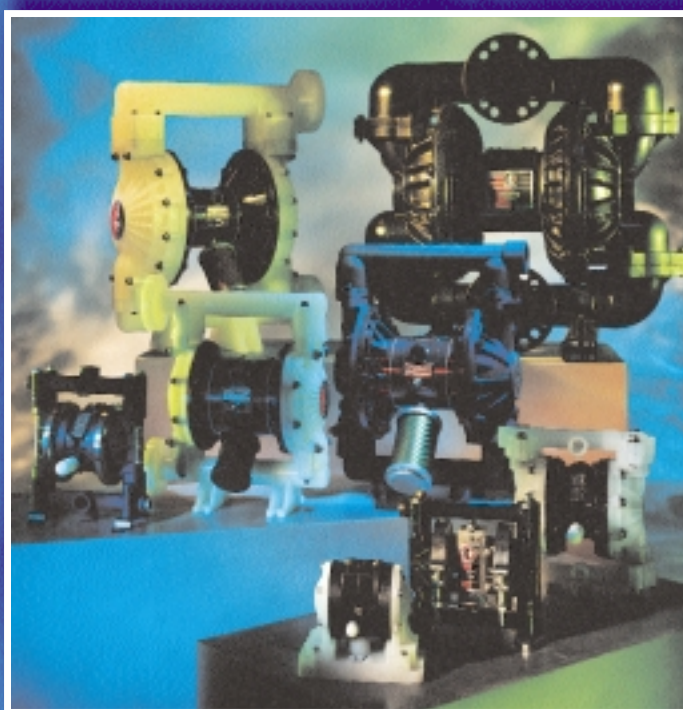


# PROCESS EQUIPMENT

pumps and accessories



*Pumps and Accessories for the  
Process Industries*



# Transfer Pumps and Packages

## Air-Operated Double-Diaphragm Pump Features

- Quick priming and immediate flow of product
- Handles fluid viscosities up to 5,000 cps and solids up to 0.09 in. (2.29 mm)
- Runs dry without damage
- Provides air-tight seal for moisture-sensitive fluids
- Easy-out seal provides fast slide in and out of drums (through bung adapter) without disconnecting hoses
- Easy-out seal accommodates slightly off-sized drums up to 2-1/2 in. (63.5 mm)
- Pump is never immersed inside the drum (only the suction tube is immersed)
- Excellent for abrasive, low-to-medium viscosity fluids and shear sensitive materials



## Piston Transfer Pump

### Features

- Air-powered for high reliability and low cost
- Handles applications ranging from cleaning to corrosive fluid transfer
- Excellent abrasion and corrosion resistance using Graco Severe Duty® wear parts
- Divorced air motor eliminates fluid and fume contamination to help reduce maintenance
- Stainless or carbon steel models suitable for most production applications (2:1 in SST only)

# Air-Operated Double-Diaphragm Pumps – The Quality & Simplicity Inside!

## Husky Features

### A Easy Maintenance

- Low internal volume reduces waste and makes clean-up easy.
- Stainless steel bolts resist corrosion and provide positive positioning for easy reassembly.

### B Unique, Patented Air Valves

- Three-way Pilot Valve for non-sticking operation.
- All parts are replaceable without opening wet body parts.
- Aluminium parts are anodized or epoxy-coated to resist corrosion usually caused by dirty air.
- No air-line lubrication required.

### C Precision-Fitted Parts

- Long-wearing End-Bearings assure positive rod alignment and are easily replaced.

### D Protective Exhaust Port

- Common port for all exhaust prevents vapors in room from attacking air motor seals.
- Easily submerges for sump or disposal operations.

