



# Process Equipment Catalog

Pumping Solutions for Process Industries



PROVEN QUALITY. LEADING TECHNOLOGY

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# Air-Operated Double Diaphragm Pumps Model Overview



Model	Husky™ 205 Plastic	Husky 307 Plastic	Husky 515 Plastic	Husky 716 Metal	Husky 1050 Plastic	Husky 1050 Metal	Husky 1050HP
Connection Size	1/4 in (6.3 mm)	3/8 in (9.4 mm)	1/2 in (12.7 mm)	3/4 in (19.1 mm)	1 in (25.4 mm)	1 in (25.4 mm)	1 in (25.4 mm)
Thread Type	NPT or BSP	NPT or BSP	NPT or BSP	NPT or BSP	ANSI/DIN Flange	NPT or BSP	NPT or BSP
Air Valve	Standard and Remote	Standard	Standard and Remote	Standard and Remote	Standard, Smart and Remote	Standard, Smart and Remote	Standard
Maximum Flow Rate	5 gpm (19 lpm)	7 gpm (26 lpm)	15 gpm (57 lpm)	16 gpm (61 lpm)	50 gpm (189 lpm)	50 gpm (189 lpm)	50 gpm (189 lpm)
Maximum Discharge Pressure	100 psi (7 bar, 0.7 MPa)	100 psi (7 bar, 0.7 MPa)	100 psi (7 bar, 0.7 MPa)	100 psi (7 bar, 0.7 MPa)	125 psi (8.6 bar, 0.9 MPa)	125 psi (8.6 bar, 0.9 MPa)	125 psi (8.6 bar, 0.9 MPa)
Materials of Construction Available	Polypropylene, PVDF, Acetal	Polypropylene, Acetal	Polypropylene, PVDF, Acetal	Aluminum, 316 SST	Polypropylene, Conductive Poly, PVDF	Aluminum, 316 SST, Hastelloy	Aluminum, 316 SST
Center Section Available	Polypropylene	Polypropylene	Polypropylene	Polypropylene	Polypropylene, Conductive Poly	Coated Aluminum, Polypropylene, Conductive Poly	Aluminum
Pump Weight	2.0 lb (0.9 kg) Polypropylene	4.75 lb (2.2 kg) Polypropylene	6.5 lb (2.9 kg) Polypropylene	8.5 lb (3.9 kg) Aluminum	18 lb (8.2 kg) Polypropylene	23 lb (10.4 kg) Aluminum	48 lb (21.8 kg) Aluminum
	2.5 lb (1.1 kg) Acetal	5.2 lb (2.4 kg) Acetal	7.8 lb (3.5 kg) Acetal	18 lb (8.2 kg) SST	26 lb (11.8 kg) PVDF	36.3 - 41 lb (16.5-18.6 kg) SST	60 lb (27.2 kg) SST
	2.8 lb (1.3 kg) PVDF		8.5 lb (3.9 kg) PVDF			41 lb (18.6 kg) Hastelloy	
Maximum Solids	0.06 in (1.5 mm)	0.063 in (1.6 mm)	0.094 in (2.5 mm)	0.094 in (2.5 mm)	0.125 in (3.2 mm)	0.125 in (3.2 mm)	0.125 in (3.2 mm)



Husky 1590 Plastic	Husky 1590 Metal	Husky 15120 Plastic	Husky 2150 Plastic	Husky 2150 Metal	Husky 2200 Plastic	Husky 3300 Plastic	Husky 3300 Metal
1-1/2 in (38.1 mm)	1-1/2 in (38.1 mm)	1-1/2 in (38.1 mm)	2 in (50.8 mm)	2 in (50.8 mm)	2 in (50.8 mm)	3 in (76.2 mm)	3 in (76.2 mm)
ANSI Flange	NPT or BSP	DIN/ANSI	ANSI Flange	NPT or BSP	DIN/ANSI	DIN/ANSI	NPT and BSP DIN/ANSI (AL only)
Standard and Remote	Standard and Remote	Standard	Standard and Remote	Standard and Remote	Standard	Standard	Standard
100 gpm (379 lpm)	100 gpm (379 lpm)	120 gpm (454 lpm)	150 gpm (568 lpm)	150 gpm (568 lpm)	200 gpm (757 lpm)	280 gpm (1,059 lpm)**	300 gpm (1,135 lpm)**
120 psi (8.3 bar, 0.8 MPa)	120 psi (8.3 bar, 0.8 MPa)	125 psi (8.6 bar, 0.9 MPa)	120 psi (8.3 bar, 0.8 MPa)	120 psi (8.3 bar, 0.8 MPa)	125 psi (8.6 bar, 0.9 MPa)	100 psi (7 bar, 0.7 MPa)	125 psi (8.6 bar, 0.9 MPa) with AL center
Polypropylene, PVDF	Aluminum, 316 SST	Polypropylene, PVDF	Polypropylene, PVDF	Aluminum, 316 SST, Ductile Iron	Polypropylene, PVDF	Polypropylene	Aluminum, 316 SST
Coated Aluminum, 316 SST	Coated Aluminum, 316 SST	Polypropylene	Coated Aluminum, 316 SST	Coated Aluminum, 316 SST	Polypropylene	Polypropylene	Aluminum, Polypropylene* (*SST pump only)
35 lb (16 kg) Polypropylene	33.5 lb (15.2 kg) Aluminum	57 lb (25.9 kg) Polypropylene	49 lb (22 kg) Polypropylene	58 lb (26.3 kg) Aluminum	80 lb (36.3 kg) Polypropylene	200 lb (90.7 kg) Polypropylene	150 lb (68 kg) Aluminum
49 lb (22 kg) PVDF	86 lb (40 kg) SST	74 lb (33.6 kg) PVDF	68 lb (31 kg) PVDF	111 lb (50.3 kg) SST	106 lb (48.1 kg) PVDF		255 lb (115.6 kg) SST
				130 lb (59 kg) Ductile Iron			
0.188 in (4.8 mm)	0.188 in (4.8 mm)	0.25 in (6.3 mm)	0.25 in (6.3 mm)	0.25 in (6.3 mm)	0.375 in (9.5 mm)	0.5 in (12.7 mm)	0.5 in (12.7 mm)

\*\*Maximum flow rate using standard diaphragm at 125 psi (8.6 bar).

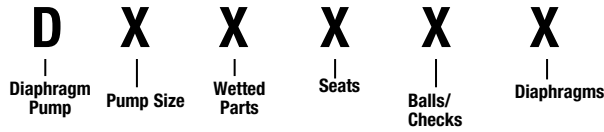
# Pump Selection Key

## Husky AODD Pumps

### Diaphragm Pump Designation Key

For Husky 205, 307, 515, 716, 1590 and 2150 Pumps

Part numbers are located on ID tag on center section of all Husky diaphragm pumps.



PUMP SIZE (AIR MOTOR TYPE AND MATERIAL)	WETTED PARTS	SEATS	BALLS/CHECKS	DIAPHRAGM
1 = 1/4" (6.35 mm) Standard: Polypropylene center section	1 = Acetal (npt)	2 = Acetal	1 = PTFE	1 = PTFE
2 = 1/4" (6.35 mm) Remote: Polypropylene center section	2 = Polypropylene (npt)	3 = Stainless Steel	2 = Acetal	5 = TPE
3 = 3/8" (9.52 mm) Standard: Polypropylene center section	3 = Aluminum (npt)	4 = Hardened SST	3 = Stainless Steel	6 = Santoprene
5 = 1/2" (12.7 mm) Standard: Polypropylene center section	4 = Stainless Steel (npt)	5 = TPE	4 = Hardened SST	7 = Buna N
4 = 1/2" (12.7 mm) Remote: Polypropylene center section	5 = PVDF (npt)	6 = Santoprene	5 = TPE	8 = Fluoroelastomer
5 = 3/4" (19.05 mm) Standard: Polypropylene center section	6 = Ductile Iron (npt)	7 = Buna N	6 = Santoprene	6 = Santoprene
4 = 3/4" (19.05 mm) Remote: Polypropylene center section	A = Acetal * (bsp)	8 = Fluoroelastomer	7 = Buna N	8 = Fluoroelastomer
B = 1-1/2" (38.1 mm) Standard: aluminum center section	B = Polypropylene * (bsp)	9 = Polypropylene	8 = Fluoroelastomer	9 = Polypropylene
C = 1-1/2" (38.1 mm) Remote: aluminum center section	C = Aluminum (bsp)	A = PVDF	A = PVDF	A = PVDF
T = 1-1/2" (38.1 mm) Standard: stainless steel center section	D = Stainless Steel (bsp)	B = SST with FKM seal	B = SST with FKM seal	G = Geolast
U = 1-1/2" (38.1 mm) Remote: stainless steel center section	E = PVDF (bsp)	C = Santoprene with FKM seal	C = Santoprene with FKM seal	
F = 2" (50.8 mm) Standard: aluminum center section	F = Ductile Iron (bsp)	G = Geolast	G = Geolast	
G = 2" (50.8 mm) Remote: aluminum center section	G = 2 bsp Alum Extended			
V = 2" (50.8 mm) Standard: stainless steel center section	H = 2 npt Alum Extended			

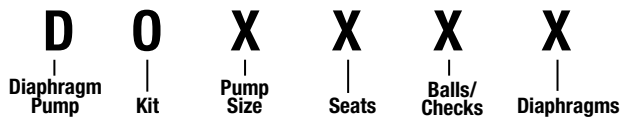
\* = BSP plastic in 1/2" (12.7mm) pumps

≥1" Plastic pumps flange connections

Note: Above matrix is possible combinations. All combination may not be available. See specific pump listings for available combinations.

### Diaphragm Pump Kit Designation Key

When selecting a kit, use the same code numbers as for the pumps regarding pump size, seat, ball/checks and diaphragm.



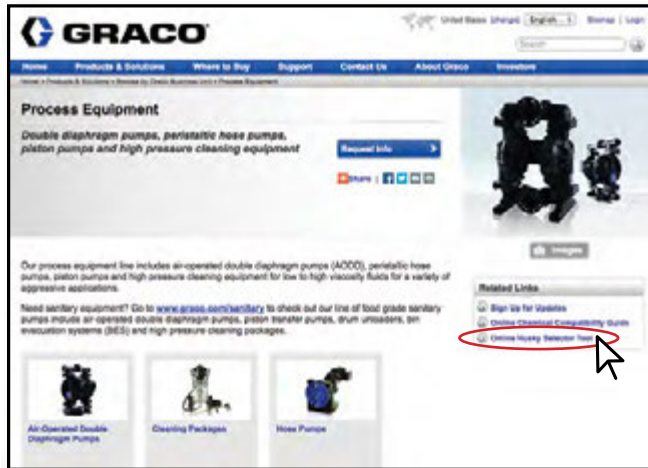
PUMP SIZE	SEATS	BALLS/CHECKS	DIAPHRAGM
1 = 1/4 in (6.35 mm)	0 = No seat	1 = PTFE	1 = PTFE
3 = 3/8 in (9.52 mm)	2 = Acetal	2 = Acetal	5 = TPE
5 = 1/2 in (12.7 mm) and 3/4 in (19.05 mm)	3 = Stainless Steel	3 = Stainless Steel	6 = Santoprene
B = 1-1/2 in (38.1 mm) metal pump	4 = Hardened SST	4 = Hardened SST	7 = Buna
C = 1-1/2 in (38.1 mm) plastic pump	5 = TPE	5 = TPE	8 = Fluoroelastomer
F = 2 in (50.8 mm) metal pump	6 = Santoprene	6 = Santoprene	G = Geolast
G = 2 in (50.8 mm) plastic pump	7 = Buna N	7 = Buna	
	8 = Fluoroelastomer	8 = Fluoroelastomer	0 = No Diaphragm
	9 = Polypropylene	9 = Polypropylene	
	A = PVDF	A = PVDF	
	B = SST with FKM seal	G = Geolast	
	C = Santoprene with FKM seal		
	G = Geolast	0 = No Balls/Checks	

## Husky Selector Tool

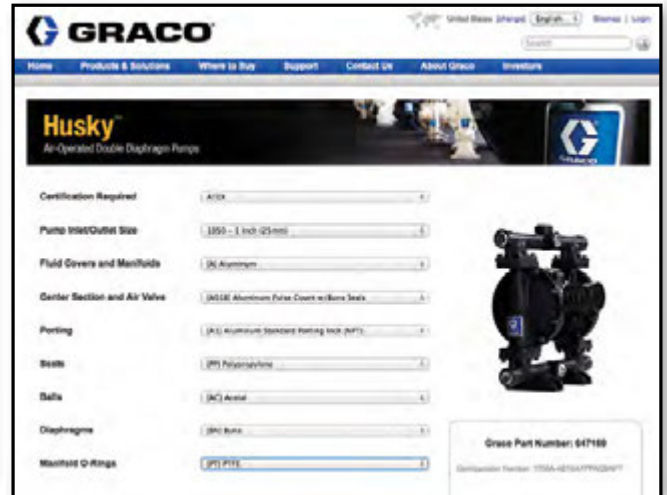
For Husky 1050, 1590, 15120, 2150, 2200 and 3300 Pumps

### Find the Right Pump for your Application

To order a Husky 1050, 1590, 15120, 2150, 2200 or 3300, use the online selector tool at [www.graco.com/process](http://www.graco.com/process) or contact your distributor.



From the homepage at [www.graco.com/process](http://www.graco.com/process) click on "Online Husky Selector Tool"

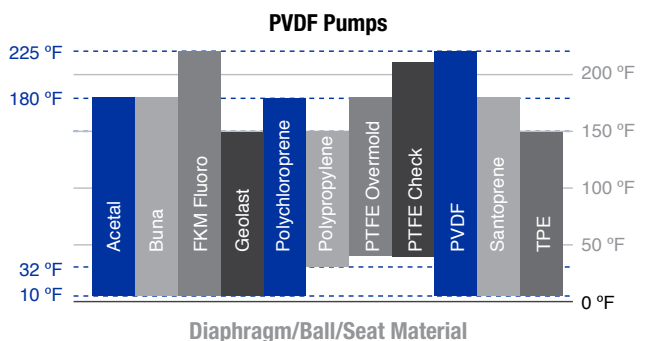
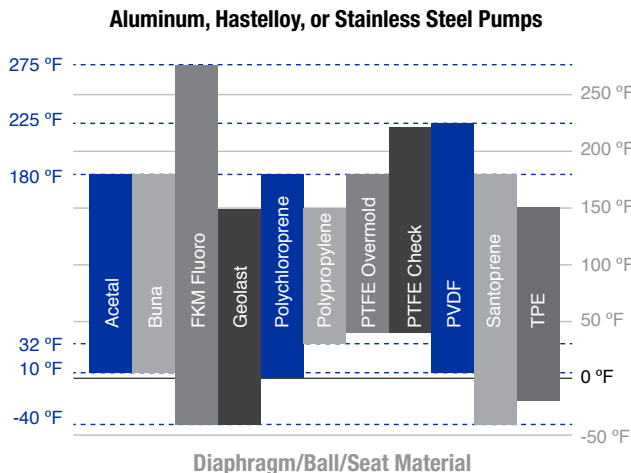
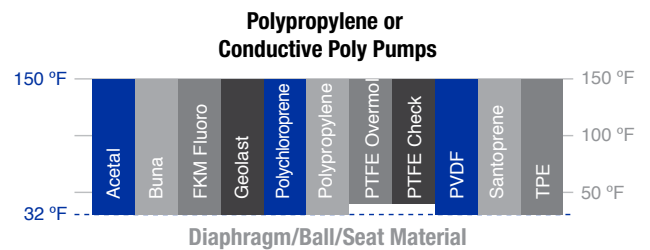
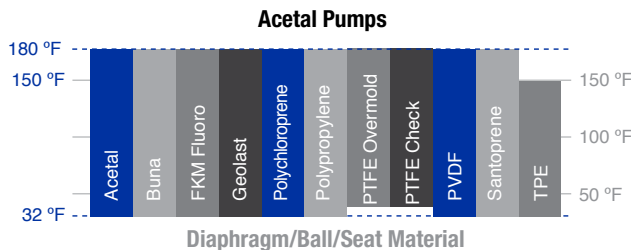


Example of Product Selector Tool on [www.graco.com/process](http://www.graco.com/process).

## Maximum Diaphragm Operating Temperature

### NOTICE:

Temperature limits are based on mechanical stress only. Certain chemicals will further limit the fluid temperature range. Stay within the temperature range of the most-restricted wetted component. Operating at a fluid temperature that is too high or too low for the components of your pump may cause equipment damage.



The maximum temperature listed is based on the ATEX standard for T4 temperature classification. If you are operating in a non-explosive environment, FKM fluor elastomer's maximum fluid temperature in aluminum or stainless steel pumps is 320°F (160°C). Actual pump performance may be affected by prolonged usage at temperature.

## Pump Selection Key

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### Fluid Section Materials

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#### Aluminum

Medium corrosion and abrasion resistance.  
Not for use with halogenated hydrocarbons.



#### Polypropylene

Wide chemical compatibility.  
General purpose.



#### Conductive Polypropylene

Wide chemical compatibility.  
General purpose. Groundable.



#### Stainless Steel (316 Grade)

High level of corrosion and abrasion resistance.



#### Acetal

Wide range of solvent resistance.  
Withstands extreme fatigue. Good level of abrasion resistance. Groundable for use with flammables.  
Not for use with acids or bases.



#### Ductile Iron

High abrasion resistance.



#### Hastelloy

Good resistance to aggressive chemicals in corrosive environments. Compatible with high temperature fluids.



#### PVDF

Strong chemical resistance to acids and bases.  
Good abrasion resistance. High temperature resistance.

Fluid section materials vary depending on pump model

## Diaphragm Materials



Diaphragm Material*	Description
PTFE/EPDM Two Piece	Widest chemical compatibility, extreme corrosion resistance, very low frictional coefficient, non-adhesive, high heat resistance.
PTFE/EPDM Overmolded	Same as above. <b>Overmolded design improves wear, durability and cleanability.</b> Longer life than above.
Thermoplastic Polyester Elastomer (TPE)	Good low temp properties. Good abrasion resistance. Often substituted for Buna.
Santoprene	Good abrasion and chemical resistance. OK for use with some solvents (e. g. MEK, Acetone), caustic solutions, dilute acids, and alcohols. Often substituted for EPDM or EPR.
Buna	Good for petroleum-based fluids, water, oils, hydrocarbons and MILD chemicals (e.g. mineral spirits).
Fluoroelastomer (FKM)	High heat resistance. Good resistance to aggressive chemicals including acids and some solvents (e.g. xylene and mineral spirits). Good resistance to steam as well as animal, vegetable, and petroleum oils. Resists unleaded fuels.
Geolast	Good abrasion resistance. Approximately same chemical compatibility as Buna.
Polychloroprene Overmolded (CR)	High resilience. Good with whiskey, wine, beer and natural gas. One source calls an "all purpose Polymer ". About 30% higher abrasion resistance than Buna.
EPDM, used with 3A pump (Ethylene Propylene Diene M-class rubber)	High heat resistance. Good resistance to gas permeability and to steam. OK with caustic solutions, dilute acids, ketones and alcohols. Recommended for use with CIP Sanitizing Agent OXONIA.

\*Available materials of construction varies depending on pump model



# Pump Selection Key



## Ball Check Materials

Ball Check Material	Description
Thermoplastic Polyester Elastomer (TPE)	Good low temperature properties. Good abrasion resistance.
Stainless Steel	High level of corrosion and abrasion resistance. Passivated 316 grade.
Santoprene	Good abrasion and chemical resistance. OK for use with some solvents, (e.g. MEK, acetone) caustic solutions, dilute acids and alcohols. Often substituted for EPDM or EPR.
Geolast	Good abrasion resistance. Approximately same chemical compatibility as Buna.
Buna	Good for petroleum-based fluids, water, oils, hydrocarbons and MILD chemicals (e.g. mineral spirits). Not for use with strong solvents or chemicals (e.g. acetone, MEK, ozone, chlorinated hydrocarbons and nitro hydrocarbons).
Fluoroelastomer (FKM)	High heat resistance. Good resistance to aggressive chemicals including acids and some solvents (e.g. Xylene and mineral spirits). Good resistance to steam as well as animal, vegetable and petroleum oils. Resists unleaded fuels. Not for use with ketones, low molecular weight ester and nitro containing compounds.
PTFE	Widest chemical compatibility, extreme corrosion resistance, very low frictional coefficient, non-adhesive, high heat resistance. Poor abrasion resistance.
Polychloroprene (CR)	High resilience. Good with whiskey, wine, beer and natural gas. Good with animal and vegetable oil, moderate chemicals, fats and greases. Not for use with strong oxidizing acids, esters, ketones, chlorinated aromatic and nitro hydrocarbons.
Polychloroprene (CR) Weighted	High resilience. Good with whiskey, wine, beer and natural gas. Good with animal and vegetable oil, moderate chemicals, fats and greases. Not for use with strong oxidizing acids, esters, ketones, chlorinated aromatic and nitro hydrocarbons.
Acetal	Wide range of solvent resistant and withstands extreme fatigue. Good level of abrasion resistance. Not for use with acids or bases.



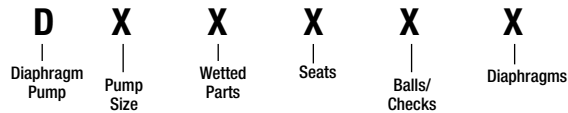
## Seat Materials

Seat Material	Description
Polypropylene	Wide chemical compatibility. General purpose.
Thermoplastic Polyester Elastomer (TPE)	Good low temp properties. Good abrasion resistance.
Stainless Steel	High level of corrosion and abrasion resistance. Passivated 316 grade.
Santoprene	Good abrasion and chemical resistance. OK for use with some solvents, (e.g. MEK, acetone) caustic solutions, dilute acids, and alcohols. Often substituted for EPDM or EPR.
Geolast	Good abrasion resistance. Approximately same chemical compatibility as Buna.
Buna	Good for petroleum-based fluids, water, oils, hydrocarbons and MILD chemicals (e.g. mineral spirits). Not for use with strong solvents or chemicals (e.g. acetone, MEK, ozone, chlorinated hydrocarbons, and nitro hydrocarbons).
Fluoroelastomer (FKM)	High heat resistance. Good resistance to aggressive chemicals including acids and some solvents (e.g. Xylene and mineral spirits). Good resistance to steam as well as animal, vegetable and petroleum oils. Resists unleaded fuels. Not for use with ketones, low molecular weight ester and nitro containing compounds.
Aluminum	Medium corrosion and abrasion resistance. Not for use with halogenated hydrocarbons.
Acetal	Wide range of solvent resistant and withstands extreme fatigue. Good level of abrasion resistance. Not for use with acids or bases.
PVDF	Strong chemical resistance: Acids and bases. Good abrasion resistance. High temperature resistance.

# Husky 205 Plastic Pumps

## Air-Operated Double Diaphragm

### Ordering Information



PUMP SIZE (AIR MOTOR TYPE AND MATERIAL)	WETTED PARTS	SEATS	CHECK VALVES	DIAPHRAGM
1 = 1/4" (6.35 mm) Standard: polypropylene center section 2 = 1/4" (6.35 mm) Remote: polypropylene center section	1 = Acetal (npt) 2 = Poly (npt) 5 = PVDF (npt)	0 = No Seats	2 = Acetal 9 = Polypropylene A = PVDF	1 = PTFE 6 = Santoprene

### Popular Models

Material	Part Number (NPT Ported)		Part Number (BSP Ported)		Materials for Check Valves	Materials for Diaphragms	Fluid Kit	Air Kit	Air Control**
	Standard Air Valve	Remote* Air Valve	Standard Air Valve	Remote* Air Valve					
Acetal	D11021	D21021	D11021	D21021	Acetal	PTFE	D01021	238853	246946
	D11026	D21026	D11026	D21026	Acetal	Santoprene	D01026	238853	246946
PVDF	D150A1	D250A1	D150A1	D250A1	PVDF	PTFE	D010A1	238853	246946
	D150A6	D250A6	D150A6	D250A6	PVDF	Santoprene	D010A6	238853	246946
Polypropylene	D12091	D22091	D12091	D22091	Polypropylene	PTFE	D01091	238853	246946
	D12096	D22096	D12096	D22096	Polypropylene	Santoprene	D01096	238853	246946

\* Requires Cycleflo or external valve control

\*\* Air control includes air regulator and filter with gauge



Wall bracket standard with pump

### Technical Specifications

Husky 205 Plastic Pumps	Acetal	Polypropylene	PVDF
Maximum fluid working pressure	100 psi (7 bar, 0.7 MPa)	100 psi (7 bar, 0.7 MPa)	100 psi (7 bar, 0.7 MPa)
Maximum free flow delivery*	5.0 gpm (18.9 lpm)	5.0 gpm (18.9 lpm)	5.0 gpm (18.9 lpm)
Maximum pump speed	250 cpm	250 cpm	250 cpm
Displacement per cycle**	0.012 gallon (0.045 liter)	0.012 gallon (0.045 liter)	0.012 gallon (0.045 liter)
Maximum suction lift (D12096)	10 ft (3 m) dry	10 ft (3 m) dry	10 ft (3 m) dry
Maximum size pumpable solids	0.06 in (1.5 mm)	0.06 in (1.5 mm)	0.06 in (1.5 mm)
Maximum ambient operating temperature***	180°F (82°C)	150°F (66°C)	180°F (82°C)
Maximum diaphragm operating temperature***	Refer to page 5	Refer to page 5	Refer to page 5
Typical sound level at 70 psi (4.9 bar, 0.49 MPa) air @ 125 cpm	70 dBa	70 dBa	70 dBa
Maximum air consumption	9.0 scfm (0.252 m3/min)	9.0 scfm (0.252 m3/min)	9.0 scfm (0.252 m3/min)
Air pressure operating range	20 to 100 psi (1.4 to 7 bar, 0.14 to 0.7 MPa)	20 to 100 psi (1.4 to 7 bar, 0.14 to 0.7 MPa)	20 to 100 psi (1.4 to 7 bar, 0.14 to 0.7 MPa)
Air inlet size	1/4 npt(f)	1/4 npt(f)	1/4 npt(f)
Air exhaust port size	1/4 npt(f)	1/4 npt(f)	1/4 npt(f)
Fluid inlet & outlet size****	1/4 npt(f)	1/4 npt(f)	1/4 npt(f)
Weight	2.5 lb (1.1 kg)	2.0 lb (0.9 kg)	2.8 lb (1.3 kg)
Wetted parts (in addition to ball, seat and diaphragm materials— which may vary by pump)	Acetal with Stainless Steel fibers, PTFE, Acetal, Santoprene	Glass-filled Polypropylene, Santoprene, PTFE, Polypropylene	PVDF, PTFE, Santoprene
Instruction manual	<a href="#">308652</a>	<a href="#">308652</a>	<a href="#">308652</a>

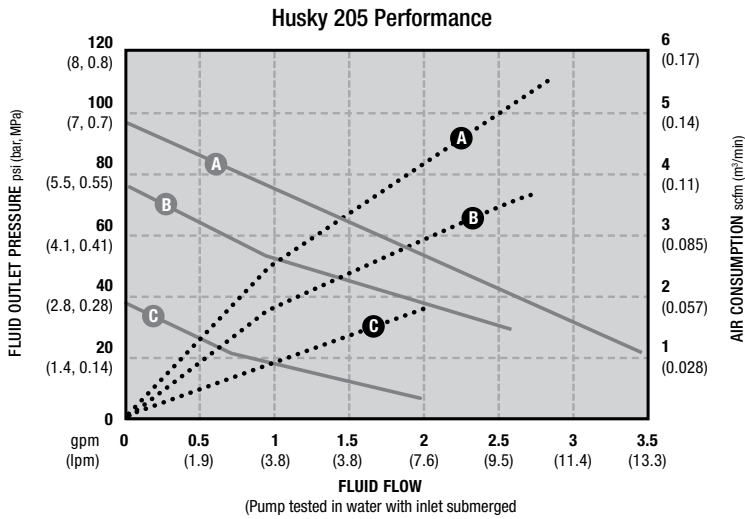
\*\* Displacement per cycle may vary based on suction condition, discharge head, air pressure and fluid type

\*\*\* Actual pump performance may be affected by prolonged usage at temperature

\*\*\*\* Hybrid thread allows for either 1/4 npt or 1/4 bspt fitting

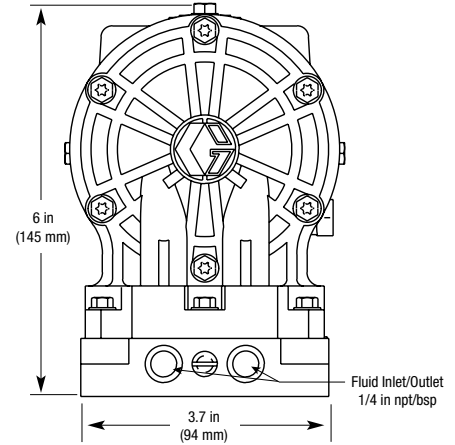
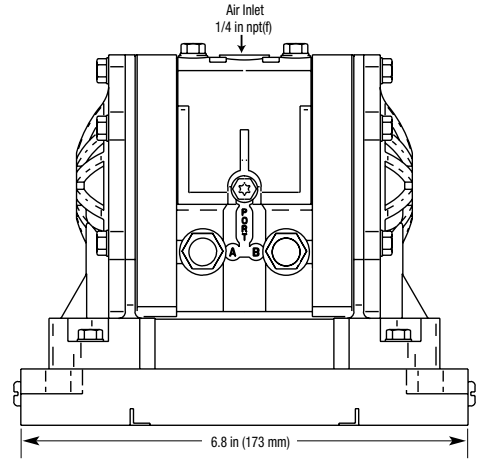
# Husky 205 Plastic Pumps

## Performance Charts



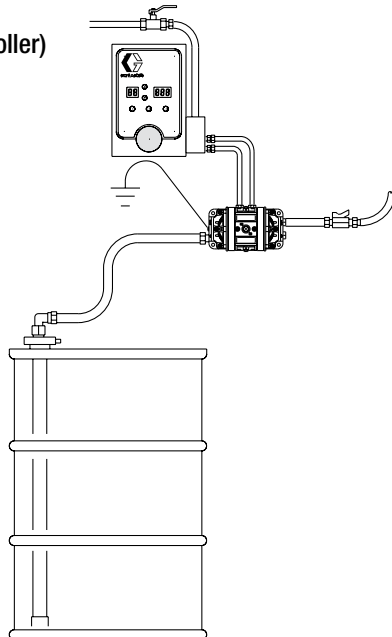
AIR PRESSURE	LEGEND
<b>A</b> = at 100 psi (7 bar, 0.7 MPa)	Air Consumption.....
<b>B</b> = at 70 psi (4.8 bar, 0.48 MPa)	Fluid Pressure ———
<b>C</b> = at 40 psi (2.8 bar, 0.28 MPa)	

## Dimensions



## Typical System Drawings

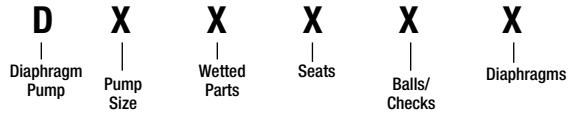
**Husky 205 Wall-Mount**  
(shown with CycleFlo controller)



# Husky 307 Plastic Pumps

## Air-Operated Double Diaphragm

### Ordering Information



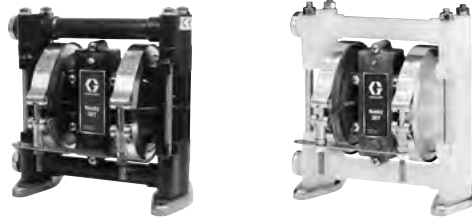
PUMP SIZE (AIR MOTOR TYPE AND MATERIAL)	WETTED PARTS	SEATS	BALLS	DIAPHRAGM
3 = 3/8" (9.52 mm) Standard: polypropylene center section	1 = Acetal (npt) 2 = Poly (npt)	2 = Acetal 3 = Stainless Steel 9 = Polypropylene	1 = PTFE 3 = SST 5 = TPE 6 = Santoprene 7 = Buna N	1 = PTFE 5 = TPE 6 = Santoprene 7 = Buna N
	A = Acetal (bsp) B = Poly (bsp)			

### Popular Models

Material	Part Number (NPT Ported)		Part Number (BSP Ported)		Materials for Seats	Materials for Balls	Materials for Diaphragms	Fluid Kit	Air Kit	Air Control*
	Standard Air Valve	Remote Air Valve	Standard Air Valve	Remote Air Valve						
Acetal	D31211	NA	D3A211	NA	Acetal	PTFE	PTFE	D03211	239952	246946
	D31255	NA	D3A255	NA	Acetal	TPE	TPE	D03255	239952	246946
	D31277	NA	D3A277	NA	Acetal	Buna	Buna	D03277	239952	246946
	D31311	NA	D3A311	NA	Stainless Steel	PTFE	PTFE	D03311	239952	246946
Polypropylene	D32211	NA	D3B211	NA	Acetal	PTFE	PTFE	D03211	239952	246946
	D32255	NA	D3B255	NA	Acetal	TPE	TPE	D03255	239952	246946
	D32277	NA	D3B277	NA	Acetal	Buna	Buna	D03277	239952	246946
	D32311	NA	D3B311	NA	Stainless Steel	PTFE	PTFE	D03311	239952	246946
	D32366	NA	D3B366	NA	Stainless Steel	Santoprene	Santoprene	D03366	239952	246946
	D32911	NA	D3B911	NA	Polypropylene	PTFE	PTFE	D03911	239952	246946
	D32955	NA	D3B955	NA	Polypropylene	TPE	TPE	D03955	239952	246946
	D32966	NA	D3B966	NA	Polypropylene	Santoprene	Santoprene	D03966	239952	246946
	D32977	NA	D3B977	NA	Polypropylene	Buna	Buna	D03977	239952	246946

\* Air control includes air regulator and filter with gauge (see drawing on page 13)

# Husky 307 Plastic Pumps



## Technical Specifications

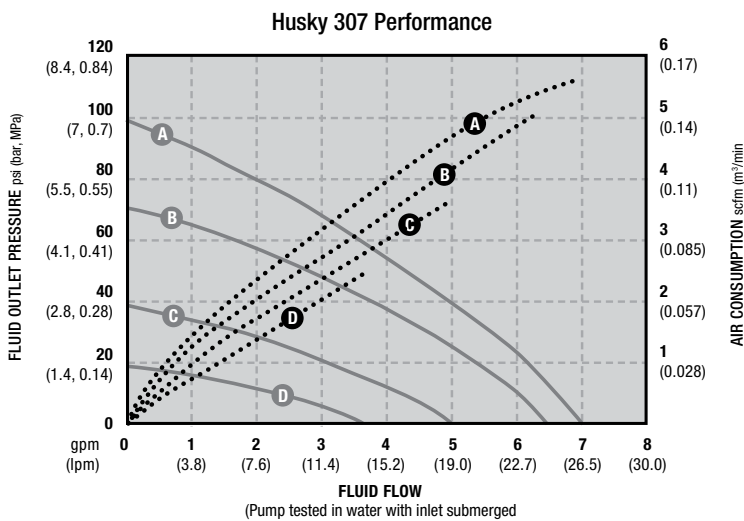
Husky 307 Plastic Pumps	Acetal	Polypropylene
Maximum fluid working pressure	100 psi (7 bar, 0.7 MPa)	100 psi (7 bar, 0.7 MPa)
Maximum free flow delivery*	7.0 gpm (26.5 lpm)	7.0 gpm (26.5 lpm)
Maximum pump speed	330 cpm	330 cpm
Displacement per cycle**	0.02 gallon (0.076 liter)	0.02 gallon (0.076 liter)
Maximum suction lift (D31255)	12 ft (3.7 m) dry	12 ft (3.7 m) dry
Maximum size pumpable solids	0.06 in (1.5 mm)	0.06 in (1.5 mm)
Maximum ambient operating temperature***	180°F (65.5°C)	150°F (65.5°C)
Maximum diaphragm operating temperature***	Refer to page 5	Refer to page 5
Typical sound level at 50 psi (3.5 bar, 0.35 MPa) air @ 50 cpm	75 dBa	75 dBa
Maximum air consumption	6 scfm (0.17 m3/min)	6 scfm (0.17 m3/min)
Air pressure operating range	20 to 100 psi (1.4 to 8.4 bar, 0.14 to 0.84 MPa)	20 to 100 psi (1.4 to 8.4 bar, 0.14 to 0.84 MPa)
Air inlet size	1/4 npt(f) or bspt(f)	1/4 npt(f) or bspt(f)
Fluid inlet & outlet size****	3/8 npt(f)	3/8 npt(f)
Weight	5.2 lb (2.4 kg)	4.75 lb (2.2 kg)
Wetted parts (in addition to ball, seat and diaphragm materials—which may vary by pump)	Acetal with Stainless Steel fibers, PTFE	Polypropylene, PTFE
Instruction manual	<a href="#">308553</a>	<a href="#">308553</a>

\*Flow rates are with muffler and do not vary based on diaphragm material

\*\*Displacement per cycle may vary based on suction condition, discharge head, air pressure and fluid type

