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## THE SANDPIPER ADVANTAGE

#### PUMPS BUILT FOR YOUR OIL & GAS APPLICATIONS

SANDPIPER has been a leading global Air Operated Double Diaphragm (AODD) pump company for over 50 years, featuring the broadest range of products to meet the needs of a wide variety of applications.

Decades of innovation, combined with world class engineering expertise allows the SANDPIPER team to create products that meet the demand of an ever-changing marketplace. Learn more at **SANDPIPERPUMP.COM**.

### FEATURES & BENEFITS

#### SAFETY

SANDPIPER pumps comply with the broadest set of certifications and standards in the industry @ @ @ C E B

#### **GUARANTEED RELIABILITY**

- All pumps come with a 5-Year Limited Warranty
- ESADS+Plus Air / Gas Valve guaranteed not to stall
- Corrosion resistant stainless steel diaphragm connecting rod guaranteed not to bend

#### **DUAL POWER SOURCES**

All SANDPIPER pumps operate using compressed air, but we also have CSA Certified G-Series pumps available for running off of your local reserve of natural gas

#### FULLY GROUNDABLE

Pumps are ATEX compliant and safe in potentially explosive atmospheres by ensuring static electricity dissipation



#### ALL BOLTED CONSTRUCTION

Superior reliability is defined by our all bolted pump construction that allows for instant part alignment, uniform torquing of seals and high pressure capabilites

#### TESTED QUALITY

SANDPIPER pumps are 100% wet tested after final assembly to ensure proper functionality; testing includes, but is not limited to, deadheading, priming and sealing



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### SANDPIPER & SER & ES DIAPHRAGM PUMPS FOR THE OIL & GAS MARKET

Traditional AODD pumps are designed for use with air only. Over the years, oil and gas operators have opted to power their diaphragm pumps with easily accessible natural gas. The application of AODD pumps driven by natural gas created a unique set of safety requirements that previously did not exist. In 2003, SANDPIPER recognized the need and partnered with the Canadian Standards Association (CSA®) to lead the development of the first-ever safety certification for Gas Operated Double Diaphragm (GODD) pumps.

CSA Certified GODD pumps are designed and tested to be powered by natural gas when installed according to the certification and local requirements. SANDPIPER is the only GODD pump manufacturer that offers a full range of CSA Blue Star (ANSI LC6) / Blue Flame (Canadian Technical Letter R-14) Certified pumps from ½" to 3" sizes. Our G-Series Dual Power pump line carries the most stringent certifications for safety and reliability for oil and gas applications.

### **SAFETY**

The Widest Range of Certified Safe & Reliable Natural Gas Operated Pumps



## SANDPIPER'S CSA CERTIFIED G-SERIES PUMPS MEET THE UNIQUE SAFETY REQUIREMENTS FOR DIAPHRAGM PUMPS OPERATED BY NATURAL GAS:

- Constructed to prevent the accumulation of static electric charge and fully groundable to ensure static electricity dissipation (comes standard with attached grounding strap)
- Withstand a hydrostatic strength test pressure of 500 PSI (five times the maximum operating pressure of 100 PSI, the highest standard in the industry)
- Canadian Technical Letter R-14 requires 500 PSI
- ANSI LC6 requires 400 PSI