### E Rugged Exterior Construction

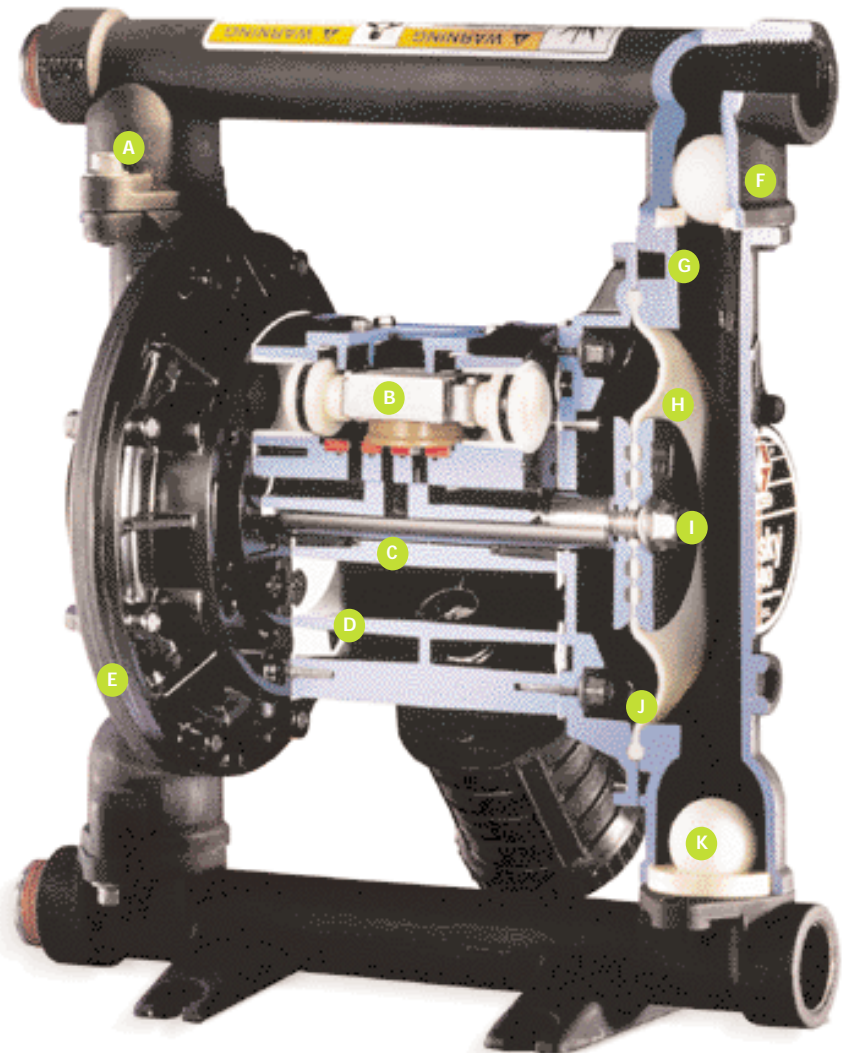
- Construction resists corrosion, prevents leakage and ensures clean fluid changes.
- Anodizing on aluminum wetted parts and e-coat epoxy air section resists tough environments.

### F Fluid Compatibility

- Housings available in aluminium, stainless steel, polypropylene, groundable acetal or Kynar.

### G Positive Seal Design

- Diaphragm firmly locked in place.
- Formed bead acts as positive fluid seal.
- One thru-hole.



### H Heavy-Duty Washers

- Positive grip washers virtually eliminate leakage and pull-out, preventing costly downtime.

### I Long-Lasting Rod Design

- 300 Series stainless steel rod designed for long life and corrosion resistance – even in wet air.

### J Easy Alignment

- Bolted, self-aligning air and fluid sections

### K Fluid Control Choice

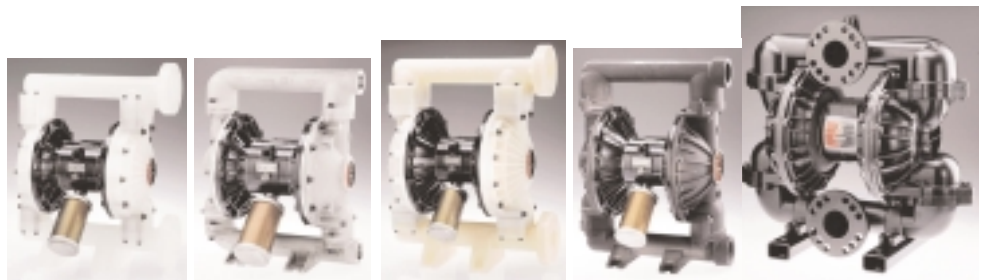
- Wide range of seat and ball options ensure fluid compatibility and positive seal for maximum efficiency, long life and better suction lift.