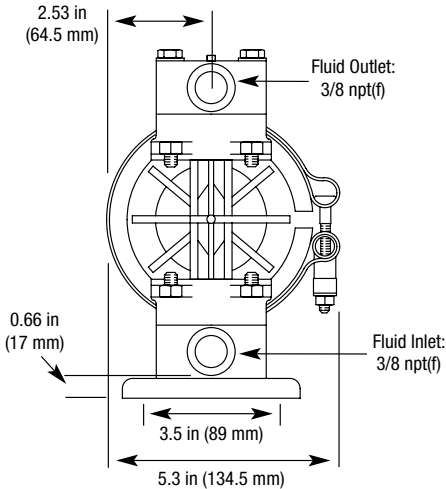
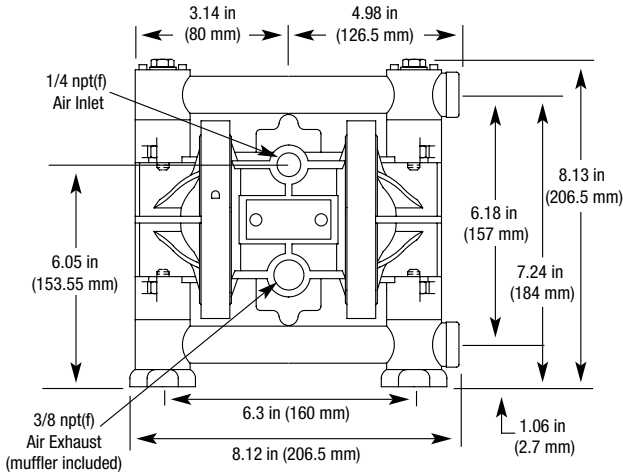
\*\*\*Actual pump performance may be affected by prolonged usage at temperature

## Performance Chart



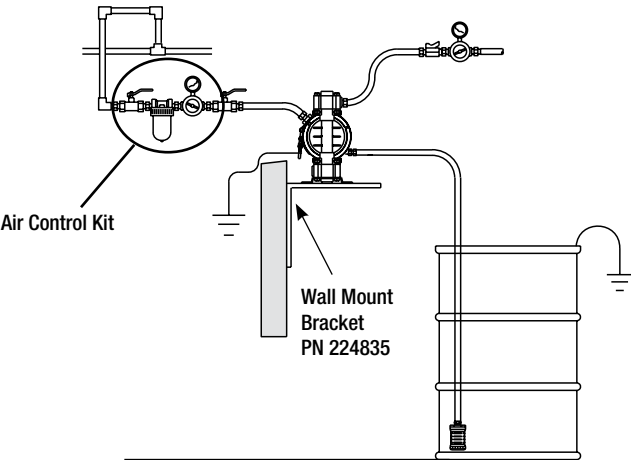
AIR PRESSURE	LEGEND
Ⓐ = at 100 psi (7 bar, 0.7 MPa)	Air Consumption.....
Ⓑ = at 70 psi (4.8 bar, 0.48 MPa)	Fluid Pressure ———
Ⓒ = at 40 psi (2.8 bar, 0.28 MPa)	
Ⓓ = at 20 psi (1.4 bar, 0.14 MPa)	

## Dimensions

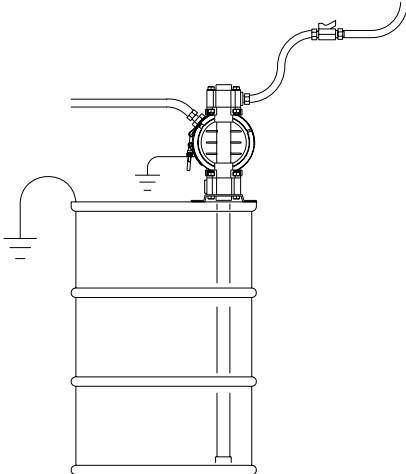


## Typical System Drawings

Husky 307 Wall-Mount with Siphon Feed



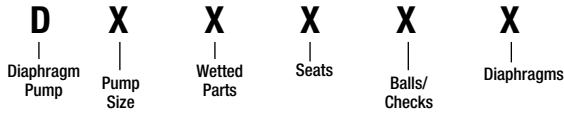
Husky 307 Drum-Mount with Siphon Feed



# Husky 515 Plastic Pumps

## Air-Operated Double Diaphragm

### Ordering Information



PUMP SIZE (AIR MOTOR TYPE AND MATERIAL)	WETTED PARTS	SEATS	BALLS	DIAPHRAGM
5 = 1/2" center (12.7 mm) or 3/4" ends (19.05) Standard: polypropylene center section	1 = Acetal (npt)	2 = Acetal	1 = PTFE	1 = PTFE
4 = 1/2" center (12.7 mm) or 3/4" ends (19.05) Remote: polypropylene center section	2 = Poly (npt)	3 = Stainless Steel	3 = Stainless Steel	5 = TPE
	5 = PVDF (npt)	9 = Polypropylene	5 = TPE	6 = Santoprene
	A = Acetal * (bsp)	A = PVDF	6 = Santoprene	7 = Buna N
	B = Poly * (bsp)	D = Urethane Duckbill	7 = Buna N	8 = Fluoroelastomer
	E = PVDF (bsp)		8 = Fluoroelastomer	
			0 = Duckbill	

\* = BSP plastic in 1/2" (12.7 mm) pumps

### Popular Models

Material	Part Number (NPT Ported)		Part Number (BSP Ported)		Materials for Seats	Materials for Balls	Materials for Diaphragms	Fluid Kit	Air Kit	Air Control**
	Standard Air Valve	Remote* Air Valve	Standard Air Valve	Remote* Air Valve						
Acetal	D51211	D41211	D5A211	D4A211	Acetal	PTFE	PTFE	D05211	241657	246946
	D51255	D41255	D5A255	D4A255	Acetal	TPE	TPE	D05255	241657	246946
	D51277	D41277	D5A277	D4A277	Acetal	Buna	Buna	D05277	241657	246946
	D51311	D41311	D5A311	D4A311	Stainless Steel	PTFE	PTFE	D05311	241657	246946
	D51331	D41331	D5A331	D4A331	Stainless Steel	Stainless Steel	PTFE	D05331	241657	246946
	D51D05	D41D05	D5AD05	D4AD05	Duckbill		TPE	D05D05	241657	246946
	D51D06	D41D06	D5AD06	D4AD06	Duckbill		Santoprene	D05D06	241657	246946
	D51D07	D41D07	D5AD07	D4AD07	Duckbill		Buna	D05D07	241657	246946
Polypropylene	D52211	D42211	D5B211	D4B211	Acetal	PTFE	PTFE	D05211	241657	246946
	D52277	D42277	D5B277	D4B277	Acetal	Buna	Buna	D05277	241657	246946
	D52311	D42311	D5B311	D4B311	Stainless Steel	PTFE	PTFE	D05311	241657	246946
	D52331	D42331	D5B331	D4B331	Stainless Steel	Stainless Steel	PTFE	D05331	241657	246946
	D52336	D42336	D5B336	D4B336	Stainless Steel	Stainless Steel	Santoprene	D05336	241657	246946
	D52911	D42911	D5B911	D4B911	Polypropylene	PTFE	PTFE	D05911	241657	246946
	D52955	D42955	D5B955	D4B955	Polypropylene	TPE	TPE	D05955	241657	246946
	D52966	D42966	D5B966	D4B966	Polypropylene	Santoprene	Santoprene	D05966	241657	246946
	D52977	D42977	D5B977	D4B977	Polypropylene	Buna	Buna	D05977	241657	246946
	D52988	D42988	D5B988	D4B988	Polypropylene	Fluoroelastomer	Fluoroelastomer	D05988	241657	246946
	D52D05	D42D05	D5BD05	D4BD05	Duckbill		TPE	D05D05	241657	246946
	D52D06	D42D06	D5BD06	D4BD06	Duckbill		Santoprene	D05D06	241657	246946
	D52D07	D42D07	D5BD07	D4BD07	Duckbill		Buna	D05D07	241657	246946
PVDF	D55A11	D45A11	D5EA11	D4EA11	PVDF	PTFE	PTFE	D05A11	241657	246946
	D55A88	D45A88	D5EA88	D4EA88	PVDF	Fluoroelastomer	Fluoroelastomer	D05A88	241657	246946

\*Required Cycleflo or external valve control

\*\* Air control includes air regulator and filter with gauge (see drawing on page 16)

# Husky 515 Plastic Pumps

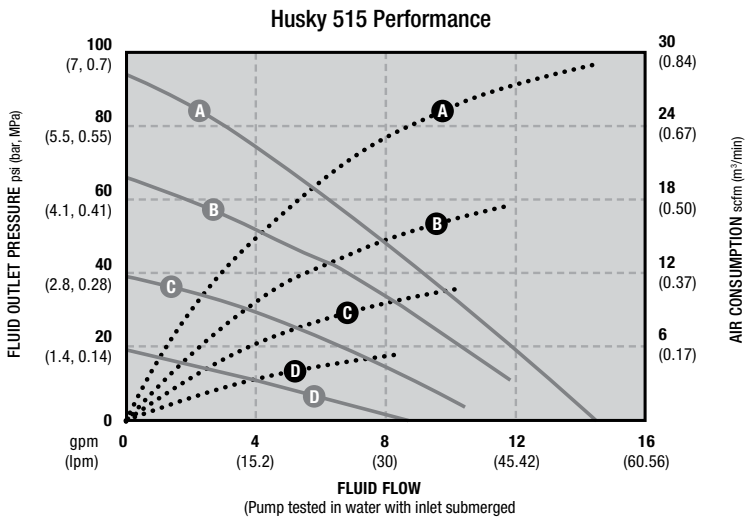


## Technical Specifications

Husky 515 Plastic Pumps	Acetal	Polypropylene	PVDF
Maximum fluid working pressure	100 psi (7 bar, 0.7 MPa)	100 psi (7 bar, 0.7 MPa)	100 psi (7 bar, 0.7 MPa)
Maximum free flow delivery*	15 gpm (57 lpm)	15 gpm (57 lpm)	15 gpm (57 lpm)
Maximum pump speed	400 cpm	400 cpm	400 cpm
Displacement per cycle**	0.04 gallon (0.15 liter)	0.04 gallon (0.15 liter)	0.04 gallon (0.15 liter)
Maximum suction lift ***	15 ft (4.5 m) dry	15 ft (4.5 m) dry	15 ft (4.5 m) dry
Maximum size pumpable solids	0.09 in (2.5 mm)	0.09 in (2.5 mm)	0.09 in (2.5 mm)
Maximum ambient operating temperature†	180°F (82°C)	150°F (66°C)	180°F (82°C)
Maximum diaphragm operating temperature†	Refer to page 5	Refer to page 5	Refer to page 5
Typical sound level at 70 psi (4.9 bar, 0.49 MPa) air @ 125 cpm	74 dBa	74 dBa	74 dBa
Maximum air consumption	28 scfm (0.672 m3/min)	28 scfm (0.672 m3/min)	28 scfm (0.672 m3/min)
Air pressure operating range	30 to 100 psi (2.1 to 7 bar, 0.21 to 0.7 MPa)	30 to 100 psi (2.1 to 7 bar, 0.21 to 0.7 MPa)	30 to 100 psi (2.1 to 7 bar, 0.21 to 0.7 MPa)
Air inlet size	1/4 npt(f)	1/4 npt(f)	1/4 npt(f)
Air exhaust port size	3/8 npt(f)	3/8 npt(f)	3/8 npt(f)
Fluid inlet & outlet size****	1/2 npt(f) or bspt(f)	1/2 npt(f) or bspt(f)	1/2 npt(f) or bspt(f)
Weight	7.8 lb (3.5 kg)	6.5 lb (2.9 kg)	8.5 lb (3.9 kg)
Wetted parts (in addition to ball, seat and diaphragm materials—which may vary by pump)	Groundable Acetal, PTFE, SST	Polypropylene, PTFE, SST	PVDF, PTFE
Instruction manual	308981	308981	308981

\* Flow rates are with muffler and do not vary based on diaphragm material.  
 \*\* Displacement per cycle may vary based on suction condition, discharge head, air pressure and fluid type  
 \*\*\* Duckbill suction lift 11 ft (3.3 m)  
 \*\*\*\* Hybrid thread allows for either 1/4 npt or 1/4 bspt fitting  
 † Actual pump performance may be affected by prolonged usage at temperature.

## Performance Charts

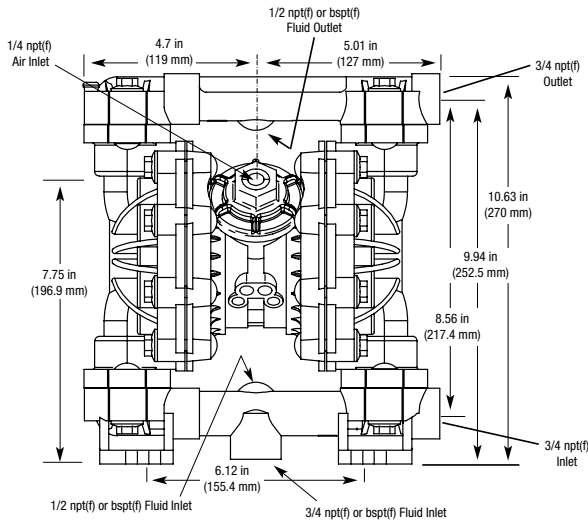


AIR PRESSURE	LEGEND
(A) = at 100 psi (7 bar, 0.7 MPa)	Air Consumption.....
(B) = at 70 psi (4.8 bar, 0.48 MPa)	Fluid Pressure ———
(C) = at 40 psi (2.8 bar, 0.28 MPa)	
(D) = at 20 psi (1.4 bar, 0.14 MPa)	



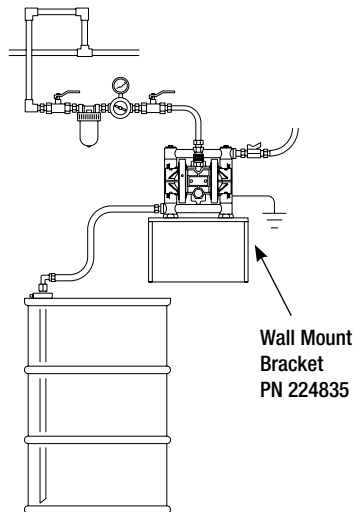
# Husky 515 Plastic Pumps

## Dimensions

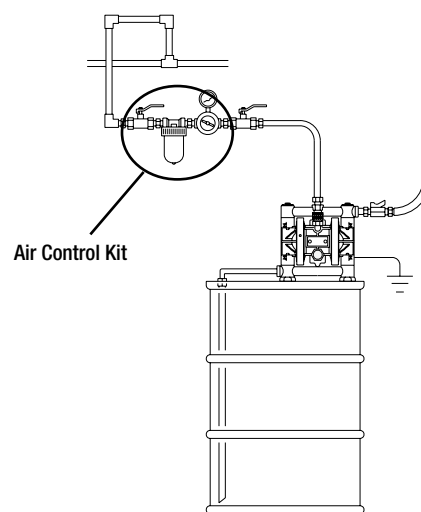


## Typical System Drawings

### Husky 515 Wall-Mount with Drum Feed



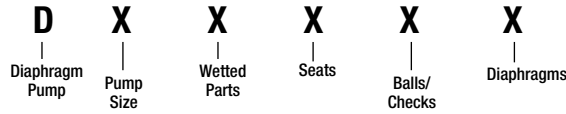
### Husky 515 Drum-Mount with Siphon Feed



# Husky 716 Metal Pumps

## Air-Operated Double Diaphragm

### Ordering Information



PUMP SIZE (AIR MOTOR TYPE AND MATERIAL)	WETTED PARTS	SEATS	BALLS	DIAPHRAGM
5 = 3/4" (19.05 mm) Standard: polypropylene center section	3 = Aluminum (npt)	2 = Acetal	1 = PTFE	1 = PTFE
4 = 3/4" (19.05 mm) Remote: polypropylene center section	4 = Stainless Steel (npt)	3 = Stainless Steel	3 = Stainless Steel	5 = TPE
	C = Aluminum (bsp)	9 = Polypropylene	5 = TPE	6 = Santoprene
	D = Stainless Steel (bsp)	A = PVDF	6 = Santoprene	7 = Buna N
		D = Duckbill	7 = Buna N	8 = Fluoroelastomer
			8 = Fluoroelastomer	

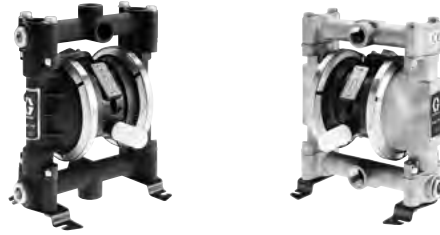
### Popular Models

Material	Part Number (NPT Ported)		Part Number (BSP Ported)		Materials for Seats	Materials for Balls	Materials for Diaphragms	Fluid Kit	Air Kit	Air Control**
	Standard Air Valve	Remote* Air Valve	Standard Air Valve	Remote* Air Valve						
Aluminum	D53211	D43211	D5C211	D4C211	Acetal	PTFE	PTFE	D05211	241657	246946
	D53255	D43255	D5C255	D4C255	Acetal	TPE	TPE	D05255	241657	246946
	D53277	D43277	D5C277	D4C277	Acetal	Buna	Buna	D05277	241657	246946
	D53288	D43288	D5C288	D4C288	Acetal	Fluoroelastomer	Fluoroelastomer	D05288	241657	246946
	D53311	D43311	D5C311	D4C311	Stainless Steel	PTFE	PTFE	D05311	241657	246946
	D53331	D43331	D5C331	D4C331	Stainless Steel	Stainless Steel	PTFE	D05331	241657	246946
	D53355	D43355	D5C355	D4C355	Stainless Steel	TPE	TPE	D05355	241657	246946
	D53366	D43366	D5C366	D4C366	Stainless Steel	Santoprene	Santoprene	D05366	241657	246946
	D53377	D43377	D5C377	D4C377	Stainless Steel	Buna	Buna	D05377	241657	246946
	D53388	D43388	D5C388	D4C388	Stainless Steel	Fluoroelastomer	Fluoroelastomer	D05388	241657	246946
	D53911	D43911	D5C911	D4C911	Polypropylene	PTFE	PTFE	D05911	241657	246946
	D53955	D43955	D5C955	D4C955	Polypropylene	TPE	TPE	D05955	241657	246946
	D53966	D43966	D5C966	D4C966	Polypropylene	Santoprene	Santoprene	D05966	241657	246946
	D53977	D43977	D5C977	D4C977	Polypropylene	Buna	Buna	D05977	241657	246946
	D53D05	D43D05	D5CD05	D4CD05		Duckbill	TPE	D05D05	241657	246946
	D53D06	D43D06	D5CD06	D4CD06		Duckbill	Santoprene	D05D06	241657	246946
D53D07	D43D07	D5CD07	D4CD07		Duckbill	Buna	D05D07	241657	246946	
Stainless Steel	D54211	D44211	D5D211	D4D211	Acetal	PTFE	PTFE	D05211	241657	246946
	D54311	D44311	D5D311	D4D311	Stainless Steel	PTFE	PTFE	D05311	241657	246946
	D54331	D44331	D5D331	D4D331	Stainless Steel	Stainless Steel	PTFE	D05331	241657	246946
	D54335	D44335	D5D335	D4D335	Stainless Steel	Stainless Steel	TPE	D05335	241657	246946
	D54336	D44336	D5D336	D4D336	Stainless Steel	Stainless Steel	Santoprene	D05336	241657	246946
	D54355	D44355	D5D355	D4D355	Stainless Steel	TPE	TPE	D05355	241657	246946
	D54366	D44366	D5D366	D4D366	Stainless Steel	Santoprene	Santoprene	D05366	241657	246946
	D54377	D44377	D5D377	D4D377	Stainless Steel	Buna	Buna	D05377	241657	246946
	D54388	D44388	D5D388	D4D388	Stainless Steel	Fluoroelastomer	Fluoroelastomer	D05388	241657	246946
	D54911	D44911	D5D911	D4D911	Polypropylene	PTFE	PTFE	D05911	241657	246946
	D54966	D44966	D5D966	D4D966	Polypropylene	Santoprene	Santoprene	D05966	241657	246946

\* Requires CycleFlo or external valve control

\*\* Air control includes air regulator and filter with gauge (see drawing on page 19)

# Husky 716 Metal Pumps



## Technical Specifications

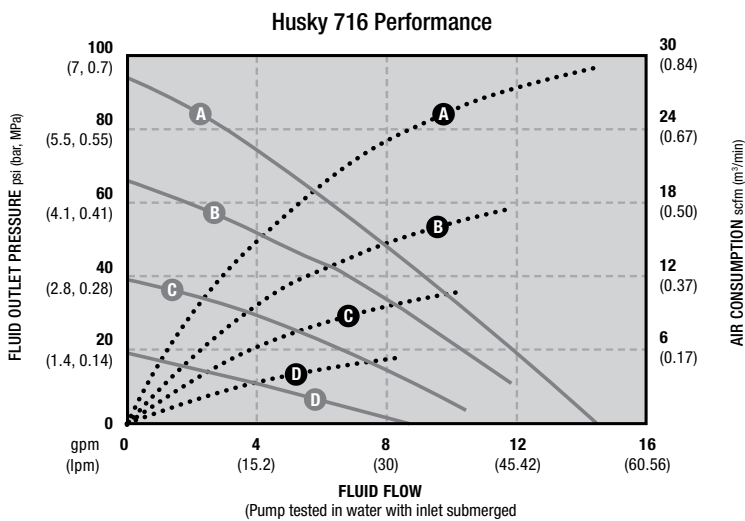
Husky 716 Metal Pumps	Aluminum	Stainless Steel
Maximum fluid working pressure	100 psi (7 bar, 0.7 MPa)	100 psi (7 bar, 0.7 MPa)
Maximum free flow delivery*	16 gpm (61 lpm)	16 gpm (61 lpm)
Maximum pump speed	400 cpm	400 cpm
Displacement per cycle**	0.04 gallon (0.15 liter)	0.04 gallon (0.15 liter)
Maximum suction lift	15 ft (4.5 m) dry	15 ft (4.5 m) dry
Maximum size pumpable solids	0.09 in (2.5 mm)	0.09 in (2.5 mm)
Maximum ambient operating temperature***	180°F (82°C)	180°F (82°C)
Maximum diaphragm operating temperature***	Refer to page 5	Refer to page 5
Typical sound level at 70 psi air (4.9 bar, 0.49 MPa) air @ 200 cpm	74 dBA	74 dBA
Maximum air consumption	28 scfm (0.672 m3/min)	28 scfm (0.672 m3/min)
Air pressure operating range	30 to 100 psi (2.1 to 7 bar, 0.21 to 0.7 MPa)	30 to 100 psi (2.1 to 7 bar, 0.21 to 0.7 MPa)
Air inlet size	1/4 npt(f)	1/4 npt(f)
Air exhaust port size	3/8 npt(f)	3/8 npt(f)
Fluid inlet & outlet size	3/4 npt(f) or bspt(f)	3/4 npt(f) or bspt(f)
Weight	8.5 lb (3.9 kg)	18 lb (8.2 kg)
Wetted parts (in addition to ball, seat and diaphragm materials—which may vary by pump)	Aluminum, Stainless Steel, PTFE, Buna-N, Santoprene, Zinc-Plated Steel	Acetal, Polypropylene, Stainless Steel, Polyester, Santoprene, Fluoroelastomer, Nickel-Plated Brass, Epoxy-Coated Steel
Instruction manual	<a href="#">308981</a>	<a href="#">308981</a>

\*Flow rates are with muffler and do not vary based on diaphragm material

\*\*Displacement per cycle may vary based on suction condition, discharge head, air pressure and fluid type

\*\*\*Actual pump performance may be affected by prolonged usage at temperature

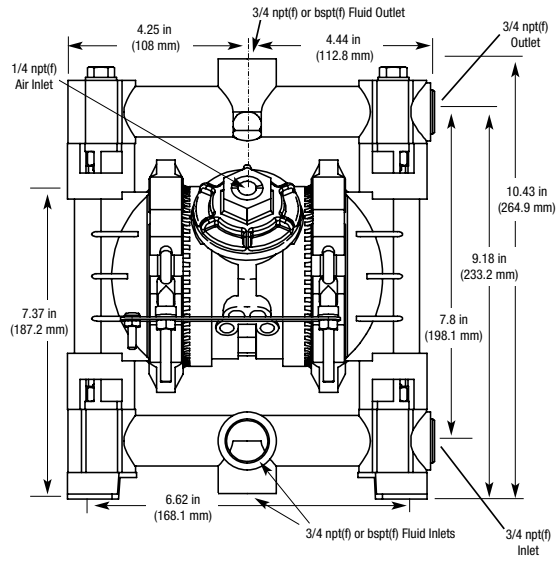
## Performance Charts



AIR PRESSURE	LEGEND
Ⓐ = at 100 psi (7 bar, 0.7 MPa)	Air Consumption.....
Ⓑ = at 70 psi (4.8 bar, 0.48 MPa)	Fluid Pressure ———
Ⓒ = at 40 psi (2.8 bar, 0.28 MPa)	
Ⓓ = at 20 psi (1.4 bar, 0.14 MPa)	

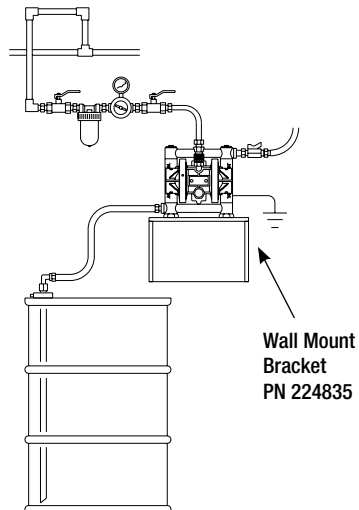
# Husky 716 Metal Pumps

## Dimensions

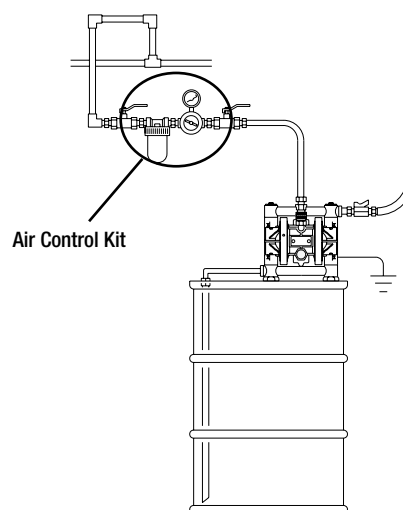


## Typical System Drawings

Husky 716 Wall-Mount with Drum Feed



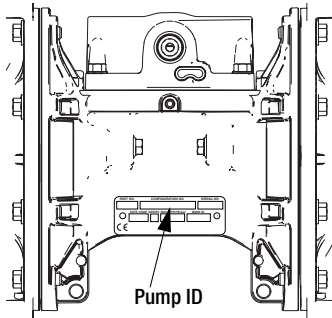
Husky 716 Drum-Mount with Siphon Feed



# Husky 1050 Plastic Pumps Air-Operated Double Diaphragm

## Husky 1050 Selector Tool

To order a Husky 1050, use the online selector tool at [www.graco.com/process](http://www.graco.com/process) or contact your distributor.



**NOTE:** Options for seats, check balls, diaphragms, and seals vary for the 1050A, 1050C, 1050F, 1050H, 1050P, and 1050S pump models.



Example of Product Selector Tool on [www.graco.com/process](http://www.graco.com/process).

## Pump Configuration Options

Pump (1 inch ports, 50 gpm)	Center Section and Air Valve Material	Air Valve/Monitoring	Fluid Covers and Manifolds
<b>C</b> ★ Conductive Polypropylene 1050	Conductive Polypropylene	<b>C01A</b> Standard	<b>C1</b> Conductive polypropylene, center flange
		<b>C01B</b> Pulse Count ✖	<b>C2</b> Conductive polypropylene, end flange
		<b>C01C</b> DataTrak ✖	
		<b>C01D</b> Remote	
<b>P</b> Polypropylene 1050	Polypropylene	<b>P01A</b> Standard	<b>P1</b> Polypropylene, center flange
		<b>P01B</b> Pulse Count ✖	<b>P2</b> Polypropylene, end flange
		<b>P01C</b> DataTrak ✖	
		<b>P01D</b> Remote	
<b>F</b> PVDF 1050			<b>F1</b> PVDF, center flange
			<b>F2</b> PVDF, end flange

★, ‡, or ✖: See ATEX Certifications below.

Check Valve Seats	Check Valve Balls	Diaphragm	Manifold O-Rings
<b>AC</b> Acetal	<b>AC</b> Acetal	<b>BN</b> Buna-N	— None
<b>FK</b> FKM Fluoroelastomer	<b>BN</b> Buna-N	<b>CO</b> Polychloroprene Overmolded	<b>PT</b> PTFE
<b>PP</b> Polypropylene	<b>FK</b> FKM Fluoroelastomer	<b>FK</b> FKM Fluoroelastomer	
<b>PV</b> PVDF	<b>PT</b> PTFE	<b>PO</b> PTFE/EPDM Overmolded	
<b>SP</b> Santoprene®	<b>SP</b> Santoprene	<b>PT</b> PTFE/EPDM Two-Piece	
<b>SS</b> 316 Stainless Steel	<b>SS</b> 316 Stainless Steel	<b>SP</b> Santoprene	
<b>BN</b> Buna-N	<b>TP</b> TPE	<b>TP</b> TPE	
<b>AL</b> Aluminum	<b>GE</b> Geolast	<b>GE</b> Geolast	
<b>GE</b> Geolast	<b>CR</b> Polychloroprene		
<b>TP</b> TPE	<b>CW</b> Polychloroprene w/SST Core		

### ATEX Certifications

★ All Conductive Polypropylene 1050 pumps are certified:



✖ DataTrak and Pulse Count are certified:



EEx ia IIA T3  
Nemko  
06ATEX1124

## Popular Models

Material	Part Number	Materials for Seats	Materials for Balls	Materials for Diaphragms	Air Valve Replacement Kit	Seat Kit	Ball Kit	Diaphragm Kit	Flange
	Standard Air Valve								
Polypropylene	649001	Polypropylene	Santoprene	Santoprene	24B773	24B635	24B646	24B628	Center
	649006	Polypropylene	PTFE	PTFE/EPDM 2 Piece	24B773	24B635	24B645	24B627	Center
	649034	Polypropylene	PTFE	PTFE/EPDM 2 Piece	24B773	24B635	24B645	24B627	End
Conductive Polypropylene	649218	Acetal	PTFE	PTFE/EPDM 2 Piece	24B775	24B630	24B645	24B627	End
	649211	316 SST	PTFE	PTFE/EPDM 2 Piece	24B775	24B637	24B645	24B627	End
PVDF	649392	316 SST	PTFE	PTFE/EPDM 2 Piece	24B773	24B637	24B645	24B627	End
	649398	PVDF	PTFE	PTFE/EPDM 2 Piece	24B773	24C721	24B645	24B627	End



## Technical Specifications

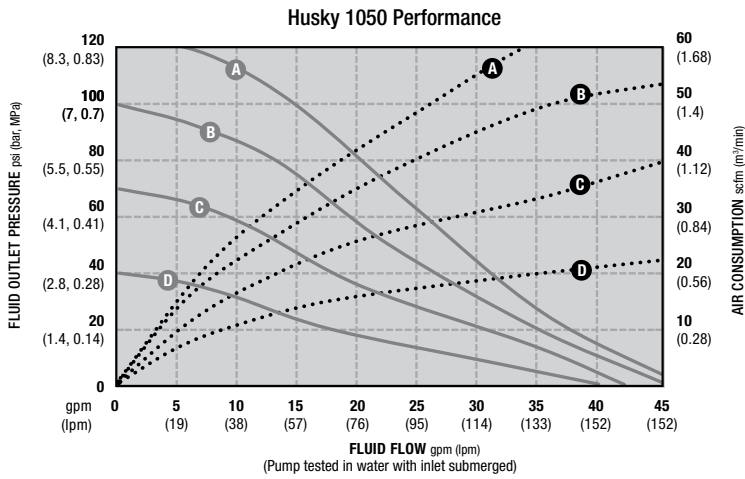
Husky 1050 Plastic Pumps	Conductive Polypropylene	Polypropylene	PVDF
Maximum fluid working pressure	125 psi (8.6 bar, 0.86 MPa)	125 psi (8.6 bar, 0.86 MPa)	125 psi (8.6 bar, 0.86 MPa)
Maximum free flow delivery	50 gpm (189 lpm)	50 gpm (189 lpm)	50 gpm (189 lpm)
Maximum pump speed	280 cpm	280 cpm	280 cpm
Displacement per cycle	0.17 gal (0.64 liters)	0.17 gal (0.64 liters)	0.17 gal (0.64 liters)
Maximum suction lift	16 ft (4.9 m) dry, 29 ft (8.8 m) wet	16 ft (4.9 m) dry, 29 ft (8.8 m) wet	16 ft (4.9 m) dry, 29 ft (8.8 m) wet
Maximum size pumpable solids	1/8 in (3.2 mm)	1/8 in (3.2 mm)	1/8 in (3.2 mm)
Sound Power* at 70 psi (4.8 bar, 0.48 MPa) and 50 cpm at 100 psi (7.0 bar, 0.7 MPa) and full flow	78 dBa 90 dBa	78 dBa 90 dBa	78 dBa 90 dBa
Sound Pressure** at 70 psi (4.8 bar, 0.48 MPa) and 50 cpm at 100 psi (7.0 bar, 0.7 MPa) and full flow	84 dBa 96 dBa	84 dBa 96 dBa	84 dBa 96 dBa
Maximum air consumption	67 scfm	67 scfm	67 scfm
Air consumption at 70 psi (4.8 bar, 0.48 MPa), 20 gpm (76 lpm)	25 scfm	25 scfm	25 scfm
Air pressure operating range	20-125 psi (1.4-8.6 bar, 0.14-0.86 MPa)	20-125 psi (1.4-8.6 bar, 0.14-0.86 MPa)	20-125 psi (1.4-8.6 bar, 0.14-0.86 MPa)
Air inlet size	1/2 npt(f)	1/2 npt(f)	1/2 npt(f)
Fluid inlet size	1 in raised face ANSI/DIN flange	1 in raised face ANSI/DIN flange	1 in raised face ANSI/DIN flange
Fluid outlet size	1 in raised face ANSI/DIN flange	1 in raised face ANSI/DIN flange	1 in raised face ANSI/DIN flange
Weight	18 lb (8.2 kg)	18 lb (8.2 kg)	26 lb (11.8 kg)
Wetted parts	polypropylene and material(s) chosen for seat, ball, and diaphragm options	polypropylene and material(s) chosen for seat, ball, and diaphragm options	PVDF and material(s) chosen for seat, ball, and diaphragm options
Non-wetted Parts Center Bolts	polypropylene stainless steel	polypropylene stainless steel	polypropylene stainless steel
Instruction manual	<a href="#">312877</a>	<a href="#">312877</a>	<a href="#">312877</a>
Repair/parts manual	<a href="#">313435</a>	<a href="#">313435</a>	<a href="#">313435</a>

\* Sound power measured per ISO-9614-2.

\*\* Sound pressure was tested 3.28 ft (1 m) from equipment.