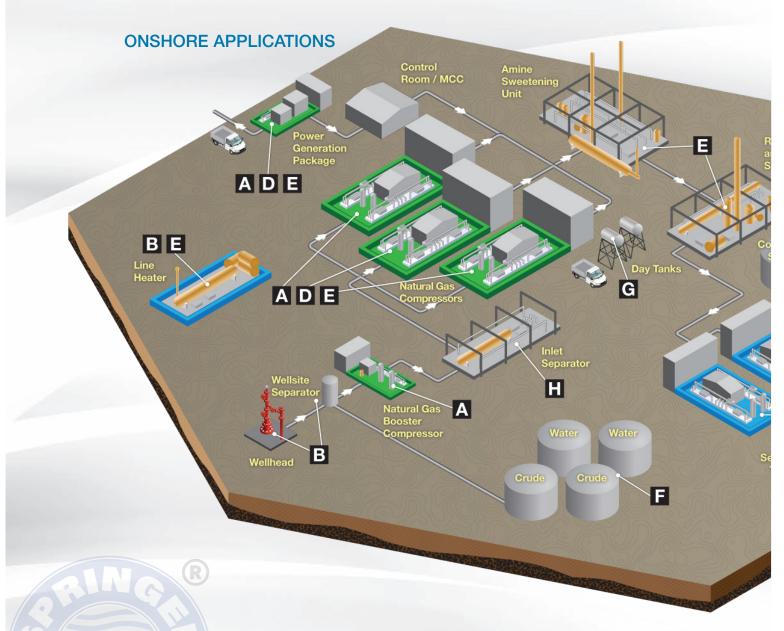
- Hydraulic Institute requires 188 PSI
- Elastomeric seals have been tested for compatibility with the various chemicals normally expected to be found in both sweet and sour gas
- Every pump is leak tested to 150 PSI at the factory before packaging to ensure natural gas emissions are properly contained
- Comply with NACE Standard MR0175/ISO 15156 for corrosion resistance
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# OIL & GAS PROCESS MAP\_

LAND, OFFSHORE & DRILLING RIG APPLICATIONS

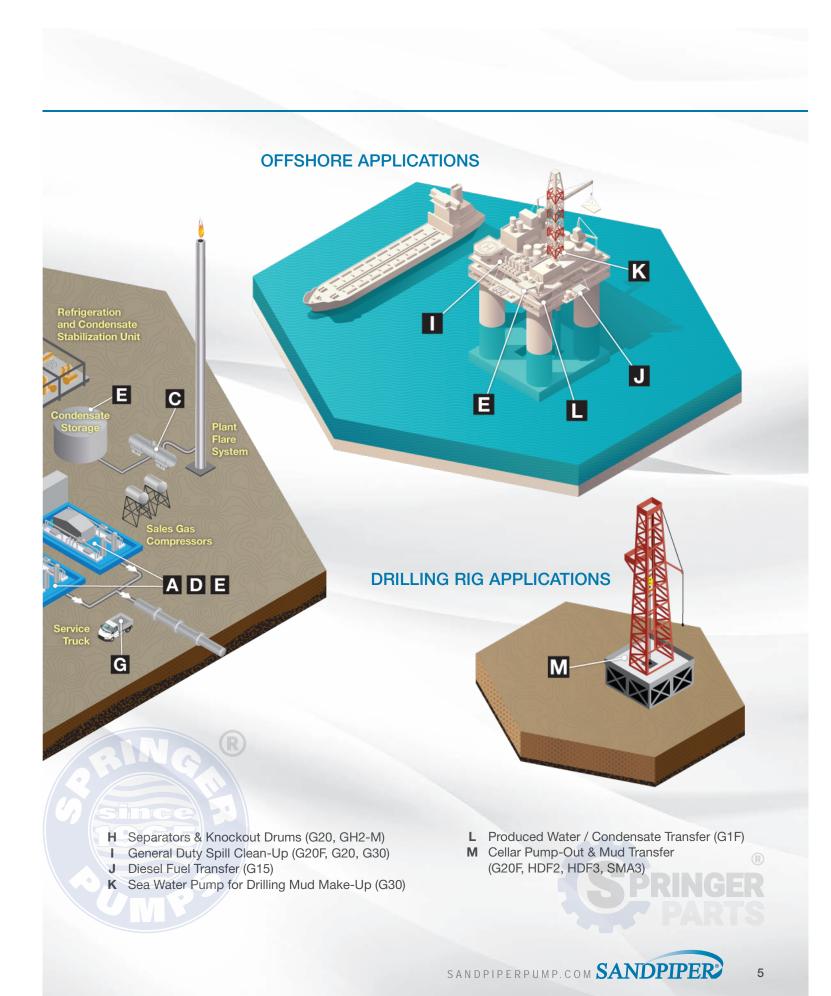


## **APPLICATIONS KEY:**

- A Lube Oil Transfer (G05, G1F)
- B Glycol Recirculation / Heat Trace (G05, G1F)
- C Flare Knockout (G1F, G15, G20, ST1, ST1½)
- D Glycol Transfer / Water Make-Up (G05, G1F)
- E Sump / General Transfer (G05, G1F, G15, G10F, G20F)
- F Tank Bottom Recirculation / Transfer (G10F, G20F, G20, G30, GH2-M)
- G Utility / General Transfer (G05, G1F, G15, G10F, G20F)