# Air-Operated Double-Diaphragm Pumps

## Model Overview



	Husky 205	Husky 307	Husky 515	Husky 716	Husky 1040	Husky 1040
<b>MODEL</b> (BSPT PORTS AVAILABLE)	1/4 in. (6.35 mm) ports Standard or remote air valve	3/8 in. (9.4 mm) ports	1/2 in. (12.7 mm) middle ports; 3/4 in. (19.05 mm) end ports Standard or remote air valve	3/4 in. (19.05 mm) ports Standard or remote air valve	1 in. (25.4 mm) ports Standard or remote air valve	1 in. (25.4 mm) ports Standard or remote air valve
<b>MAXIMUM FLOW RATE*</b>	19 l/min.	26 l/min.	57 l/min.	61 l/min.	151 l/min.	151 l/min.
<b>MATERIALS OF CONSTRUCTION AVAILABLE</b>	Polypropylene, Groundable Acetal, Kynar (PVDF)	Groundable Acetal, Polypropylene	Polypropylene, Groundable Acetal, Kynar (PVDF)	Aluminium, 316 SST	Polypropylene, Groundable Acetal, Kynar (PVDF)	Aluminium, 316 SST



	Husky 1590	Husky 1590	Husky 2150	Husky 2150	Husky 3275
<b>MODEL</b> (BSPT PORTS AVAILABLE)	1-1/2 in. (38.1 mm) ports Standard or remote air valve	1-1/2 in. (38.1 mm) ports Standard or remote air valve	2 in. (50.8 mm) ports Standard or remote air valve	2 in. (50.8 mm) ports Standard or remote air valve	3 in. (76.2 mm) ports
<b>MAXIMUM FLOW RATE*</b>	379 l/min.	379 l/min.	568 l/min.	568 l/min.	1041 l/min.
<b>MATERIALS OF CONSTRUCTION AVAILABLE</b>	Polypropylene, Kynar (PVDF)	Aluminium, 316 SST	Polypropylene, Kynar (PVDF)	Aluminium, 316 SST, Ductile Iron	Aluminium

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

# The Graco Difference

Graco's Air Valves are the Best in the Industry for Easy Service and Reliability

## Air Valve

Husky™ air-operated double-diaphragm pumps feature simple, extremely reliable air valve designs that make the Husky line among the most dependable pumps in a variety of applications.

- Three-way pilot valve for non-sticking operation and minimal air leakage
- All parts replaceable without opening wetted body parts
- Anodized or epoxy-coated aluminium parts resist corrosion from dirty air
- Fewer moving parts than most other double-diaphragm pumps



## Bolted Design

The standard bolted design of Husky pumps guarantees efficiency and safety. Husky pumps are easy-to-service and virtually leak-free.

## Product Guarantee

Husky air operated double-diaphragm pumps come with a 15-YEAR Center Section Warranty and a 5-YEAR Pump Wetted-End Warranty\*

\* See pump instruction manuals for complete warranty details.

# CycleFlo™ Controller and Accessories

## CycleFlo Controller

The CycleFlo is a microprocessor-controlled, batching controller designed to automate remotely-controlled Husky pumps for batching, metering or dosing a fluid. When integrated with remotely-controlled Husky pumps, the CycleFlo counts the strokes and quantity of fluid that is discharged.

- 196706 CycleFlo 240V (for batching)



## Husky 750 - 3/4 in. (19.05 mm) and Husky 2000 - 2 in. (50.8 mm) Surge Suppressors

Surge suppressors reduce pressure spikes caused by the pumping action of diaphragm pumps. Used on the pump inlet, surge suppressors control pressure fluctuations and acceleration loss that can lead to cavitation.