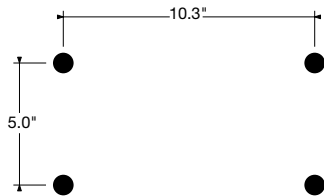
# Husky 1050 Plastic Pumps

## Performance Charts

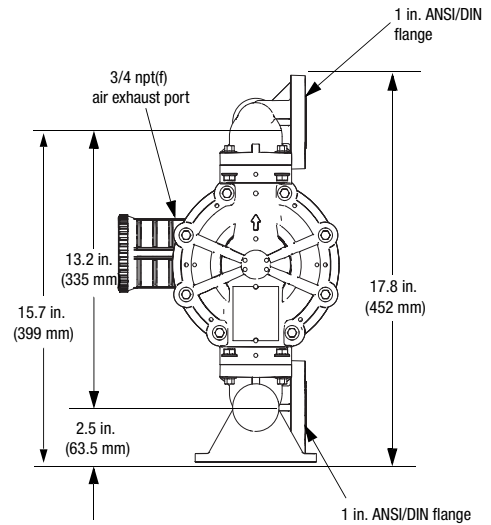
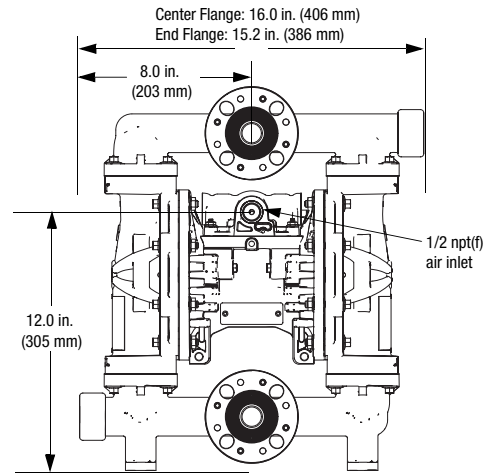


AIR PRESSURE	LEGEND
<b>(A)</b> = at 125 psi (8.3 bar, 0.83 MPa)	Air Consumption •••••
<b>(B)</b> = at 100 psi (7 bar, 0.7 MPa)	Fluid Pressure ———
<b>(C)</b> = at 70 psi (4.8 bar, 0.48 MPa)	
<b>(D)</b> = at 40 psi (2.8 bar, 0.28 MPa)	

### Mounting Pattern

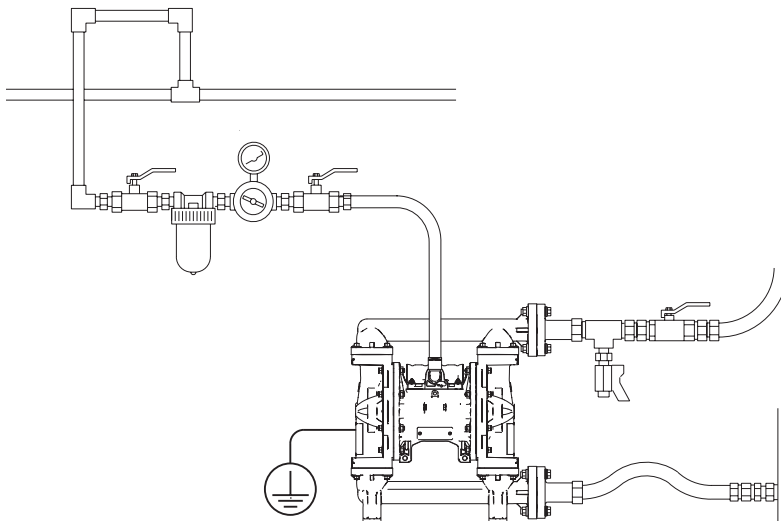


## Dimensions



## Typical System Drawings

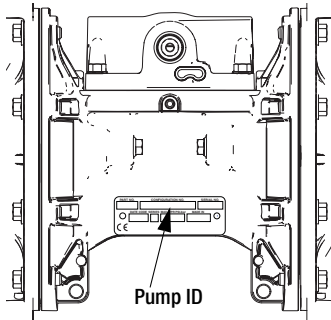
### Husky 1050 Floor-Mount



# Husky 1050 Metal Pumps Air-Operated Double Diaphragm

## Husky 1050 Selector Tool

To order a Husky 1050, use the online selector tool at [www.graco.com/process](http://www.graco.com/process) or contact your distributor.



**NOTE:** Options for seats, check balls, diaphragms, and seals vary for the 1050A, 1050C, 1050F, 1050H, 1050P, and 1050S pump models.



Example of Product Selector Tool on [www.graco.com/process](http://www.graco.com/process).

## Pump Configuration Options

Pump (1 inch ports, 50 gpm)	Center Section and Air Valve Material	Air Valve/Monitoring	Fluid Covers and Manifolds
<b>A</b> ★ Aluminum 1050	Aluminum	<b>A01</b> Standard	<b>A1</b> Aluminum, standard ports, inch <b>A2</b> Aluminum, standard ports, metric <b>S1</b> Stainless steel, standard ports, inch <b>S2</b> Stainless steel, standard ports, metric <b>H1</b> Hastelloy, standard ports, inch <b>H2</b> Hastelloy, standard ports, metric
		<b>A01B</b> Pulse Count ✖	
		<b>A01C</b> DataTrak ✖	
		<b>A01D</b> Remote	
<b>S</b> ‡ Stainless Steel 1050	Conductive Polypropylene	<b>C01A</b> Standard	
		Polypropylene	
<b>P01B</b> Pulse Count ✖			
<b>P01C</b> DataTrak ✖			
<b>P01D</b> Remote			
<b>H</b> Hastelloy 1050	Polypropylene	<b>P01A</b> Standard	
		<b>P01B</b> Pulse Count ✖	
		<b>P01C</b> DataTrak ✖	
		<b>P01D</b> Remote	

★, ‡, or ✖: See **ATEX Certifications** below.

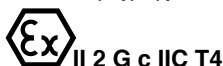
Check Valve Seats		Check Valve Balls		Diaphragm		Manifold O-Rings	
<b>AC</b>	Acetal	<b>AC</b>	Acetal	<b>BN</b>	Buna-N	<b>—</b>	None
<b>AL</b>	Aluminum	<b>BN</b>	Buna-N	<b>CO</b>	Polychloroprene Overmolded	<b>PT</b>	PTFE
<b>BN</b>	Buna-N	<b>CR</b>	Polychloroprene Standard	<b>FK</b>	FKM Fluoroelastomer		
<b>FK</b>	FKM Fluoroelastomer	<b>CW</b>	Polychloroprene Weighted	<b>GE</b>	Geolast		
<b>GE</b>	Geolast®	<b>FK</b>	FKM Fluoroelastomer	<b>PO</b>	PTFE/EPDM Overmolded		
<b>PP</b>	Polypropylene	<b>GE</b>	Geolast	<b>PT</b>	PTFE/EPDM Two-Piece		
<b>SP</b>	Santoprene®	<b>PT</b>	PTFE	<b>SP</b>	Santoprene		
<b>SS</b>	316 Stainless Steel	<b>SP</b>	Santoprene	<b>TP</b>	TPE		
<b>TP</b>	TPE	<b>SS</b>	316 Stainless Steel				
		<b>TP</b>	TPE				

### ATEX Certifications

★ All Aluminum 1050 pumps are certified:



‡ Stainless Steel pumps with aluminum or conductive polypropylene centers are certified:



✖ DataTrak and Pulse Count are certified:





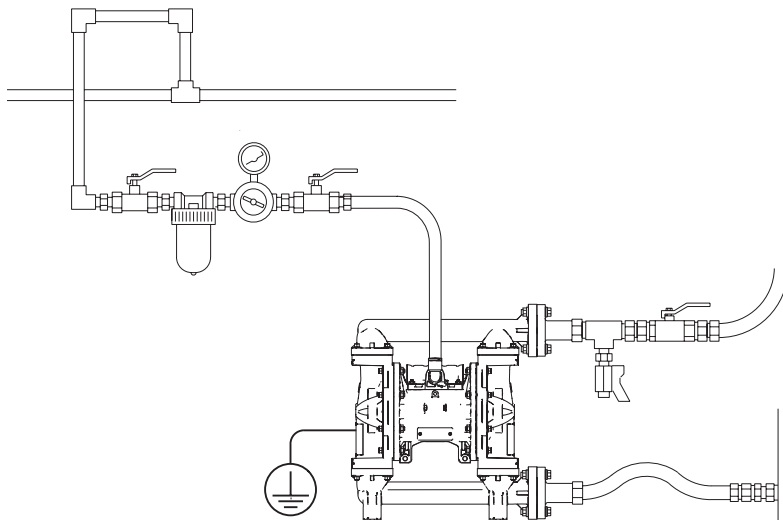
# Husky 1050 Metal Pumps

## Popular Models

Material	Part Number		Materials for Seats	Materials for Balls	Materials for Diaphragms	Air Valve Replacement Kit	Seat Kit	Ball Kit	Diaphragm Kit
	Standard Air Valve	Remote Air Valve							
Aluminum	647666	647502	Thermoplastic Polyester Elastomer	Acetal	Thermoplastic Polyester Elastomer	24B766	24B634	24B639	24B624
	647016 (UL Certified)		Thermoplastic Polyester Elastomer	Acetal	Thermoplastic Polyester Elastomer	24B766	24B634	24B639	24B624
	647075	647561	Acetal	PTFE	PTFE/EPDM 2 Piece	24B766	24B630	24B645	24B627
	647040	647526	Geolast	Geolast	Geolast	24B766	24B633	24B641	24B623
	647035	647521	Santoprene	Santoprene	Santoprene	24B766	24B636	24B646	24B628
	647028	647514	316 SST	PTFE	PTFE/EPDM 2 Piece	24B766	24B637	24B645	24B627
	647004	647490	Polypropylene	PTFE	PTFE/EPDM 2 Piece	24B766	24B635	24B645	24B627
	647018	647504	316 SST	316 SST	PTFE/EPDM 2 Piece	24B766	24B637	24B647	24B627
Stainless Steel	651009	651125	316 SST	PTFE	PTFE/EPDM 2 Piece	24B766	24B637	24B645	24B627
Hastelloy	651440		FKM	PTFE	PTFE/EPDM 2 Piece	24B773	24B638	24B645	24B627

## Typical System Drawings

### Husky 1050 Floor-Mount



# Husky 1050 Metal Pumps

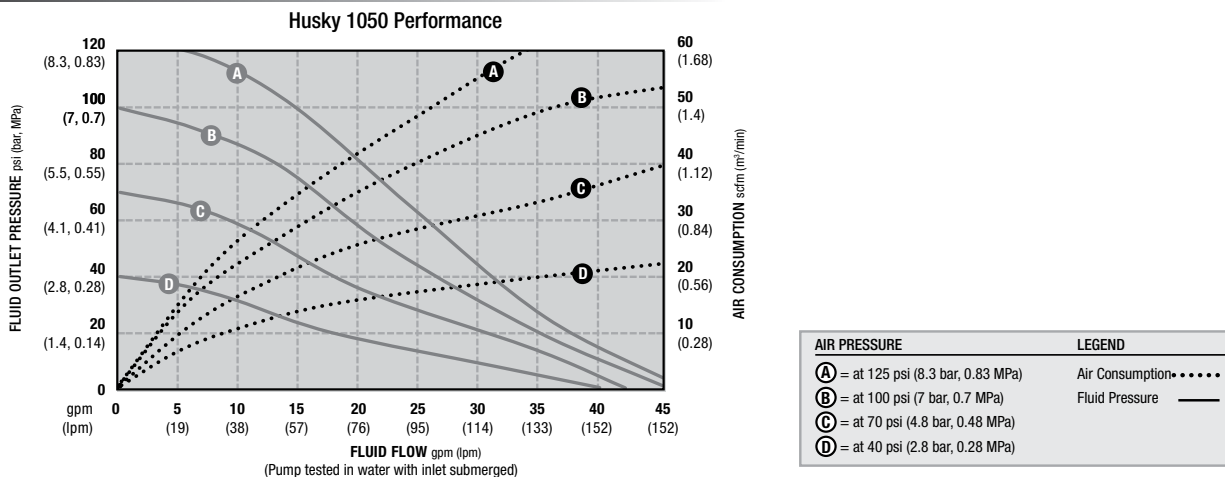


## Technical Specifications

Husky 1050 Metal Pumps	Aluminum	Stainless Steel	Hastelloy
Maximum fluid working pressure	125 psi (8.6 bar, 0.86 MPa)	125 psi (8.6 bar, 0.86 MPa)	125 psi (8.6 bar, 0.86 MPa)
Maximum free flow delivery	50 gpm (189 lpm)	50 gpm (189 lpm)	50 gpm (189 lpm)
Maximum pump speed	280 cpm	280 cpm	280 cpm
Displacement per cycle	0.17 gal (0.64 liters)	0.17 gal (0.64 liters)	0.17 gal (0.64 liters)
Maximum suction lift	16 ft (4.9 m) dry, 29 ft (8.8 m) wet	16 ft (4.9 m) dry, 29 ft (8.8 m) wet	16 ft (4.9 m) dry, 29 ft (8.8 m) wet
Maximum size pumpable solids	1/8 in (3.2 mm)	1/8 in (3.2 mm)	1/8 in (3.2 mm)
Sound Power* at 70 psi (4.8 bar, 0.48 MPa) and 50 cpm at 100 psi (7.0 bar, 0.7 MPa) and full flow	78 dBa 90 dBa	78 dBa 90 dBa	78 dBa 90 dBa
Sound Pressure** at 70 psi (4.8 bar, 0.48 MPa) and 50 cpm at 100 psi (7.0 bar, 0.7 MPa) and full flow	84 dBa 96 dBa	84 dBa 96 dBa	84 dBa 96 dBa
Maximum air consumption	67 scfm	67 scfm	67 scfm
Air consumption at 70 psi (4.8 bar, 0.48 MPa), 20 gpm (76 lpm)	25 scfm	25 scfm	25 scfm
Air pressure operating range	20-125 psi (1.4-8.6 bar, 0.14-0.86 MPa)	20-125 psi (1.4-8.6 bar, 0.14-0.86 MPa)	20-125 psi (1.4-8.6 bar, 0.14-0.86 MPa)
Air inlet size	1/2 npt(f)	1/2 npt(f)	1/2 npt(f)
Fluid inlet size	1 in npt(f) or 1 in bspt	1 in npt(f) or 1 in bspt	1 in npt(f) or 1 in bspt
Fluid outlet size	1 in npt(f) or 1 in bspt	1 in npt(f) or 1 in bspt	1 in npt(f) or 1 in bspt
Weight	23 lb (10.5 kg)	with conductive polypropylene center 36.3 lb (16.5 kg) with polypropylene center 37.3 lb (16.9 kg) with aluminum center 41.4 lb (18.8 kg)	41 lb (18.6 kg)
Wetted parts	aluminum and material(s) chosen for seat, ball, and diaphragm options	stainless steel and material(s) chosen for seat, ball, and diaphragm options	hastelloy, stainless steel and material(s) chosen for seat, ball, and diaphragm options
Non-wetted Parts Center Bolts	aluminum coated carbon steel	polypropylene stainless steel	aluminum stainless steel
Instruction manual	<a href="#">312877</a>	<a href="#">312877</a>	<a href="#">312877</a>
Repair/parts manual	<a href="#">313435</a>	<a href="#">313435</a>	<a href="#">313435</a>

\* Sound power measured per ISO-9614-2. \*\* Sound pressure was tested 3.28 ft (1 m) from equipment.

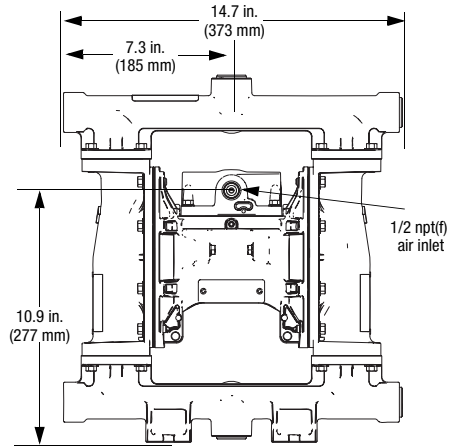
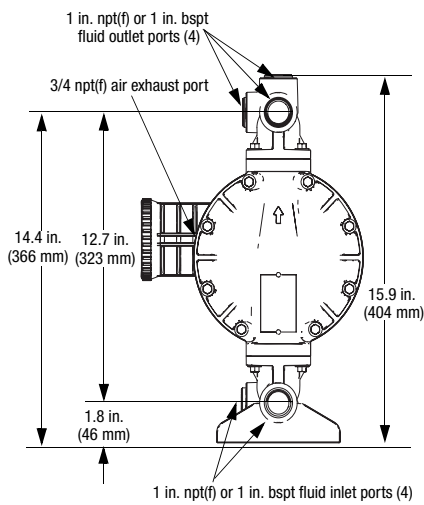
## Performance Charts



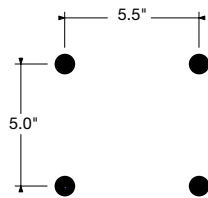
# Husky 1050 Metal Pumps

## Dimensions

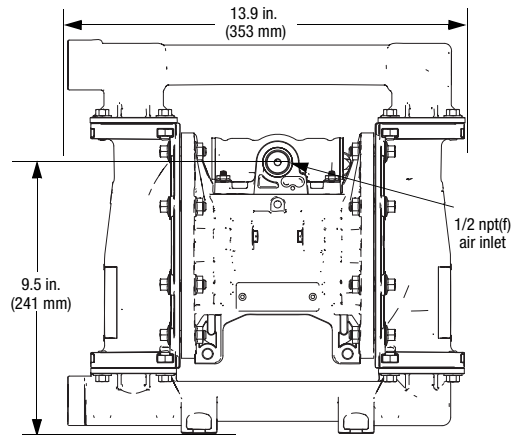
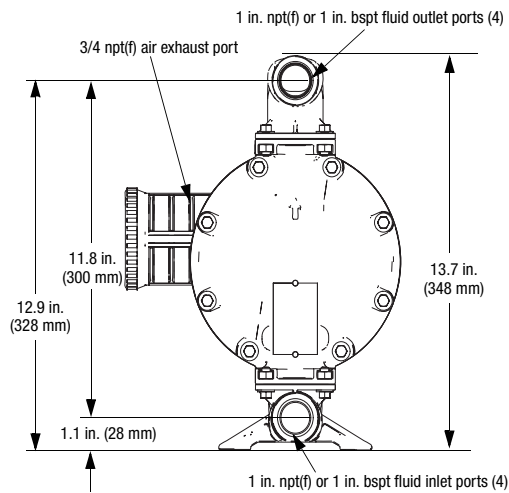
### Aluminum



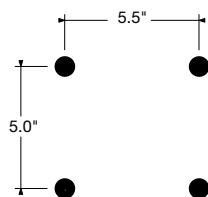
### Mounting Pattern



### Stainless Steel and Hastelloy



### Mounting Pattern



# Husky 1050HP Metal Pumps

## High Pressure Air-Operated Diaphragm

### Pump Configuration Options

Pump	Center Section and Air Valve Material		Air Valve	Manifolds	
1050HP Aluminum	Aluminum	A01A	Standard	A1 A2 S1 S2	Aluminum, Standard Ports, NPT Aluminum, Standard Ports, BSP Stainless Steel, Standard Ports, NPT Stainless Steel, Standard Ports, BSP

Check Valve Seats		Check Valve Balls		Diaphragm Material		Manifold O-Rings	
SS	316 Stainless Steel	SP	Santoprene	SP	Santoprene	PT	PTFE

### Popular Models

Part No.	Seat	Ball	Fluid Diaphragm	Center Diaphragm	Fluid Covers	Fluid Manifold	Porting
24W756	Stainless Steel	Santoprene	Santoprene	Santoprene	Stainless Steel	Aluminum	NPT
24W757	Stainless Steel	Santoprene	Santoprene	Santoprene	Stainless Steel	Aluminum	BSPT
24W758	Stainless Steel	Santoprene	Santoprene	Santoprene	Stainless Steel	Stainless Steel	NPT
24W759	Stainless Steel	Santoprene	Santoprene	Santoprene	Stainless Steel	Stainless Steel	BSPT
24W762	Santoprene	Santoprene	Santoprene	Santoprene	Stainless Steel	Aluminum	NPT
24W763	Santoprene	Santoprene	Santoprene	Santoprene	Stainless Steel	Aluminum	BSPT
24W764	Geolast	Geolast	Buna	Santoprene	Stainless Steel	Aluminum	NPT
24W765	Geolast	Geolast	Buna	Santoprene	Stainless Steel	Aluminum	BSPT
24W766	Stainless Steel	Weighted Neoprene	Buna	Santoprene	Stainless Steel	Aluminum	NPT
24W767	Stainless Steel	Weighted Neoprene	Buna	Santoprene	Stainless Steel	Aluminum	BSPT
24W768	Stainless Steel	Weighted Neoprene	Neoprene Overmold	Santoprene	Stainless Steel	Aluminum	NPT
24W769	Stainless Steel	Weighted Neoprene	Neoprene Overmold	Santoprene	Stainless Steel	Aluminum	BSPT
24X388	Stainless Steel	Stainless Steel	2-piece PTFE/Santoprene	Santoprene	Stainless Steel	Stainless Steel	NPT
24X389	Stainless Steel	Stainless Steel	2-piece PTFE/Santoprene	Santoprene	Stainless Steel	Stainless Steel	BSPT

# Husky 1050HP Metal Pumps



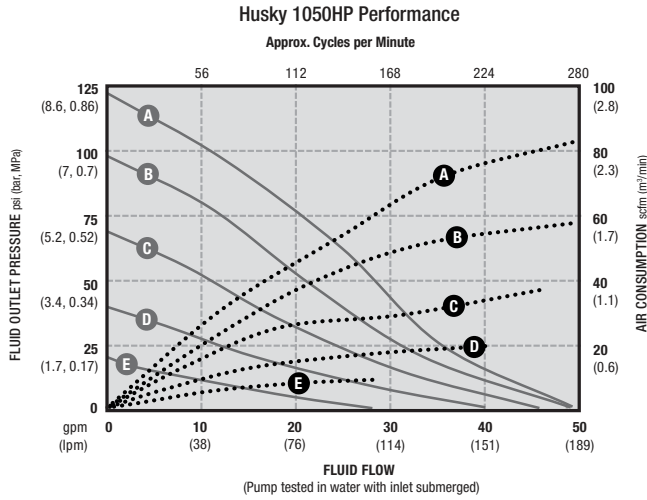
## Technical Specifications

Maximum fluid working pressure . . . . .	250 psi (14 bar, 1.4 MPa)
Air pressure operating range . . . . .	20-125 psi (1.4-6.9 bar, 0.14-0.69 MPa)
Fluid displacement per cycle	
Low Pressure Setting . . . . .	.017 gal (0.64 l)
High Pressure Setting . . . . .	.020 gal (0.76 l)
Air consumption at 70 psi (4.8 bar), 20 gpm (76 lpm)	
Low Pressure Setting . . . . .	.26 scfm (0.7 m3/min)
High Pressure Setting . . . . .	.51 scfm (1.4 m3/min)
Maximum values with water as media under submerged inlet conditions at ambient temperature:	
Maximum air consumption	
Low Pressure Setting . . . . .	.59 scfm (1.7 m3/min)
High Pressure Setting . . . . .	.95 scfm (2.7 m3/min)
Maximum free-flow delivery	
Low Pressure Setting . . . . .	50 gpm (189 lpm)
High Pressure Setting . . . . .	46 gpm (174 lpm)
Maximum pump speed	
Low Pressure Setting . . . . .	280 cpm
High Pressure Setting . . . . .	225 cpm
Maximum suction lift*	
Dry . . . . .	.16 ft (4.9 m)
Wet . . . . .	.29 ft (8.8 m)
Maximum size pumpable solids . . . . .	1/8 in (3.2 mm)
Recommended cycle rate for continuous use . . . . .	.93-140 cpm (in Low or High setting)
Air inlet size . . . . .	3/4 npt(f)
Fluid inlet size . . . . .	1 in npt(f) or bspt
Fluid outlet size . . . . .	1 in npt(f) or bspt
Weight	
Aluminum manifolds . . . . .	48 lb (21.8 kg)
SST manifolds . . . . .	60 lb (27.2 kg)
Wetted parts . . . . .	aluminum or stainless steel plus the material(s) chosen for seat, ball, and diaphragm options
Non-wetted external parts . . . . .	aluminum, coated carbon steel, sst

\*Varies based on ball/seat selection and wear, operating speed, material properties, and other variables

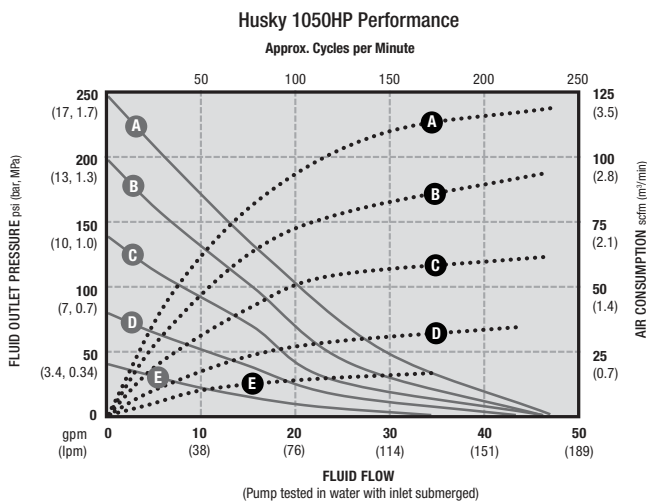
## Performance Charts

### Low Pressure Setting



AIR PRESSURE	LEGEND
(A) = at 125 psi (8.3 bar, 0.83 MPa)	Air Consumption.....
(B) = at 100 psi (7 bar, 0.7 MPa)	Fluid Pressure ———
(C) = at 70 psi (4.8 bar, 0.48 MPa)	
(D) = at 40 psi (2.8 bar, 0.28 MPa)	

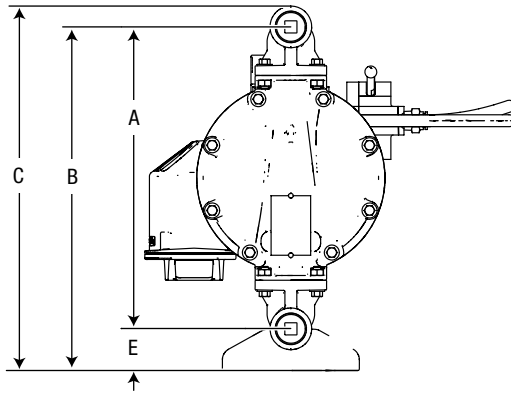
### High Pressure Setting



AIR PRESSURE	LEGEND
(A) = at 125 psi (8.3 bar, 0.83 MPa)	Air Consumption.....
(B) = at 100 psi (7 bar, 0.7 MPa)	Fluid Pressure ———
(C) = at 70 psi (4.8 bar, 0.48 MPa)	
(D) = at 40 psi (2.8 bar, 0.28 MPa)	

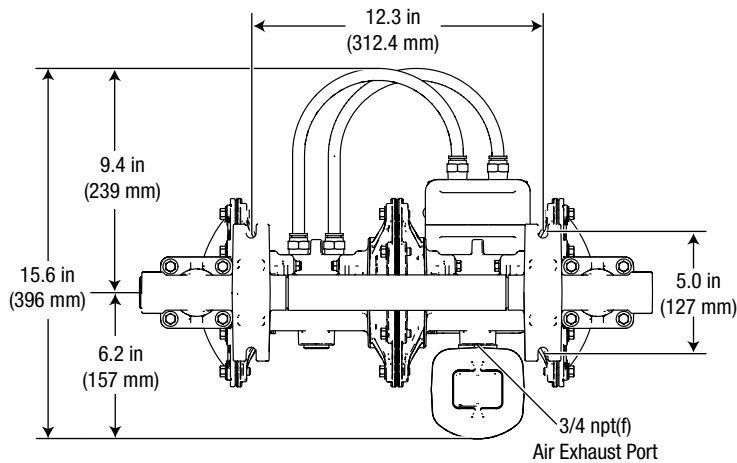
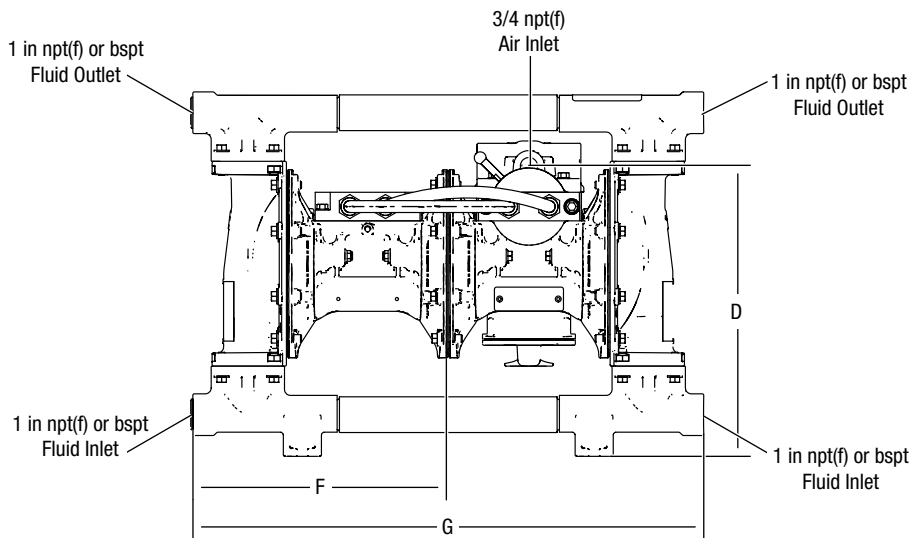
# Husky 1050HP Metal Pumps

## Dimensions



Key	Aluminum	SST
A	12.7 in (323 mm)	11.8 in (300 mm)
B	14.4 in (366 mm)	12.9 in (328 mm)
C	15.3 in (389 mm)	13.7 in (348 mm)
D	10.9 in (277 mm)	9.5 in (241 mm)
E	1.8 in (46 mm)	1.1 in (28 mm)
F	10.8 in (274 mm)	10.7 in (272 mm)
G	21.5 in (546 mm)	20.6 in (523 mm)

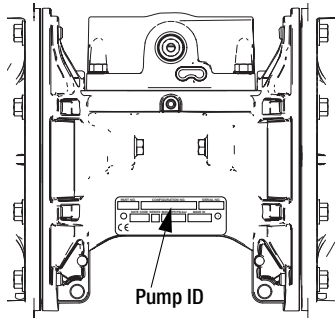
All dimensions are approximate



# Husky 1590 Plastic Pumps Air-Operated Double Diaphragm

## Husky 1590 Selector Tool

To order a Husky 1590, use the online selector tool at [www.graco.com/process](http://www.graco.com/process) or contact your distributor.



**NOTE:** Check the identification plate (ID) for the Configuration Number of your pump. Use the following matrix to define the components of your pump.



Example of Product Selector Tool on [www.graco.com/process](http://www.graco.com/process).

## Pump Configuration Options

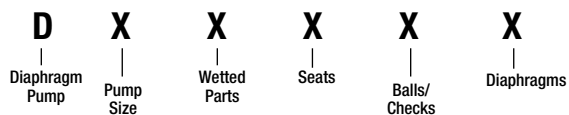
Pump (1.5 inch ports, 90 gpm)	Center Section and Air Valve Material		Air Valve/Monitoring	Fluid Covers and Manifolds	
<b>P</b> Polypropylene 1590	Aluminum	<b>A01A</b>	Standard w/Buna Seals	<b>F1</b>	PVDF, center Flange
		<b>A01D</b>	Remote w/ Buna Seals		
<b>F</b> PVDF 1590	Stainless Steel	<b>S01A</b>	Standard	<b>P1</b>	Polypropylene, center flange
		<b>S01D</b>	Remote		

Check Valve Seats		Check Valve Balls		Diaphragm		Manifold O-Rings	
<b>BN</b>	Buna-N	<b>AC</b>	Acetal	<b>BN</b>	Buna-N	—	None
<b>FK</b>	Fluoroelastomer	<b>BN</b>	Buna-N	<b>FK</b>	Fluoroelastomer	<b>PT</b>	PTFE
<b>GE</b>	Geolast	<b>FK</b>	Fluoroelastomer	<b>GE</b>	Geolast		
<b>PP</b>	Polypropylene	<b>GE</b>	Geolast	<b>PT</b>	PTFE/EPDM Two-Piece		
<b>PV</b>	PVDF	<b>PT</b>	PTFE	<b>PT</b>	PTFE/EPDM Two-Piece		
<b>SA</b>	17-4 Stainless Steel	<b>SD</b>	440C Stainless Steel	<b>SP</b>	Santoprene		
<b>SP</b>	Santoprene	<b>SP</b>	Santoprene	<b>TP</b>	TPE		
<b>SS</b>	316 Stainless Steel	<b>TP</b>	TPE				
<b>TP</b>	TPE						



# Husky 1590 Plastic Pumps

## Ordering Information



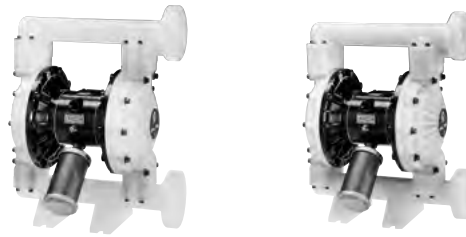
PUMP SIZE (AIR MOTOR TYPE AND MATERIAL)	WETTED PARTS	SEATS	BALLS	DIAPHRAGM
B = 1-1/2" (38.1 mm) Standard: aluminum center section	2 = Poly (flange)	3 = Stainless Steel	1 = PTFE	1 = PTFE
C = 1-1/2" (38.1 mm) Remote: aluminum center section	5 = PVDF (flange)	4 = Hardened SST	2 = Acetal	5 = TPE
T = 1-1/2" (38.1 mm) Standard: stainless steel center section		5 = TPE	4 = Hardened SST	6 = Santoprene
U = 1-1/2" (38.1 mm) Remote: stainless steel center section		6 = Santoprene	5 = TPE	7 = Buna N
		7 = Buna N	6 = Santoprene	8 = Fluoroelastomer
		8 = Fluoroelastomer	7 = Buna N	G = Geolast
		9 = Polypropylene	8 = Fluoroelastomer	
		A = PVDF	G = Geolast	
		G = Geolast		

## Popular Models

Material	Part Number (ANSI-Flange)		Part Number (BSP Ported)		Materials for Seats	Materials for Balls	Materials for Diaphragms	Fluid Kit	Air Kit	Air Control**
	Standard Air Valve	Remote* Air Valve	Standard Air Valve	Remote* Air Valve						
<b>Standard Pumps with Aluminum Center Section</b>										
Polypropylene	DB2311				Stainless Steel	PTFE	PTFE	DOC311	236273	246947
	DB2377	DC2377			Stainless Steel	Buna	Buna	DOC377	236273	246947
	DB2777	DC2777			Buna	Buna	Buna	DOC777	236273	246947
	DB2888	DC2888			Fluoroelastomer	Fluoroelastomer	Fluoroelastomer	DOC888	236273	246947
	DB2911	DC2911			Polypropylene	PTFE	PTFE	DOC911	236273	246947
	DB2955				Polypropylene	TPE	TPE	DOC955	236273	246947
	DB2966				Polypropylene	Santoprene	Santoprene	DOC966	236273	246947
	DB2977				Polypropylene	Buna	Buna	DOC977	236273	246947
	DB2988				Polypropylene	Fluoroelastomer	Fluoroelastomer	DOC988	236273	246947
	DB29GG	DC29GG			Polypropylene	Geolast	Geolast	DOC9GG	236273	246947

\*Requires CycleFlo or external valve control

\*\* Air control includes air regulator and filter with gauge



## Technical Specifications

Husky 1590 Plastic Pumps	Polypropylene	PVDF
Maximum fluid working pressure	120 psi (8.4 bar, 0.84 MPa)	120 psi (8.4 bar, 0.84 MPa)
Maximum free flow delivery*	100 gpm (378.5 lpm)	100 gpm (378.5 lpm)
Maximum pump speed	200 cpm	200 cpm
Displacement per cycle**	0.5 gallon (1.96 liter)	0.5 gallon (1.96 liter)
Maximum suction lift (DB2366)	20 ft (6.1 m) dry	20 ft (6.1 m) dry
Maximum size pumpable solids	0.19 in (4.8 mm)	0.19 in (4.8 mm)
Maximum operating temperature***	150°F (65.5°C)	150°F (65.5°C)
Maximum diaphragm operating temperature***		
PTFE	220°F (104.4°C)	220°F (104.4°C)
Santoprene	180°F (82.2°C)	180°F (82.2°C)
Buna-N	180°F (82.2°C)	180°F (82.2°C)
TPE	150°F (65.5°C)	150°F (65.5°C)
Fluoroelastomer	250°F (121.1°C)	250°F (121.1°C)
Geolast	150°F (65.5°C)	150°F (65.5°C)
Typical sound level at 70 psi (4.9 bar, 0.49 MPa) air @ 125 cpm	77 dBA	77 dBA
Maximum air consumption	125 scfm (3.5 m3/min.)	125 scfm (3.5 m3/min.)
Air pressure operating range	20 to 120 psi (1.4 to 8.4 bar, 0.14 to 0.84 MPa)	20 to 120 psi (1.4 to 8.4 bar, 0.14 to 0.84 MPa)
Air inlet size	1/2 npt(f)	1/2 npt(f)
Fluid inlet & outlet size****	1-1/2 in (38.1 mm) ANSI-flange	1-1/2 in (38.1 mm) ANSI-flange
Weight	35 lb (16 kg)	49 lb (22 kg)
Weight with stainless steel center section	48.3 lb (21.9 kg)	62.3 lb (28.2 kg)
Instruction manual	<a href="#">308549</a>	<a href="#">308549</a>

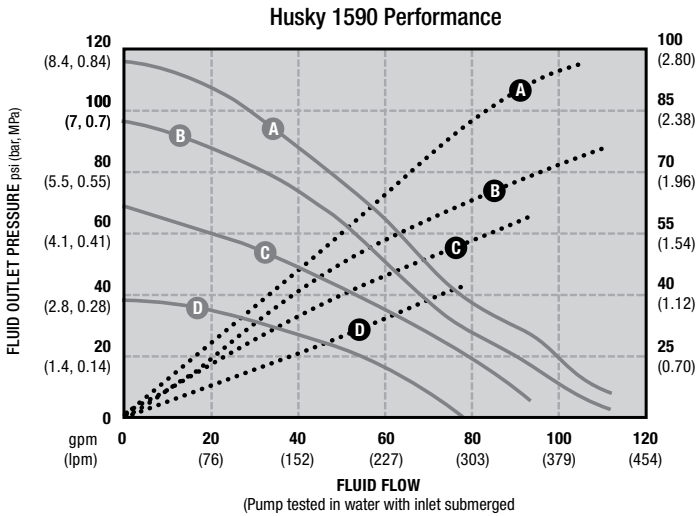
\* Flow rates are with muffler and do not vary based on diaphragm material

\*\* Displacement per cycle may vary based on suction condition, discharge head, air pressure and fluid type

\*\*\* Actual pump performance may be affected by prolonged usage at temperature

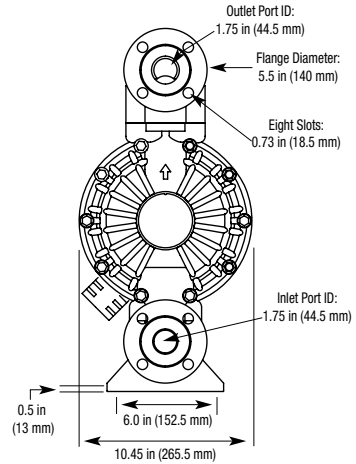
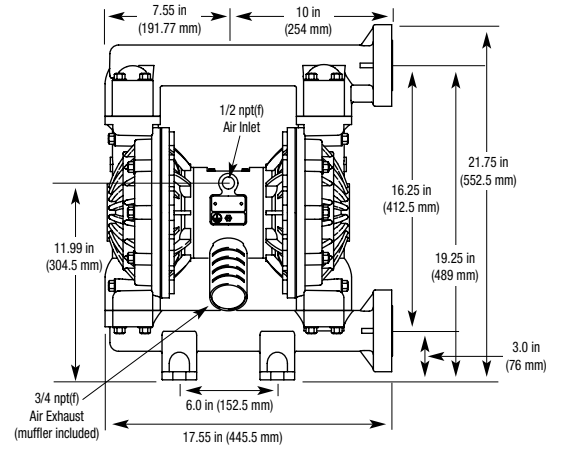
# Husky 1590 Plastic Pumps

## Performance Charts



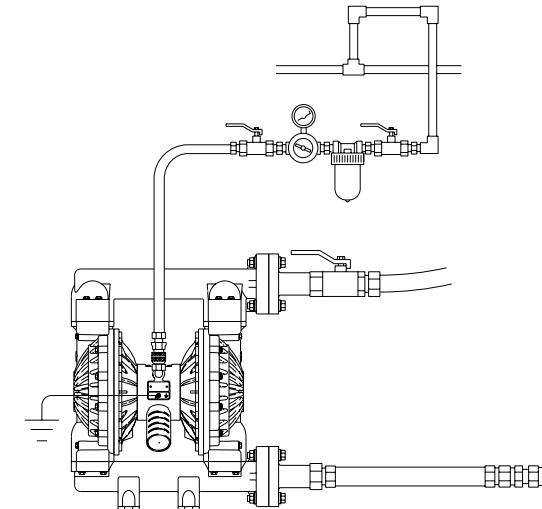
AIR PRESSURE	LEGEND
Ⓐ = at 120 psi (8.4 bar, 0.84 MPa)	Air Consumption •••••
Ⓑ = at 100 psi (7 bar, 0.7 MPa)	Fluid Pressure ———
Ⓒ = at 70 psi (4.8 bar, 0.48 MPa)	
Ⓓ = at 40 psi (2.8 bar, 0.28 MPa)	

## Dimensions



## Typical System Drawings

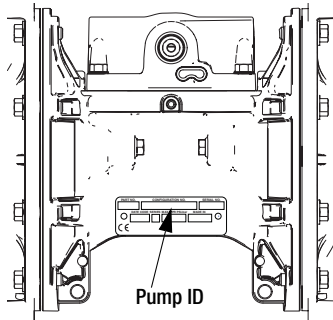
### Husky 1590 Above Ground Gravity Feed



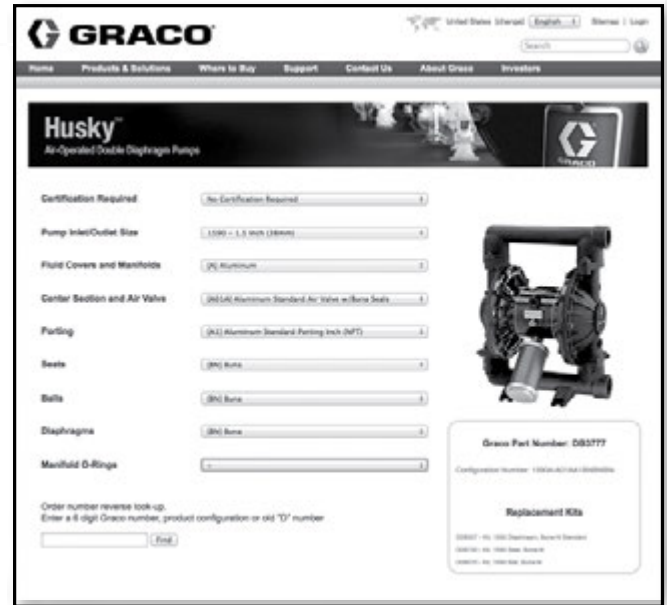
# Husky 1590 Metal Pumps Air-Operated Double Diaphragm

## Husky 1590 Selector Tool

To order a Husky 1590, use the online selector tool at [www.graco.com/process](http://www.graco.com/process) or contact your distributor.



