

# HEAVY DUTY FLAP VALVE PUMPS

FOR FLUIDS CONTAINING UP TO LINE SIZE SOLIDS

HDF Pumps are recommended for abrasive slurries, suspended and non-suspended solids and line-size solids requirements. All SANDPIPER Heavy Duty Flap Valve Pumps are configured in bottom discharge porting arrangements and provide superior suction lift. HDF pumps are thick wall constructed of Sand Casted Aluminum, Cast Iron and Stainless Steel with elastomer, TPE (thermal plastic elastomers) and PTFE options in diaphragms and check valves. HDF pumps are enhanced with an extended wear package.

**Durable Diaphragm Connecting Rods**  
Reliable and consistent diaphragm control

**Lightweight & Portable**  
Weights range from 48 lbs (21 kg)

**ESADS+Plus Air Valve**  
Externally Serviceable Air Distribution System

**Bottom Discharge**  
For pumping out of tough areas

**Flap Check Valves**  
Provide large solid abilities

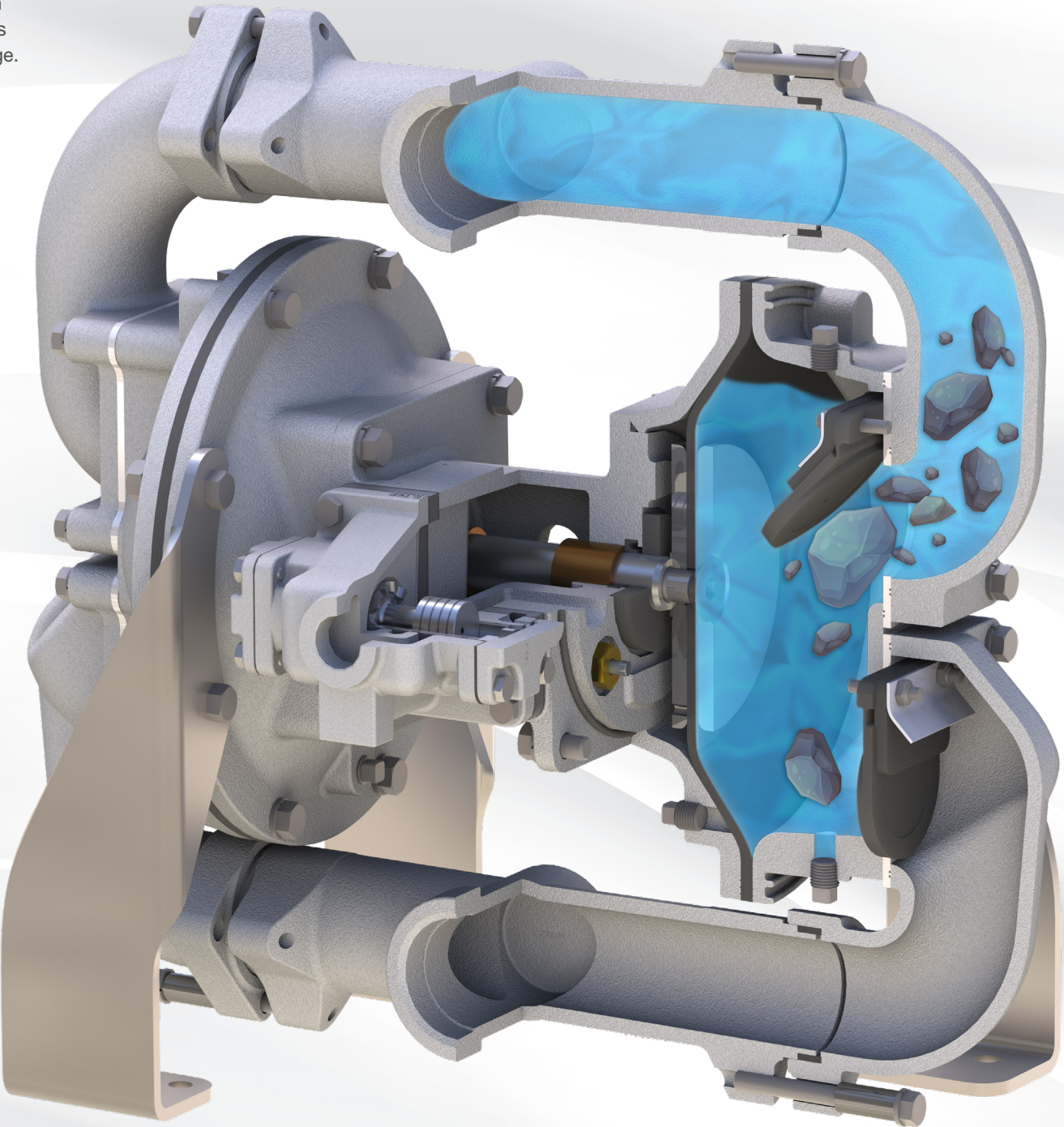
**All Bolted Construction**  
Durable and high pressure capable