- Polypropylene, Acetal and SST materials of construction
- Bladder/Bellow Materials: Buna-N, Teflon (bellow) and Viton
- Can be used on Husky 307 – 3/8 in. (9.53 mm) through Husky 2150 – 2 in. (50.8 mm) pumps

## Leak Detector

Designed to detect and prevent leaks from double-diaphragm pumps, it captures fluid expelled through the exhaust when a diaphragm ruptures.

Two types are available:

- 239080 (Polypropylene wetted parts)
- 239081 (SST wetted parts)

## Shut-Off Valve Kit\*

Stops any fluid from entering the leak detector when the pump is shut down.

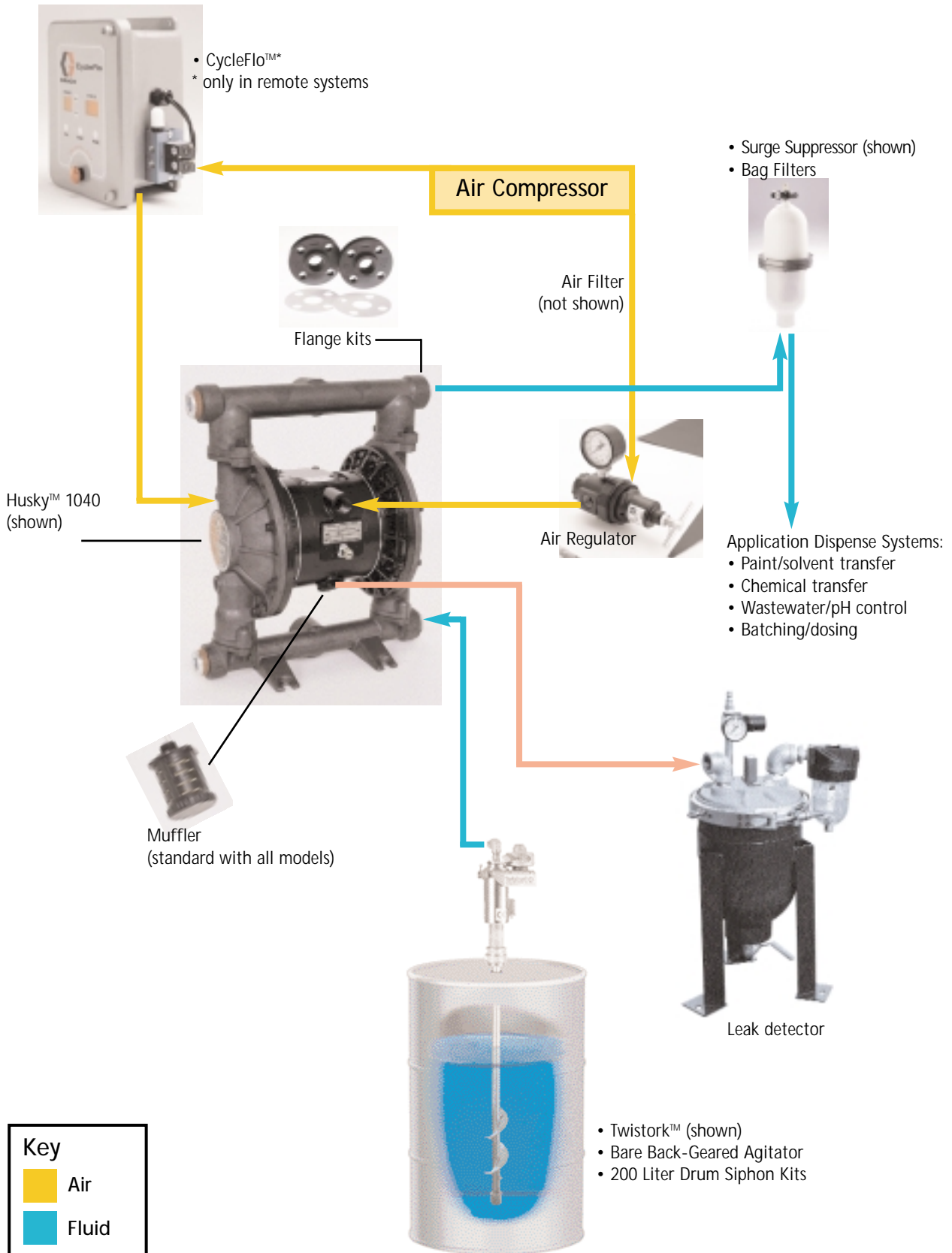
Kit #239114 includes:

- 1/4 in. (6.35 mm) tube x 1/8 npt tube connector,
- 3/4 in. (19.05 mm) closed SST nipple, brass tube tee, sleeveless bushing and shut-off valve



\* Not shown

# Typical Process System Diagram



Equipment and accessories not shown to scale.

## ABOUT GRACO

First choice when quality counts

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 specialized distributors, Graco offers systems, products and technology which set the quality standards in a wide range of fluid handling applications including spray finishing and paint circulation, lubrication, 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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# Reference Guide

## Air-Operated Double-Diaphragm & Transfer Pumps



### Popular Models

PART NO.	WETTED PARTS	SEATS	BALLS/CHECKS	DIAPHRAGMS
<b>Husky™ 205 : 1/4 in. (6.35 mm) ports</b>				
D12091	Polypropylene	None	Polypropylene	Teflon
D11021	Acetal	None	Acetal	Teflon
D150A1	Kynar (PVDF)	None	Kynar	Teflon
<b>Husky 307 : 3/8 in. (9.52 mm) ports</b>				
D31211	Acetal	Acetal	Teflon	Teflon
D31331	Acetal	SST	SST	Teflon
D31277	Acetal	Acetal	Buna-N	Buna-N
D31255	Acetal	Acetal	Hytrel	Hytrel
D32966	Polypropylene	Polypropylene	Santoprene	Santoprene
<b>Husky 515 : 1/2 in. (12.7 mm) middle ports; 3/4 in. (19.05 mm) end ports</b>				
D52911	Polypropylene	Polypropylene	Teflon	Teflon
D55A11	Kynar	Kynar	Teflon	Teflon
D51211	Acetal	Acetal	Teflon	Teflon
D51277	Acetal	Acetal	Buna-N	Buna-N
D52966	Polypropylene	Polypropylene	Santoprene	Santoprene
<b>Husky 716 : 3/4 in. (19.05 mm) ports</b>				
D53277	Aluminium	Acetal	Buna-N	Buna-N
D53211	Aluminium	Acetal	Teflon	Teflon
D54311	SST	SST	Teflon	Teflon
D54211	SST	Acetal	Teflon	Teflon
<b>Husky 1040 : 1 in. (25.4 mm) ports</b>				
D71211	Acetal	Acetal	Teflon	Teflon
D72911	Polypropylene	Polypropylene	Teflon	Teflon
D72966	Polypropylene	Polypropylene	Santoprene	Santoprene
D73GGG	Aluminium	Geolast	Geolast	Geolast
D73311	Aluminium	SST	Teflon	Teflon
D73525	Aluminium	Hytrel	Acetal	Hytrel
D74311	SST	SST	Teflon	Teflon
D74331	SST	SST	SST	Teflon
<b>Husky 1590 : 1-1/2 in. (38.1 mm) ports</b>				
DB2911	Polypropylene	Polypropylene	Teflon	Teflon
DB5A11	Kynar	Kynar	Teflon	Teflon
DB3GGG	Aluminium	Geolast	Geolast	Geolast
DB3525	Aluminium	Hytrel	Acetal	Hytrel
DB3666	Aluminium	Santoprene	Santoprene	Santoprene
DB4311	SST	SST	Teflon	Teflon
<b>Husky 2150 : 2 in. (50.8 mm) ports</b>				
DF2666	Polypropylene	Santoprene	Santoprene	Santoprene
DF2911	Polypropylene	Polypropylene	Teflon	Teflon
DF5A11	Kynar	Kynar	Teflon	Teflon
DF3311	Aluminium	SST	Teflon	Teflon
DF3GGG	Aluminium	Geolast	Geolast	Geolast
DF4311	SST	SST	Teflon	Teflon
DF6466	Ductile Iron	Hardened SST	Santoprene	Santoprene
DF6GGG	Ductile Iron	Geolast	Geolast	Geolast
<b>Husky 3275 : 3 in. (76.2 mm) ports</b>				
DK3525	Aluminium	Hytrel	Acetal	Hytrel
DK3311	Aluminium	Stainless Steel	Teflon	Teflon
DK3666	Aluminium	Santoprene	Santoprene	Santoprene
DK3GGG	Aluminium	Geolast	Geolast	Geolast