**NOTE:** Check the identification plate (ID) for the Configuration Number of your pump. Use the following matrix to define the components of your pump.



Example of Product Selector Tool on [www.graco.com/process](http://www.graco.com/process).

## Pump Configuration Options

Pump (1.5 inch ports, 90 gpm)	Center Section and Air Valve Material	Air Valve/Monitoring	Fluid Covers and Manifolds
<b>A</b> ★ Aluminum 1590	Aluminum	<b>A01A</b> Standard	<b>A1</b> Aluminum, standard ports, inch <b>A2</b> Aluminum, standard ports, metric <b>S1</b> Stainless steel, standard ports, inch <b>S2</b> Stainless steel, standard ports, metric
		<b>A01D</b> Remote	
<b>S</b> ‡ Stainless Steel 1590	Stainless Steel	<b>S01A</b> Standard	
		<b>S01D</b> Remote	

★, ‡, or ✱: See **ATEX Certifications** below.

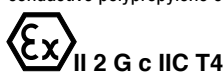
Check Valve Seats		Check Valve Balls		Diaphragm		Manifold O-Rings	
<b>BN</b>	Buna-N	<b>AC</b>	Acetal	<b>BN</b>	Buna-N	—	None
<b>FK</b>	Fluoroelastomer	<b>BN</b>	Buna-N	<b>FK</b>	Fluoroelastomer	<b>PT</b>	PTFE
<b>GE</b>	Geolast	<b>FK</b>	Fluoroelastomer	<b>GE</b>	Geolast		
<b>PP</b>	Polypropylene	<b>GE</b>	Geolast	<b>PT</b>	PTFE/EPDM Two-Piece		
<b>PV</b>	PVDF	<b>PT</b>	PTFE	<b>PT</b>	PTFE/EPDM Two-Piece		
<b>SA</b>	17-4 Stainless Steel	<b>SD</b>	440C Stainless Steel	<b>SP</b>	Santoprene		
<b>SP</b>	Santoprene	<b>SP</b>	Santoprene	<b>TP</b>	TPE		
<b>SS</b>	316 Stainless Steel	<b>TP</b>	TPE				
<b>TP</b>	TPE						

### ATEX Certifications

★ All Aluminum 1050 pumps are certified:



‡ Stainless Steel pumps with aluminum or conductive polypropylene centers are certified:



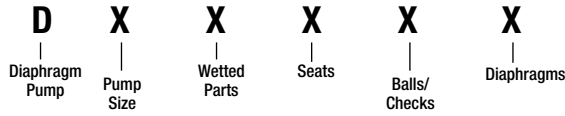
✱ DataTrak and Pulse Count are certified:



# Husky 1590 Metal Pumps

## Air-Operated Double Diaphragm

### Ordering Information



PUMP SIZE (AIR MOTOR TYPE AND MATERIAL)	WETTED PARTS	SEATS	BALLS	DIAPHRAGM
B = 1-1/2" (38.1 mm) Standard: aluminum center section	3 = Aluminum (npt)	3 = Stainless Steel	1 = PTFE	1 = PTFE
C = 1-1/2" (38.1 mm) Remote: aluminum center section	4 = Stainless Steel (npt)	4 = Hardened SST	2 = Acetal	5 = TPE
T = 1-1/2" (38.1 mm) Standard: stainless steel center section	C = Aluminum (bsp)	5 = TPE	4 = Hardened SST	6 = Santoprene
U = 1-1/2" (38.1 mm) Remote: stainless steel center section	D = Stainless Steel (bsp)	6 = Santoprene	5 = TPE	7 = Buna N
		7 = Buna N	6 = Santoprene	8 = Fluoroelastomer
		8 = Fluoroelastomer	7 = Buna N	G = Geolast
		9 = Polypropylene	8 = Fluoroelastomer	
		A = PVDF	G = Geolast	
		G = Geolast		

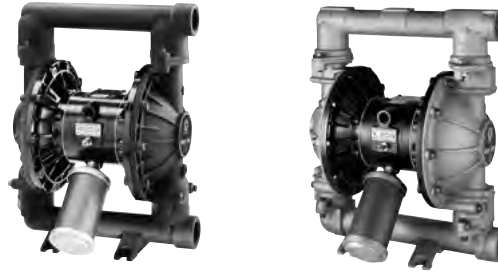
### Popular Models

Material	Part Number (NPT Ported)		Part Number (BSP Ported)		Materials for Seats	Materials for Balls	Materials for Diaphragms	Fluid Kit	Air Kit	Air Control**
	Standard Air Valve	Remote* Air Valve	Standard Air Valve	Remote* Air Valve						
<b>Standard Pumps with Aluminum Center Section</b>										
Aluminum	DB3311	DC3311	DBC311	DCC311	Stainless Steel	PTFE	PTFE	D0B311	236273	246947
	DB3341		DBC341		Hardened SST	Stainless Steel	PTFE	D0B331	236273	246947
	DB3366	DC3366	DBC366	DCC366	Stainless Steel	Santoprene	Santoprene	D0B366	236273	246947
	DB3377	DC3377	DBC377	DCC377	Stainless Steel	Buna	Buna	D0B377	236273	246947
	DB3525	DC3525	DBC525	DCC525	TPE	Acetal	TPE	D0B525	236273	246947
	DB3555		DBC555		TPE	TPE	TPE	D0B555	236273	246947
	DB3666	DC3666	DBC666	DCC666	Santoprene	Santoprene	Santoprene	D0B666	236273	246947
	DB3777	DC3777	DBC777	DCC777	Buna	Buna	Buna	D0B777	236273	246947
	DB3888	DC3888	DBC888	DCC888	Fluoroelastomer	Fluoroelastomer	Fluoroelastomer	D0B888	236273	246947
	DB3GGG	DC3GGG	DBCGGG	DCCGGG	Geolast	Geolast	Geolast	D0BGGG	236273	246947
	DB3911		DBC911		Polypropylene	PTFE	PTFE	D0B911	236273	246947
	DB3977		DBC977		Polypropylene	Buna	Buna	D0B977	236273	246947
	Stainless Steel	DB4311	DC4311	DBD311	DCD311	Stainless Steel	PTFE	PTFE	D0B311	236273
DB4341			DBD341		Stainless Steel	Hardened SST	PTFE	D0B341	236273	246947
DB4377		DC4377	DBD377	DCD377	Stainless Steel	Buna	Buna	D0B377	236273	246947
DB4525			DBD525		TPE	Acetal	TPE	D0B525	236273	246947
DB4666		DC4666	DBD666	DCD666	Santoprene	Santoprene	Santoprene	D0B666	236273	246947
DB4777		DC4777	DBD777	DCD777	Buna	Buna	Buna	D0B777	236273	246947
DB4888		DC4888	DBD888	DCD888	Fluoroelastomer	Fluoroelastomer	Fluoroelastomer	D0B888	236273	246947
DB4GGG		DC4GGG	DBDGGG	DCDGGG	Geolast	Geolast	Geolast	D0BGGG	236273	246947
DB4911			DBD911		Polypropylene	PTFE	PTFE	D0B911	236273	246947
<b>Corrosion Resistant Pumps with Stainless Steel Center Section</b>										
Stainless Steel	DT4311	DU4311	DTD311	DUD311	Stainless Steel	PTFE	PTFE	D0B311	255061	246947
	DT4377	DU4377	DTD377	DUD377	Stainless Steel	Buna	Buna	D0B377	255061	246947
	DT4388	DU4388	DTD388	DUD388	Stainless Steel	Fluoroelastomer	Fluoroelastomer	D0B388	255061	246947
	DT4666	DU4666	DTD666	DUD666	Santoprene	Santoprene	Santoprene	D0B666	255061	246947
	DT4888	DU4888	DTD888	DUD888	Fluoroelastomer	Fluoroelastomer	Fluoroelastomer	D0B888	255061	246947
	DT4911	DU4911	DTD911	DUD911	Polypropylene	PTFE	PTFE	D0B911	255061	246947

\*Requires CycleFlo or external valve control

\*\* Air control includes air regulator and filter with gauge

# Husky 1590 Metal Pumps



## Technical Specifications

Husky 1590 Metal Pumps	Aluminum	Stainless Steel
Maximum fluid working pressure	120 psi (8.4 bar, 0.84 MPa)	120 psi (8.4 bar, 0.84 MPa)
Maximum free flow delivery*	100 gpm (378.5 lpm)	100 gpm (378.5 lpm)
Maximum pump speed	200 cpm	200 cpm
Displacement per cycle**	0.5 gallon (1.96 liter)	0.5 gallon (1.96 liter)
Maximum suction lift (DB2366)	20 ft (6.1 m) dry	20 ft (6.1 m) dry
Maximum size pumpable solids	0.19 in (4.8 mm)	0.19 in (4.8 mm)
Maximum operating temperature***	150°F (65.5°C)	150°F (65.5°C)
Maximum diaphragm operating temperature***		
PTFE	220°F (104.4°C)	220°F (104.4°C)
Santoprene	180°F (82.2°C)	180°F (82.2°C)
Buna-N	180°F (82.2°C)	180°F (82.2°C)
TPE	150°F (65.5°C)	150°F (65.5°C)
Fluoroelastomer	250°F (121.1°C)	250°F (121.1°C)
Geolast	150°F (65.5°C)	150°F (65.5°C)
Typical sound level at 70 psi (4.9 bar, 0.49 MPa) air @ 125 cpm	77 dBa	77 dBa
Maximum air consumption	125 scfm (3.5 m3/min.)	125 scfm (3.5 m3/min.)
Air pressure operating range	20 to 120 psi (1.4 to 8.4 bar, 0.14 to 0.84 MPa)	20 to 120 psi (1.4 to 8.4 bar, 0.14 to 0.84 MPa)
Air inlet size	1/2 npt(f)	1/2 npt(f)
Fluid inlet & outlet size****	1-1/2 npt(f) or bspt(f)	1-1/2 npt(f) or bspt(f)
Weight	33.5 lb (15.2 kg)	86 lb (40 kg)
Weight with stainless steel center section	n/a	98.8 lb (44.8 kg)
Instruction manual	<a href="#">308441</a>	<a href="#">308441</a>

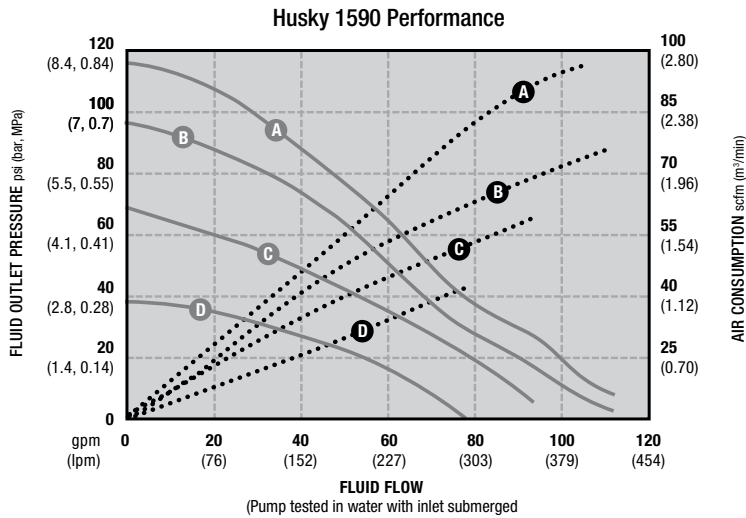
\*Flow rates are with muffler and do not vary based on diaphragm material

\*\*Displacement per cycle may vary based on suction condition, discharge head, air pressure and fluid type

\*\*\* Actual pump performance may be affected by prolonged usage at temperature

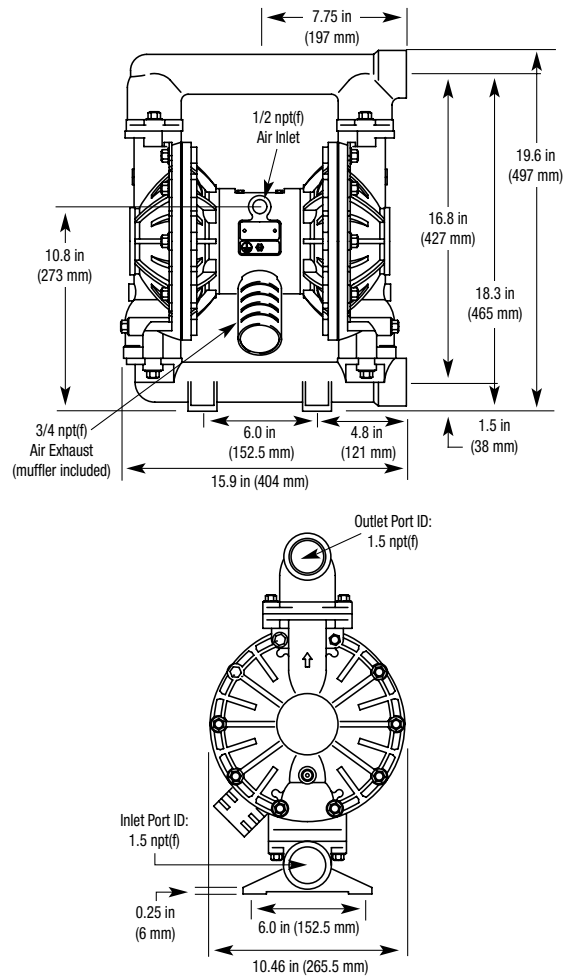
# Husky 1590 Metal Pumps

## Performance Charts



AIR PRESSURE	LEGEND
<b>(A)</b> = at 120 psi (8.4 bar, 0.84 MPa)	Air Consumption - ..... -
<b>(B)</b> = at 100 psi (7 bar, 0.7 MPa)	Fluid Pressure - ——— -
<b>(C)</b> = at 70 psi (4.8 bar, 0.48 MPa)	
<b>(D)</b> = at 40 psi (2.8 bar, 0.28 MPa)	

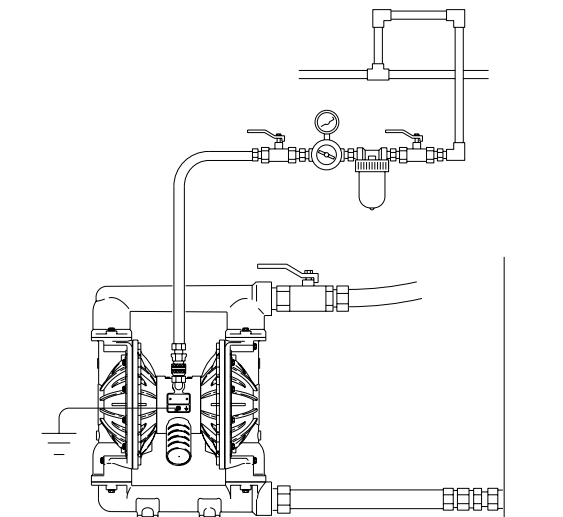
## Dimensions



Refer to manual 308441 for additional dimensions

## Typical System Drawings

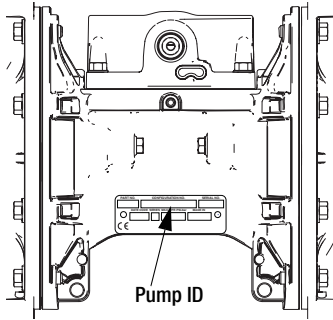
### Husky 1590 Above Ground Gravity Feed



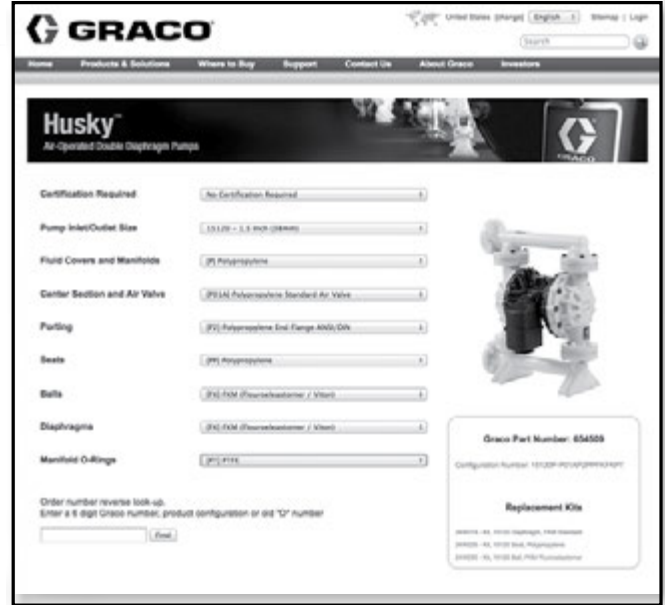
# Husky 15120 Plastic Pumps Air-Operated Double Diaphragm

## Husky 15120 Selector Tool

To order a Husky 15120, use the online selector tool at [www.graco.com/process](http://www.graco.com/process) or contact your distributor.



**NOTE:** Check the identification plate (ID) for the Configuration Number of your pump. Use the following matrix to define the components of your pump.



Example of Product Selector Tool on [www.graco.com/process](http://www.graco.com/process).

## Pump Configuration Options

Pump (1.5 inch ports, 120 gpm)	Center Section and Air Valve Material	For Use With	Fluid Covers and Manifolds
<b>15120P</b> Polypropylene	Polypropylene <b>P01A</b>	Standard Diaphragms	<b>P1</b> Polypropylene, Center Flange, ANSI/DIN
<b>15120F</b> PVDF	Polypropylene <b>P01G</b>	Overmolded Diaphragms	<b>P2</b> Polypropylene, End Flange, ANSI/DIN <b>F2</b> PVDF, End Flange, ANSI/DIN

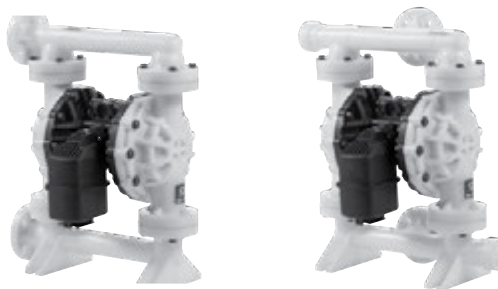
Seat Material	Ball Material	Diaphragm Material	Manifold/Seat Seal Material
<b>PP</b> Polypropylene	<b>FK</b> FKM	<b>FK</b> FKM Fluoroelastomer	<b>PT</b> PTFE
<b>PV</b> PVDF	<b>PT</b> PTFE	<b>PO</b> PTFE/EPDM Overmolded	
<b>SP</b> Santoprene®	<b>SP</b> Santoprene	<b>PT</b> PTFE/Santoprene Two-Piece	
<b>SS</b> 316 Stainless Steel		<b>SP</b> Santoprene	



# Husky 15120 Plastic Pumps

## Popular Models

Part Number	Air Section	Fluid Section	Porting	Seat	Ball	Diaphragm	Air Valve Replacement Kit	Seat Kit	Ball Kit	Diaphragm Kit
654504	Polypropylene	Polypropylene	Center	Polypropylene	PTFE	2-Piece PTFE	24B773	24W225	24W228	24W220
654505	Polypropylene	Polypropylene	Center	Polypropylene	PTFE	PTFE OM	24B773	24W225	24W228	24W217
654511	Polypropylene	Polypropylene	End	Polypropylene	PTFE	2-Piece PTFE	24B773	24W225	24W228	24W220
654512	Polypropylene	Polypropylene	End	Polypropylene	PTFE	PTFE OM	24B773	24W225	24W228	24W217
654500	Polypropylene	Polypropylene	Center	Polypropylene	Santoprene	Santoprene	24B773	24W225	24W229	24W218
654507	Polypropylene	Polypropylene	End	Polypropylene	Santoprene	Santoprene	24B773	24W225	24W229	24W218
654517	Polypropylene	Polypropylene	Center	SST	FKM	FKM	24B773	24W227	24W230	24W219
654518	Polypropylene	Polypropylene	Center	SST	PTFE	2-Piece PTFE	24B773	24W227	24W228	24W220
654519	Polypropylene	Polypropylene	Center	SST	PTFE	PTFE OM	24B773	24W227	24W228	24W217
654523	Polypropylene	Polypropylene	End	SST	FKM	FKM	24B773	24W227	24W230	24W219
654524	Polypropylene	Polypropylene	End	SST	PTFE	2-Piece PTFE	24B773	24W227	24W228	24W220
654525	Polypropylene	Polypropylene	End	SST	PTFE	PTFE OM	24B773	24W227	24W228	24W217
654526	Polypropylene	Polypropylene	Center	Santoprene	Santoprene	Santoprene	24B773	24W226	24W229	24W218
654528	Polypropylene	Polypropylene	End	Santoprene	Santoprene	Santoprene	24B773	24W226	24W229	24W218
654544	Polypropylene	PVDF	End	PVDF	FKM	FKM	24B773	24W223	24W230	24W219
654546	Polypropylene	PVDF	End	PVDF	PTFE	2-Piece PTFE	24B773	24W223	24W228	24W220
654547	Polypropylene	PVDF	End	PVDF	PTFE	PTFE OM	24B773	24W223	24W228	24W217



## Technical Specifications

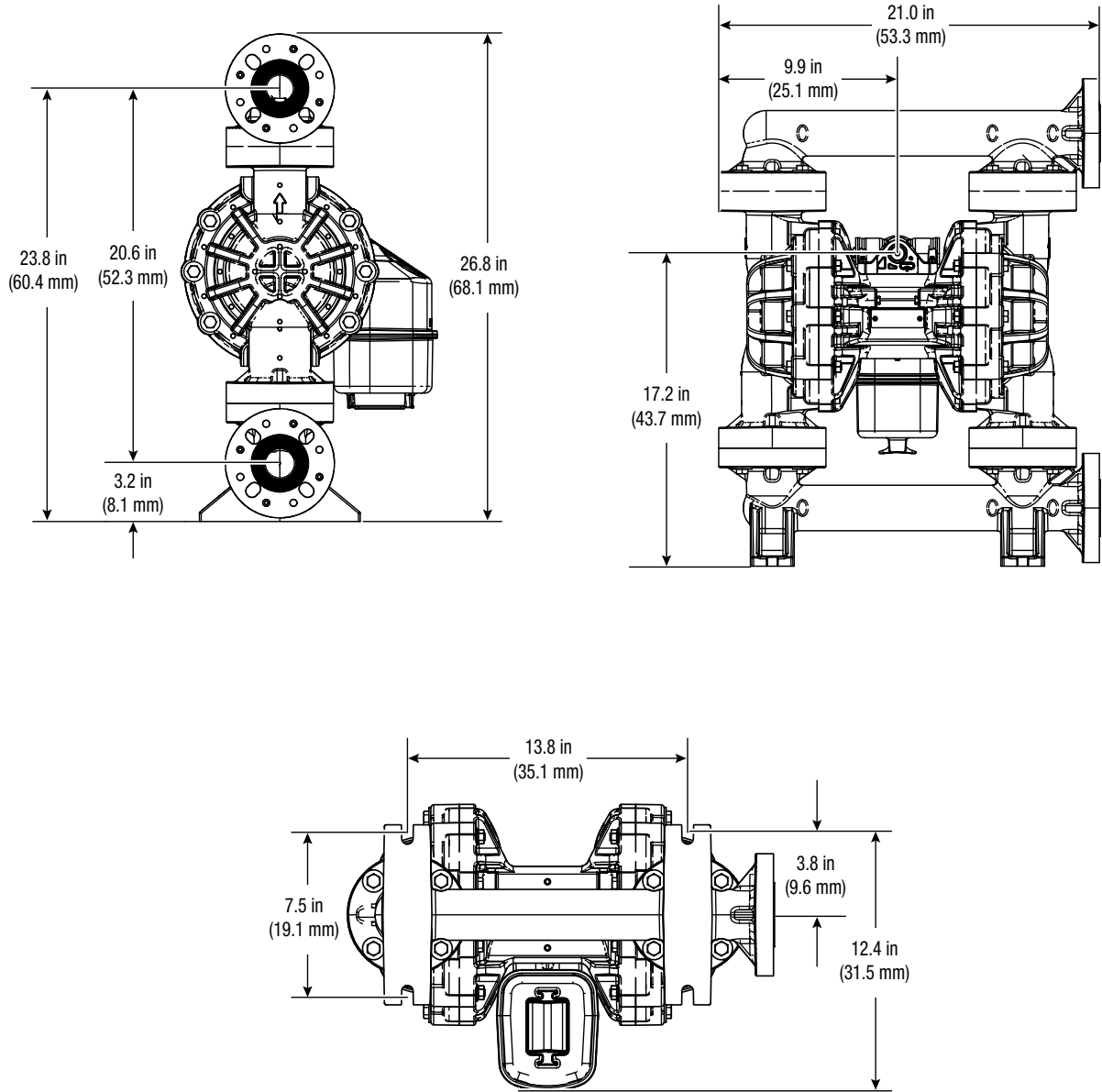
Husky 15120 Pumps	Polypropylene	PVDF
Maximum fluid working pressure	125 psi (8.6 bar, 0.86 MPa)	125 psi (8.6 bar, 0.86 MPa)
Maximum free flow delivery*	120 gpm (454 lpm)	120 gpm (454 lpm)
Maximum pump speed	190 cpm	190 cpm
Displacement per cycle**	0.63 gallon (2.4 liter)	0.63 gallon (2.4 liter)
Maximum suction lift (DB2366)	16 ft (4.9 m) dry	16 ft (4.9 m) dry
Maximum size pumpable solids	0.25 in (6.3 mm)	0.25 in (6.3 mm)
Maximum operating temperature***	150°F (65.5°C)	225°F (107°C)
Maximum diaphragm operating temperature***		
PTFE	150°F (65.5°C)	220°F (104.4°C)
PTFE overmolded diaphragm	150°F (65.5°C)	180°F (82.2°C)
Santoprene	150°F (65.5°C)	180°F (82.2°C)
Buna-N	150°F (65.5°C)	180°F (82.2°C)
TPE	150°F (65.5°C)	150°F (65.5°C)
Fluoroelastomer	150°F (65.5°C)	225°F (107°C)
Geolast	150°F (65.5°C)	150°F (65.5°C)
Typical sound power at 70 psi (4.9 bar, 0.49 MPa) air @ 50 cpm	90.9 dBa	90.9 dBa
Maximum air consumption	85 scfm (2.4 m³/min.)	85 scfm (2.4 m³/min.)
Air pressure operating range	20 to 125 psi (1.4 to 8.6 bar, 0.14 to 0.86 MPa)	20 to 125 psi (1.4 to 8.6 bar, 0.14 to 0.86 MPa)
Air inlet size	1/2 npt(f)	1/2 npt(f)
Fluid inlet & outlet size	1-1/2 npt(f) or bspt(f)	1-1/2 npt(f) or bspt(f)
Weight	57 lb (25.9 kg)	74 lb (33.5 kg)
Instruction manual	<a href="#">3A2888</a>	<a href="#">3A2888</a>

\*Flow rates are with muffler and do not vary based on diaphragm material

\*\*Displacement per cycle may vary based on suction condition, discharge head, air pressure and fluid type

\*\*\* Actual pump performance may be affected by prolonged usage at temperature

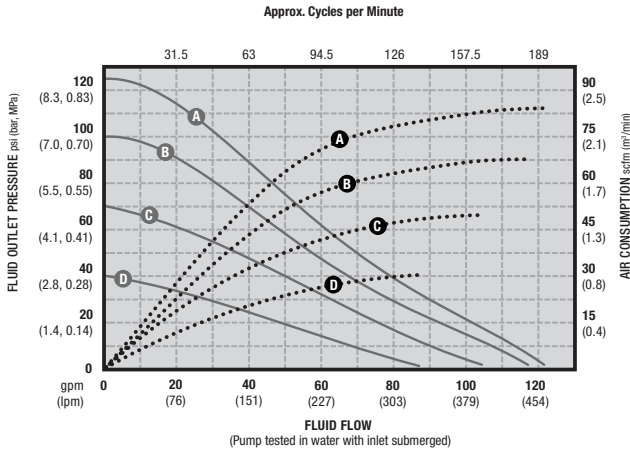
## Dimensions



# Husky 15120 Plastic Pumps

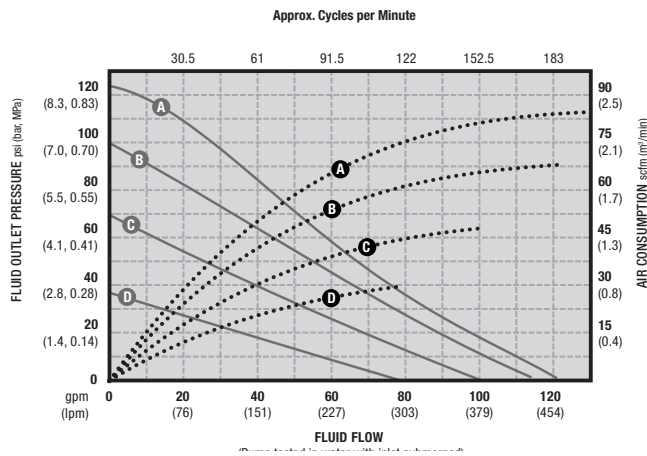
## Performance Charts

### 1-Piece Bolt Through Design



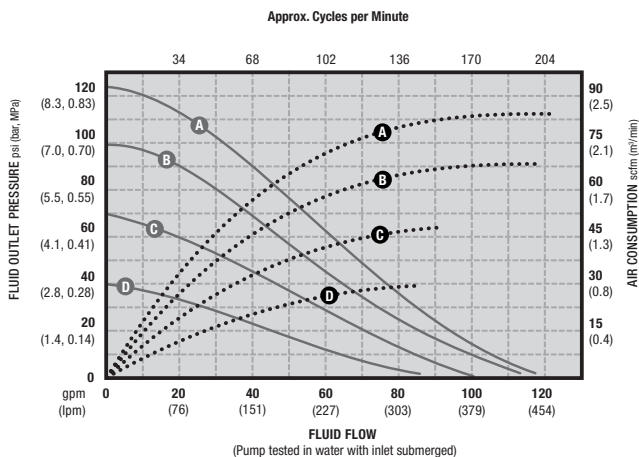
AIR PRESSURE		LEGEND	
(A) = at 125 psi (8.3 bar, 0.83 MPa)		Air Consumption	.....
(B) = at 100 psi (7 bar, 0.7 MPa)		Fluid Pressure	————
(C) = at 70 psi (4.8 bar, 0.48 MPa)			
(D) = at 40 psi (2.8 bar, 0.28 MPa)			

### 2-Piece Bolt Through Design



AIR PRESSURE		LEGEND	
(A) = at 125 psi (8.3 bar, 0.83 MPa)		Air Consumption	.....
(B) = at 100 psi (7 bar, 0.7 MPa)		Fluid Pressure	————
(C) = at 70 psi (4.8 bar, 0.48 MPa)			
(D) = at 40 psi (2.8 bar, 0.28 MPa)			

### Overmolded Design

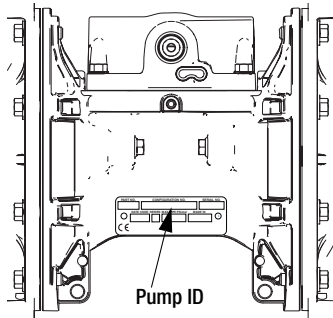


AIR PRESSURE		LEGEND	
(A) = at 125 psi (8.3 bar, 0.83 MPa)		Air Consumption	.....
(B) = at 100 psi (7 bar, 0.7 MPa)		Fluid Pressure	————
(C) = at 70 psi (4.8 bar, 0.48 MPa)			
(D) = at 40 psi (2.8 bar, 0.28 MPa)			

# Husky 2150 Plastic Pumps Air-Operated Double Diaphragm

## Husky 2150 Selector Tool

To order a Husky 2150, use the online selector tool at [www.graco.com/process](http://www.graco.com/process) or contact your distributor.



**NOTE:** Check the identification plate (ID) for the Configuration Number of your pump. Use the following matrix to define the components of your pump.



Example of Product Selector Tool on [www.graco.com/process](http://www.graco.com/process).