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# KEY APPLICATIONS

## **FLARE KNOCKOUT** G1F, G15, G20, ST1, ST1½



#### APPLICATION DESCRIPTION

Capturing natural gas liquids (NGLs) from gas stream prior to flare; pumps transfer NGLs to tank storage or back into the process

#### APPLICATION PUMP REQUIREMENTS

- Gas or Air Operated
  - G Series: Air or Gas
  - ST Series: Air Only
- · Safe in potentially explosive atmospheres
- Compatibility with NGLs on wet end
- Compatibility with both sweet and sour gas
- Abrasive resistance to handle paraffins and sand
- Solids handling
- Dry running capability
- Deadheads safely

#### **WHY SANDPIPER WINS IN THIS APPLICATION**

#### **G-SERIES**

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- Complies with the MOST STRINGENT safety and reliability certifications in the industry
- The ONLY full range of CSA Certified pumps from ½" to 3" sizes with flow capacity up to 285 GPM (1,078 LPM)
- The WIDEST TEMPERATURE RANGE in the industry from -10°F to 180°F (-23°C to 82°C)
- EXCLUSIVE Stainless Steel gas valve and FKM elastomer options for higher temperatures and enhanced chemical compatibility with sour gas (high H<sub>2</sub>S content) & corrosive additives

#### ESADS+PLUS

 Offers 5 minutes of on-site main or pilot valve repair with one wrench and removal of only 4 bolts

#### **GUARANTEED RELIABILITY**

- 5-Year Limited Warranty
  - Non-Stalling Air / Gas Valve Performance Guarantee
  - Diaphragm Connecting Rod Guarantee

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## TANK BOTTOM RECIRCULATION/TRANSFER G10F, G20F, G20, G30, GH2-M

#### **O** APPLICATION DESCRIPTION

Recirculation of tank bottoms to keep oil, paraffins & NGLs from separating prior to sending product to separators or hauling off for processing; pumps transfer product from tank to tank

#### APPLICATION PUMP REQUIREMENTS

- Air or Gas operatedSafe in potentially
- explosive atmospheres
- Compatibility with oil, NGLs and water on wet end
- Compatibility with both sweet and sour gas
- Solids handling

#### **WHY SANDPIPER WINS IN THIS APPLICATION**

#### G-SERIES

- Complies with the **MOST STRINGENT** safety and reliability certifications in the industry
- The ONLY full range of CSA Certified pumps from ½" to 3" sizes with flow capacity up to 285 GPM (1,078 LPM)
- The WIDEST TEMPERATURE RANGE in the industry from -10°F to 180°F (-23°C to 82°C)
- EXCLUSIVE Stainless Steel gas valve and FKM elastomer options for higher temperatures and enhanced chemical compatibility with sour gas (high H<sub>2</sub>S content) and corrosive additives
- The ONLY flap valve pump in the industry certified for natural gas operation
  - Flap check valves are ideal for solids up to 2" (50 mm) and abrasives such as paraffins & sand
  - Bottom discharge is ideal for pumping liquids with settling solids and slurry
  - Dry suction lift up to 24' (7 m) of water
- Heavy Duty design features thick wall construction and extended wear package

#### 🤣 DUAL POWER

• May be safely powered by compressed air or natural gas

- Abrasive resistance to handle paraffins and sand
- Dry running capability
- Deadheads safely
- Self-priming
- Pumps fluids ranging from non-lubricating water to viscous crude oil



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# KEY APPLICATIONS

## SUMP/GENERAL TRANSFER G05, G1F, G15, G10F, G20F

#### APPLICATION DESCRIPTION

Sumps gather all liquids such as rain water, condensate & waste oil at the well site or off the compressors; pumps transfer product back to slop oil tanks to be hauled off for processing