**Dynamic Manifold Connections**  
90° - 180° rotation options

**Solids Range**  
+1" (25mm) to 3" (75mm)

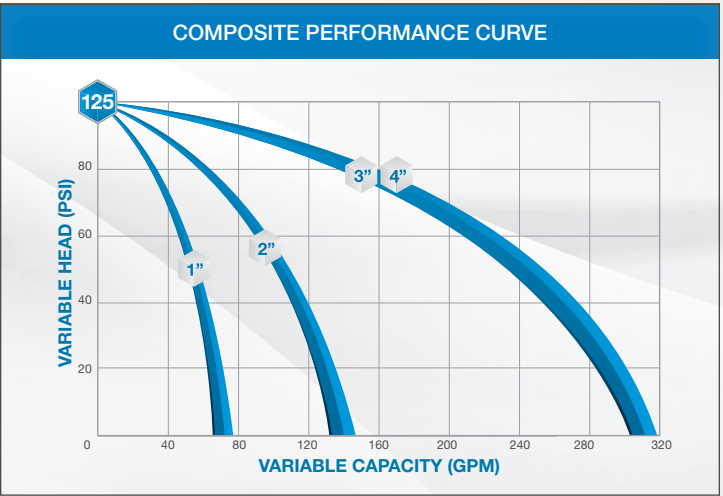
**Superior Dry Prime**  
Up to 24' (7m) of water

**Certifications Available**



PUMP CHARACTERISTICS			Metallic
Fluid Characteristics	Water		+
	Suspended Solids		✓
	Non-Suspended Solids		+
	Line Size Solids		+
	Sludge / Slurry		+
	High Viscosity (Flowable Fluids)		✓
	Erosion / Abrasive Fluids	High	+
		Moderate	+
		Low	+
	Corrosion		✓
Installation	Permanent		+
	Portable		+
	Containment / Prevention		!
	Flooded Suction		✓
	Suction Lift		+
	Submerged		✓
Duty	Intermittent / On-Demand		+
	Continuous		✓

+ = Best Type    ✓ = Suitable    ! = Limitations    X = Not Recommended





# HEAVY DUTY FLAP VALVE PUMPS

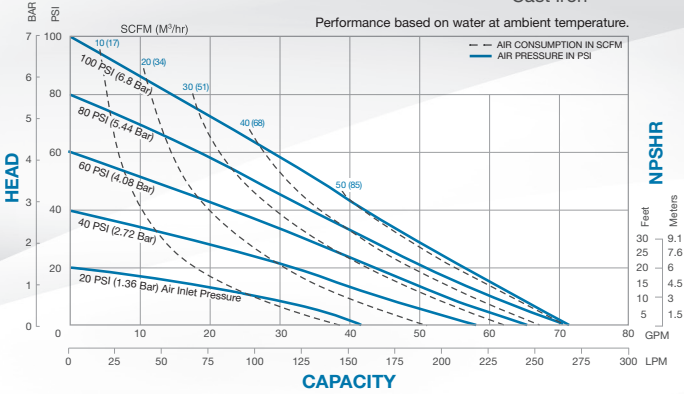
PERFORMANCE & SPECIFICATIONS

1" 25mm

## HDF1 Metallic Performance



- MAX FLOW**  
• 70 GPM (265 LPM)
- PORTING**  
• NPT / BSP
- AIR END**  
• Aluminum  
• Cast Iron
- WET END**  
• Aluminum  
• Stainless Steel  
• Cast Iron

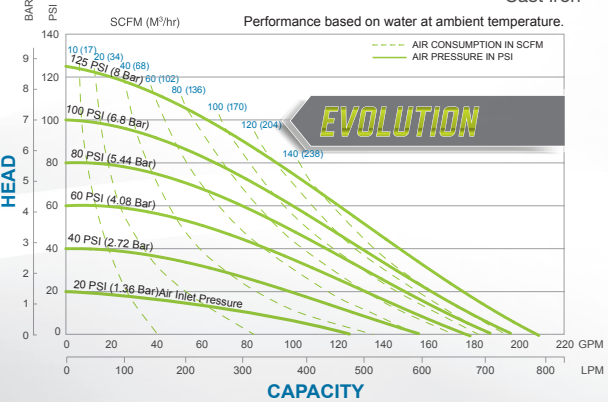


2" 50mm

## HDF2 Metallic Performance



- MAX FLOW**  
• 208 GPM (787 LPM)
- PORTING**  
• NPT / BSP
- AIR END**  
• Aluminum  
• Cast Iron
- WET END**  
• Aluminum  
• Stainless Steel  
• Cast Iron