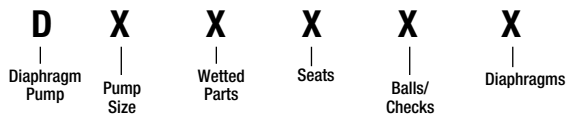
## Pump Configuration Options

Pump (1.5 inch ports, 90 gpm)	Center Section and Air Valve Material		Air Valve/Monitoring	Fluid Covers and Manifolds	
<b>P</b> Polypropylene 2150	Aluminum	<b>A01A</b>	Standard w/Buna Seals	<b>F1</b>	PVDF, center Flange
		<b>A01D</b>	Remote w/ Buna Seals		
<b>F</b> PVDF 2150	Stainless Steel	<b>S01A</b>	Standard	<b>P1</b>	Polypropylene, center flange
		<b>S01D</b>	Remote		

Check Valve Seats		Check Valve Balls		Diaphragm		Manifold O-Rings	
<b>BN</b>	Buna-N	<b>AC</b>	Acetal	<b>BN</b>	Buna-N	—	None
<b>FK</b>	Fluoroelastomer	<b>BN</b>	Buna-N	<b>FK</b>	Fluoroelastomer	<b>PT</b>	PTFE
<b>GE</b>	Geolast	<b>FK</b>	Fluoroelastomer	<b>GE</b>	Geolast		
<b>PP</b>	Polypropylene	<b>GE</b>	Geolast	<b>PT</b>	PTFE/EPDM Two-Piece		
<b>PV</b>	PVDF	<b>PT</b>	PTFE	<b>PT</b>	PTFE/EPDM Two-Piece		
<b>SA</b>	17-4 Stainless Steel	<b>SD</b>	440C Stainless Steel	<b>SP</b>	Santoprene		
<b>SP</b>	Santoprene	<b>SP</b>	Santoprene	<b>TP</b>	TPE		
<b>SS</b>	316 Stainless Steel	<b>TP</b>	TPE				
<b>TP</b>	TPE						

# Husky 2150 Plastic Pumps

## Ordering Information



PUMP SIZE (AIR MOTOR TYPE AND MATERIAL)	WETTED PARTS	SEATS	BALLS	DIAPHRAGM
F = 2" (50.8 mm) Standard: aluminum center section	2 = Poly (npt)	3 = Stainless Steel	1 = PTFE	1 = PTFE
G = 2" (50.8 mm) Remote: aluminum center section	5 = PVDF (npt)	4 = Hardened SST	2 = Acetal	5 = TPE
V = 2" (50.8 mm) Standard: stainless steel center section		5 = TPE	4 = Hardened SST	6 = Santoprene
		6 = Santoprene	5 = TPE	7 = Buna N
		7 = Buna N	6 = Santoprene	8 = Fluoroelastomer
		8 = Fluoroelastomer	7 = Buna N	G = Geolast
		9 = Polypropylene	8 = Fluoroelastomer	
		A = PVDF	G = Geolast	
		G = Geolast		

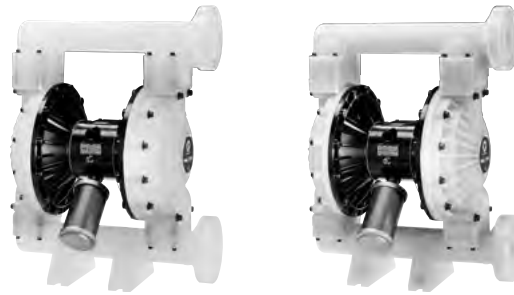
## Popular Models

Material	Part Number (ANSI-Flange)		Part Number (BSP Ported)		Materials for Seats	Materials for Balls	Materials for Diaphragms	Fluid Kit	Air Kit	Air Control**
	Standard Air Valve	Remote* Air Valve	Standard Air Valve	Remote* Air Valve						
<b>Standard Pumps with Aluminum Center Section</b>										
Polypropylene	DF2311				Stainless Steel	PTFE	PTFE	D0G311	236273	246947
	DF2377	DG2377			Stainless Steel	Buna	Buna	D0G377	236273	246947
	DF2777	DG2777			Buna	Buna	Buna	D0G777	236273	246947
	DF2888	DG2888			Fluoroelastomer	Fluoroelastomer	Fluoroelastomer	D0G888	236273	246947
	DF2911	DG2911			Polypropylene	PTFE	PTFE	D0G911	236273	246947
	DF2955				Polypropylene	TPE	TPE	D0G955	236273	246947
	DF2966				Polypropylene	Santoprene	Santoprene	D0G966	236273	246947
	DF2977				Polypropylene	Buna	Buna	D0G977	236273	246947
	DF2988				Polypropylene	Fluoroelastomer	Fluoroelastomer	D0G988	236273	246947
	DF29GG	DG29GG			Polypropylene	Geolast	Geolast	D0G9GG	236273	246947

\*Requires CycleFlo or external valve control

\*\* Air control includes air regulator and filter with gauge

## Husky 2150 Plastic Pumps



### Technical Specifications

Husky 2150 Plastic Pumps	Polypropylene	PVDF
Maximum fluid working pressure	120 psi (8.4 bar, 0.84 MPa)	120 psi (8.4 bar, 0.84 MPa)
Maximum free flow delivery*	150 gpm (568 lpm)	150 gpm (568 lpm)
Maximum pump speed	145 cpm	145 cpm
Displacement per cycle**	1.03 gallon (3.90 liter)	1.03 gallon (3.90 liter)
Maximum suction lift	18 ft (5.48 m) wet or dry	18 ft (5.48 m) wet or dry
Maximum size pumpable solids	0.25 in (6.3 mm)	0.25 in (6.3 mm)
Maximum operating temperature***	150°F (65.5°C)	150°F (65.5°C)
Maximum diaphragm operating temperature***		
PTFE	220°F (104.4°C)	220°F (104.4°C)
Santoprene	180°F (82.2°C)	180°F (82.2°C)
Buna-N	180°F (82.2°C)	180°F (82.2°C)
TPE	150°F (65.5°C)	150°F (65.5°C)
Fluoroelastomer	250°F (121.1°C)	250°F (121.1°C)
Geolast	150°F (65.5°C)	150°F (65.5°C)
Typical sound level at 70 psi (4.9 bar, 0.49 MPa) air @ 125 cpm	78 dBa	78 dBa
Maximum air consumption	175 scfm (4.9 m3/min)	175 scfm (4.9 m3/min)
Air consumption at 70 psi/60 gpm	60 scfm (1.7 m3/min)	60 scfm (1.7 m3/min)
Air pressure operating range	20 to 120 psi (1.4 to 8.4 bar, 0.14 to 0.84 MPa)	20 to 120 psi (1.4 to 8.4 bar, 0.14 to 0.84 MPa)
Air inlet size	1/2 npt(f)	1/2 npt(f)
Fluid inlet & outlet size****	2 in (51 mm) ANSI-flange	2 in (51 mm) ANSI-flange
Weight	49 lb (22 kg)	68 lb (30.8 kg)
Weight with stainless steel center section	68.5 lb (31 kg)	87.5 lb (39.6 kg)
Instruction manual	<a href="#">308550</a>	<a href="#">308550</a>

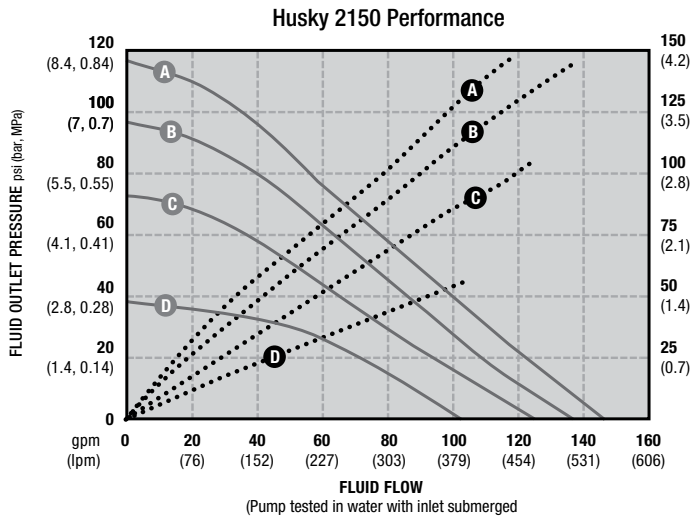
\* Flow rates are with muffler and do not vary based on diaphragm material

\*\* Displacement per cycle may vary based on suction condition, discharge head, air pressure and fluid type

\*\*\* Actual pump performance may be affected by prolonged usage at temperature

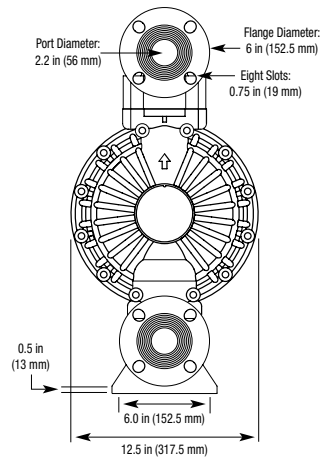
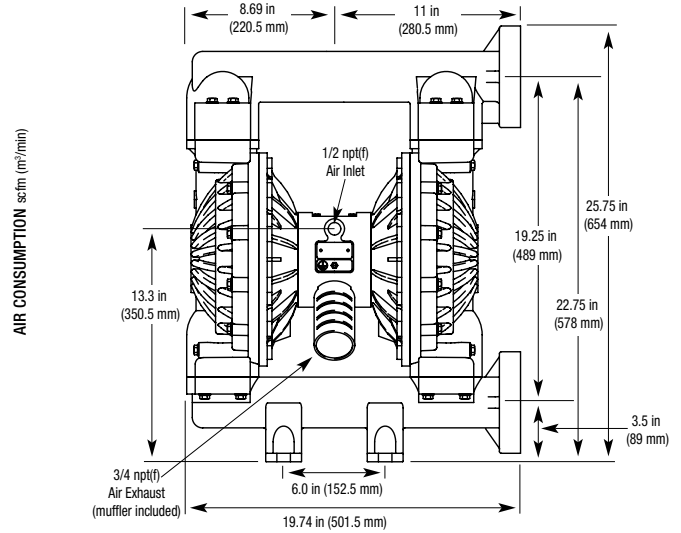
# Husky 2150 Plastic Pumps

## Performance Charts



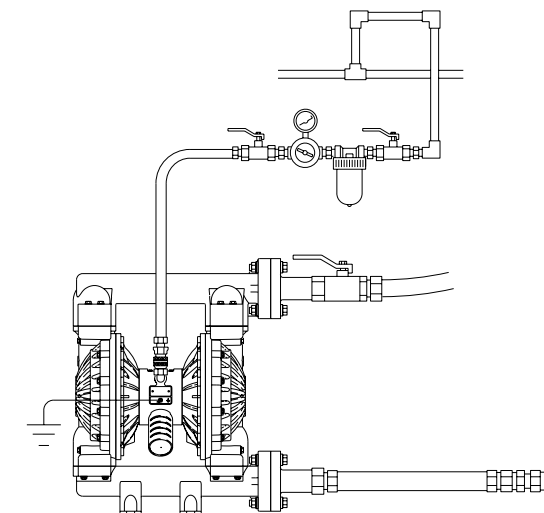
AIR PRESSURE	LEGEND
(A) = at 120 psi (8.4 bar, 0.84 MPa)	Air Consumption •••••
(B) = at 100 psi (7 bar, 0.7 MPa)	Fluid Pressure ———
(C) = at 70 psi (4.8 bar, 0.48 MPa)	
(D) = at 40 psi (2.8 bar, 0.28 MPa)	

## Dimensions



## Typical System Drawings

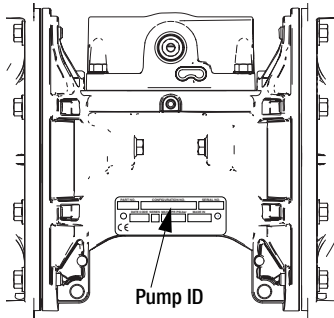
### Husky 2150 Above Ground Gravity Feed



# Husky 2150 Metal Pumps Air-Operated Double Diaphragm

## Husky 2150 Selector Tool

To order a Husky 2150, use the online selector tool at [www.graco.com/process](http://www.graco.com/process) or contact your distributor.



**NOTE:** Check the identification plate (ID) for the Configuration Number of your pump. Use the following matrix to define the components of your pump.



Example of Product Selector Tool on [www.graco.com/process](http://www.graco.com/process).

## Pump Configuration Options

Pump (2.0 inch ports, 150 gpm)	Center Section and Air Valve Material		Air Valve/Monitoring	Fluid Covers and Manifolds	
A★ Aluminum 2150	Aluminum	A01A	Standard	A1	Aluminum, standard ports, inch
		A01D	Remote	A2	Aluminum, standard ports, metric
S‡ Stainless Steel 2150	Stainless Steel	S01A	Standard	S1	Stainless steel, standard ports, inch
		S01D	Remote	S2	Stainless steel, standard ports, metric

★, ‡, or ✖: See ATEX Certifications below.

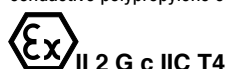
Check Valve Seats		Check Valve Balls		Diaphragm		Manifold O-Rings	
BN	Buna-N	AC	Acetal	BN	Buna-N	—	None
FK	Fluoroelastomer	BN	Buna-N	FK	Fluoroelastomer	PT	PTFE
GE	Geolast	FK	Fluoroelastomer	GE	Geolast		
PP	Polypropylene	GE	Geolast	PT	PTFE/EPDM Two-Piece		
PV	PVDF	PT	PTFE	PT	PTFE/EPDM Two-Piece		
SA	17-4 Stainless Steel	SD	440C Stainless Steel	SP	Santoprene		
SP	Santoprene	SP	Santoprene	TP	TPE		
SS	316 Stainless Steel	TP	TPE				
TP	TPE						

### ATEX Certifications

★ All Aluminum 1050 pumps are certified:



‡ Stainless Steel pumps with aluminum or conductive polypropylene centers are certified:



✖ DataTrak and Pulse Count are certified:

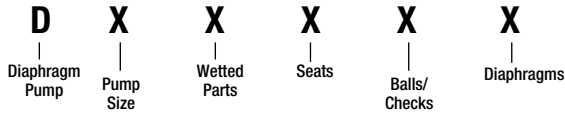


EEx ia IIA T3  
Nemko  
06ATEX1124



# Husky 2150 Metal Pumps

## Ordering Information



PUMP SIZE (AIR MOTOR TYPE AND MATERIAL)	WETTED PARTS	SEATS	BALLS	DIAPHRAGM
F = 2" (50.8 mm) Standard: aluminum center section	3 = Aluminum (npt)	3 = Stainless Steel	1 = PTFE	1 = PTFE
G = 2" (50.8 mm) Remote: aluminum center section	4 = Stainless Steel (npt)	4 = Hardened SST	2 = Acetal	5 = TPE
V = 2" (50.8 mm) Standard: stainless steel center section	6 = Ductile Iron (npt)	5 = TPE	4 = Hardened SST	6 = Santoprene
	C = Aluminum (bsp)	6 = Santoprene	5 = TPE	7 = Buna N
	D = Stainless Steel (bsp)	7 = Buna N	6 = Santoprene	8 = Fluoroelastomer
	F = Ductile Iron (bsp)	8 = Fluoroelastomer	7 = Buna N	G = Geolast
		9 = Polypropylene	8 = Fluoroelastomer	
	H = 2 npt Alum Extended	A = PVDF	G = Geolast	
	G = 2 bsp Alum Extended	G = Geolast		

## Popular Models

Material	Part Number (NPT Ported)		Part Number (BSP Ported)		Materials for Seats	Materials for Balls	Materials for Diaphragms	Fluid Kit	Air Kit	Air Control**	
	Standard Air Valve	Remote* Air Valve	Standard Air Valve	Remote* Air Valve							
<b>Standard Pumps with Aluminum Center Section</b>											
Aluminum***	DF3311	DG3311	DFC311	DGC311	Stainless Steel	PTFE	PTFE	D0F311	236273	246947	
	DF3341	DG3341	DFC341	DGC341	Stainless Steel	Hardened SST	PTFE	D0F341	236273	246947	
	DF3366	DG3366	DFC366	DGC366	Stainless Steel	Santoprene	Santoprene	D0F366	236273	246947	
	DF3377	DG3377	DFC377	DGC377	Stainless Steel	Buna	Buna	D0F377	236273	246947	
	DF3525	DG3525	DFC525	DGC525	TPE	Acetal	TPE	D0F525	236273	246947	
	DF3555		DFC555		TPE	TPE	TPE	D0F555	236273	246947	
	DF3666	DG3666	DFC666	DGC666	Santoprene	Santoprene	Santoprene	D0F666	236273	246947	
	DF3777	DG3777	DFC777	DGC777	Buna	Buna	Buna	D0F777	236273	246947	
	DF3888	DG3888	DFC888	DGC888	Fluoroelastomer	Fluoroelastomer	Fluoroelastomer	D0F888	236273	246947	
	DF3GGG	DG3GGG	DFCGGG	DGCGGG	Geolast	Geolast	Geolast	D0FGGG	236273	246947	
	DF3911	DG3911	DFC911	DGC911	Polypropylene	PTFE	PTFE	D0F911	236273	246947	
	DF3977	DG3977	DFC977		Polypropylene	Buna	Buna	D0F977	236273	246947	
	Stainless Steel	DF4311	DG4311	DFD311	DGD311	Stainless Steel	PTFE	PTFE	D0F311	236273	246947
		DF4341		DFD341		Stainless Steel	Hardened SST	PTFE	D0F341	236273	246947
DF4366		DG4366	DFD366	DGD366	Stainless Steel	Santoprene	Santoprene	D0F366	236273	246947	
DF4377		DG4377	DFD377	DGD377	Stainless Steel	Buna	Buna	D0F377	236273	246947	
DF4525			DFD525		TPE	Acetal	TPE	D0F525	236273	246947	
DF4666		DG4666	DFD666	DGD666	Santoprene	Santoprene	Santoprene	D0F666	236273	246947	
DF4777		DG4777	DFD777	DGD777	Buna	Buna	Buna	D0F777	236273	246947	
DF4888		DG4888	DFD888	DGD888	Fluoroelastomer	Fluoroelastomer	Fluoroelastomer	D0F888	236273	246947	
DF4GGG		DG4GGG	DFDGGG	DGDGGG	Geolast	Geolast	Geolast	D0FGGG	236273	246947	
DF4911			DFD911		Polypropylene	PTFE	PTFE	D0F911	236273	246947	
Ductile	DF6311		DFF311		Stainless Steel	PTFE	PTFE	D0F311	236273	246947	
	DF6366		DFF366		Stainless Steel	Santoprene	Santoprene	D0F366	236273	246947	
	DF6441		DFF441		Hardened SST	Hardened SST	PTFE	D0F441	236273	246947	
	DF6466	DG6466	DFF466	DGF466	Hardened SST	Santoprene	Santoprene	D0F466	236273	246947	
	DF6525		DFF525		TPE	Acetal	TPE	D0F525	236273	246947	
	DF6666	DG6666	DFF666	DGF666	Santoprene	Santoprene	Santoprene	D0F666	236273	246947	
	DF6A11		DFFA11		PVDF	PTFE	PTFE	D0FA11	236273	246947	
	DF6A88		DFFA88		PVDF	Fluoroelastomer	Fluoroelastomer	D0FA88	236273	246947	
	DF6GGG	DG6GGG	DFFGGG	DFGGGG	Geolast	Geolast	Geolast	D0FGGG	236273	246947	
<b>Corrosion Resistant Pumps with Stainless Steel Center Section</b>											
Stainless Steel	DV4311		DVD311		Stainless Steel	PTFE	PTFE	D0F311	255061	246947	
	DV4377		DVD377		Stainless Steel	Buna	Buna	D0F377	255061	246947	
	DV4388		DVD388		Stainless Steel	Fluoroelastomer	Fluoroelastomer	D0F388	255061	246947	
	DV4666		DVD666		Santoprene	Santoprene	Santoprene	D0F666	255061	246947	
	DV4888		DVD888		Fluoroelastomer	Fluoroelastomer	Fluoroelastomer	D0F888	255061	246947	
	DV4911		DVD911		Polypropylene	PTFE	PTFE	D0F911	255061	246947	

\*Requires CycleFlo or external valve control. \*\* Air control includes air regulator and filter with gauge. \*\*\* Also available in Extended Height version; use DFH or DFG designations

## Husky 2150 Metal Pumps

### Technical Specifications



Husky 2150 Metal Pumps	Aluminum	Stainless Steel	Ductile Iron
Maximum fluid working pressure	120 psi (8.4 bar, 0.84 MPa)	120 psi (8.4 bar, 0.84 MPa)	120 psi (8.4 bar, 0.84 MPa)
Maximum free flow delivery*	150 gpm (568 lpm)	150 gpm (568 lpm)	150 gpm (568 lpm)
Maximum pump speed	145 cpm	145 cpm	145 cpm
Displacement per cycle**	1.03 gallon (3.90 liter)	1.03 gallon (3.90 liter)	1.03 gallon (3.90 liter)
Maximum suction lift (DF3666)	20 ft (6.1 m) dry	20 ft (6.1 m) dry	20 ft (6.1 m) dry
Maximum size pumpable solids	0.25 in (6.3 mm)	0.25 in (6.3 mm)	0.25 in (6.3 mm)
Maximum operating temperature***	150°F (65.5°C)	150°F (65.5°C)	150°F (65.5°C)
Maximum diaphragm operating temperature***			
PTFE	220°F (104.4°C)	220°F (104.4°C)	220°F (104.4°C)
Santoprene	180°F (82.2°C)	180°F (82.2°C)	180°F (82.2°C)
Buna-N	180°F (82.2°C)	180°F (82.2°C)	180°F (82.2°C)
TPE	150°F (65.5°C)	150°F (65.5°C)	150°F (65.5°C)
Fluoroelastomer	250°F (121.1°C)	250°F (121.1°C)	250°F (121.1°C)
Geolast	150°F (65.5°C)	150°F (65.5°C)	150°F (65.5°C)
Typical sound level at 70 psi (4.9 bar, 0.49 MPa) air @ 125 cpm	78 dBa	78 dBa	78 dBa
Maximum air consumption	175 scfm (4.9 m3/min)	175 scfm (4.9 m3/min)	175 scfm (4.9 m3/min)
Air pressure operating range	20 to 120 psi (1.4 to 8.4 bar, 0.14 to 0.84 MPa)	20 to 120 psi (1.4 to 8.4 bar, 0.14 to 0.84 MPa)	20 to 120 psi (1.4 to 8.4 bar, 0.14 to 0.84 MPa)
Air inlet size	1/2 npt(f)	1/2 npt(f)	1/2 npt(f)
Fluid inlet & outlet size****	2 in (51 mm) npt(f)	2 in (51 mm) npt(f)	2 in (51 mm) npt(f)
Weight	58 lb (26.3 kg) 62 lb (28.1 kg) - Extended	111 lb (50 kg)	130 lb (59 kg)
Weight with stainless steel center section	n/a	134 lb (60 kg)	n/a
Instruction manual	<a href="#">308368</a>	<a href="#">308368</a>	<a href="#">308368</a>

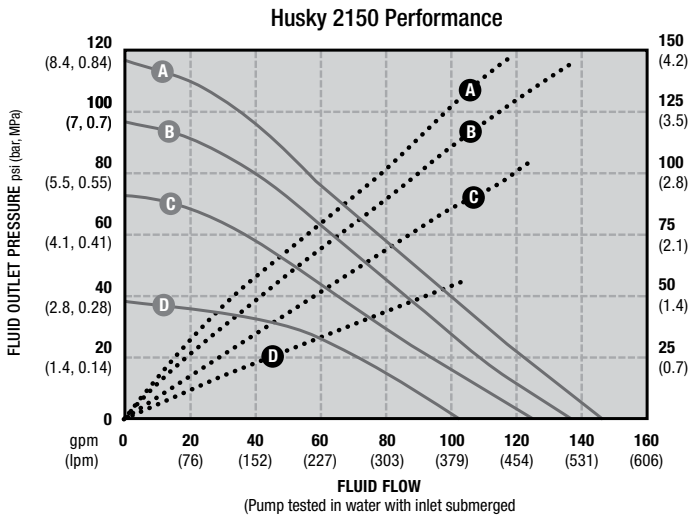
\* Flow rates are with muffler and do not vary based on diaphragm material

\*\* Displacement per cycle may vary based on suction condition, discharge head, air pressure and fluid type

\*\*\* Actual pump performance may be affected by prolonged usage at temperature

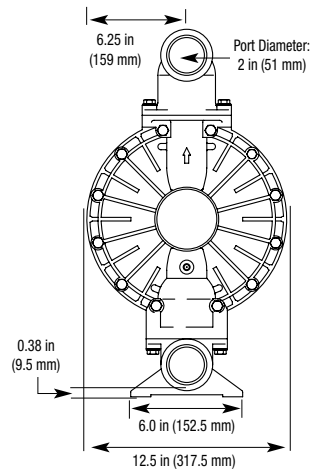
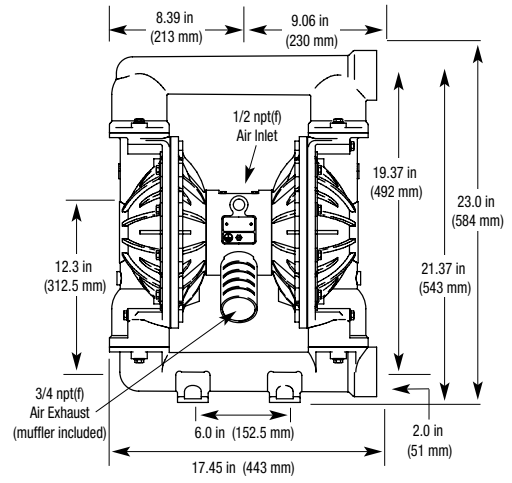
# Husky 2150 Metal Pumps

## Performance Charts



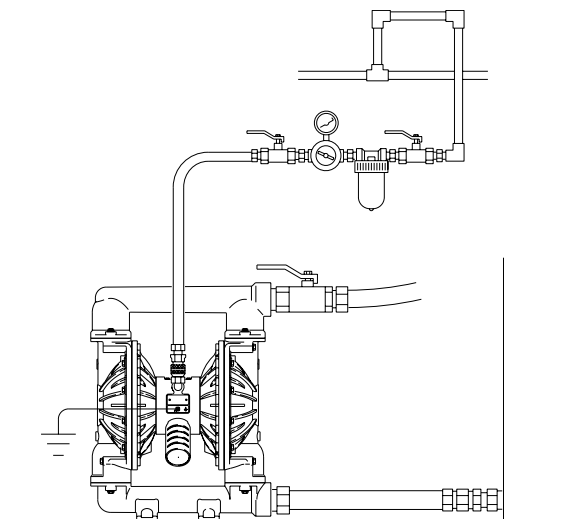
AIR PRESSURE	LEGEND
<b>A</b> = at 120 psi (8.4 bar, 0.84 MPa)	Air Consumption - - - - -
<b>B</b> = at 100 psi (7 bar, 0.7 MPa)	Fluid Pressure - - - - -
<b>C</b> = at 70 psi (4.8 bar, 0.48 MPa)	
<b>D</b> = at 40 psi (2.8 bar, 0.28 MPa)	

## Dimensions



## Typical System Drawings

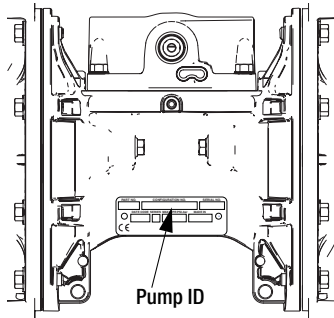
### Husky 2150 Above Ground Gravity Feed



# Husky 2200 Plastic Pumps Air-Operated Double Diaphragm

## Husky 2200 Selector Tool

To order a Husky 2200, use the online selector tool at [www.graco.com/process](http://www.graco.com/process) or contact your distributor.



**NOTE:** Check the identification plate (ID) for the Configuration Number of your pump. Use the following matrix to define the components of your pump.



Example of Product Selector Tool on [www.graco.com/process](http://www.graco.com/process).

## Pump Configuration Options

Pump (2 inch ports, 200 gpm)	Center Section and Air Valve Material	For Use With	Fluid Covers and Manifolds
<b>2200P</b> Polypropylene	Polypropylene <b>P01A</b>	Standard Diaphragms	<b>P1</b> Polypropylene, Center Flange, ANSI/DIN
<b>2200F</b> PVDF	Polypropylene <b>P01G</b>	Overmolded Diaphragms	<b>P2</b> Polypropylene, End Flange, ANSI/DIN <b>F2</b> PVDF, End Flange, ANSI/DIN

Seat Material	Ball Material	Diaphragm Material	Manifold/Seat Seal Material
<b>PP</b> Polypropylene	<b>FK</b> FKM	<b>FK</b> FKM Fluoroelastomer	<b>PT</b> PTFE
<b>PV</b> PVDF	<b>PT</b> PTFE	<b>PO</b> PTFE/EPDM Overmolded	
<b>SP</b> Santoprene®	<b>SP</b> Santoprene	<b>PT</b> PTFE/Santoprene Two-Piece	
<b>SS</b> 316 Stainless Steel		<b>SP</b> Santoprene	

# Husky 2200 Plastic Pumps



## Technical Specifications

Husky 2200 Pumps	Polypropylene	PVDF
Maximum fluid working pressure	125 psi (8.6 bar, 0.86 MPa)	125 psi (8.6 bar, 0.86 MPa)
Maximum free flow delivery*	200 gpm (757 lpm)	200 gpm (757 lpm)
Maximum pump speed		
Standard diaphragm	125 cpm	125 cpm
Overmolded diaphragm	155 cpm	155 cpm
Displacement per cycle**		
Standard diaphragm	1.6 gallon (6.1 liter)	1.6 gallon (6.1 liter)
Overmolded diaphragm	1.3 gallons (4.9 liter)	1.3 gallons (4.9 liter)
Maximum suction lift (DB2366)	16 ft (4.9 m) dry	16 ft (4.9 m) dry
Maximum size pumpable solids	0.25 in (6.3 mm)	0.25 in (6.3 mm)
Maximum operating temperature***	150°F (65.5°C)	225°F (107°C)
Maximum diaphragm operating temperature***		
PTFE	150°F (65.5°C)	220°F (104.4°C)
PTFE overmolded diaphragm	150°F (65.5°C)	180°F (82.2°C)
Santoprene	150°F (65.5°C)	180°F (82.2°C)
Buna-N	150°F (65.5°C)	180°F (82.2°C)
TPE	150°F (65.5°C)	150°F (65.5°C)
Fluoroelastomer	150°F (65.5°C)	225°F (107°C)
Geolast	150°F (65.5°C)	150°F (65.5°C)
Typical sound power at 70 psi (4.9 bar, 0.49 MPa) air @ 50 cpm	95.2 dBa	90.9 dBa
Maximum air consumption		
Standard diaphragm	140 scfm (4.0 m <sup>3</sup> /min.)	140 scfm (4.0 m <sup>3</sup> /min.)
Overmolded diaphragm	157 scfm (4.4 m <sup>3</sup> /min.)	157 scfm (4.4 m <sup>3</sup> /min.)
Air pressure operating range	20 to 125 psi (1.4 to 8.6 bar, 0.14 to 0.86 MPa)	20 to 125 psi (1.4 to 8.6 bar, 0.14 to 0.86 MPa)
Air inlet size	3/4 npt(f)	3/4 npt(f)
Fluid inlet & outlet size	2 npt(f) or bspt(f)	2 npt(f) or bspt(f)
Weight	80 lb (36.3 kg)	106 lb (48.1 kg)
Instruction manual	<a href="#">3A2578</a>	<a href="#">3A2578</a>

\*Flow rates are with muffler and do not vary based on diaphragm material

\*\*Displacement per cycle may vary based on suction condition, discharge head, air pressure and fluid type

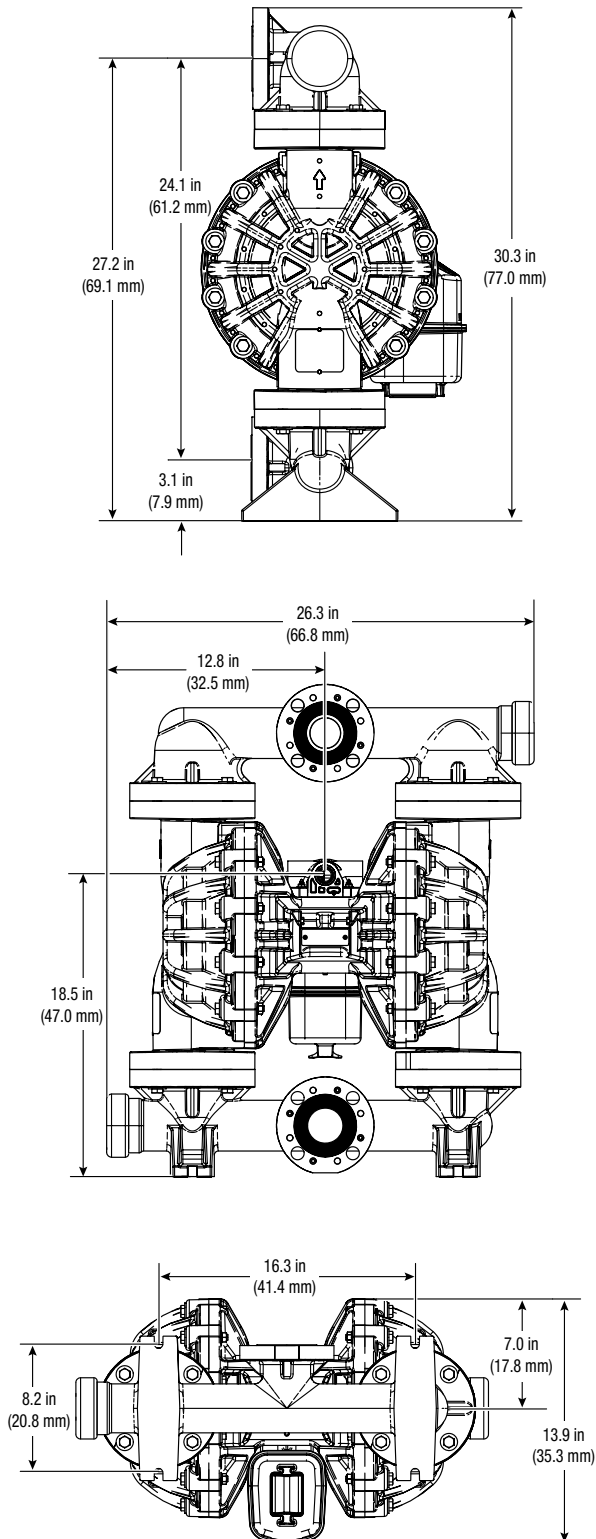
\*\*\* Actual pump performance may be affected by prolonged usage at temperature