#### APPLICATION PUMP REQUIREMENTS

- Air or gas operated
- Safe in potentially explosive atmospheres
- Compatibility with waste oil, NGLs and water on wet end
- · Compatibility with both sweet and sour gas
- Solids handling
- Self-priming
- Abrasive resistance
- Dry running capability
- Deadheads safely

#### (?) WHY SANDPIPER WINS IN THIS APPLICATION

#### ESADS+PLUS

• Offers 5 minutes of on-site main or pilot valve repair with one wrench and removal of only 4 bolts

#### **GUARANTEED RELIABILITY**

- 5-Year Limited Warranty
- Non-Stalling Air / Gas Valve Performance Guarantee
- Diaphragm Connecting Rod Guarantee

#### DUAL POWER

• May be safely powered by compressed air or natural gas



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### CELLAR PUMP-OUT & DRILLING MUD TRANSFER G20F, HDF2, HDF3, SMA3

#### **O** APPLICATION DESCRIPTION

Rig cellar sump, mud make-up, filtration and settling pond transfer; pumps transfer liquids and drilling mud around the drilling rig site

#### APPLICATION PUMP REQUIREMENTS

- Air operated
- Safe in potentially explosive atmospheres
- Abrasive resistance to handle drilling mud
- Solids handling
- Self-priming
- Portability
- Rugged construction to withstand the wear and tear of drilling rig applications

#### **WHY SANDPIPER WINS IN THIS APPLICATION**

#### A HEAVY DUTY FLAP VALVE PUMPS

- Flap check valves are ideal for solids up to 3" (75 mm) and abrasives such as drilling mud
- Bottom discharge is ideal for pumping liquids with settling solids and slurry
- Dry suction lift up to 24' (7 m) of water
- Heavy Duty design features thick wall construction and extended wear package
- Available in roll cage or skid base configurations for portability and pump protection

#### ESADS+PLUS

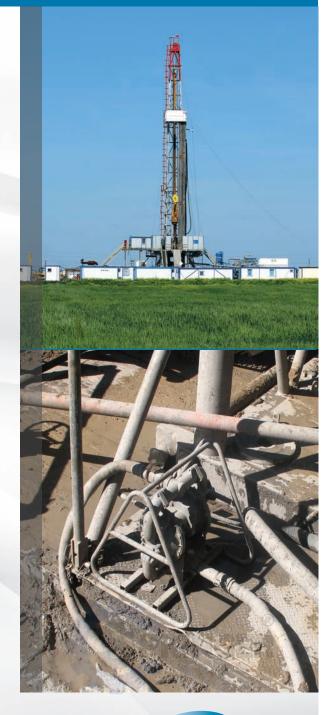
 Offers 5 minutes of on-site main or pilot valve repair with one wrench and removal of only 4 bolts

#### DURABLE ALL BOLTED CONSTRUCTION

Superior reliability versus traditional clamp band designs

#### GUARANTEED RELIABILITY

- 5-Year Limited Warranty
- Non-Stalling Air Valve Performance Guarantee
- Diaphragm Connecting Rod Guarantee





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## FLAP VALVE PUMPS\_

#### CSA CERTIFIED, DUAL POWER NATURAL GAS OR AIR OPERATED PUMPS

The G10F and G20F Heavy Duty Flap Valve Pumps are the newest addition to SANDPIPER's line of CSA Certified G-Series Dual Power Pumps. The flap check valve design allows passage of larger solids than traditional ball valve pumps and is ideal for abrasive slurries, suspended and non-suspended solids and line-size solids requirements.

The exclusive bottom discharge porting arrangement provides superior suction lift and eliminates the damage from settling solids in your pump. This Heavy Duty pump features thick wall construction and is enhanced with an extended wear package.