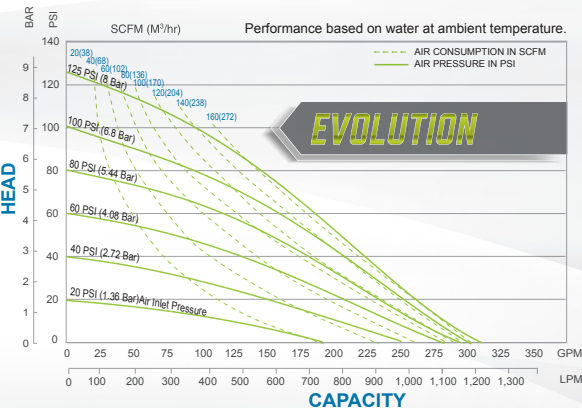


3-4" 75-102mm

## HDF3-A / 4-A Metallic Performance



- MAX FLOW**  
• 310 GPM (1,173 LPM)
- PORTING**  
• ANSI Flange
- AIR END**  
• Aluminum
- WET END**  
• Aluminum

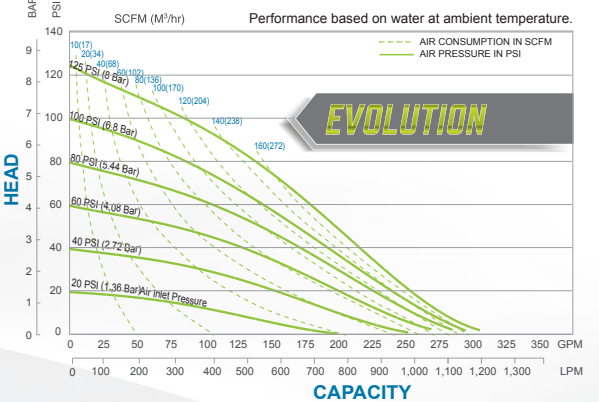


3-4" 75-102mm

## HDF3-M / 4-M Metallic Performance



- MAX FLOW**  
• 303 GPM (1,147 LPM)
- PORTING**  
• ANSI Flange
- AIR END**  
• Cast Iron
- WET END**  
• Cast Iron