## Popular Models

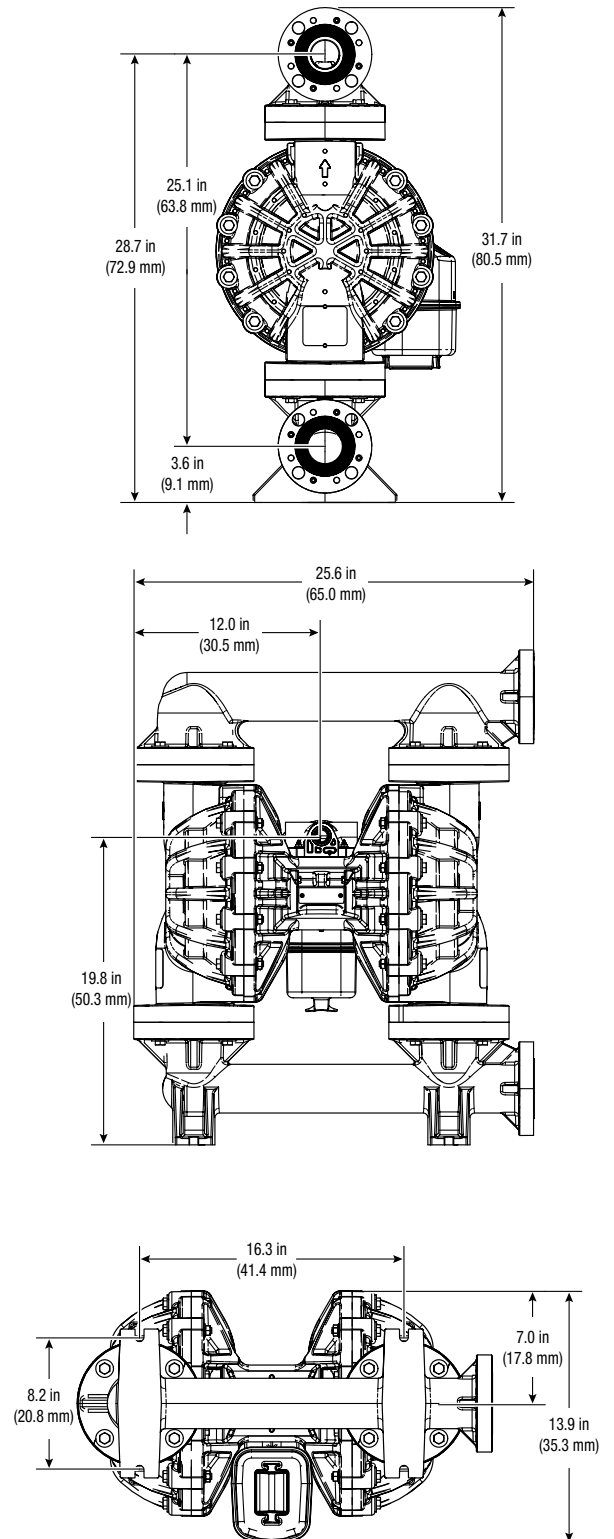
Part Number	Air Section	Fluid Section	Porting	Seat	Ball	Diaphragm	Air Valve Replacement Kit	Seat Kit	Ball Kit	Diaphragm Kit
653504	Polypropylene	Polypropylene	Center	Polypropylene	PTFE	2-Piece PTFE	24V231	24V248	24V251	24V244
653505	Polypropylene	Polypropylene	Center	Polypropylene	PTFE	PTFE OM	24V231	24V248	24V251	24V241
653511	Polypropylene	Polypropylene	End	Polypropylene	PTFE	2-Piece PTFE	24V231	24V248	24V251	24V244
653512	Polypropylene	Polypropylene	End	Polypropylene	PTFE	PTFE OM	24V231	24V248	24V251	24V241
653500	Polypropylene	Polypropylene	Center	Polypropylene	Santoprene	Santoprene	24V231	24V248	24V252	24V242
653507	Polypropylene	Polypropylene	End	Polypropylene	Santoprene	Santoprene	24V231	24V248	24V252	24V242
653517	Polypropylene	Polypropylene	Center	SST	FKM	FKM	24V231	24V250	24V253	24V243
653518	Polypropylene	Polypropylene	Center	SST	PTFE	2-Piece PTFE	24V231	24V250	24V251	24V244
653519	Polypropylene	Polypropylene	Center	SST	PTFE	PTFE OM	24V231	24V250	24V251	24V241
653523	Polypropylene	Polypropylene	End	SST	FKM	FKM	24V231	24V250	24V253	24V243
653524	Polypropylene	Polypropylene	End	SST	PTFE	2-Piece PTFE	24V231	24V250	24V251	24V244
653525	Polypropylene	Polypropylene	End	SST	PTFE	PTFE OM	24V231	24V250	24V251	24V241
653526	Polypropylene	Polypropylene	Center	Santoprene	Santoprene	Santoprene	24V231	24V249	24V252	24V242
653528	Polypropylene	Polypropylene	End	Santoprene	Santoprene	Santoprene	24V231	24V249	24V252	24V242
653544	Polypropylene	PVDF	End	PVDF	FKM	FKM	24V231	24V247	24V253	24V243
653546	Polypropylene	PVDF	End	PVDF	PTFE	2-Piece PTFE	24V231	24V247	24V251	24V244
653547	Polypropylene	PVDF	End	PVDF	PTFE	PTFE OM	24V231	24V247	24V251	24V241

## Dimensions

### Center Flange



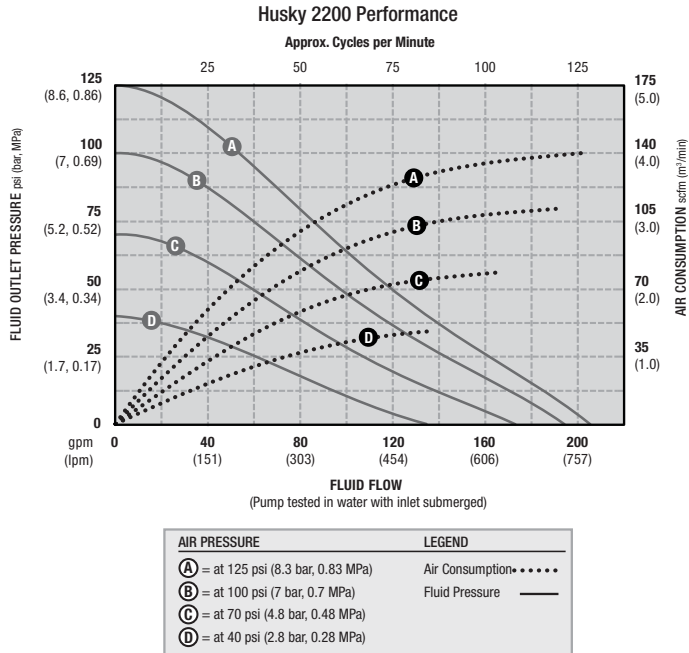
### End Flange



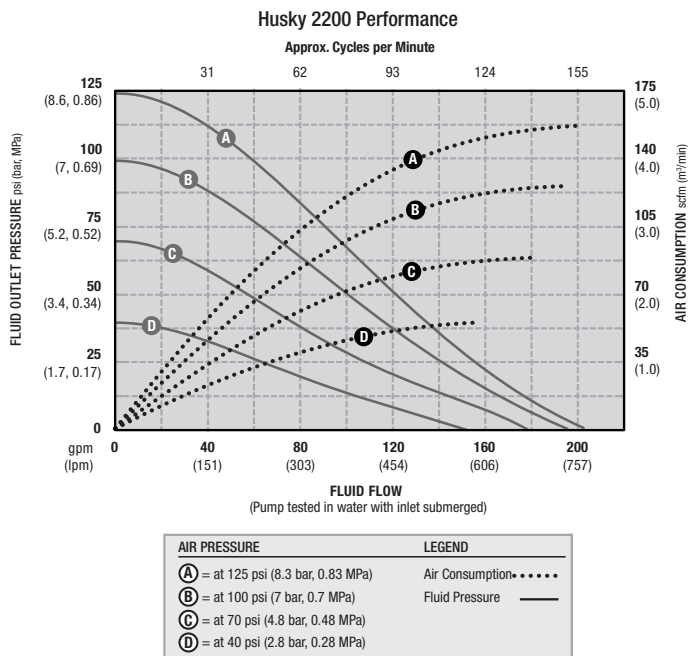
# Husky 2200 Plastic Pumps

## Performance Charts

### Bolt Through Design



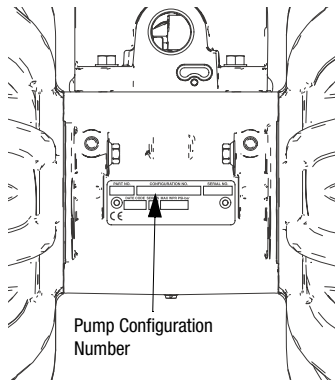
### Overmolded Design



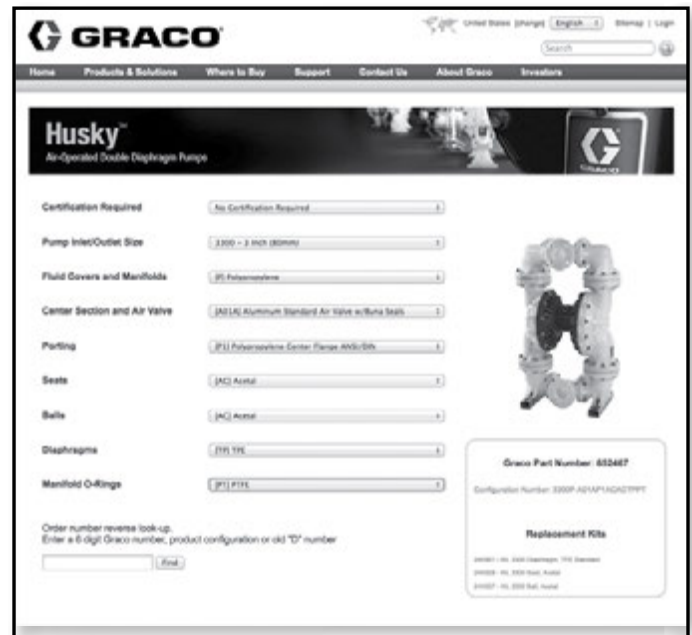
# Husky 3300 Plastic Pumps Air-Operated Double Diaphragm

## Husky 3300 Selector Tool

To order a Husky 3300, use the online selector tool at [www.graco.com/process](http://www.graco.com/process) or contact your distributor.



**NOTE:** Options for seats, check balls, diaphragms, and seals vary.



Example of Product Selector Tool on [www.graco.com/process](http://www.graco.com/process)

## Pump Configuration Options

Pump (3 inch ports, 300 gpm)	Center Section and Air Valve Material	Air Valve/Monitoring	Fluid Covers and Manifolds
<b>P</b> † Polypropylene 3300	Aluminum	<b>A01A</b>	<b>P1</b> Polypropylene, center flange
		<b>A01G</b>	
	Polypropylene †	<b>P01A</b>	
		<b>P01G</b>	

†: See **ATEX Certifications** below.

Check Valve Seats		Check Valve Balls		Diaphragm		Manifold and Seat Seals	
<b>AC</b>	Acetal	<b>AC</b>	Acetal	<b>BN</b>	Buna-N	---	Models with Buna-N, FKM Fluoroelastomer or TPE seats do not use o-rings.
<b>AL</b>	Aluminum	<b>BN</b>	Buna-N	<b>CO</b>	Polychloroprene Overmolded		
<b>BN</b>	Buna-N	<b>CR</b>	Polychloroprene Standard	<b>CR</b>	Polychloroprene	<b>BN</b>	Buna
<b>FK</b>	FKM Fluoroelastomer	<b>CW</b>	Polychloroprene Weighted	<b>FK</b>	FKM Fluoroelastomer		
<b>GE</b>	Geolast®	<b>FK</b>	FKM Fluoroelastomer	<b>GE</b>	Geolast	<b>PT</b>	PTFE
<b>PP</b>	Polypropylene	<b>GE</b>	Geolast	<b>PO</b>	PTFE/EPDM Overmolded		
<b>SP</b>	Santoprene®	<b>PT</b>	PTFE	<b>PT</b>	PTFE/Santoprene Two-Piece		
<b>SS</b>	316 Stainless Steel	<b>SP</b>	Santoprene	<b>SP</b>	Santoprene		
<b>TP</b>	TPE	<b>TP</b>	TPE	<b>TP</b>	TPE		

### ATEX Certifications

† Pumps with polypropylene fluid or center sections are not ATEX certified.



# Husky 3300 Plastic Pumps

## Popular Models

Material	Part Number	Materials for Seats	Materials for Balls	Materials for Diaphragms	Air Valve Replacement Kit	Seat Kit	Ball Kit	Diaphragm Kit	O-Ring Kit
Polypropylene	652404	Polypropylene	PTFE	2 pc PTFE	24K857	24K933	24K943	24K905	24K927
Polypropylene	652400	Polypropylene	Santoprene	Santoprene	24K857	24K933	24K944	24K902	24K927
Polypropylene	652423	Santoprene	Santoprene	Santoprene	24K857	24K934	24K944	24K902	24K927
Polypropylene	652414	Stainless Steel	PTFE	2 pc PTFE	24K857	24K935	24K943	24K905	24K927
Polypropylene	652402	Polypropylene	FKM	FKM	24K857	24K933	24K945	24K903	24K927



## Technical Specifications

Husky 3300 Plastic Pumps	Polypropylene
Maximum fluid working pressure	100 psi (7.0 bar, 0.7 MPa)
Maximum free flow delivery*	
Standard diaphragms at 100 psi (7.0 bar, 0.7 MPa)	280 gpm (1,059 lpm)
Overmolded diaphragms at 100 psi (7.0 bar, 0.7 MPa)	260 gpm (984 lpm)
Maximum pump speed*	
Standard diaphragms at 100 psi (7.0 bar, 0.7 MPa)	97 cpm
Overmolded diaphragms at 100 psi (7.0 bar, 0.7 MPa)	130 cpm
Maximum suction lift * (varies widely based on ball/seat selection and wear, operating speed, material properties, and other variables)	8 ft (2.4 m) dry
Maximum size pumpable solids	0.5 in (13 mm)
Noise (dBA)***	
Sound Power at 50 psi (3.4 bar) and 50 cpm	92 dBA
Sound Power at 120 psi (8.3 bar) and full flow	99 dBA
Sound Pressure at 50 psi (3.4 bar) and 50 cpm	86 dBA
Sound Pressure at 120 psi (8.3 bar) and full flow	93 dBA
Maximum air consumption	275 scfm (7.8 m <sup>3</sup> /min.)
Air pressure operating range	20 to 100 psi (1.4 to 7.0 bar, 0.14 to 0.7 MPa)
Air inlet size	3/4 npt(f)
Fluid inlet/outlet	3 in (76.2 mm) ANSI/DIN flange
Weight	200 lb (91 kg)
Instruction manual	<a href="#">3A0410</a>
Repair/parts manual	<a href="#">3A0411</a>

\* Maximum values with water as media at ambient temperature. Water level is approximately 3 feet above pump inlet.

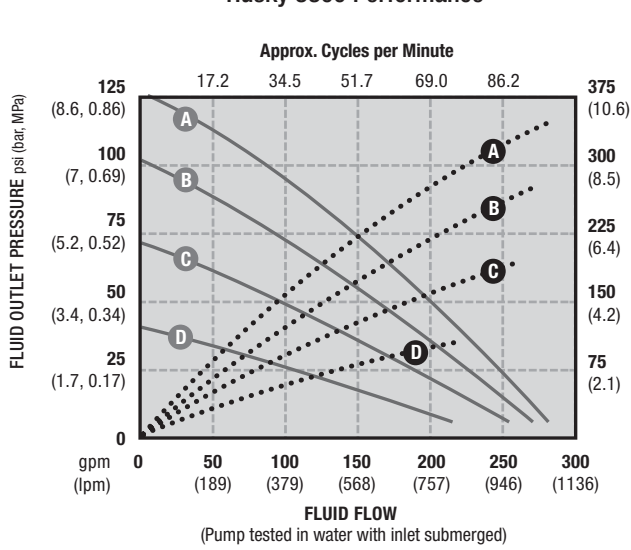
\*\* Startup pressures and displacement per cycle may vary based on suction condition, discharge head, air pressure, and fluid type.

\*\*\* Sound power measured per ISO-9614-2. Sound pressure was tested 3.28 ft (1 m) from equipment.

\*\*\* Actual pump performance may be affected by prolonged usage at temperature

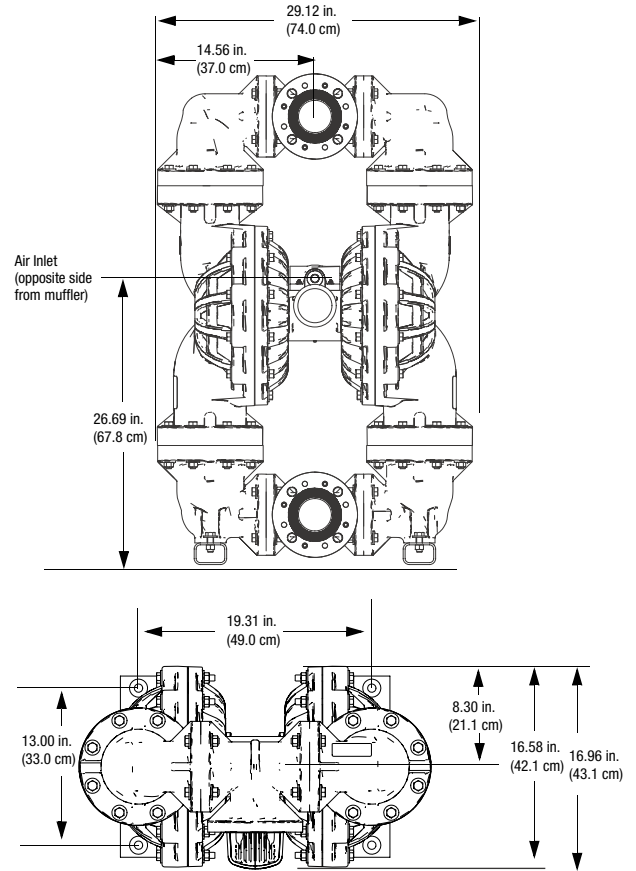
## Performance Charts

### Husky 3300 Performance

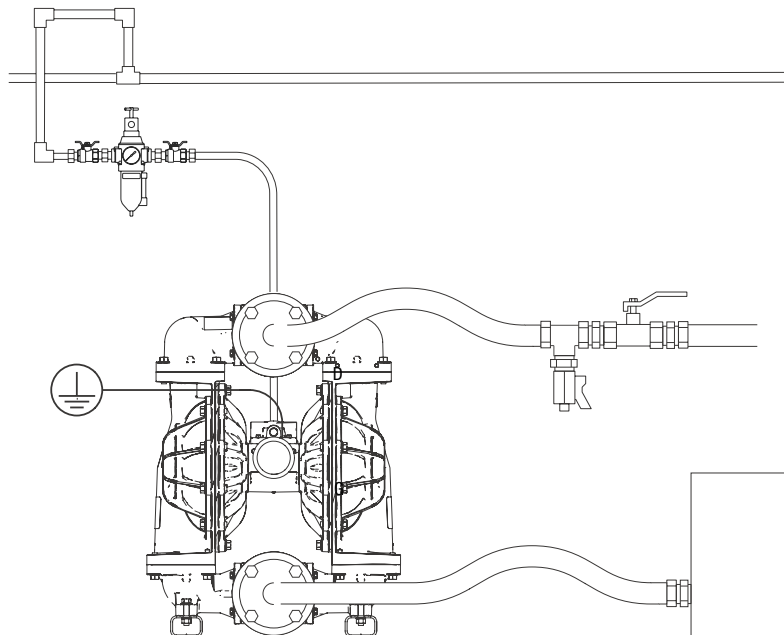


AIR PRESSURE	LEGEND
Ⓐ = at 125 psi (8.3 bar, 0.83 MPa)	Air Consumption.....
Ⓑ = at 100 psi (7 bar, 0.7 MPa)	Fluid Pressure ———
Ⓒ = at 70 psi (4.8 bar, 0.48 MPa)	
Ⓓ = at 40 psi (2.8 bar, 0.28 MPa)	

## Dimensions



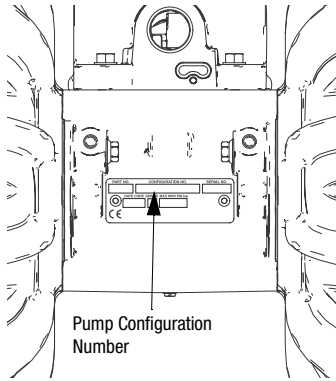
## Typical System Drawings



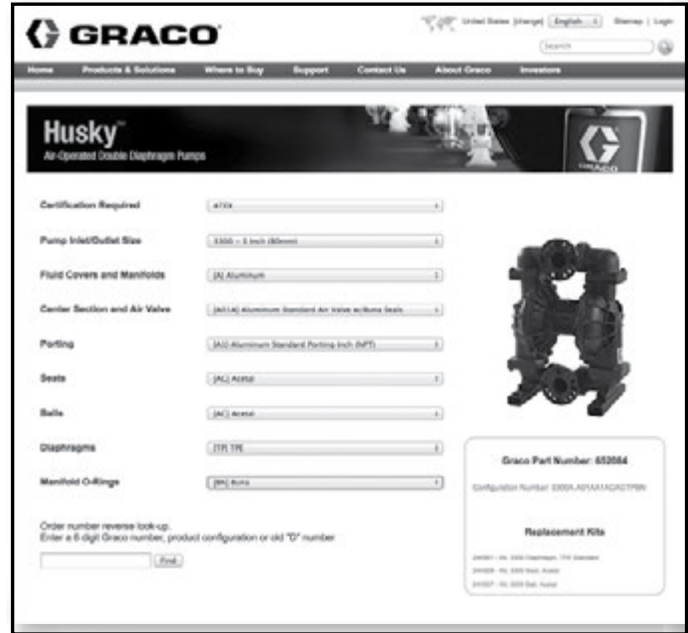
# Husky 3300 Metal Pumps Air-Operated Double Diaphragm

## Husky 3300 Selector Tool

To order a Husky 3300, use the online selector tool at [www.graco.com/process](http://www.graco.com/process) or contact your distributor.



**NOTE:** Options for seats, check balls, diaphragms, and seals vary.



## Pump Configurations

Pump (3 inch ports, 300 gpm)	Center Section and Air Valve Material	Air Valve/Monitoring	Fluid Covers and Manifolds
<b>A</b> ★ Aluminum 3300	Aluminum	<b>A01A</b> Standard Diaphragms	<b>A1</b> Aluminum, center flange, npt
		<b>A01E</b> Optional FKM seals with Standard Diaphragms	<b>A2</b> Aluminum, center flange, bspt
		<b>A01G</b> Overmolded Diaphragms	<b>S1</b> Stainless steel, center flange, npt
<b>S</b> ★ Stainless Steel 3300	Polypropylene †	<b>P01A</b> Standard Diaphragms	<b>S2</b> Stainless steel, center flange, bspt
		<b>P01G</b> Overmolded Diaphragms	

★: See **ATEX Certifications** below.

Check Valve Seats		Check Valve Balls		Diaphragm		Manifold and Seat Seals	
<b>AC</b> Acetal	<b>AC</b> Acetal	<b>BN</b> Buna-N	<b>BN</b> Buna-N	<b>BN</b> Buna-N	<b>BN</b> Buna	---	Models with Buna-N, FKM Fluoroelastomer or TPE seats do not use o-rings.
<b>AL</b> Aluminum	<b>BN</b> Buna-N	<b>CO</b> Polychloroprene Overmolded	<b>CR</b> Polychloroprene	<b>CR</b> Polychloroprene	<b>GE</b> Geolast		
<b>BN</b> Buna-N	<b>CR</b> Polychloroprene Standard	<b>FK</b> FKM Fluoroelastomer	<b>FK</b> FKM Fluoroelastomer	<b>FK</b> FKM Fluoroelastomer	<b>PO</b> PTFE/EPDM Overmolded		
<b>FK</b> FKM Fluoroelastomer	<b>CW</b> Polychloroprene Weighted	<b>GE</b> Geolast	<b>GE</b> Geolast	<b>GE</b> Geolast	<b>PT</b> PTFE/Santoprene Two-Piece		
<b>GE</b> Geolast®	<b>FK</b> FKM Fluoroelastomer	<b>PO</b> PTFE/EPDM Overmolded	<b>PT</b> PTFE	<b>PT</b> PTFE/Santoprene Two-Piece	<b>SP</b> Santoprene		
<b>PP</b> Polypropylene	<b>GE</b> Geolast	<b>TP</b> TPE	<b>SP</b> Santoprene	<b>SP</b> Santoprene	<b>TP</b> TPE		
<b>SP</b> Santoprene®	<b>PT</b> PTFE		<b>TP</b> TPE	<b>TP</b> TPE			
<b>SS</b> 316 Stainless Steel	<b>SP</b> Santoprene						
<b>TP</b> TPE	<b>TP</b> TPE						

### ATEX Certifications

★ Aluminum 3300 and Stainless Steel 3300 pumps with aluminum center sections are certified:



## Popular Models

Material	Part Number	Materials for Seats	Materials for Balls	Materials for Diaphragms	Air Valve Replacement Kit	Seat Kit	Ball Kit	Diaphragm Kit	O-Ring Kit
Aluminum	652002	TPE	Acetal	TPE	24K855	24K932	24K937	24K901	24K909
Aluminum	652046	Geolast	Geolast	Geolast	24K855	24K931	24K939	24K900	24K909
Aluminum	652021	Stainless Steel	PTFE	2 pc PTFE	24K855	24K935	24K943	24K905	24K927
Aluminum	652081	Acetal	PTFE	2 pc PTFE	24K855	24K928	24K943	24K905	24K927
Aluminum	652036	Santoprene	Santoprene	Santoprene	24K855	24K934	24K944	24K902	24K909
Stainless Steel	652804	Stainless Steel	PTFE	2 pc PTFE	24K857	24K935	24K943	24K905	24K927
Stainless Steel	652812	Santoprene	Santoprene	Santoprene	24K857	24K934	24K944	24K902	24K927



## Technical Specifications

Husky 3300 Metal Pumps	Aluminum	Stainless Steel
Maximum fluid working pressure with Aluminum Center Section with Polypropylene Center Section	125 psi (8.6 bar, 0.86 MPa)	125 psi (8.6 bar, 0.86 MPa) 100 psi (7.0 bar, 0.7 MPa)
Maximum free flow delivery*		
Standard diaphragms at 125 psi (8.6 bar, 0.86 MPa)	300 gpm (1,135 lpm)	300 gpm (1,135 lpm)
Standard diaphragms at 100 psi (7.0 bar, 0.7 MPa)	280 gpm (1,059 lpm)	280 gpm (1,059 lpm)
Overmolded diaphragms at 125 psi (8.6 bar, 0.86 MPa)	270 gpm (1,022 lpm)	270 gpm (1,022 lpm)
Overmolded diaphragms at 100 psi (7.0 bar, 0.7 MPa)	260 gpm (984 lpm)	260 gpm (984 lpm)
Maximum pump speed*		
Standard diaphragms at 125 psi (8.6 bar, 0.86 MPa)	103 cpm	103 cpm
Standard diaphragms at 100 psi (7.0 bar, 0.7 MPa)	97 cpm	97 cpm
Overmolded diaphragms at 125 psi (8.6 bar, 0.86 MPa)	135 cpm	135 cpm
Overmolded diaphragms at 100 psi (7.0 bar, 0.7 MPa)	130 cpm	130 cpm
Maximum suction lift * (varies widely based on ball/seat selection and wear, operating speed, material properties, and other variables)	8 ft (2.4 m) dry 28 ft (8.5 m) wet	8 ft (2.4 m) dry 28 ft (8.5 m) wet
Maximum size pumpable solids	0.5 in (13 mm)	0.5 in (13 mm)
Noise (dBA)**		
Sound Power at 50 psi (3.4 bar) and 50 cpm	92 dBA	92 dBA
Sound Power at 120 psi (8.3 bar) and full flow	99 dBA	99 dBA
Sound Pressure at 50 psi (3.4 bar) and 50 cpm	86 dBA	86 dBA
Sound Pressure at 120 psi (8.3 bar) and full flow	93 dBA	93 dBA
Maximum air consumption with Aluminum Center Section with Polypropylene Center Section	335 scfm (9.5 m <sup>3</sup> /min.)	335 scfm (9.5 m <sup>3</sup> /min.) 275 scfm (7.8 m <sup>3</sup> /min.)
Air pressure operating range with Aluminum Center Section with Polypropylene Center Section	20 to 125 psi (1.4 to 8.6 bar, 0.14 to 0.86 MPa)	20 to 125 psi (1.4 to 8.6 bar, 0.14 to 0.86 MPa) 20 to 100 psi (1.4 to 7.0 bar, 0.14 to 0.7 MPa)
Air inlet size	3/4 npt(f)	3/4 npt(f)
Fluid inlet	3 in (76.2 mm) npt or bspt with ANSI/DIN flange	3 in (76.2 mm) npt or bspt
Weight	150 lb (68 kg)	255 lb (116 kg)
Instruction manual	<a href="#">3A0410</a>	<a href="#">3A0410</a>
Repair/parts manual	<a href="#">3A0411</a>	<a href="#">3A0411</a>

\* Maximum values with water as media at ambient temperature. Water level is approximately 3 feet above pumpinlet.

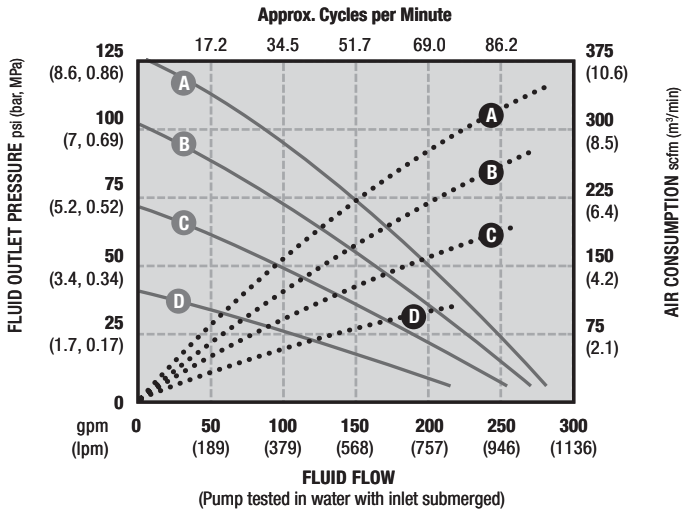
\*\* Startup pressures and displacement per cycle may vary based on suction condition, discharge head, air pressure, and fluid type.

\*\*\* Sound power measured per ISO-9614-2. Sound pressure was tested 3.28 ft (1 m) from equipment.

# Husky 3300 Metal Pumps

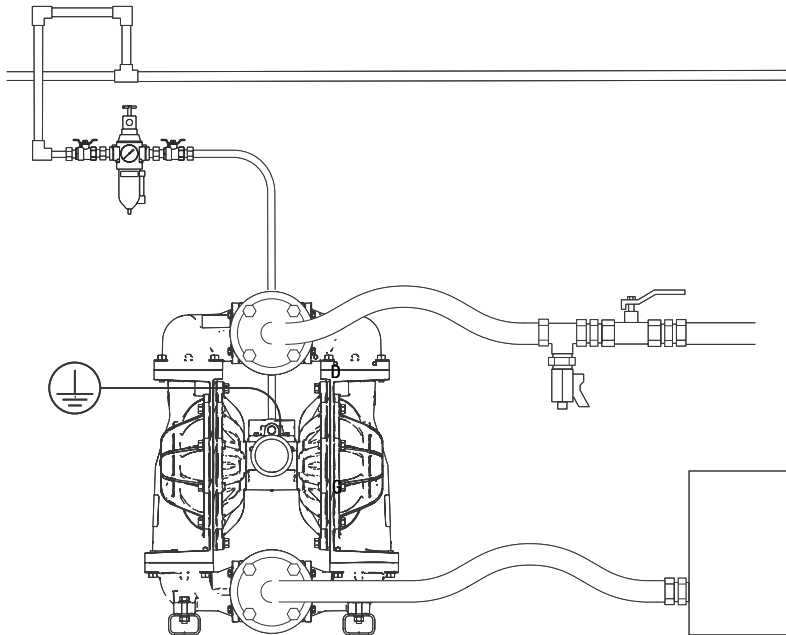
## Performance Charts

Husky 3300 Performance



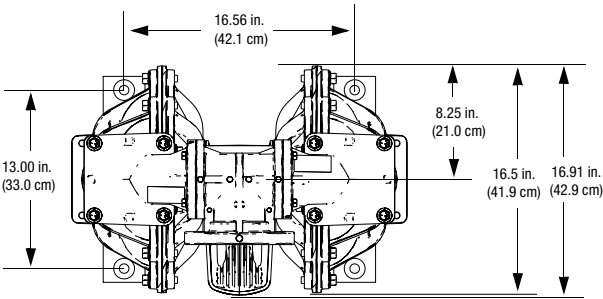
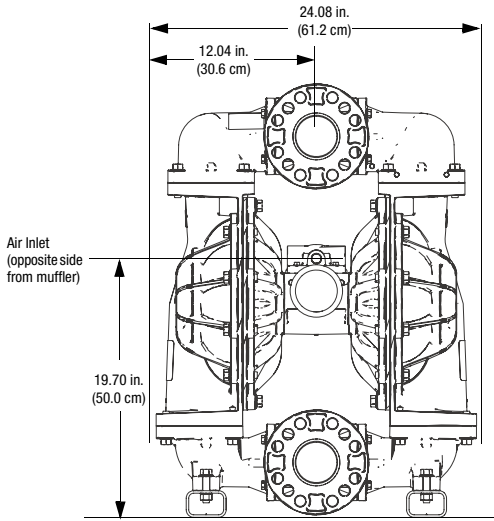
AIR PRESSURE	LEGEND
Ⓐ = at 125 psi (8.3 bar, 0.83 MPa)	Air Consumption.....
Ⓑ = at 100 psi (7 bar, 0.7 MPa)	Fluid Pressure ———
Ⓒ = at 70 psi (4.8 bar, 0.48 MPa)	
Ⓓ = at 40 psi (2.8 bar, 0.28 MPa)	

## Typical System Drawings

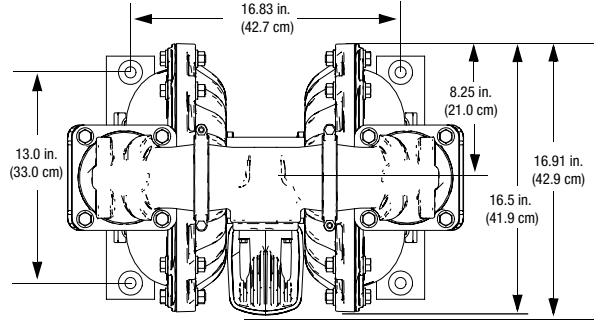
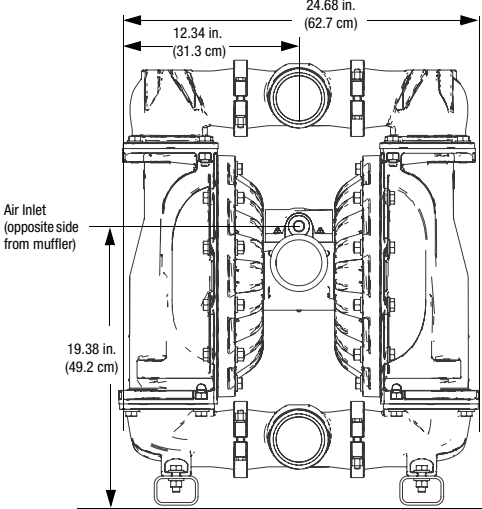


## Dimensions

### Aluminum



### Stainless Steel



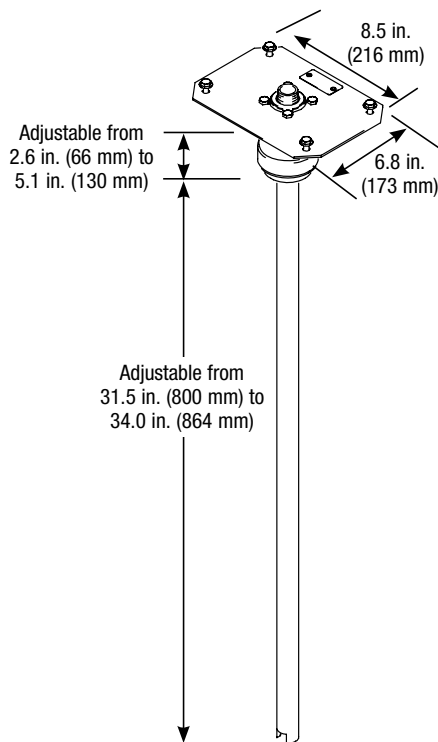
# Husky Transfer Pump Packages

## 55 Gallon (208 liter) Size

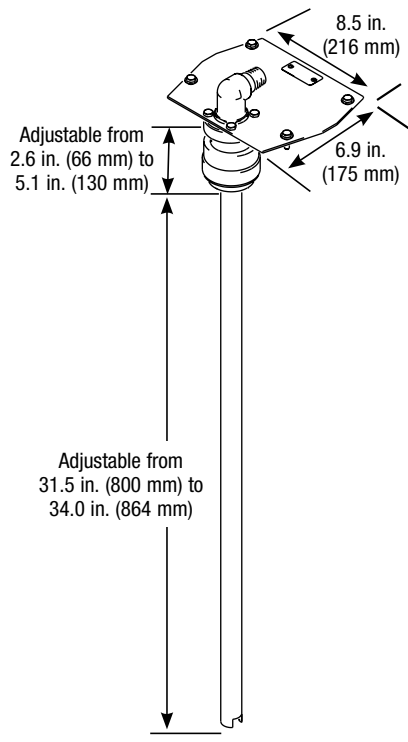
### Ordering Information

Package Number	Pump Type	Pump Components				Drum Kit Components			
		Pump Number	Seats	Balls	Diaphragms	Drum Kit Number	Tube Material	Tube Part Number	Easy Out Seal and Mounting Base
233051	Husky 515 Polypropylene	241565	Polypropylene	PTFE	PTFE	233045	Polypropylene	196096	233073
233052	Husky 515 Acetal	241564	Acetal	PTFE	PTFE	233047	Stainless Steel	196094	233074
233053	Husky 515 Acetal	241564	Acetal	PTFE	PTFE	233046	Aluminum	195095	233074
233054	Husky 716 Aluminum	243305	Acetal	Santoprene	Santoprene	233046	Aluminum	196095	233074
233055	Husky 716 Aluminum	243306	Acetal	Buna	Buna	233046	Aluminum	196095	233074
233056	Husky 716 Aluminum	243307	Acetal	PTFE	PTFE	233046	Aluminum	196095	233074
233057	Husky 716 Stainless Steel	D54311	Stainless Steel	PTFE	PTFE	233048	Stainless Steel	196094	233076

