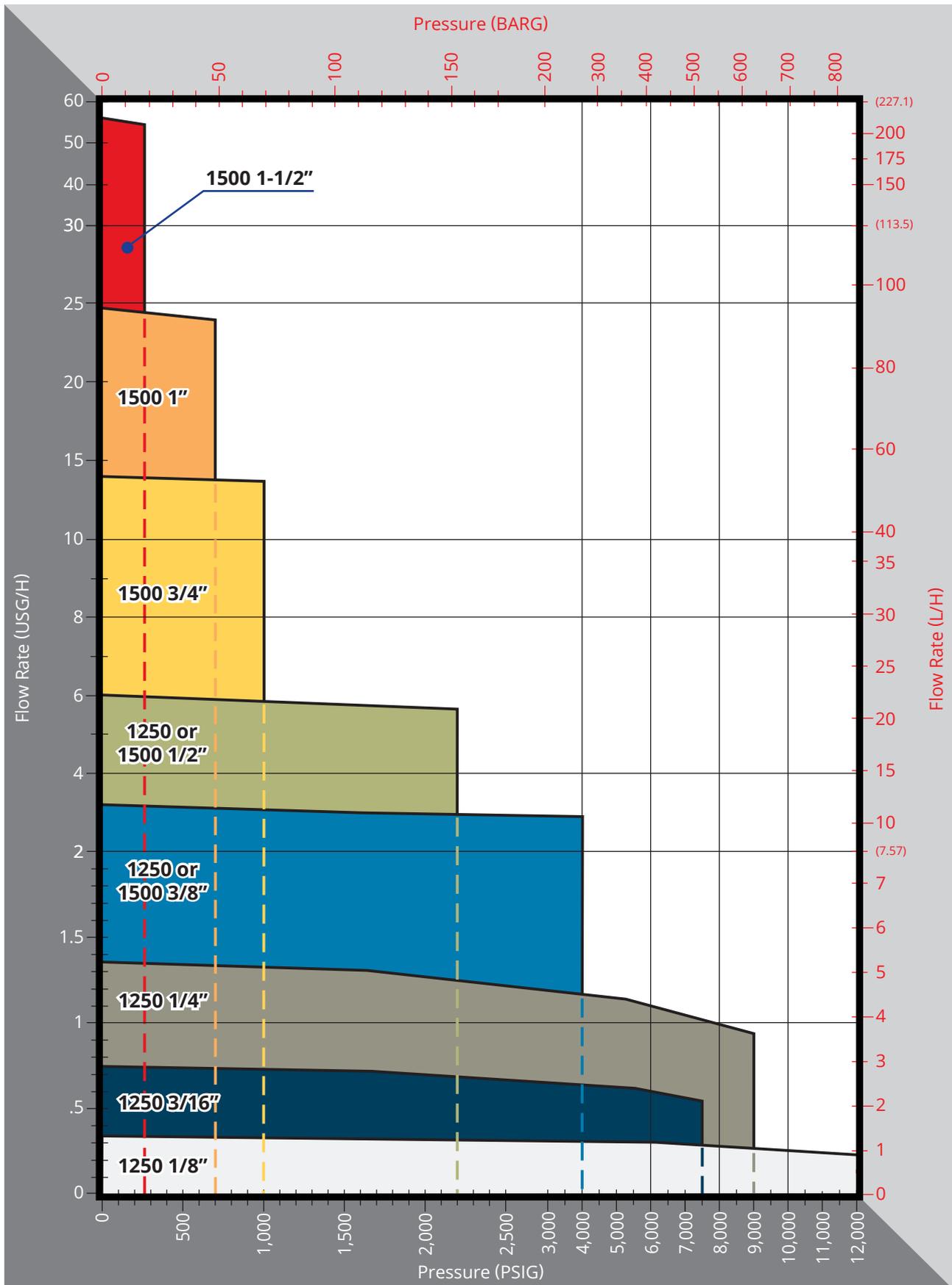
Pneumatic Pumps-High Flow



Pneumatic Pumps-Low Flow

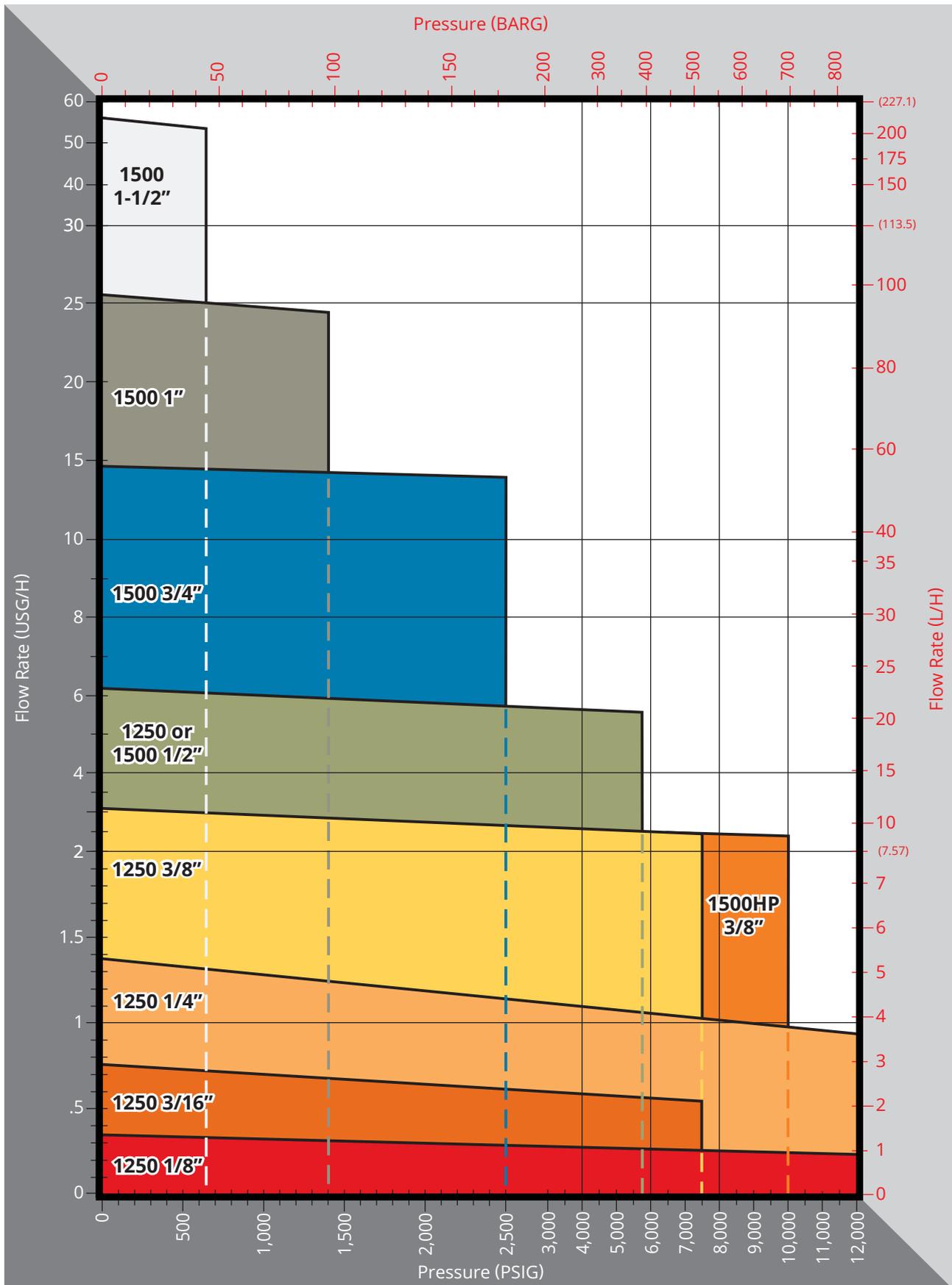


Series E Electric Pumps