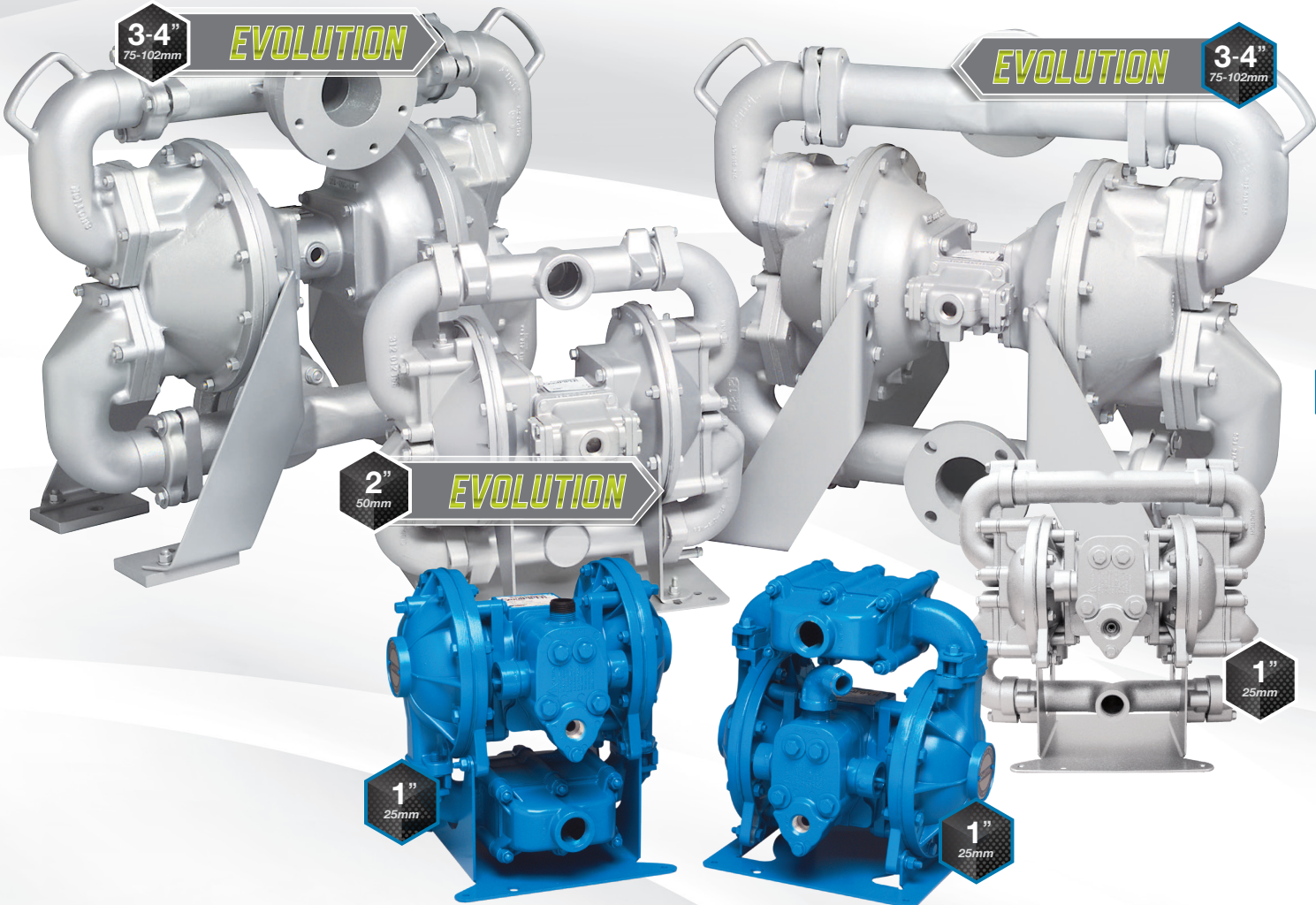
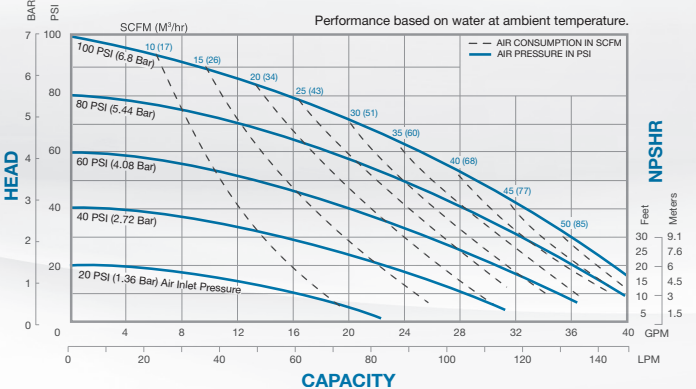


1" 25mm

## SA1 Metallic Performance



- MAX FLOW**  
• 42 GPM (159 LPM)
- PORTING**  
• NPT / BSP
- AIR END**  
• Aluminum  
• Cast Iron
- WET END**  
• Aluminum  
• Stainless Steel