PART NO.	DESCRIPTION	CONSTRUCTION	PACKING
<b>Transfer Pumps</b>			
226940	Fast-Flo® 1:1	Drum, Carbon Steel, 304 SST (UL, CE)	Teflon, Leather
226941	Fast-Flo 1:1	Drum, Carbon Steel, 304 SST (UL)	Polyethylene
226040	Standard 2:1	Drum, 304 SST	Teflon
224350	Monark™ 5:1	Drum, 304 SST	UHMWPE, Teflon
224348	President™ 10:1	Drum, 304 SST	UHMWPE, Teflon

All air-operated double-diaphragm configurations are also available in remote versions, except for the Husky 307 and 3275.

All models can be equipped with both BSP and NPT porting.

# Wetted Parts Material Options

**Acetal** *Material used for seats, balls & wetted body parts*

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

**Aluminium** *Material used for air motor & wetted body parts*

- Medium corrosion and abrasion resistance
- Not for use with HHC's

**Hardened Stainless Steel** *Material used for seats & balls*

- Moderate chemical resistance
- Good abrasion resistance

**Kynar** *Material used for wetted body parts & seats*

- Strong chemical resistance: acids and bases
- Good abrasion resistance
- High temperature resistance

**Polypropylene** *Material used for air motor, wetted body parts, seats & balls*

- Wide chemical compatibility
- General purpose
- Inexpensive alternative

**Stainless Steel** *Material used for wetted body parts, seats & balls*

- High level of corrosion and abrasion resistance
- Passivated for use with waterbase coatings

**Buna-N** *Material used for balls & diaphragms*

- Good for petroleum based fluids
- Not for strong solvents or chemicals

**Hytrel** *Material used for seats, balls & diaphragms*

- Good abrasion resistance
- Often substituted for Buna-N

**Santoprene** *Material used for seats, balls & diaphragms*

- Good abrasion and chemical resistance
- Not for use with solvents
- Can substitute for EPDM or EPR

**Teflon** *Material used for seats, balls & diaphragms*

- Excellent when used with solvents
- Poor abrasion resistance
- Widest chemical compatibility with fluids

**Viton** *Material used for seats, balls & diaphragms*

- High level of corrosion resistance with acids
- Resists unleaded fuels

**Geolast** *Material used for seats, balls & diaphragms*

- Good abrasion resistance
- Same chemical compatibility as Buna and Hytrel

**Ductile Iron** *Material used for wetted body parts*

- High abrasion resistance
- Low cost alternative to stainless steel

**Neoprene**

- Good abrasion and chemical resistance
- Not for use with solvents

*Teflon® is a registered trademark of DuPont. All other trademarks mentioned herein are the property of their respective owners.*