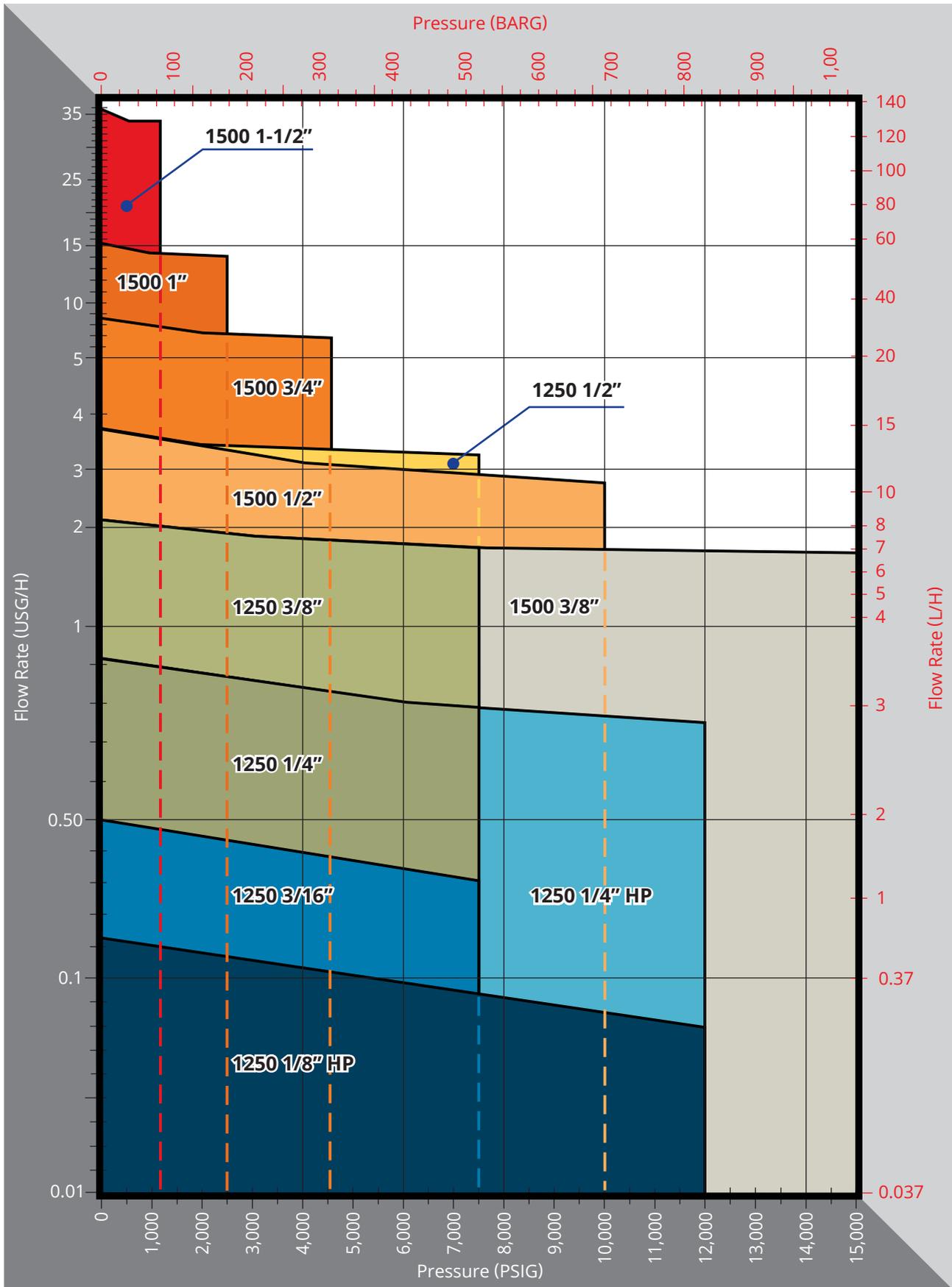
Consolidated curve for quick reference.
 Graph reflects single head pump with 1,750 RPM motor and 8.33:1 reducer. Multiply flow by 0.83 for 1,450 RPM motor.
 Series E pumps are available with other gear reduction ratios and multiple heads. Contact CheckPoint for additional data.