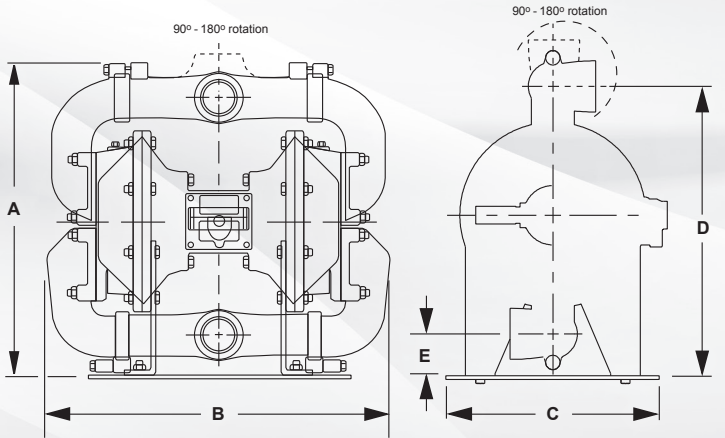
Bottom Discharge

Top Discharge

### SPECIFICATIONS

PUMP MODELS	A	B	C	D	E	Connection Style	Pipe Size	Displacement Per Stroke	Max Flow Per Minute	Max Solids Handling	Max Discharge Pressure
	Height inches (mm)	Width inches (mm)	Depth inches (mm)	Bottom of Base to Center Line of Suction inches (mm)	Bottom of Base to Center Line of Discharge inches (mm)		inch (mm)	gal (liter)	gal (liter)	inch (mm)	psi (bar)
HDF1	15.69 (398)	16.75 (425)	10.81 (274)	14.06 (356)	2.56 (65)	1" NPT / BSP	1 (25)	.10 (.38)	70 (265)	1 (25)	125 (8.6)
HDF2	20.31 (516)	21.75 (552)	13.63 (346)	17.69 (449)	2.56 (65)	2" NPT only	2 (50)	.47 (1.78)	208 (787)	2 (50)	125 (8.6)
HDF3-A	29.5 (749)	36.56 (929)	16.25 (413)	25.75 (654)	4.25 (108)	3" 125# ANSI	3 (75)	1.60 (6.06)	310 (1173)	3 (75)	125 (8.6)
HDF3-M	30.25 (768)	32.31 (821)	16.19 (411)	26.5 (673)	5 (127)	3" 125# ANSI	3 (75)	1.15 (4.35)	303 (1147)	3 (75)	125 (8.6)
HDF4-A	31 (787)	36.56 (929)	21.25 (540)	26.5 (673)	5 (127)	4" 125# ANSI	4 (102)	1.60 (6.06)	310 (1173)	3 (75)	125 (8.6)
HDF4-M	31 (787)	32.31 (821)	16.19 (411)	26.5 (673)	5 (127)	4" 125# ANSI	4 (102)	1.15 (4.35)	303 (1147)	3 (75)	125 (8.6)
SA1	12.38 (314)	11.36 (288)	11.26 (286)	10.69 (271)	10.69 (271)	1" NPT / BSP	1 (25)	.09 (.34)	42 (159)	1 (25)	125 (8.6)

Dimensional Tolerance: ±1/8" (± 3mm) • See service manual for complete specifications.





# 2" NON-METALLIC FLAP VALVE PUMP

YOUR MINING, GENERAL INDUSTRIAL AND CHEMICAL SOLUTION

The robust, yet lightweight design allows for ease of maintenance and movement, and is ideal for handling solids and corrosive fluids. This unique pump has been engineered to fully function in any position, includes lifting handles and hanging points, and has durable mounting feet. This is an ideal solution for numerous applications.



## Lightweight & Durable

The non-metallic, lightweight design makes it easily portable at 53 lbs (24 kg)



## Reliability Guarantee

Strongest diaphragm connecting rod in the industry is guaranteed to not bend or yield in operation



## Rugged Design

Stainless steel seats prevent abrasion when pumping solids laden fluids



## Optimum Solids Handling

Hinge pads exert positive pressure on the flaps, allowing the pump to operate in virtually any position; they help deliver superior suction lift and flow rates