## **PERFORMANCE & RELIABILITY**

FLAP CHECK VALVES Ideal for abrasive and viscous fluids, sludge and slurry

SOLIDS HANDLING Up to 2" (50mm)

SUPERIOR DRY PRIME Dry suction lift up to 24' (7m) of water

**BOTTOM DISCHARGE** Gravity assist is ideal for pumping liquids with settling solids and slurry ESADS+PLUS AIR / GAS VALVE Externally Serviceable Air / Gas Distribution System

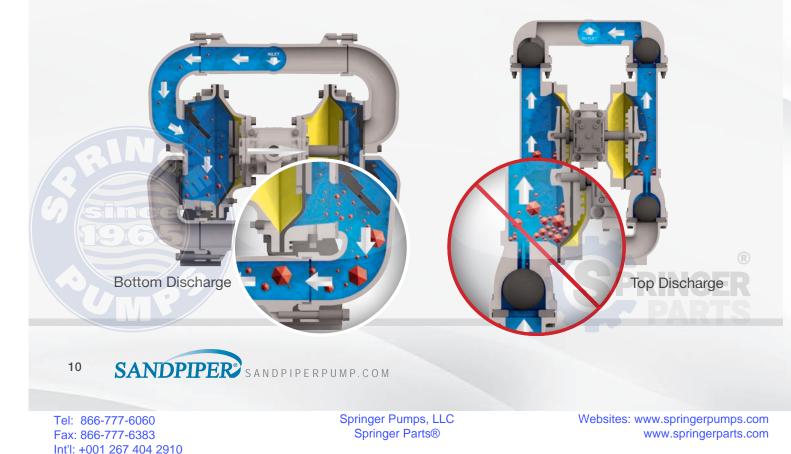
ALL BOLTED CONSTRUCTION Durable and leak free design

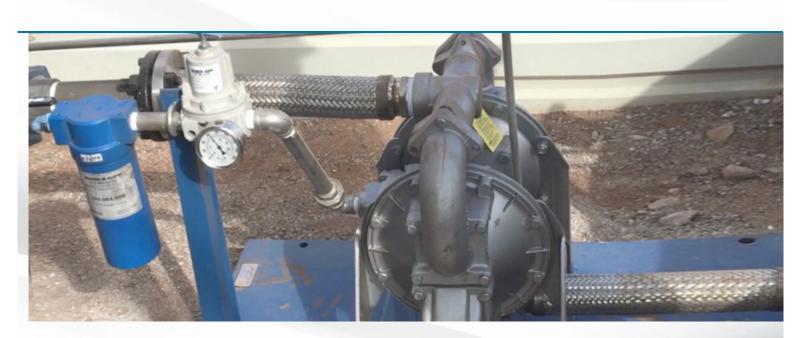
**DURABLE DIAPHRAGM CONNECTING ROD** Guaranteed to not bend or yield in operation

DEADHEADS SAFELY & RUNS DRY No pump or system damage

### **BOTTOM DISCHARGE PORTING**

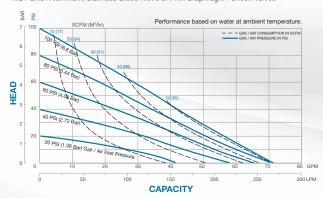
Eliminate the damage from settling solids in your pump with the exclusive bottom discharge arrangement.





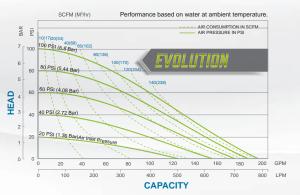
## 1" 25MM G10F METALLIC 🛛 🌚 🐼 C C 🔜

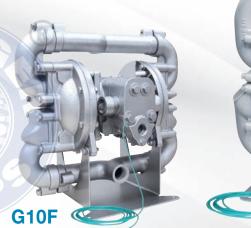
MAX FLOW: 70 GPM (265 LPM) | PORTING: NPT/BSP (tapered) GAS/AIR END: Aluminum, Nitrile or FKM Elastomers WET END: Aluminum, Stainless Steel, Nitrile or FKM Diaphragm / Check Valves



## 2" 50MM G20F METALLIC 🛞 🛞 🚱 C C 🔜

MAX FLOW: 208 GPM (787 LPM) | PORTING: NPT GAS/AIR END: Aluminum, Nitrile or FKM Elastomers WET END: Aluminum, Stainless Steel, Nitrile or FKM Diaphragm / Check Valves







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## BALL VALVE PUMPS\_

### CSA CERTIFIED, DUAL POWER NATURAL GAS OR AIR OPERATED PUMPS

The Sandpiper CSA Blue Star (ANSI LC6) / Blue Flame (Canadian Technical Letter R-14) certified G-series Ball Valve pumps features the broadest range of products, ½" to 3" sizes, to meet the demands of a wide variety of Oil & Gas applications.