Series F Electric Pumps

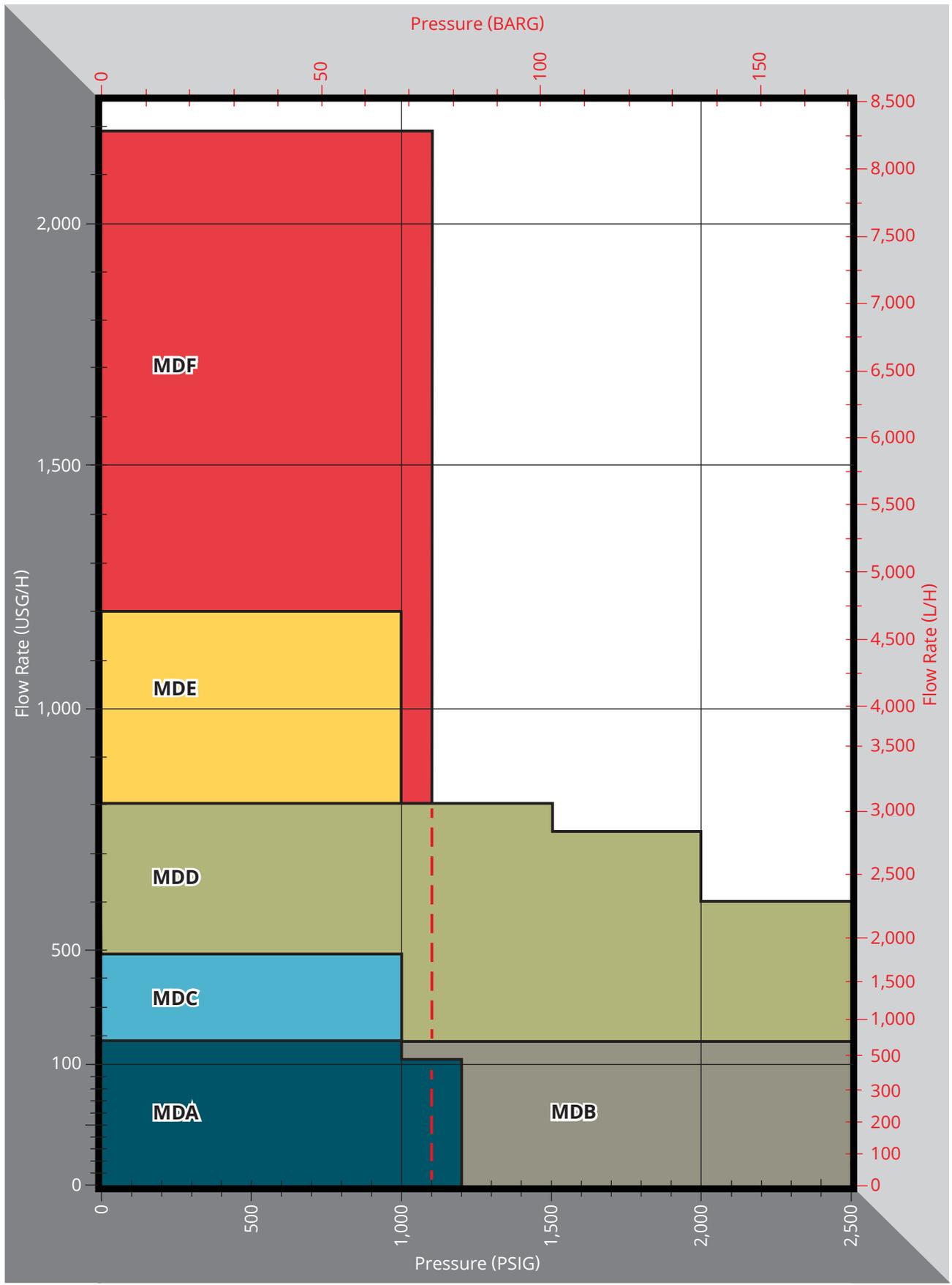


Consolidated curve for quick reference.
 Graph reflects single head pump with 1,750 RPM motor and 8.33:1 reducer. Multiply flow by 0.83 for 1,450 RPM motor.
 Series F pumps are available with other gear reduction ratios and multiple heads. Contact CheckPoint for additional data.