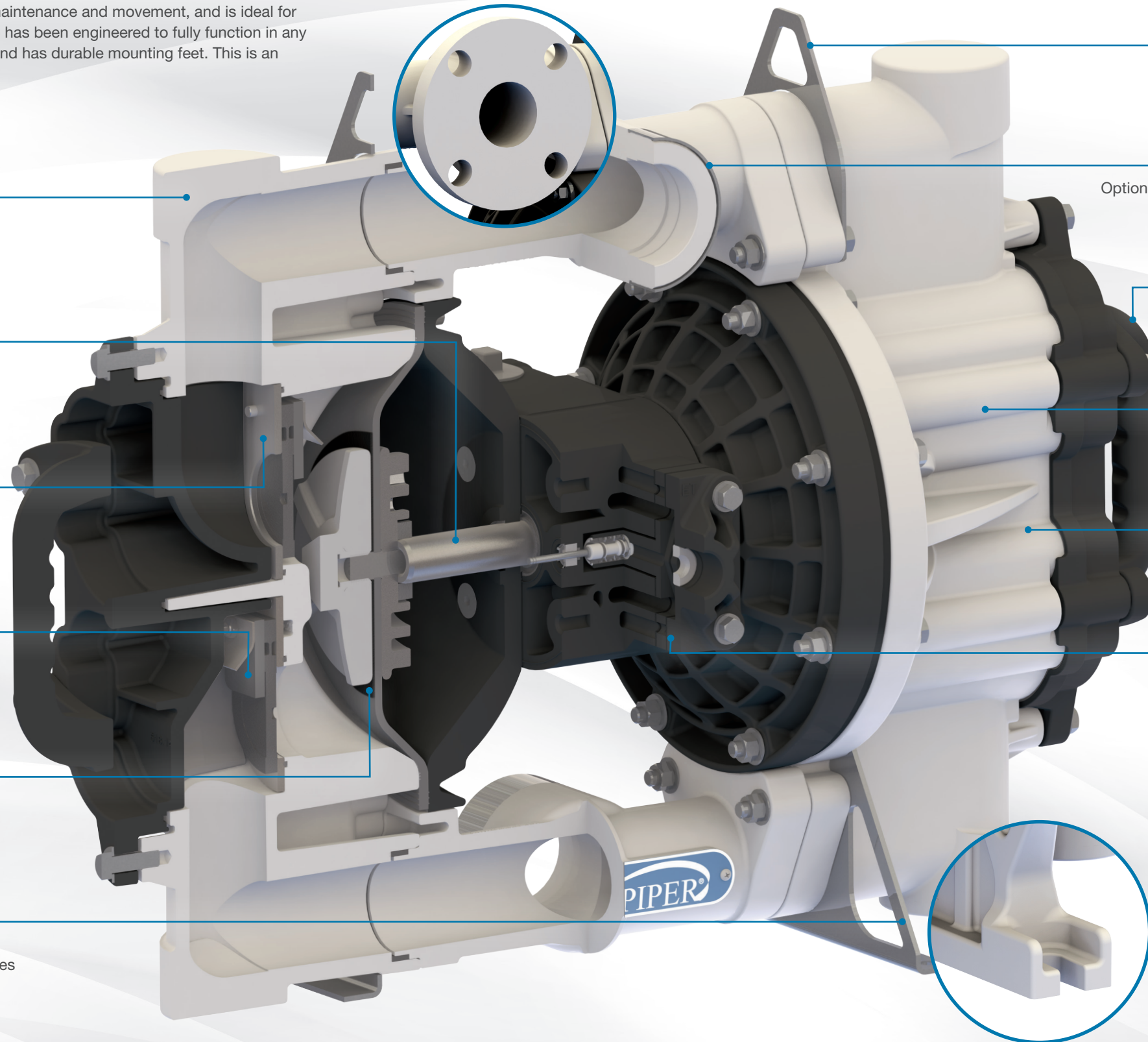
## Long Life

A proven diaphragm design in conjunction with exclusive wear pads reduce plate abrasion, delivering extended life



## Purpose Built Base

The threaded version features stainless steel mounting feet and the flanged version features Polypropylene mounting feet



## Industrial Mounting Capabilities

Addition of stainless steel hanging points located on the manifold allow for multiple mounting options



## Strong Manifold Connections

Optional flanged or threaded connection for additional flexibility: Stainless steel reinforcing rings help protect the threaded manifold connections from being damaged



## Ergonomic Handle

Lifting handles come standard, allowing for easy pump transport; handles can be rotated 90 degrees for proper ergonomics, depending on desired use



## Unsurpassed Performance

Industry leading flow rates, suction lift, air efficiency and displacement per stroke



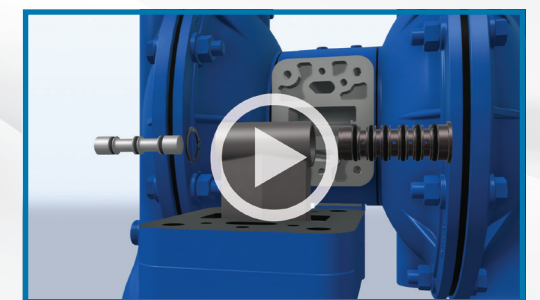
## Versatile Design

This pump will function in any position, including uneven surfaces



## Simple Maintenance

With our signature ESADS+Plus (Externally Serviceable Air Distribution System) air valve design and externally serviceable flap valve modules, in-field service is quick and easy, saving you from unnecessary downtime



Visit [SANDPIPERPUMP.COM/ESADSVIDEO](https://sandpiperpump.com/ESADSVIDEO) to see how easy the ESADS air valve makes maintaining the 2" Non-Metallic Flap Valve.