# Pump Configurations

## Seats:Balls:Diaphragms

xxx 211	<b>Acetal:Teflon:Teflon</b> Low solids paints, stains and lacquers; flammable solvents - use with aluminum, SST or goundable acetal housings
xxx 331	<b>Stainless Steel:Stainless Steel:Teflon</b> Medium pH-range acids and bases that contain abrasive material - filter press; corrosive sludges
xxx 311	<b>Stainless Steel:Teflon:Teflon</b> Wide pH-range acids, bases and neutral fluids that contain solids
xxx 525	<b>Hytrel:Acetal:Hytrel</b> General purpose - water; oil; windshield wash fluids
xxx GGG	<b>Geolast:Geolast:Geolast</b> Neutral pH-range fluids that contain abrasive material - petroleum products; ground water applications
xxx 366	<b>Stainless Steel:Santoprene:Santoprene</b> Medium pH-range acids, bases and neutral fluids that contain abrasive material - soaps; cleaning chemicals; filter press
xxx 955	<b>Polypropylene:Hytrel:Hytrel</b> Low cost and good flex-life - Water and other neutral non-solvent fluids; water-based coatings; adhesives
xxx 911	<b>Polypropylene:Teflon:Teflon</b> Full pH-range acids, bases and neutral fluids that do not contain abrasive material - sulfuric and nitric acids
xxx 388	<b>Stainless Steel:Viton:Viton</b> Unleaded gasoline and plating chemicals
xxx A88	<b>Kynar:Viton:Viton</b> Good choice with plating chemicals, abrasive materials and suction-lift applications; Kynar seat is the appropriate alternative when Viton seat is not available
xxx A11	<b>Kynar:Teflon:Teflon</b> High-concentration of high-temperature acids and bases; abrasive acidic or caustic material

# Accessories

DESCRIPTION	PART NO.
<b>Air Control Assembly</b>	
<i>(includes filter, lubricator, regulator, gauge, mounting bracket and fittings)</i>	
1/4 in. (6.35 mm) air inlet <i>(fits 307 and 716)</i>	110149
1/2 in. (12.7 mm) air inlet <i>(fits 1040, 1590, 2150)</i>	217072
3/4 in. (19.05 mm) air inlet <i>(fits 3275)</i>	217073
<b>Air Filters</b> <i>(centrifugal action and 40 micron filter)</i>	
1/4 npt(fbe)	110146
1/2 npt(fbe)	106149
3/4 npt(fbe)	106150
<b>Air Regulators</b>	
1/4 npt(fbe)	110318
1/2 npt(fbe)	104266
3/4 npt(fbe)	207755
<b>Companion Flange Kits</b> <i>(includes Teflon gaskets and fasteners)</i>	
1 in. (25.4 mm) Polypropylene for 1040 <i>(1 in. ANSI with 1 npt(f))</i>	239005
1 in. (25.4 mm) SST for 1040 <i>(use with 1040 acetal pumps also)</i>	239008
1 in. (25.4 mm) Kynar for 1040 <i>(1 in. ANSI with 1 npt(f))</i>	239009
1-1/2 in. (38.1 mm) Polypropylene for 1590 <i>(1-1/2 in. ANSI with 1-1/2 npt(f))</i>	239006
1-1/2 in. (38.1 mm) Kynar for 1590 <i>(1-1/2 in. ANSI with 1-1/2 npt(f))</i>	239010
2 in. (50.8 mm) Polypropylene for 2150 <i>(2 in. ANSI with 2 npt(f))</i>	239007
2 in. (50.8 mm) Kynar for 2150 <i>(2 in. ANSI with 2 npt(f))</i>	239011
3 in. (50.8 mm) SST for 3275 <i>(3 in. ANSI with 3 npt(f))</i>	239392
3 in. (50.8 mm) Carbon Steel for 3275 <i>(3 in. ANSI with 2 npt(f))</i>	239391
<b>Service Kits for Husky Air Valves</b>	
For 205	238853
For 307	239952
For 515 and 716	241657
For 1040 thru 2150	236273
For 3275	238765
<b>Controllers</b> <i>(operates remotely-controlled Husky pumps)</i>	
CycleFlo 240 V <i>(cpm rate and batch controller)</i>	196706

All data in this document is based on the latest product information available at the time of publication. Graco reserves the right to make changes at any time without notice.



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