The Innovation and engineering expertise allows the SANDPIPER team to produce a pump line with the most rigorous certifications for safety and reliability in the double diaphragm pump industry.

### **PERFORMANCE & RELIABILITY**

HYDROSTATIC STRENGTH TEST 500 PSI (34.5 BAR)

TEMPERATURE LIMITS -10°F (-23°C) to 180°F (82°C)

NITRILE OR FKM ELASTOMERS

Air/Gas End options for varying temperatures and chemical compatibility

## EXTERNALLY SERVICEABLE AIR DISTRIBUTION SYSTEM

Allows for quick and easy access to the main air drive components without disassembly of the entire pump and / or removing it from service

#### ALL BOLTED CONSTRUCTION

Ensure sealing forces are applied evenly across the pump for leak-free operation

#### ROBUST DIAPHRAGM CONNECTING ROD

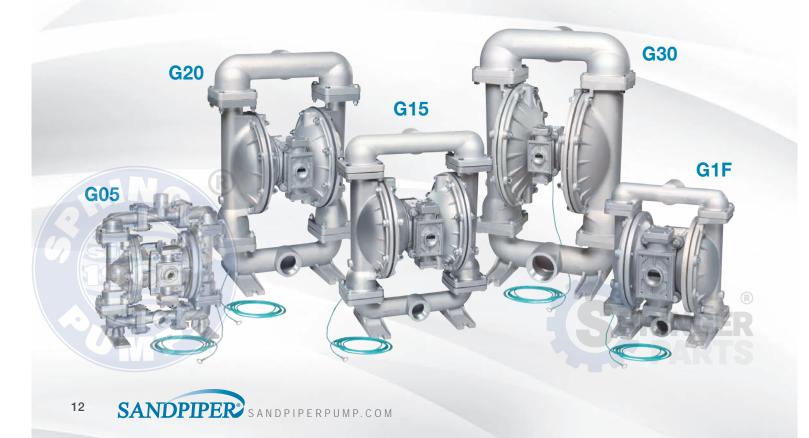
Guaranteed not to bend or break; assures reliable and consistent diaphragm operation

#### LARGE FLOW AREA

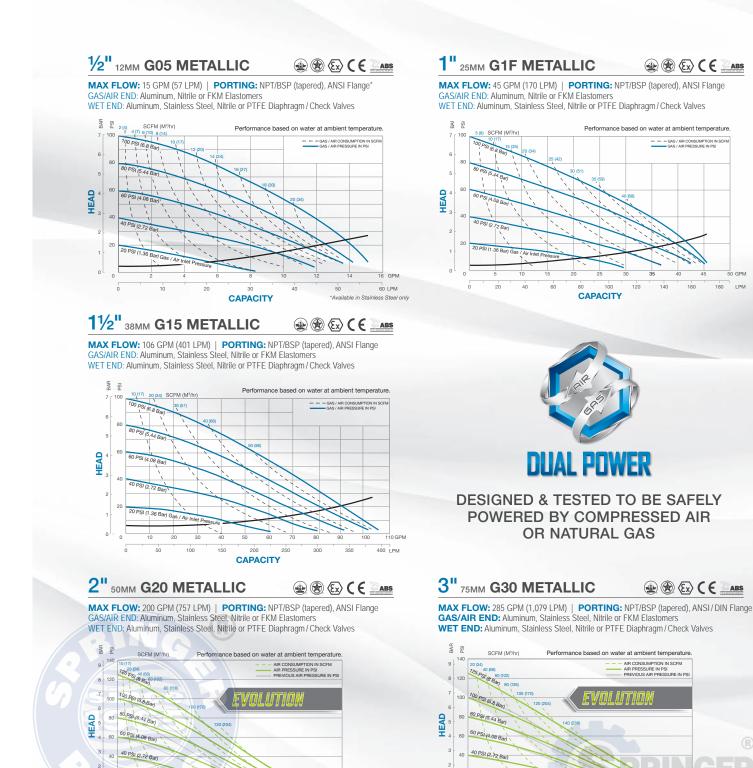
Reduces fluid velocity through pump, which often lessens wear