# HEAVY DUTY NON-METALLIC FLAP VALVE PUMP

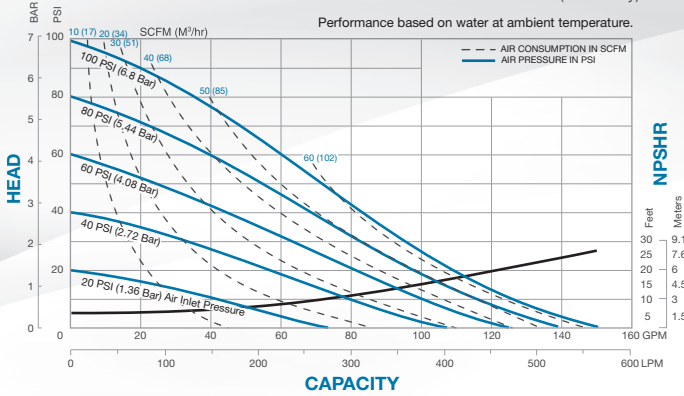
PERFORMANCE & SPECIFICATIONS

2"  
50mm

## HD20F Non-Metallic Performance



- MAX FLOW**  
• 150 GPM (567 LPM)
- PORTING**  
• NPT / BSPT
- AIR END**  
• Polypropylene
- WET END**  
• Polypropylene  
• Stainless Steel (seats only)

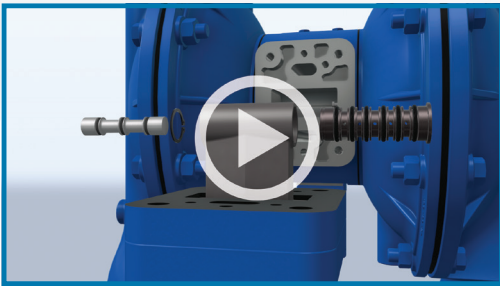
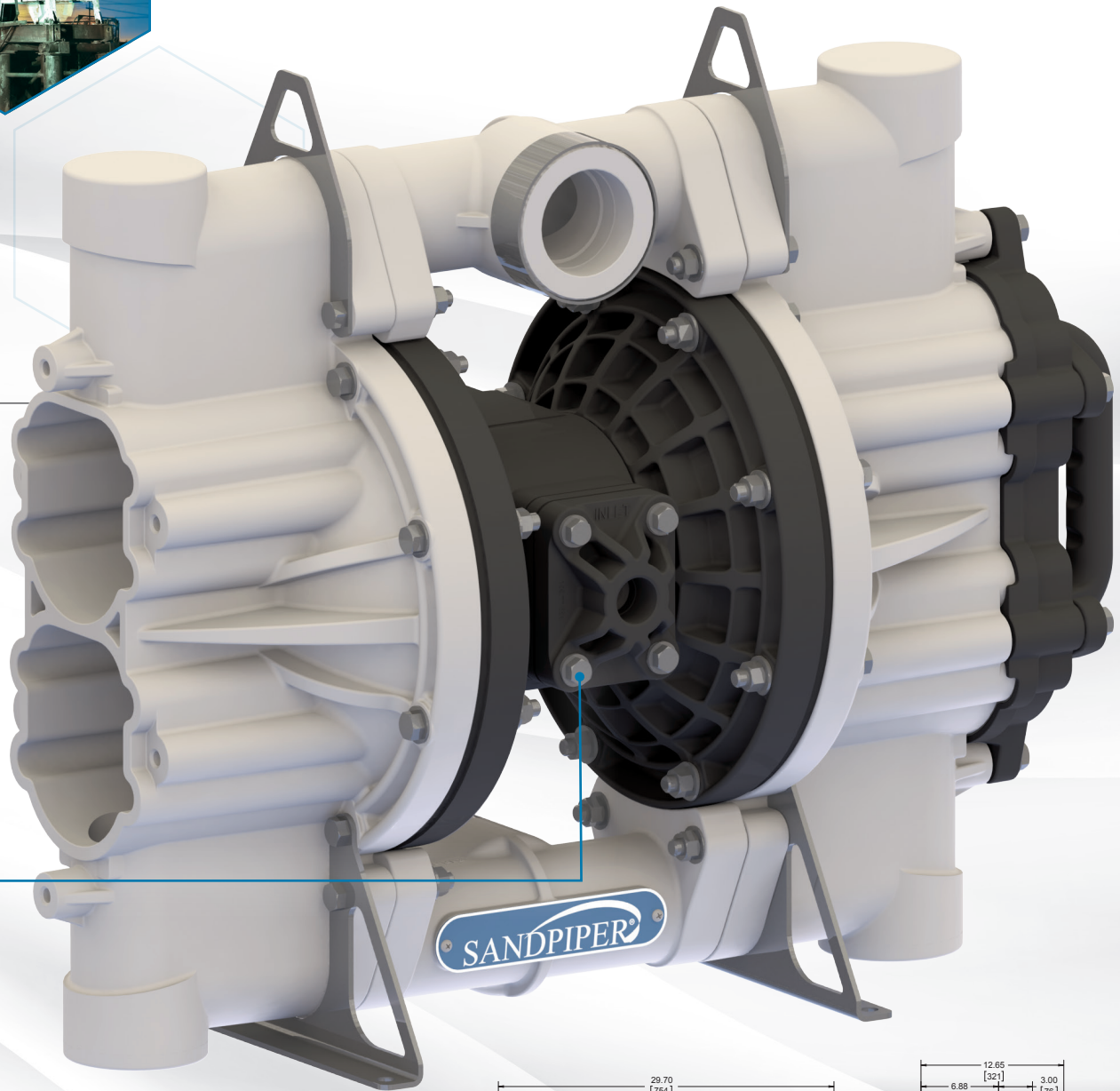
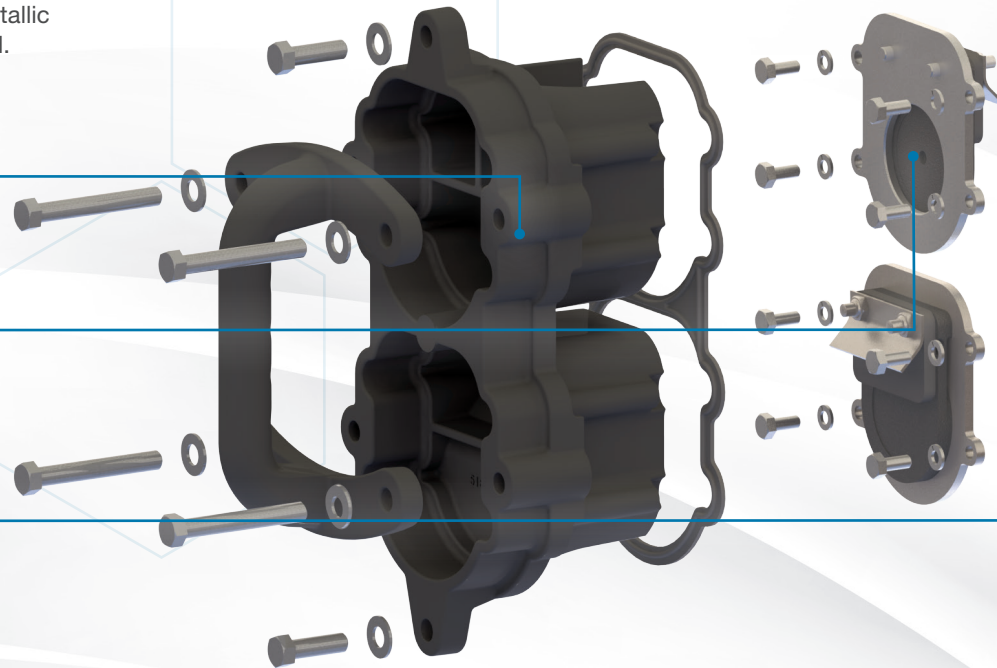