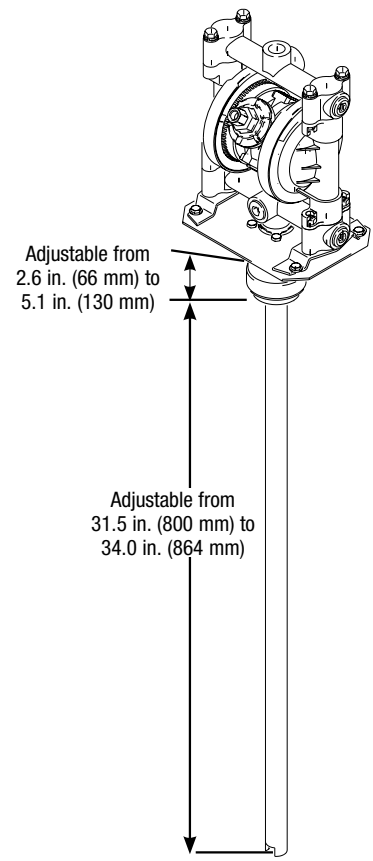
### Dimensions



**Poly, Acetal and Aluminum Pumps**



**Stainless Steel Pumps**



*Overall height depends on pump.  
See page 12 or 15 for pump dimensions*

# Husky Transfer Pump Packages



## Technical Specifications

Husky 55 gal Transfer Pump	Acetal Husky 515	Polypropylene Husky 515	Aluminum Husky 716	Stainless Steel Husky 716		
Maximum fluid working pressure	100 psi (7 bar, 0.7 MPa)	100 psi (7 bar, 0.7 MPa)	100 psi (7 bar, 0.7 MPa)	100 psi (7 bar, 0.7 MPa)		
Maximum free flow delivery*	12 gpm (57 lpm)	12 gpm (57 lpm)	14 gpm (61 lpm)	14 gpm (61 lpm)		
Maximum pump speed	400 cpm	400 cpm	400 cpm	400 cpm		
Displacement per cycle**	0.04 gallon (0.15 liter)	0.04 gallon (0.15 liter)	0.04 gallon (0.15 liter)	0.04 gallon (0.15 liter)		
Maximum size pumpable solids	0.094 in (2.5 mm)	0.094 in (2.5 mm)	0.094 in (2.5 mm)	0.094 in (2.5 mm)		
Typical sound level at 70 psi (4.9 bar, 0.49 MPa) air @ 125 cpm	67 dBa	67 dBa	67 dBa	67 dBa		
Maximum air consumption	28 scfm (0.672 m3/min)	28 scfm (0.672 m3/min)	28 scfm (0.672 m3/min)	28 scfm (0.672 m3/min)		
Air pressure operating range	25 to 100 psi (1.8 to 7 bar, 0.18 to 0.7 MPa)	25 to 100 psi (1.8 to 7 bar, 0.18 to 0.7 MPa)	25 to 100 psi (1.8 to 7 bar, 0.18 to 0.7 MPa)	25 to 100 psi (1.8 to 7 bar, 0.18 to 0.7 MPa)		
Air inlet size	1/4 npt(f)	1/4 npt(f)	1/4 npt(f)	1/4 npt(f)		
Air exhaust port size	3/8 npt(f)	3/8 npt(f)	3/8 npt(f)	3/8 npt(f)		
Fluid inlet size	3/4 npt(f)	3/4 npt(f)	3/4 npt(f)	3/4 npt(f)		
Fluid outlet size	1/2 and 3/4 npt(f)	1/2 and 3/4 npt(f)	3/4 npt(f)	3/4 npt(f)		
Wetted parts (fluid covers and manifolds)	groundable acetal, PTFE	polypropylene, PTFE	aluminum, stainless steel, PTFE, zinc-plated steel	stainless steel, PTFE		
Pump weight	7.8 lb (3.5 kg)	6.5 lb (2.9 kg)	8.5 lb (3.9 kg)	18 lb (8.2 kg)		
Drum package weight tube material	12.3 lb (5.6 kg) aluminum	14.3 lb (6.5 kg) stainless steel	10.5 lb (4.8 kg) polypropylene	13.0 lb (5.9 kg) aluminum	27.5 lb (12.5 kg) stainless steel	
Drum kit weight easy-out seal material	4.5 lb (2.0 kg) aluminum	6.5 lb (2.9 kg) stainless steel	4.0 lb (1.8 kg) polypropylene	4.5 lb (2.0 kg) acetal	6.5 lb (2.9 kg) acetal	9.5 lb (4.3 kg) stainless steel
Drum package instruction manual	<a href="#">309116</a>	<a href="#">309116</a>	<a href="#">309116</a>	<a href="#">309116</a>		
Instruction manual	<a href="#">308981</a>	<a href="#">308981</a>	<a href="#">308981</a>	<a href="#">308981</a>		

\* Flow rates are with muffler and do not vary based on diaphragm material

\*\* Displacement per cycle may vary based on suction condition, discharge head, air pressure and fluid type



# Husky Transfer Pump Packages

## Pump and Agitator Packages

### Ordering Information

PART NUMBER	HUSKY 55 GAL (200 L) DISPENSING PACKAGE
231418	Husky 515 acetal pump 241564, stainless steel drum cover 238283, heavy-duty agitator 238157, air-powered drum cover elevator 237746, air controls, hose and dispense valve
231419	Husky 515 acetal pump, stainless steel drum cover, heavy-duty agitator, drum cover elevator

PART NUMBER	HUSKY TWISTORK® PACKAGE
238859	Husky 515 D52911 Polypropylene pump mounted on Twistork
238860	Husky 515 D52911 Acetal pump mounted on Twistork



### Technical Specifications

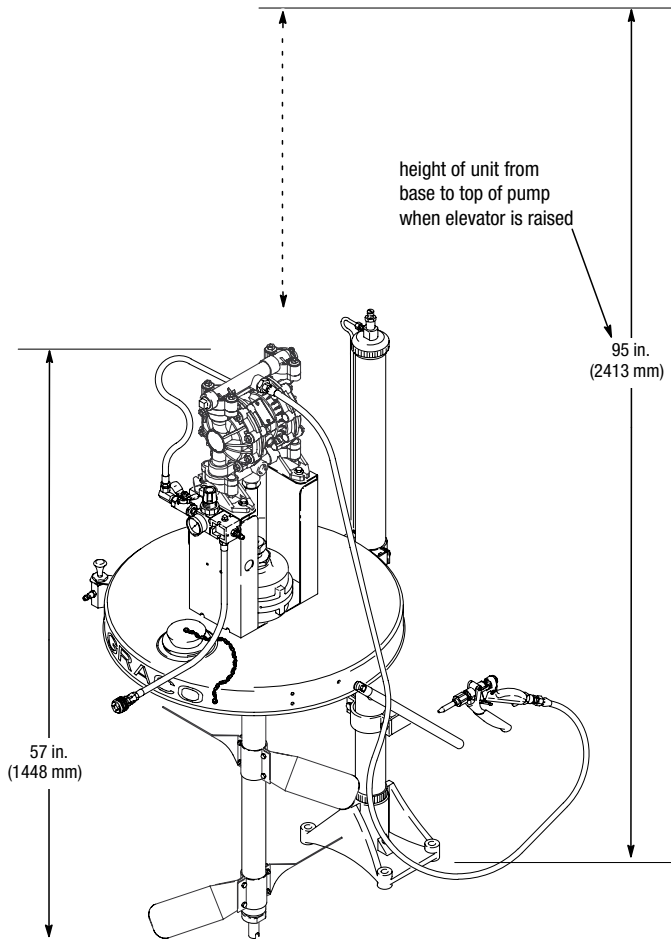
Husky 515 on Twistork Agitator	
Maximum air input pressure	100 psi (7 bar)
Maximum fluid output pressure	100 psi (7 bar)
Maximum siphon flow rate	
with 100 cps material	12 gpm (45.4 lpm)
with 1000 cps material	1.2 gpm (4.54 lpm)
Air inlet	Quick-coupler, nipple (pin)
Fluid outlet size	3/4 npt(f)
Maximum recommended agitator speed	800 rpm
Agitator air consumption	
at 400 rpm	2.5 scfm (0.07 m <sup>3</sup> /min)
at 800 rpm	5.7 scfm (0.16 m <sup>3</sup> /min)
Pump air consumption	approximately 12 scfm
at 12 gpm (45.4 lpm)	(0.34 m <sup>3</sup> /min)
Maximum operating temperature	150° F (66° C)
Weight	32 lb (14.5 kg)
Maximum noise level*	85 dB(A)
Instruction manual	<a href="#">308656</a>

\* Tested to CAGI-PNEUROP-1969

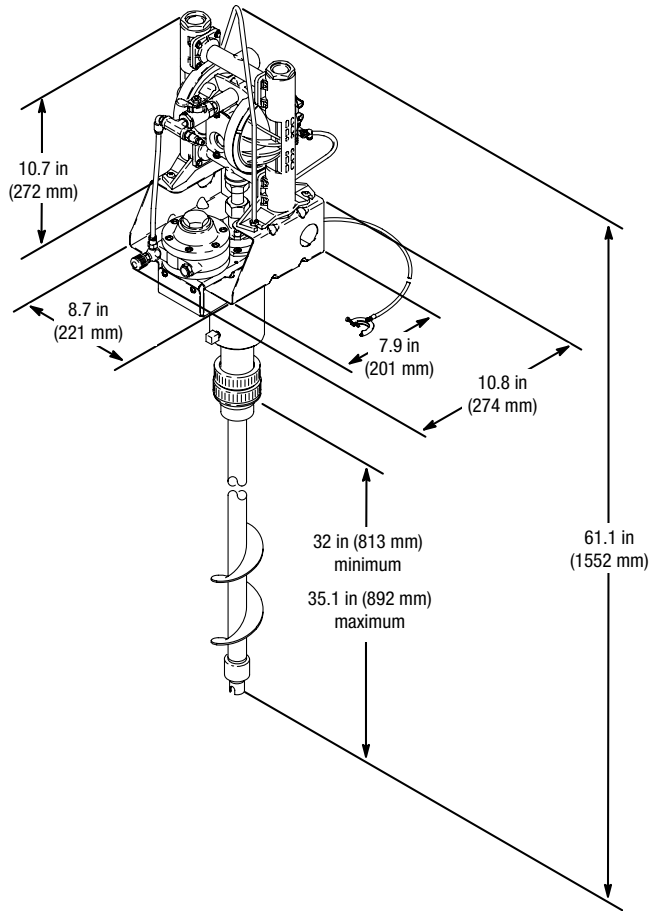
# Husky Transfer Pump Packages

## Dimensions

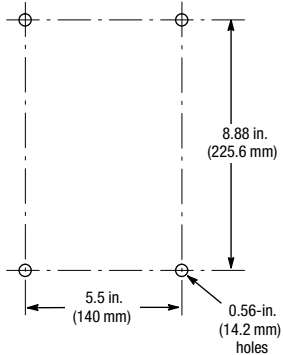
### Husky 55 gal Dispensing Package



### Husky Twistork Package



**Elevator Base  
Mounting Hole Layout**



# Husky Pump Accessories

## Air-Operated Double Diaphragm

<b>Husky 205 Accessories</b>	<b>Part Number</b>
<b>AIR CONTROLS</b>	
Regulator / Filter Assembly 1/4" npt(f) (6.35 mm)	246946
Quick Connect Air Coupler 1/4" npt (6.35 mm)	208536
Quick Connect Air Nipple 1/4" npt (6.35 mm) mbe	169970
Air Shut Off Valve 1/4" npt (6.35mm), bleed type, relieves trapped air downline of valve	110223
Air Runaway Valve (stops pump from cavitating when empty)	224040
Air Muffler (comes with pump)	114174
<b>55-GALLON SIPHON KITS</b>	
Polypropylene Suction Kit (includes siphon hose, tube and connectors)	239142
Acetal Suction Kit (includes siphon hose, tube and connectors)	239143
PVDF Suction Kit (includes siphon hose, tube and connectors)	239144
<b>REMOTE PUMP CONTROLLERS</b>	
CycleFlo (cpm rate and batch control) 120v	195264
CycleFlo (cpm rate and batch control) 240v	196706
CycleFlo II (rate controller with solenoid valve) 120v	195265
<b>Husky 307 Accessories</b>	
<b>AIR CONTROLS</b>	
Regulator / Filter Assembly 1/4" npt(f) (6.35 mm)	246946
Quick Connect Air Coupler 1/4" npt (6.35 mm)	208536
Quick Connect Air Nipple 1/4" npt (6.35 mm) mbe	169970
Air Shut Off Valve 1/4" npt (6.35 mm), bleed type, relieves trapped air downline of valve	110223
Air Runaway Valve (stop pump from cavitating when empty)	224040
Air Muffler (comes with pump)	112933
<b>55-GALLON SIPHON KITS</b>	
Polypropylene Suction Kit (includes siphon hose, tube and connectors)	235502
Acetal Suction Kit (includes siphon hose, tube and connectors)	235500
<b>REMOTE PUMP CONTROLLERS</b>	
Husky 307 pumps are not equipped to run in remote mode	N/A
<b>SPLIT MANIFOLD KITS</b>	
By varying the manifold kits, pumps can be configured in different ways (one inlet and two outlets, two inlets and one outlet, and two inlets and two outlets, etc), allowing for system flexibility. Pumps need to be ordered separately. One kit is required for each side (top or bottom). See 308439 for details.	
Acetal Split Manifold Kit	237211
Polypropylene Split Manifold Kit	237210
Rubber Foot Kit	236452
<b>WALL MOUNTING BRACKET</b>	
Wall mounting bracket for Husky 307 pumps	224835

## Husky 515 and Husky 716 Accessories Part Number

### AIR CONTROLS

Regulator / Filter Assembly 1/4" npt(f) (6.35 mm)	246946
Quick Connect Air Coupler 1/4" npt (6.35 mm)	208536
Quick Connect Air Nipple 1/4" npt (6.35 mm) mbe	169970
Air Shut Off Valve 1/4" npt (6.35 mm), bleed type, relieves trapped air downline of valve	110223
Air Runaway Valve (stop pump from cavitating when empty)	224040
Air Muffler (comes with pump)	112933
Center Section Conversion Kit (converts an old style Husky 715 to a Husky 515/716)	241631
Center Section Conversion Kit (converts an old remote style Husky 715 to a Husky 515/716)	241664

### 55-GALLON SIPHON KITS

Drum Kit (includes "easy out seal" mounting base and siphon tube).

Pump models can be mounted to base, but may require opening bottom inlet. See 309116 for details.

Mounting Base with a Polypropylene Siphon Tube	233045
Mounting Base with a Aluminum Siphon Tube	233046
Mounting Base with a Stainless Steel Siphon Tube (used with non sst pumps)	233047
Mounting Base with a Stainless Steel Siphon Tube (for sst pump only)	233048

### REMOTE PUMP CONTROLLERS

CycleFlo (cpm rate and batch control) 120v	195264
CycleFlo (cpm rate and batch control) 240v	196706
CycleFlo II (rate controller with solenoid valve) 120v	195265

### SPLIT MANIFOLD KITS (HUSKY 515 ONLY)

By varying the manifold kits, pumps can be configured in different ways (one inlet and two outlets, two inlets and one outlet, and two inlets and two outlets, etc), allowing for system flexibility. Pumps need to be ordered separately. See manual 308951 for details.

Polypropylene Inlet Manifolds	241240
Polypropylene Outlet Manifolds	241243
Acetal Inlet Manifolds	241241
Acetal Outlet Manifolds	241244
PVDF Inlet Manifolds	241242
PVDF Outlet Manifolds	241245

### WALL MOUNTING BRACKET

Wall mounting bracket for Husky 515 & Husky 716 pumps	224835
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### MISCELLANEOUS ACCESSORIES

Duckbill Replacement Parts (urethane) for 515 and 716 Husky Pumps	239754
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### SURGE SUPPRESSORS

Surge suppressors are designed to reduce the pulsation caused during pump changeover. The suppressor construction is generally closely matched with the pump's material (Stainless Steel with Stainless Steel, Acetal with Aluminum, etc.) and are available in either an adjustable or automatic version. See 308703 for details.

<b>Automatic Husky 750, 3/4" (19.05 mm)</b>	
Polypropylene (wetted bottom and top housings) with a Buna N bladder	239096
with PTFE bellows	239121
with a Fluoroelastomer bladder	239122

# Husky Pump Accessories

## Husky 515 and Husky 716 Accessories (continued) Part Number

### SURGE SUPPRESSORS (CONTINUED)

Stainless Steel (wetted bottom and top housings) with a Buna N bladder	239095
with PTFE bellows	239123
with a Fluoroelastomer bladder	239124
Acetal (wetted bottom and top housings) with a Buna N bladder	239094
with PTFE bellows	239125
<b>Adjustable Husky 750, 3/4" (19.05 mm)</b>	
Polypropylene (wetted bottom and top housings) with a Buna N bladder	239091
with PTFE bellows	239129
with a Fluoroelastomer bladder	239130
Stainless Steel (wetted bottom and top housings) with a Buna N bladder	239090
with PTFE bellows	239131
with a Fluoroelastomer bladder	239132
Acetal (wetted bottom and top housings) with a Buna N bladder	239089
with PTFE bellows	239133

### PTFE/EPDM OVERMOLDED DIAPHRAGMS

Industrial upgrade kits – includes new airside diaphragm plate

Upgrade kit for 0.5 in (1.27 cm) and 0.75 in (1.905 cm) pump	24N321
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### LEAK DETECTOR

Leak detectors are designed to shut off the pump in the event a diaphragm fails. The leaking material flows out the air section and is captured by the leak detector reservoir. Once the reservoir is filled, a signal is sent that would shut off the pump. These detectors should only be used when a massive failure is allowed.

Polypropylene Housings with PVC Wetted Parts	239080
Shut Off Valve Kit (used in conjunction with 239080)	113870

## Husky 1050, 1590, 2150 Accessories

### AIR CONTROLS

Regulator / Filter Assembly 1/2" npt(f) (12.7 mm)	246947
Quick Connect Air Coupler 1/2" npt (12.7 mm)	110199
Quick Connect Air Nipple 1/2" npt (12.7 mm) mbe	110196
Air Shut Off Valve 1/2" npt (12.7mm), bleed type, relieves trapped air downline of valve	110225
Air Runaway Valve (stop pump from cavitating when empty)	224040
Air Muffler (comes with pump) 1050 pumps	24D642
Air Muffler (comes with pump) 1590 and 2150 pumps	102656
Center Section Conversion Kit (converts an aluminum center section to sst. Includes air covers).	
Husky 1590	246451
Husky 2150	246452

### 55-GALLON SIPHON KIT

Siphon kit is used for drawing fluids from 55-gallon sized containers, through a 2" bung opening.

Kit comes with carbon steel tube, 8' (2.44m) polyethylene hose and couplings	222916
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### REMOTE PUMP CONTROLLERS

CycleFlo (cpm rate and batch control) 120v	195264
CycleFlo (cpm rate and batch control) 240v	196706
CycleFlo II (rate controller with solenoid valve) 120v	195265

### DUAL INLET MANIFOLD

Aluminum Husky 1050 only	24D205
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### CONVERSION KITS

Remote Valve Conversion Kit for Aluminum Husky 1050 only	24D037
Remote Valve Conversion Kit for Polypropylene Husky 1050 only	24D038
Remote Valve Conversion Kit for Conductive Polypropylene Husky 1050 only	24D039

## Husky 1050, 1590, 2150 Accessories (continued)

## Part Number

### SURGE SUPPRESSORS

Surge suppressors are designed to reduce the pulsation caused during pump changeover. The suppressor construction is generally closely matched with the pump's material (Stainless Steel with Stainless Steel, Acetal with Aluminum, etc.) and are available in either an adjustable or automatic version. See 308703 for details.

#### Automatic Husky 2000, 2 in (50.8 mm)

Polypropylene (wetted bottom and top housings) with a Buna N bladder	239092
with PTFE bellows	239128
Stainless Steel (wetted bottom and top housings) with a Buna N bladder	239093
with PTFE bellows	239126
with a Fluoroelastomer bladder	239127

#### Adjustable Husky 2000, 2 in (50.8 mm)

Polypropylene (wetted bottom and top housings) with a Buna N bladder	239087
with PTFE bellows	239136
Stainless Steel (wetted bottom and top housings) with a Buna N bladder	239088
with PTFE bellows	239134
with a Fluoroelastomer bladder	239135

### UL PUMPS

For use with leaded and unleaded fuels

Husky 1050 for use with leaded fuel (seat, ball, diaphragm)	647016
Same as 236265, maximum inlet of 50 psi (3.4 bar, 0.3 MPa)	647648

### PTFE/EPDM OVERMOLDED DIAPHRAGMS

Industrial upgrade kits – includes new airside diaphragm plate

Upgrade kit for 1 inch (2.54 cm) Husky 1040 pump	289224
Upgrade kit for 1 inch (2.54 cm) Husky 1050 pump	24B626
Upgrade kit for 1.5 inch (3.81 cm) pump	289225
Upgrade kit for 2 inch (5.08 cm) pump	289226

### LEAK DETECTOR

Leak detectors are designed to shut off the pump in the event a diaphragm fails. The leaking material flows out the air section and is captured by the leak detector reservoir. Once the reservoir is filled, a signal is sent that would shut off the pump. These detectors should only be used when a massive failure is allowed.

Polypropylene Housings with PVC Wetted Parts	239080
Shut Off Valve Kit (used in conjunction with 239080)	113870

### WALL MOUNTING BRACKET

Wall mounting bracket for Husky 1050 pumps	24C637
Dampener repair kit for feet mounting on the wall bracket	236452

### MISCELLANEOUS ACCESSORIES

**Flange Kits.** Used to transition a flanged pump to a npt connection to transition from a threaded connection to a flange. It is recommended that the flange kit be compatible with the pump material.

Polypropylene 1 inch (24.14 mm) flange for Husky 1050 D72XXX pumps. 1" ANSI x 1" npt (f)	239005
Stainless Steel 1 inch (24.14 mm) flange for Husky 1050 D71XXX and D74XXX pumps 1" ANSI x 1" npt (f)	239008
PVDF 1 inch (24.14 mm) flange for Husky 1050 D75XXX pump 1" ANSI x 1" npt (f)	239009
Polypropylene 1-1/2 inch (36.84 mm) flange for Husky 1590 DB2XXX pump 1-1/2" ANSI x 1-1/2" (f)	239006
PVDF 1-1/2 inch (36.84 mm) flange for Husky 1590 DB5XXX pump. 1-1/2" ANSI x 1-1/2" (f)	239010
Polypropylene 2 inch (48.28 mm) flange for Husky 2150 DF2XXX pump. 2" ANSI x 2" (f)	239007
PVDF 2 inch (48.28 mm) flange for Husky 2150 DF5XXX pump 2" ANSI x 2" (f)	239011

# Husky Pump Accessories

## Husky 3300 Accessories

### AIR CONTROLS

Regulator / Filter Assembly 3/4" npt(f) (19.5 mm)	246948
Quick Connect Air Coupler 3/4" npt (19.5 mm)	110200
Quick Connect Air Nipple 3/4" npt (19.5 mm) mbe	110197
Air Shut Off Valve 3/4" npt (19.5 mm), bleed type, relieves trapped air downline of valve	110226
Air Runaway Valve (stop pump from cavitating when empty)	224040
Air Muffler (comes with pump)	111897

### 55-GALLON SIPHON KITS

Typically, 3" pumps are not used for emptying 55-gallon containers	N/A
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### REMOTE PUMP CONTROLLERS

Husky 3300 pumps are not equipped to run in remote mode	N/A
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### SPLIT MANIFOLD KITS

There are no Husky 3300 with a split manifold option	N/A
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### SURGE SUPPRESSORS

Surge suppressors are designed to reduce the pulsation caused during pump changeover. The suppressor construction is generally closely matched with the pump's material (Stainless Steel with Stainless Steel, Acetal with Aluminum, etc.) and are available either in adjustable or automatic version. See 308703 for details.

Automatic Husky 2000, 2 in (50.8 mm)	
Polypropylene (wetted bottom and top housings) with a Buna N bladder	239092
with PTFE bellows	239128
Adjustable Husky 2000, 2 in (50.8 mm)	
Polypropylene (wetted bottom and top housings) with a Buna N bladder	239087
with PTFE bellows	239136

## Industrial Pumps with PTFE/EPDM Overmolded Diaphragms

Pump Part No.	Pump Size	Air Motor	Fluid Section	Seats	Balls	Threads	Pump Part No.	Pump Size	Air Motor	Fluid Section	Seats	Balls	Threads
24N093	0.5 in	Poly	Poly	Poly	PTFE	NPT	24B781	1.5 in	AL	SST	SST	PTFE	NPT
24N094	0.5 in	Poly	Poly	Poly	PTFE	BSPT	24B761	1.5 in	AL	Poly	SST	PTFE	End Flange
24N095	0.5 in	Poly	PVDF	PVDF	PTFE	NPT	24B760	1.5 in	AL	Poly	Poly	PTFE	End Flange
24N096	0.5 in	Poly	Acetal	Acetal	PTFE	NPT	24B780	1.5 in	SST	SST	SST	PTFE	NPT
24N097	0.5 in	Poly	Acetal	SST	SST	NPT	24G411	1.5 in	AL	AL	SST	PTFE	BSPT
24N098	0.5 in	Poly	Acetal	Acetal	PTFE	BSPT	24J358	1.5 in	AL	AL	SST	PTFE	NPT
24N257	0.75 in	Poly	AL	Acetal	PTFE	NPT	24J359	1.5 in	AL	AL	SST	Acetal	NPT
24N258	0.75 in	Poly	AL	SST	PTFE	NPT	24B801	2.0 in	AL	SST	SST	PTFE	NPT
24N259	0.75 in	Poly	AL	SST	SST	NPT	24B782	2.0 in	AL	AL	SST	PTFE	NPT
24N260	0.75 in	Poly	SST	Acetal	PTFE	NPT	24B765	2.0 in	AL	Poly	SST	PTFE	End Flange
24N261	0.75 in	Poly	SST	SST	PTFE	NPT	24B764	2.0 in	AL	Poly	Poly	PTFE	End Flange
24N262	0.75 in	Poly	SST	SST	SST	NPT	24B783	2.0 in	SST	SST	SST	PTFE	NPT
649020	1.0 in	Poly	Poly	SST	PTFE	NPT	24J360	2.0 in	AL	AL	SST	Acetal	NPT
651011	1.0 in	AL	SST	SST	PTFE	NPT	24G413	2.0 in	AL	AL	SST	PTFE	BSPT
649385	1.0 in	Poly	PVDF	PVDF	PTFE	NPT							
647022	1.0 in	AL	AL	SST	SST	NPT							
647032	1.0 in	AL	AL	SST	PTFE	NPT							
649007	1.0 in	Poly	Poly	Poly	PTFE	Center Flange							
649035	1.0 in	Poly	Poly	Poly	PTFE	End Flange							
649399	1.0 in	Poly	PVDF	PVDF	PTFE	End Flange							
651005	1.0 in	AL	SST	SST	SST	NPT							
651034	1.0 in	AL	SST	SST	PTFE	BSPT							
651163	1.0 in	Poly	SST	SST	PTFE	NPT							

# EP Series Hose Pumps

## Positive Displacement Hose Pumps



### Ordering Information and Technical Specifications

1. Choose your pump speed to meet your flow requirements.
2. Choose your hose and hose barb material to meet your application requirements.

1	Model	EP2006		EP2013		EP3019		EP4029		
	Pump Speed Range		157:1 (Low)	51.3:1 (Mid)	157:1 (Low)	35.1:1 (Mid)	100.4:1 (Low)	35.9:1 (Mid)	79.7:1 (Low)	34.3:1 (Mid)
Pump Speed @ 60 Hz - rpm		11	35	11	51	18	50	23	52	91
Flow Rate @ 10 Hz - gpm (lpm)		0.00765 (0.02)	0.0235 (0.08)	0.0305 (0.11)	0.137 (0.51)	0.144 (0.54)	0.4 (1.51)	0.565 (2.13)	1.31 (4.95)	2.275 (8.61)
Flow Rate @ 60 Hz - gpm (lpm)		0.046 (0.17)	0.14 (0.52)	0.17 (0.64)	0.82 (3.1)	0.86 (3.2)	2.4 (9.0)	3.4 (12.8)	7.9 (29.9)	13.7 (51.8)

Natural Rubber Hose	316 SST Barb	24L104	24L118	24L188	24L202	24L546	24L560	25L028	25L042	25L056
	Nitrile Hose	317 SST Barb	24L107	24L121	24L191	24L205	24L549	24L563	25L031	25L045
EPDM Hose	Hastelloy-C Barb	24L108	24L122	24L192	24L206	24L550	24L564	25L032	25L046	25L060
	318 SST Barb	24L100	24L114	24L184	24L198	24L542	24L556	25L024	25L038	25L052
CSM Hose	Hastelloy-C Barb	24L101	24L115	24L185	24L199	24L543	24L557	25L025	25L039	25L053
	319 SST Barb	24L105	24L119	24L189	24L203	24L547	24L561	25L029	25L043	25L057
	Hastelloy-C Barb	24L106	24L120	24L190	24L204	24L548	24L562	25L030	25L044	25L058

2	Natural Rubber Hose Roller not installed	316 SST Barb	24L374	24L388	24L458	24L472	24L630	24L644	25L094	25L108	25L122
	Nitrile Hose Roller not installed	317 SST Barb	24L377	24L391	24L461	24L475	24L633	24L647	25L097	25L111	25L125
EPDM Hose Roller not installed		Hastelloy-C Barb	24L378	24L392	24L462	24L476	24L634	24L648	25L098	25L112	25L126
	CSM Hose Roller not installed	318 SST Barb	24L370	24L384	24L454	24L468	24L626	24L640	25L090	25L104	25L118
		Hastelloy-C Barb	24L371	24L385	24L455	24L469	24L627	24L641	25L091	25L105	25L119
		319 SST Barb	24L375	24L389	24L459	24L473	24L631	24L645	25L095	25L109	25L123
		Hastelloy-C Barb	24L376	24L390	24L460	24L474	24L632	24L646	25L096	25L110	25L124
		PVDF	24W550	24W549	24W553	24W552	24W557	24W556	24W563	24W562	24W561

Maximum Working Pressure	125 psi (8.6 bar)	125 psi (8.6 bar)	125 psi (8.6 bar)	125 psi (8.6 bar)
Flow - gallon/rev (liter/rev)	0.004 (0.015)	0.016 (0.060)	0.048 (0.182)	0.15 (0.568)
Motor Power	.5 Hp	.75 Hp	1.5 Hp	2.0 Hp
Hose Diameter	6 mm	13 mm	19 mm	29 mm
Pump Inlet / Outlet Size	1/2 inch male NPT	1/2 inch male NPT	3/4 inch male NPT	1-1/4 inch male NPT
Maximum Viscosity	2500 cps	2500 cps	2500 cps	2500 cps
Maximum Suction Lift - ft (m)	29 (8.9)	29 (8.9)	29 (8.9)	29 (8.9)
Operation Manual	<a href="#">3A1938</a>	<a href="#">3A1938</a>	<a href="#">3A1938</a>	<a href="#">3A1938</a>
Repair Parts Manual	<a href="#">3A1940</a>	<a href="#">3A1940</a>	<a href="#">3A1939</a>	<a href="#">3A1939</a>



# EP Series Hose Pumps

## Ordering & Mounting Information

### Hose Pumps with No Motor Drive

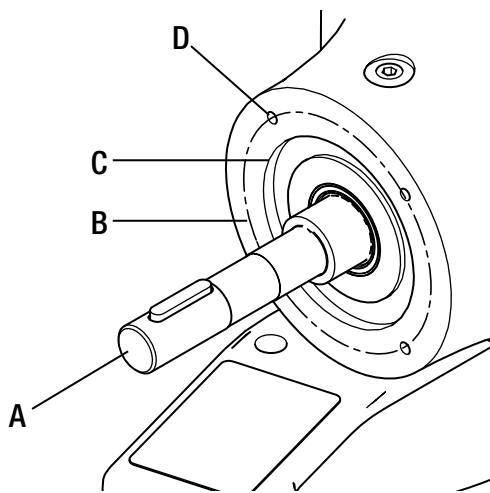
Fully assembled pumps with customer supplied motor drive

Hose Material	Hose Barb Material	EP2006	EP2013	EP3019	EP4029
Natural Rubber	316 SST	24M739	24M767	24M795	24M820
Nitrile	316 SST	24M742	24M770	24M798	24M823
	Hastelloy-C	24M743	24M771	24M799	24M824
EPDM	316 SST	24M735	24M763	24M791	24M816
	Hastelloy-C	24M736	24M764	24M792	24M817
CSM	316 SST	24M740	24M768	24M796	24M821
	Hastelloy-C	24M741	24M769	24M797	24M822
	PVDF	24W551	24W554	24W558	24W564

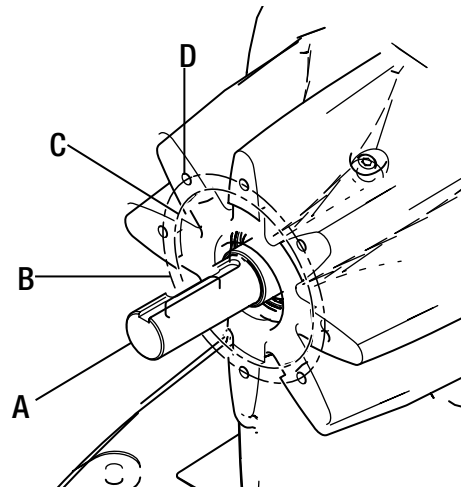
### Mounting a Non-Graco Motor

To mount a non-Graco motor and gearbox to a bare EP Hose Pump

EP Series Pump Size	Hollow Bore Shaft Diameter A	Bolt Circle Diameter B	Flange Pilot Diameter C	Mounting Hole Thread Size D
EP2	20 mm	100 mm	80 mm	M6
EP3	30 mm	130 mm	110 mm	M8
EP4	35 mm	165 mm	130 mm	M10



Motor mounting dimensions for EP2 Pumps



Motor mounting dimensions for EP3 & EP4 Pumps

## Kits and Replacement Hoses Ordering Information

### VFDs (Variable Frequency Drives)

Hp	Input Voltage	Output Voltage	Used with Pump	Part Number
0.5	120 or 240 VAC (1 Phase)	240 VAC (3 Phase)	EP2	16K905
0.5	208-240 VAC (1 or 3 Phase)	208-240 VAC (3 Phase)	EP2	16K906
1	120 or 240 VAC (1 Phase)	240 VAC (3 Phase)	EP2	16K907
1	208-240 VAC (1 or 3 Phase)	208-240 VAC (3 Phase)	EP2	16K908
1.5	120 or 240 VAC (1 Phase)	240 VAC (3 Phase)	EP2	16K909
1.5	208-240 VAC (1 or 3 Phase)	208-240 VAC (3 Phase)	EP3	16K910
2	208-240 VAC (1 or 3 Phase)	208-240 VAC (3 Phase)	EP4	16K911
2	400-480 VAC (3 Phase)	400-480 VAC (3 Phase)	EP4	16K912

### Replacement Hose Kits\*

	EP2006	EP2010	EP2013	EP3016	EP3019	EP4025	EP4029
Natural Rubber	24K482	24K492	24K502	24K522	24K532	24K542	24K552
Nitrile	24K484	24K494	24K504	24K524	24K534	24K544	24K554
EPDM	24K483	24K493	24K503	24K523	24K533	24K543	24K553
CSM	24K487	24K497	24K507	24K527	24K537	24K547	24K557

\*Includes 2 clamps

### Hose Pump Lubricant

Description	Part Number
Glycerin Based Hose Lube (1 quart)	24K692
Glycerin Based Hose Lube (1 gallon)	24K694
Glycerin Based Hose Lube (55 gallon drum)	24M435
Silicone Based Hose Lube (1 gallon)	24K686
Silicone Based Hose Lube (55 gallon drum)	24M434

EP2 requires 8 oz (250 mL) of hose lube; EP3 requires 1 qt (1 l) of hose lube; EP4 requires 1/2 gallon (2 l) of hose lube  
Factory fill is glycerin, shipped in a separate bottle

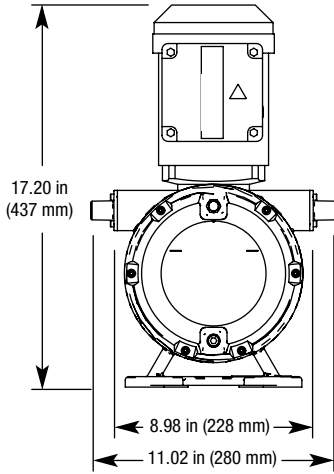
### Other

Description	Part Number
"Band-It" Clamp Tool	24L497

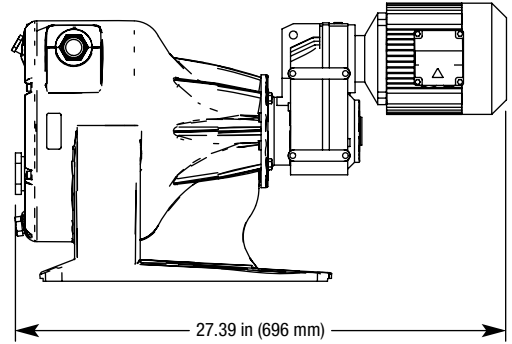
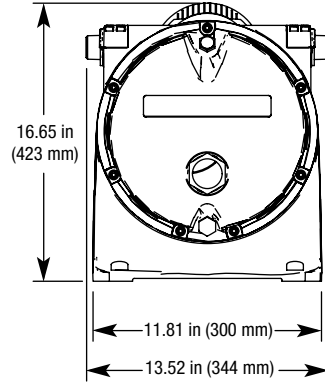
# EP Series Hose Pumps