#### THICK MANIFOLD & CHAMBER WALLS

Greater wear resistance when pumping solids and solid-laden slurries, providing extended service life



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20 20 PSI (1-36 Bar) Air

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800 LPM

700

CAPACITY

20 PSI (1.36 Ba 00

100

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900

CAPACITY

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300 GPN 280

13

1000 1100 LPM

180 I PM

# SPECIAL DUTY PUMPS\_

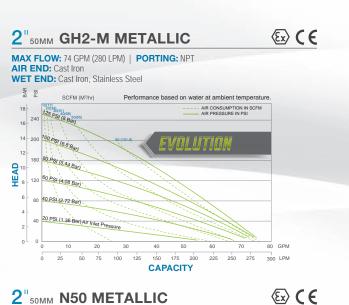
PERFORMANCE & SPECIFICATIONS

### HIGH PRESSURE PUMPS

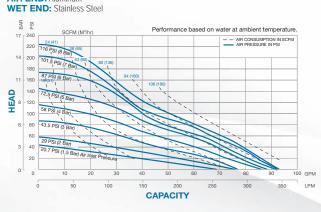
SANDPIPER GH2-M Single Diaphragm High Pressure Metallic Pumps deliver discharge pressure twice the inlet pressure, up to 250 PSI (17.2 BAR). Designed for Oil & Gas applications requiring higher discharge pressures. Available in Cast Iron and Stainless Steel with various elastomer options. Equipped with elastomeric seals and components that are compatible with the various chemicals normally expected to be found in natural gas.

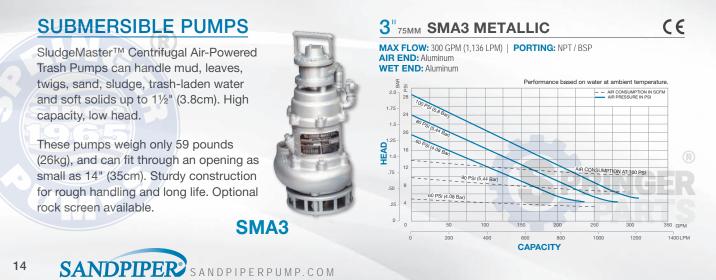
Blagdon N50 High Pressure Pumps provide enhanced power in applications where pressure is paramount and flow rate is an issue. Using two air chambers to double the air per stroke, these pumps achieve discharge pressures up to 238 PSI (16 BAR) with flow rates as high as 90 GPM (341 LPM).





#### MAX FLOW: 90 GPM (341 LPM) | PORTING: NPT / BSP AIR END: Aluminum





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## NATURAL GAS ACCESSORIES

GAS LINE PREPARATION & REGULATION FOR SAFETY & IMPROVED PUMP LIFE

## **CSA CERTIFIED NATURAL GAS PRESSURE REGULATORS**

## The **ONLY** CSA Certified point-of-use natural gas regulators available on the market today!

A safety port has been added to help prevent escaping gas in the case of a regulator diaphragm rupture. Simply add a pipe or hose fitting to the unit to divert or reclaim any natural gas.

SANDPIPER Natural Gas Pressure Regulators are safe, reliable and environmentally friendly. These exclusive CSA Certified and UL Listed point-of-use regulators provide superior regulation and excellent stability. All regulators include a durable glycerin filled pressure gauge to dampen the effects of pulsation and vibration common in pump applications.