Series FXA Electric Pumps

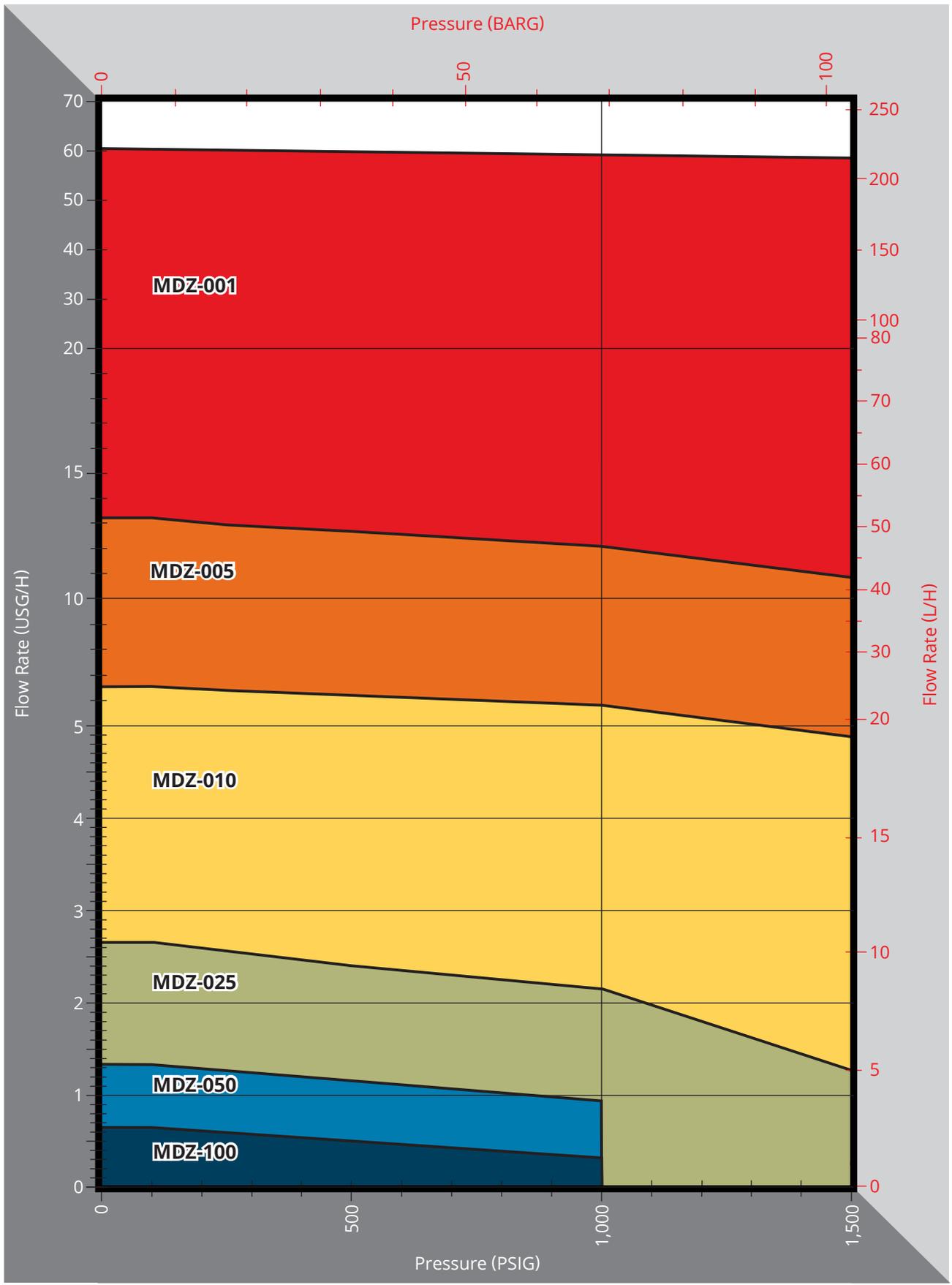


Series MD Electric Pumps



Based on maximum allowable motor input speed up to 1,800 RPM depending on pump model.

Series MDZ Electric Pumps



Based on maximum allowable motor input speed up to 1,800 RPM depending on pump model.

Notes

Notes



www.cppumps.com