## Dimensions

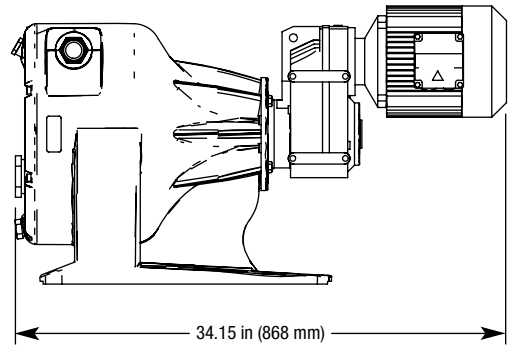
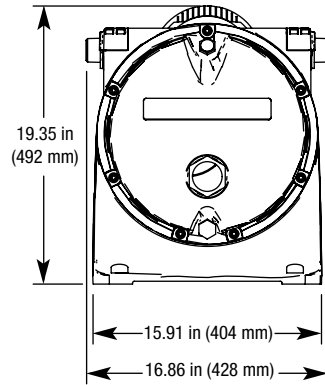
### EP2 Hose Pumps



### EP3 Hose Pumps




### EP4 Hose Pumps




## Ordering Information


### Wall Mount Hydra-Clean Package

Package Order No.	247550	247552	247554	258665	Pump Package
Air Motor Part No.	N34DN0	N65DN0	N65DN0	N65DN0	
Pump Lower Part No.	247599	241648	687055	24B923	
Pump Construction	SST	SST	SST	SST	
Standard Seal Repair Kit	247881	222880	See manual 311825	24C162	
Standard Seal Construction	PTFE/ CF-PTFE	UHMWPE/ CF-PTFE	UHMWPE/ CF-PTFE	UHMWPE/ CF-PTFE	
Optional Seal Repair Kits	207581	222875	222845	237713	
Optional Seal Construction	PTFE	UHMWPE/PTFE	UHMWPE/PTFE	UHMWPE/PTFE	
Flyer	<a href="#">338026</a>	<a href="#">338026</a>	<a href="#">338026</a>	<a href="#">338026</a>	
Instruction Manual	<a href="#">312585</a>	<a href="#">312585</a>	<a href="#">312585</a>	<a href="#">312585</a>	

### Cart Mount Hydra-Clean Package

Package Order No.	247549	247551	247553	258664	Pump Package
Air Motor Part No.	N34DN0	N65DN0	N65DN0	N65DN0	
Pump Lower Part No.	247599	241648	687055	24B923	
Pump Construction	SST	SST	SST	SST	
Standard Seal Repair Kit	247881	222880	See manual 311825	24C162	
Standard Seal Construction	PTFE/ CF-PTFE	UHMWPE/ CF-PTFE	UHMWPE/ CF-PTFE	UHMWPE/ CF-PTFE	
Optional Seal Repair Kits	207581	222875	222845	237713	
Optional Seal Construction	PTFE	UHMWPE/PTFE	UHMWPE/PTFE	UHMWPE/PTFE	
Flyer	<a href="#">338026</a>	<a href="#">338026</a>	<a href="#">338026</a>	<a href="#">338026</a>	
Instruction Manual	<a href="#">312585</a>	<a href="#">312585</a>	<a href="#">312585</a>	<a href="#">312585</a>	

### Drum Mount Hydra-Clean Package

Package Order No.	206515	Pump Package
Air Motor Part No.	207352	
Pump Lower Part No.	224344	
Pump Construction	SST	
Standard Seal Repair Kit	224402	
Standard Seal Construction	UHMWPE/Polychloroprene	
Optional Seal Repair Kit	224889	
Optional Seal Construction	PTFE	
Instruction Manual	<a href="#">306817</a>	

# Hydra-Clean Pressure Washers

## Technical Specifications

Part Number	Pump Package	Max. Working Pressure psi (bar, MPa)	Max. Air Input Pressure psi (bar, MPa)	Fluid Flow at 60 cpm gpm (lpm)	Vol. per Cycle oz (cc)	Air Inlet Size	Fluid Inlet Size	Fluid Outlet Size*	Flyer	Manual
247549	12:1 Cart Mount	1250 (86, 8.6)	100 (7, 0.7)	8.7 (33.0)	18.6 (550)	3/4 npt(f)	1 in	3/8 in	<a href="#">338026</a>	<a href="#">312585</a>
247550	12:1 Wall Mount	1250 (86, 8.6)	100 (7, 0.7)	8.7 (33.0)	18.6 (550)	3/4 npt(f)	1 in	3/8 in	<a href="#">338026</a>	<a href="#">312585</a>
247551	23:1 Cart Mount	2275 (157, 15.7)	100 (7, 0.7)	9.2 (34.7)	19.6 (580)	3/4 npt(f)	1 in	3/8 in	<a href="#">338026</a>	<a href="#">312585</a>
247552	23:1 Wall Mount	2275 (157, 15.7)	100 (7, 0.7)	9.2 (34.7)	19.6 (580)	3/4 npt(f)	1 in	3/8 in	<a href="#">338026</a>	<a href="#">312585</a>
247553	30:1 Cart Mount	3065 (211, 21.1)	100 (7, 0.7)	6.8 (25.9)	14.5 (430)	3/4 npt(f)	1 in	3/8 in	<a href="#">338026</a>	<a href="#">312585</a>
247554	30:1 Wall Mount	3065 (211, 21.1)	100 (7, 0.7)	6.8 (25.9)	14.5 (430)	3/4 npt(f)	1 in	3/8 in	<a href="#">338026</a>	<a href="#">312585</a>
258664	40:1 Cart Mount	4000 (275, 27.5)	100 (7, 0.7)	4.6 (17.4)	9.8 (290)	3/4 npt(f)	1 in	3/8 in	<a href="#">338026</a>	<a href="#">312585</a>
258665	40:1 Wall Mount	4000 (275, 27.5)	100 (7, 0.7)	4.6 (17.4)	9.8 (290)	3/4 npt(f)	1 in	3/8 in	<a href="#">338026</a>	<a href="#">312585</a>
206515	10:1 Drum Mount	1800 (125, 12.5)	180 (12.5, 1.2)	3.0 (11.4)	6.4 (189)	1/2 npt(f)	1/2 in	3/4 in	—	<a href="#">306817</a>

\*Includes two outlet ports per unit

## Accessories

### Guns and Wands

- 247879 Replacement gun/wand
- 15T283 Brass/stainless spray gun
- 15T282 Stainless steel spray gun
- 15T279 32 inch stainless steel wand
- 15T280 10 inch stainless steel wand
- 247880 Gun stainless steel connections
- 247622 Gun and suction tube holder

### Hoses

- 214959 1 in x 6 ft inlet hose
- 247878 3/8 in x 50 ft outlet hose: 4500 psi

### Other

- 15T284 60 mesh inlet strainer with 1" NPT(f) connection
- 191635 10 mesh inlet strainer with 1" NPT(f) connection

## Stainless Steel Tips

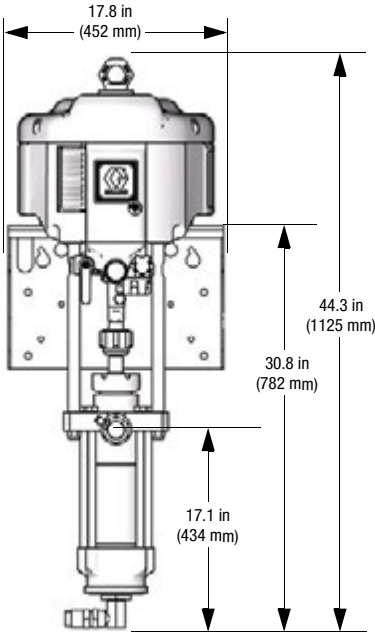
Part Number	Orifice Size in (mm)	Fan Width Angle at 40 psi (3 bar, 0.03 MPa)	Capacity at 1000 psi (68.9 bar, 6.89 MPa) GPM (lpm)
805534	0.020 (0.51)	40°	1.00 (3.78)
805538*	0.030 (0.76)	40°	1.50 (5.68)
805542	0.035 (0.89)	40°	1.75 (6.62)
805549*	0.045 (1.14)	25°	2.25 (8.52)
805561	0.060 (1.52)	25°	3.00 (11.36)
805566*	0.065 (1.65)	40°	3.25 (12.30)
805569	0.070 (1.78)	25°	3.50 (13.25)
805574	0.075 (1.91)	40°	3.75 (14.20)
805575*	0.080 (2.03)	0°	4.00 (15.14)
805584	0.090 (2.28)	15°	4.50 (17.03)
805587	0.100 (2.54)	0°	5.00 (18.93)

\*Tips included with 12:1, 23:1, 30:1 and 45:1 Hydra-Clean pump packages.

Other orifice sizes and fan widths available from Graco, contact a sales representative for more information.

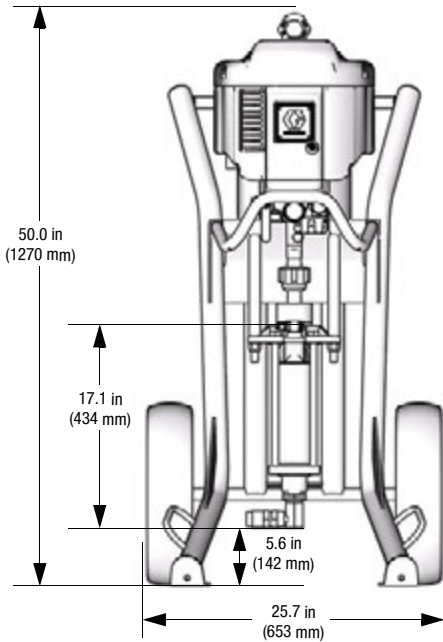
## Dimensions

Wall Mount Package 247550



Refer to manual 312585 for additional package dimensions

Cart Mount Package 247549



# CycleFlo™ and CycleFlo II Solenoid Pump Controllers

## Ordering Information

- 195264 CycleFlo Pneumatic pump controller, 120V
- 196706 CycleFlo Pneumatic pump controller, 240V
- 195265 CycleFlo II Pneumatic pump controller, 120V
- 309003 CycleFlo Instruction Manual
- 309004 CycleFlo II Instruction Manual

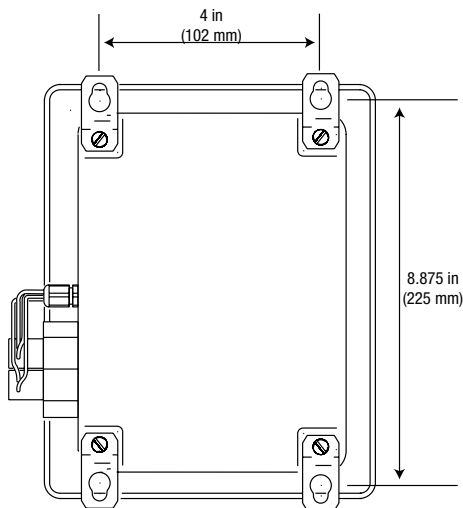
## Product Selector

Highlighted areas indicate the different sizes of remote pumps and available materials of construction for seats, balls and diaphragms that can be used with the CycleFlo and CycleFlo II controller.

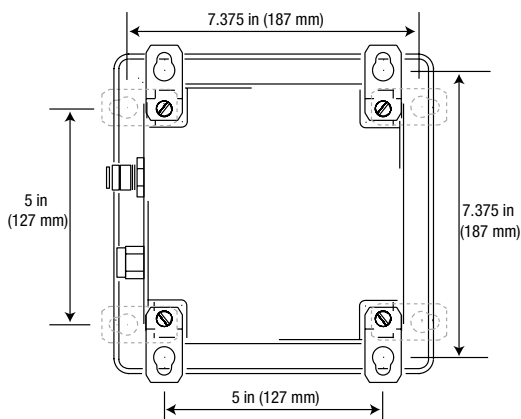
PUMP SIZE (AIR MOTOR TYPE AND MATERIAL)	WETTED PARTS	SEATS	BALLS	DIAPHRAGM
2 = 1/4" (6.35 mm) Remote: polypropylene center section	1 = Acetal (npt)	0 = Seat with ball	1 = PTFE	1 = PTFE
4 = 1/2" (12.7 mm) Remote: polypropylene center section	2 = Poly (npt)	2 = Acetal	2 = Acetal	5 = TPE
4 = 3/4" (19.05 mm) Remote: polypropylene center section	3 = Aluminum (npt)	3 = Stainless Steel	3 = Stainless Steel	6 = Santoprene
C = 1-1/2" (38.1 mm) Remote: aluminum center section	4 = Stainless Steel (npt)	4 = Hardened SST	4 = Hardened SST	7 = Buna N
U = 1-1/2" (38.1 mm) Remote: stainless steel center section	5 = PVDF (npt)	5 = TPE	5 = TPE	8 = Fluoroelastomer
G = 2" (50.8 mm) Remote: aluminum center section	6 = Ductile Iron (npt)	6 = Santoprene	6 = Santoprene	G = Geolast
	A = Acetal * (bsp)	7 = Buna N	7 = Buna N	
	B = Poly * (bsp)	8 = Fluoroelastomer	8 = Fluoroelastomer	
	C = Aluminum (bsp)	9 = Polypropylene	9 = Polypropylene	
	D = Stainless Steel (bsp)	A = PVDF	A = PVDF	
	E = PVDF (bsp)	G = Geolast	G = Geolast	
	F = Ductile Iron (bsp)	B = SST with viton seal		
	H = 2 npt Alum Extended	C = Santoprene with viton seal		
	G = 2 bsp Alum Extended	D = Urethane Duckbill		

## Mounting Dimensions

CycleFlo



CycleFlo II

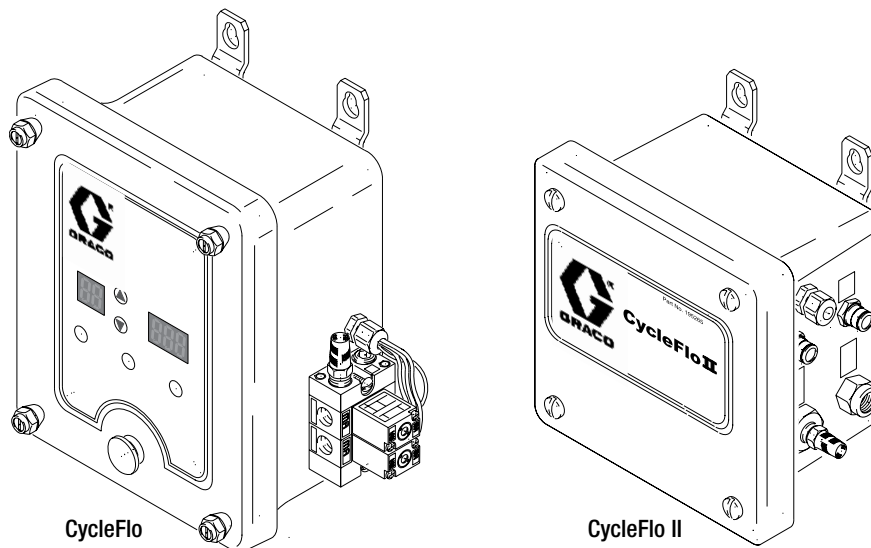


## How To Determine The Best Remote Pump:

1. Configure the best seat, ball and diaphragm combination, as well as fluid wetted parts, based on material compatibility and application requirements.
  - If the material is a mild acid, the choice could be a DX2911.
2. Determine dispense time and volume accuracy.
  - In two minutes, 50 gallons need to be dispensed  $\pm 5\%$  accuracy
3. Use the displacement volume chart below to choose the pump size with an outlet volume/cycle that is most closely divisible into your required flow.\*
  - Husky 1590 produces .5 gal/cycle
  - Husky 2150 produces 1.03 gal/cycle

	Husky 205	Husky 515	Husky 716	Husky 1050	Husky 1590	Husky 2150
<b>Volume/cycle</b>	1/4 in	1/2 in	3/4 in	1 in	1-1/2 in	2 in
Cubic centimeters (cc)	46	150	150	644	1960	3000
Liters	0.05	0.15	0.15	0.64	1.96	3.9
Grams (assumes s.g =1.0)	46	150	150	644	1960	3900
Kilograms (kg)	0.05	0.15	0.15	0.64	1.96	3.9
Gallons	0.01	0.04	0.04	0.17	0.50	1.03
Quarts	0.05	0.16	0.16	0.68	2.0	4.12
Pints	0.1	0.32	0.32	1.36	4.0	8.24
Ounces	1.54	5.12	5.12	21.8	64.0	131.84
Cubic inch	2.77	9.24	9.24	39.27	115.5	237.93

4. Determine the number of cycles required. Calculate the dispense time by dividing required flow by outlet volume per cycle.
  - Husky 1590 = 50 gal/0.5 gal/cycle = 100 cycles
  - Husky 2150 = 50 gal/1.03 gal/cycle = 48.55 cycles
5. Determine if cycle output is within the dispense accuracy required.
  - Husky 2150 requires 48.55 cycles to pump 50 gallons. Only full cycles are possible, so either 48 or 49 cycles can be counted. At the 48 cycle count, dispense would be 49.44 gallons. At the 49 cycle count, dispense would be 50.47 gallons.
  - Husky 1590 requires 100 cycles to pump 50 gallons. No partial cycles required.
6. After determining the best size, use the pump ordering matrix to decide which remote center section is most suitable for the application – DC2911 (aluminum center section) or DU5911 (stainless steel center section).
  - Since a mild acid is being pumped, DC2911, an aluminum center section would be the best choice.



\* Displacement values are estimates based on average running conditions.



# Fast-Flo<sup>®</sup> 1:1

## Air-Operated Piston Transfer Pumps

### Ordering Information

PART NUMBER	CONSTRUCTION	PACKING
226940	Drum/CS/SST (ETL-UL, CE)	T&L
226941	Drum/CS/SST (ETL-UL, CE)	PE
226942	Drum/SST (ETL-UL, CE)	PE
226943	Stubby/CS/SST (ETL-UL, CE)	L
226944	Stubby/CS/SST (ETL-UL, CE)	PE
226945	Stubby/SST (ETL-UL, CE)	PE
226946	Drum/CS/SST (CE)	T
237129	Drum/SST (CE)	T
237130	Stubby/CS (CE)	L
237131	Stubby/CS (CE)	T
237132	Stubby/SST (CE)	T
237133	Drum/CS (CE)	L
237134	Drum/CS (CE)	T

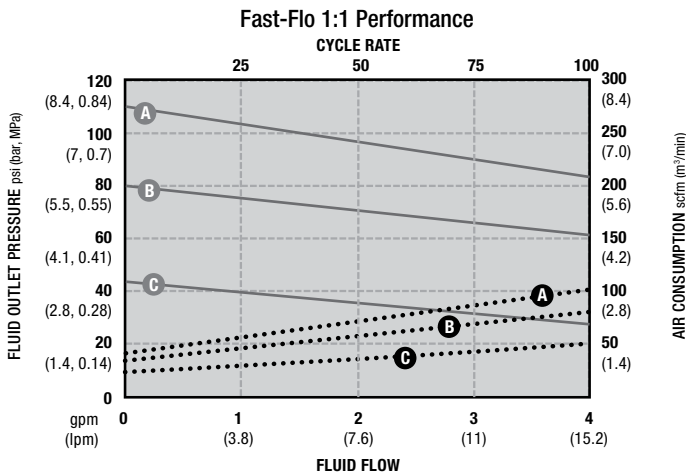
N = Neoprene                      SST = 304 Stainless Steel  
 L = Leather                        CS = Carbon Steel  
 T = PTFE                            PE = Polyethylene



### Technical Specifications

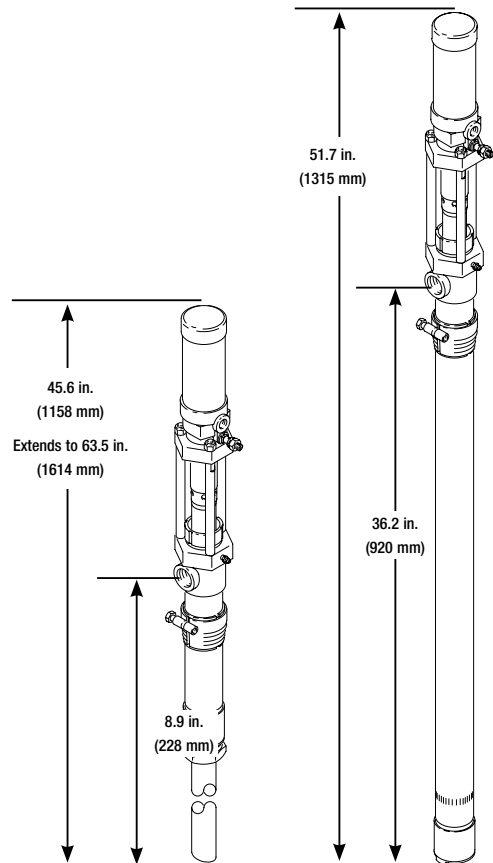
Fast-Flo 1:1	Priming Piston
Maximum fluid working pressure	180 psi (12.4 bar, 1.24 MPa)
Maximum pump speed	100 cpm
Pump cycles per gallon (3.8 l)	25
Maximum air input pressure	180 psi (12.4 bar, 1.24 MPa)
Maximum operating temperature	120°F (49°C)
Typical sound level	72 dBa
Air inlet	1/4 npt (f)
Fluid outlet	3/4 npt (f)
Weight	20 lbs (9.07 kg) Drum; 11 lbs (4.99 kg) Stubby
Instruction Manual	<a href="#">307427</a>

### Performance Charts



AIR PRESSURE	LEGEND
(A) = at 100 psi (7 bar, 0.7 MPa)	Air Consumption.....
(B) = at 70 psi (4.8 bar, 0.48 MPa)	Fluid Pressure ———
(C) = at 40 psi (2.8 bar, 0.28 MPa)	

### Dimensions



### Ordering Information and Technical Specifications

#### Piston Pumps with Sealed Wet Cup

Ink Pump Package Part No.	Ratio	DataTrak	Remote DataTrak	Power Source	Displacement per Cycle	Maximum Air or Hydraulic Input Pressure psi (MPa, bar)	Maximum Fluid Working Pressure psi (MPa, bar)
258744	14:1			Air	500 cc	100 (0.7, 7.0)	1400 (9.7, 97)
258745	14:1	x		Air	500 cc	100 (0.7, 7.0)	1400 (9.7, 97)
258746	14:1		x	Air	500 cc	100 (0.7, 7.0)	1400 (9.7, 97)
258747	23:1			Air	200 cc	100 (0.7, 7.0)	2300 (15.9, 159)
258748	23:1	x		Air	200 cc	100 (0.7, 7.0)	2300 (15.9, 159)
258749	23:1		x	Air	200 cc	100 (0.7, 7.0)	2300 (15.9, 159)
258750	26:1			Air	500 cc	100 (0.7, 7.0)	2600 (17.9, 179)
258751	26:1	x		Air	500 cc	100 (0.7, 7.0)	2600 (17.9, 179)
258752	26:1		x	Air	500 cc	100 (0.7, 7.0)	2600 (17.9, 179)
258753	1.6:1			Hydraulic Oil	500 cc	1500 (10, 103)	2300 (15.9, 159)

#### Motor Conversion Kits

Part No.	Description
24C743	To install an L200CM Check-Mate displacement pump on an existing King air motor
24C744	To install an L500CM Check-Mate displacement pump on an existing King air motor
24D625	To install an L500CM Check-Mate displacement pump on an existing Viscount II hydraulic motor

#### Piston Pumps with Sealed Wet Cup

Stroke length	
Pneumatic	4.75 in (120.65 mm)
Hydraulic	4.69 in (119.13 mm)
Maximum fluid operating temperature	180° F (82.3° C)
Air or Hydraulic Inlet Size	3/4 npt (f)
Fluid outlet size	200 cc displacement pump: 1 npt (f) 500 cc displacement pump: 1-1/2 npt (f)
Maximum pump speed	60 cpm

*(Do not exceed maximum recommended speed of fluid pump, to prevent premature pump wear)*

#### Other

Part No.	Description
222780	Floor Stand Kit See manual 307971



Pneumatic

Hydraulic

# Piston Pumps for Ink Applications

## Ordering Information and Technical Specifications

Name of Pump	Senator® 19:1	Viscount® II 1900	Bulldog® 31:1	Viscount II 3100
Lower size	800	800	800	800
Maximum fluid pressure	1900 psi (131 bar, 13.1 MPa)	1900 psi (131 bar, 13.1 MPa)	3100 psi (213 bar, 21.3 MPa)	3100 psi (213 bar, 21.3 MPa)
Maximum motor inlet pressure	100 psi (air) (6.9 bar, 0.69 MPa)	450 psi (oil) (31 bar, 3.1 MPa)	100 psi (air) (6.9 bar, 0.69 MPa)	750 psi (oil) (51.7 bar, 5.1 MPa)
Flow rate @ 60 cpm	2.8 gpm (10.6 lpm)	2.8 gpm (10.6 lpm)	2.8 gpm (10.6 lpm)	2.8 gpm (10.6 lpm)
Cfm or gpm required per gallon	24 cfm	4.3 gpm (16.2 lpm)	32 cfm	4.3 gpm (16.2 lpm)
Fluid pump outlet size	1" npt (f)	1" npt (f)	1" npt (f)	1" npt (f)
Motor inlet size	3/4" npt (f)	3/4" npt (f)	3/4" npt (f)	3/4" npt (f)
Weight of pump	160 lb (73 kg)	177 lb (80 kg)	160 lb (73 kg)	177 lb (80 kg)
Instruction manual	<a href="#">308351</a>	<a href="#">308351</a>	<a href="#">308351</a>	<a href="#">308351</a>

Bin Supply	Senator 19:1	Viscount II 1900	Bulldog 31:1	Viscount II 3100
Pump	246941	246938	246940	246938
Air controls: FRL, 1/2"	217072		217072	
Air run away control, 3/4"	224040		224040	
Air speed control, 1/2"(f)	510441		510441	
Floor stand (3" inlet)	222780	222780	222780	222780
Hydraulic controls*		236865		236865
Outlet hydraulic hose connector 1"(m) x 1-1/2"(f), 1500 psi rated		Not included		Not included

Misc. Information	Senator 19:1	Viscount II 1900	Bulldog 31:1	Viscount II 3100
Pump lower section	246939	246939	246939	246939
Ram plate replacement seals	165601	165601	165601	165601

\*Hydraulic controls include hydraulic flow and pressure control, ball valves, 3 ft supply and return hose



19:1 Senator



31:1 Bulldog

## Piston Pumps for Ink Applications

Name of Pump	Bulldog 12:1	Viscount II 1200	King® 24:1	Viscount II 2400
Lower size	2100	2100	2100	2100
Maximum fluid pressure	1200 psi (82.8 bar, 8.28 MPa)	1200 psi (82.8 bar, 8.28 MPa)	2400 psi (165 bar, 16.5 MPa)	2400 psi (165 bar, 16.5 MPa)
Maximum motor inlet pressure	100 psi (air) (6.9 bar, 0.69 MPa)	750 psi (oil) (51.7 bar, 5.1 Mpa)	100 psi (air) (6.9 bar, 0.69 Mpa)	1500 psi (oil) (103 bar, 10.3 Mpa)
Flow rate @ 60 cpm	7.5 gpm (28.4 lpm)	7.5 gpm (28.4 lpm)	7.5 gpm (28.4 lpm)	7.5 gpm (28.4 lpm)
Cfm or gpm required per gallon	20 cfm	1.6 gpm (6 lpm)	25 cfm	1.6 gpm (6 lpm)
Fluid pump outlet size	1-1/2" npt (m)	1-1/2" npt (m)	1-1/2" npt (m)	1-1/2" npt (m)
Motor inlet size	3/4" npt (f)	3/4" npt (f)	3/4" npt (f)	3/4" npt (f)
Weight of pump	142 lb (65 kg)	196 lb (89 kg)	160 lb (73 kg)	196 lb (89 kg)
Instruction manual	<a href="#">308149</a>	<a href="#">308149</a>	<a href="#">308149</a>	<a href="#">308149</a>

Bin Supply	Bulldog 12:1	Viscount II 1200	King 24:1	Viscount II 2400
Pump	246935	246937	246936	246937
Air controls: FRL, 1/2"	217072		217072	
Air run away control, 3/4"	224040		224040	
Air speed control, 1/2"(f)	510441		510441	
Floor stand (3" inlet)	222780	222780	222780	222780
Hydraulic controls*		236865		236865
Outlet hydraulic hose connector 1"(m) x 1-1/2" (f), 1500 psi rated		Not included		Not included

Misc. Information	Bulldog 12:1	Viscount II 1200	King 24:1	Viscount II 2400
Pump lower section	246934	246934	246934	246934
Ram plate replacement seals	165601	165601	165601	165601

\*Hydraulic controls include hydraulic flow and pressure control, ball valves, 3 ft supply and return hose



12:1 Bulldog



Viscount II 2100



24:1 King

# Piston Pumps for Ink Applications

## Ordering Information and Technical Specifications

Piston Pumps	President® 20:1
Lower size	450
Maximum fluid pressure	2000 psi (140 bar, 14 MPa)
Maximum motor inlet pressure	100 psi ( 7 bar, 0.7 MPa)
Flow rate @ 60 cpm	1.2 gpm (4.5 lpm)
Cfm or gpm required per gallon	35 cfm
Fluid pump outlet size	3/4" npt (f)
Motor inlet size	1/2" npt (f)
Weight of pump	50 lb (22.7 kg)
Instruction manual	<a href="#">308017</a>

Bin Supply	President 20:1
Pump	246933
Air controls: FRL, 3/8"(f)	110150
Floor stand (3" inlet)	222780
Air run away control, 3/4"(f)	224040
Air speed control 1/2"(f)	510441

Misc. Information	President 20:1
Pump lower section	246932
Ram plate replacement seals	165601



20:1 President

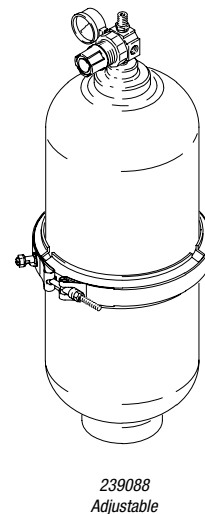
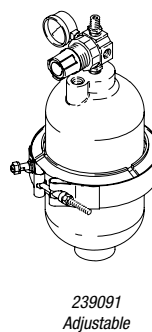
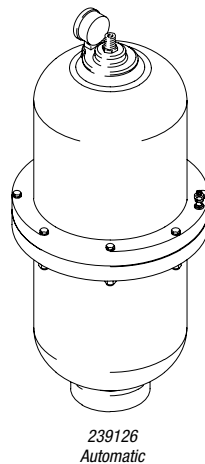
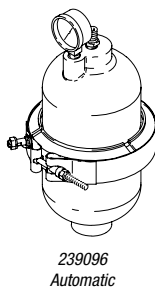
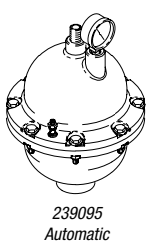
### Ordering Information

#### Husky 750, 3/4 in npt(f) Surge Suppressors

Automatic	Polypropylene wetted bottom housing and non-wetted top housing	Stainless Steel wetted bottom housing and non-wetted top housing
Weight	9 lb (4.1 kg)	16 lb (7.3 kg)
Suppressor with Buna-N bladder	239096	239095
Suppressor with PTFE bellows	239121	239123
Suppressor with Fluoroelastomer bladder	239122	239124
Adjustable	Polypropylene wetted bottom housing and non-wetted top housing	Stainless Steel wetted bottom housing and non-wetted top housing
Weight	9 lb (4.1 kg)	16 lb (7.3 kg)
Suppressor with Buna-N bladder	239091	239090
Suppressor with PTFE bellows	239129	239131
Suppressor with Fluoroelastomer bladder	239130	239132

#### Husky 2000, 2 in npt(f) Surge Suppressors

Automatic	Polypropylene wetted bottom housing and non-wetted top housing	Stainless Steel wetted bottom housing, polypropylene non-wetted top housing
Weight	18 lb (8.2 kg)	36 lb (16.3 kg)
Suppressor with Buna-N bladder	239092	239093
Suppressor with PTFE bellows	239128	239126
Suppressor with Fluoroelastomer bladder	n/a	239127
Adjustable	Polypropylene wetted bottom housing and non-wetted top housing	Stainless Steel wetted bottom housing, polypropylene non-wetted top housing
Weight	18 lb (8.2 kg)	36 lb (16.3 kg)
Suppressor with Buna-N bladder	239087	239088
Suppressor with PTFE bellows	239136	239134
Suppressor with Fluoroelastomer bladder	n/a	239135



### Technical Specifications

Surge Suppressors	Husky 750	Husky 2000
Max. air input pressure	120 psi (0.84 MPa, 8.4 bar)	120 psi (0.84 MPa, 8.4 bar)
Air line connection	1/4 npt	1/4 npt
Fluid inlet size	3/4 in npt(f)	2 in npt(f)
Instruction manual	<a href="#">308703</a>	<a href="#">308703</a>









# Graco Standard Warranty

Graco warrants all equipment referenced in this document which is manufactured by Graco and bearing its name to be free from defects in material and workmanship on the date of sale by an authorized Graco distributor to the original purchaser for use. With the exception of any special, extended, or limited warranty published by Graco, Graco will, for a period of twelve months from the date of sale, repair or replace any part of the equipment determined by Graco to be defective. This warranty applies only when the equipment is installed, operated and maintained in accordance with Graco's written recommendations.

This warranty does not cover, and Graco shall not be liable for general wear and tear, or any malfunction, damage or wear caused by faulty installation, misapplication, abrasion, corrosion, inadequate or improper maintenance, negligence, accident, tampering, or substitution of non-Graco component parts. Nor shall Graco be liable for malfunction, damage or wear caused by the incompatibility of Graco equipment with structures, accessories, equipment or materials not supplied by Graco, or the improper design, manufacture, installation, operation or maintenance of structures, accessories, equipment or materials not supplied by Graco.

This warranty is conditioned upon the prepaid return of the equipment claimed to be defective to an authorized Graco distributor for verification of the claimed defect. If the claimed defect is verified, Graco will repair or replace free of charge any defective parts. The equipment will be returned to the original purchaser transportation prepaid. If inspection of the equipment does not disclose any defect in material or workmanship, repairs will be made at a reasonable charge, which charges may include the costs of parts, labor, and transportation.

**THIS WARRANTY IS EXCLUSIVE, AND IS IN LIEU OF ANY OTHER WARRANTIES, EXPRESS OR IMPLIED, INCLUDING BUT NOT LIMITED TO WARRANTY OF MERCHANTABILITY OR WARRANTY OF FITNESS FOR A PARTICULAR PURPOSE.**

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## Equipment Misuse Hazard

**General Misuse:** Any misuse of Graco equipment or accessories, such as over-pressurizing, modifying parts, using incompatible chemicals and fluids, or using worn or damaged parts, can cause them to rupture. Misuse of equipment can result in fluid injection, splashing in the eyes or on the skin, or other serious bodily injury, or fire, explosion or property damage. NEVER alter or modify any part of Graco equipment; doing so could cause the product to malfunction. CHECK all equipment regularly and repair or replace worn or damaged parts immediately. Always wear protective eye wear, gloves, clothing and respirator as recommended by fluid and solvent manufacturers.

**System Pressure:** Be sure that all equipment and accessories used are rated to withstand the applicable MAXIMUM WORKING PRESSURE. DO NOT exceed the maximum working pressure of any component or accessory used in a system.

**Fluid and Solvent Compatibility:** All chemicals used in a Graco sprayer must be compatible with wetted parts. Consult your chemical supplier to ensure compatibility. Do not use 1:1:1-trichloroethane, methylene chloride, other halogenated hydrocarbon solvents or fluids containing such solvents in this equipment, which contains aluminum and/or zinc parts. Such use could result in a serious chemical reaction, with the possibility of explosion, which could cause death, serious bodily injury and/or substantial property damage.



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Founded in 1926, Graco is a world leader in fluid handling systems and components. Graco products move, measure, control, dispense and apply a wide range of fluids and viscous materials used in vehicle lubrication, commercial and industrial settings.

The company's success is based on its unwavering commitment to technical excellence, world-class manufacturing and unparalleled customer service. Working closely with qualified distributors, Graco offers systems, products and technology that set the quality standard in a wide range of fluid handling solutions. Graco provides equipment for spray finishing, protective coating, paint circulation, lubrication, and dispensing sealants and adhesives, along with power application equipment for the contractor industry. Graco's ongoing investment in fluid management and control will continue to provide innovative solutions to a diverse global market.

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