#### **TECHNICAL SPECIFICATIONS**

Part Number	Port Size	Max Flow (SCFM)	Pump Models	Max Inlet Pressure	Regulating Pressure Range	Temperature Rating	Materials of Construction
020.057.000	1/4" NPT	25	G05	250 psi 17.2 bar	0 - 120 psi 0 - 8.3 bar	0°F - 160°F -17.8°C - 71.1°C	Aluminum, Brass, Plated Steel, Nitrile
020.058.000	1/2" NPT	110	G1F, G10F	400 psi 27.6 bar	0 - 125 psi 0 - 8.6 bar	-40°F - 200°F -40.0°C - 93.3°C	Zinc, Aluminum, Plated Steel, Nitrile, Brass
020.059.000	3/4" NPT	110	G15, G20	400 psi 27.6 bar	0 - 125 psi 0 - 8.6 bar	-40°F - 200°F -40.0°C - 93.3°C	Zinc, Aluminum, Plated Steel, Nitrile, Brass
020.060.000	3/4" NPT	260	G20F, G30	400 psi 27.6 bar	0 - 125 psi 0 - 8.6 bar	-40°F - 200°F -40.0°C - 93.3°C	Zinc, Aluminum, Plated Steel, Nitrile, Brass

Diaphragm Material: Nitrile elastomer with polyester fabric.

All gauge ports & vent ports are tapped 1/4" NPT.

Replacement pressure gauge part number: 020.061.000.

Note: The use of a relief valve is recommended for these products in accordance with NFPA 58.

### NATURAL GAS FILTERS

SANDPIPER Natural Gas Filters provide superior particulate protection from systems with high concentrations of solid contaminants. These point-of-use filters are built from durable and lightweight aluminum, feature very high dirt-holding capacity and offer lower pressure drop than other comparable products.

Part Number	Port Size	Max Flow (SCFM)	Pump Models	Replacement Filter Element	Max Inlet Pressure	Max Temperature	Materials of Construction	WARREN RUPP
020.062.000	1/4" NPT	25	G05	020.065.000	500 PSI (34 BAR)	175°F (80°C)	Aluminum Housing, Nitrile Seals, Molded Urethane End Seals	
020.063.000	1/2" NPT	42	G1F	020.065.000				
020.064.000	3/4" NPT	133	G10F, G15, G20, G20F & G30	020.066.000				PR

Micron Rating: 3

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## **VS** COMPETITOR

#### SANDPIPER PUMPS EXCEL IN EVERY ASPECT OF SAFETY AND RELIABILITY WITHIN THE OIL & GAS INDUSTRY

WIDEST AVAILABLE RANGE	SIZE & FLOW	8 8 <i>5/0"</i> 15 GPM (57 LPM) (57 LPM) 50 FPM				
WIDEST TEMPERATURE RANGE -10°F (-23°C)	ТЕМР	32°F (0°C) (52°C)				
BROADEST CERTIFICATIONS IN THE INDUSTRY SAFETY COMPLIANCE WITH: $\overbrace{\text{No. R-14}}^{\text{Kernel Leffert}}$	SAFETY	SAFETY COMPLIANCE WITH: With the second sec				
LARGEST SOLIDS PASSAGE         TOP & BOTTOM DISCHARGE         Up to 2"         BOTTOM DISCHARGE         For Solids-Laden Fluids	SOLIDS HANDLING	TOP DISCHARGE ONLY Up to ¼"				
<ul> <li>EASE OF REPAIR &amp; LESS DOWNTIME</li> <li>5 minutes of on-site main or pilot valve repair with one wrench and removal of only 4 bolts</li> </ul>	GAS / AIR VALVE REPAIR	<b>55 minutes</b> of off-site main and pilot valve repair with a variety of tools needed to remove pump from line and transport for repair				
ENHANCED TEMPERATURE RESISTANCE AND CHEMICAL COMPATIBILITY Aluminum Stainless Steel Nitrile or FKM Elastomers	GAS / AIR END MATERIALS	LIMITED Aluminum only Nitrile Elastomers only				
BEST GUARANTEE IN THE INDUSTRY Diaphragm Connecting Rod Guarantee Non-Stalling Air / Gas Valve Performance Guarantee 5-Year Limited Warranty	PERFORMANCE RELIABILITY	LIMITED Connecting Rod prone to bending 5-year Limited Warranty				
LEARN MORE AT: SANDPIPERPUMP.COM						

## SANDPIPER

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