## Ease of Valve Maintenance

To help increase productivity and reduce downtime, the 2" Non-Metallic Flap Valve Pump was engineered with ease of maintenance in mind.

### QUICK ACCESS TO SERVICEABLE COMPONENTS

- 1. Remove Clean-Out Cap**  
By simply removing six bolts securing the clean-out cap in place, it allows access to clear simple clogs without disassembling the entire pump.
- 2. Modular Check Valve Access**  
With the clean-out cap removed, the flap valves can be inspected and / or replaced as needed. Four bolts hold the modular flap valves in place for quick maintenance and repair.
- 3. ESADS+Plus**  
Proven air distribution system allows for maintenance and / or repair of both pilot valve and air valve components without removing the pump from service.



Visit [SANDPIPERPUMP.COM/ESADSVIDEO](https://sandpiperpump.com/esadsvideo) to see how easy the ESADS air valve makes maintaining the 2" Non-Metallic Flap Valve.

SPECIFICATIONS											
PUMP MODEL	A	B	C	D	E	Connection Style	Pipe Size	Displacement Per Stroke	Max Flow Per Minute	Max Solids Handling	Max Discharge Pressure
	Height inches (mm)	Width inches (mm)	Depth inches (mm)	Bottom of Base to Center Line of: Suction inches (mm)	Discharge inches (mm)						
HD20F	20.89 (531)	29.7 (754)	12.65 (321)	17.56 (446)	2 (50)	2" NPT / BSPT	2 (50)	.50 (1.9)	150 (567)	1.8 (46)	100 (7)

Dimensional Tolerance: ±1/8" (± 3mm) • See service manual for complete specifications.

