

Balcrank

Air Operated Double Diaphragm (AODD) Pumps

CenterFlo Pumps



NEW *CenterFlo Technology Diaphragm Pumps*

Advanced Technology, Superior Performance, Low Maintenance.

New patented technology CenterFlo pumps feature reversed air/fluid design compared to conventional diaphragm pumps. Fluid path flows through the center of the pump with the air motor to the outside allowing improved suction and performance, less air consumption with less pulsation throughout the performance curve.

Diaphragm Pump Advantages:

Discharge fluids up-to 28 gpm at 100 psi, to pump light to medium viscosity fluids.

- No rotating shafts or seals as found on electric pumps.
- Simple air operated design, no electricity needed. Works off shop air supply.
- Superior suction capability allowing for evacuation of used vehicle fluids such as used oil and anti-freeze.
- High volume dispense, evacuation and transfer of low to medium viscosity oils, anti-freeze, and windshield wash solutions.
- Pump can run dry without damage to the seals or wetted parts.
- On-demand operation, no switches or extra components required; pump starts and stops automatically on-demand.
- Ultimate adjustability using a simple air regulator adjustment to control flow and pressure requirements.
- No electrical safety concerns.

Significant Improvements:

Superior performance against back pressure, nominal loss of flow and pressure capacity, under real application conditions is minimized.

- Significant dry suction lift, eliminate self-priming issues when pumping from drums or tall tanks.
- Dependable lube-free directional pivot air valve: starts-up every time. Tolerant of oil, moisture and dirt, non-icing, no air leaks when pump is stalled against head pressure of the system.
- Reduced air consumption per gallon pumped, saves energy, and avoids the need to use a larger compressor.
- Reduced pulsation gives greater measurement accuracy and less splashing during dispense.
- In-line servicing of air valve, diaphragms, and ball valves, without disconnecting from the fluid distribution line.
- Compact design allows this pump to fit in small spaces.

Advanced Technology

The air distribution system combines a central ball-valve fluid path technique with CenterFlo's two significant innovations: the Flexible Diaphragm Suspension (FDS) and the Frictionless Pivoting Air Valve (FPV).

The FDS uses short stroke diaphragms that reciprocate quickly, shortening the stroke length dramatically and reducing wear on the diaphragms. The friction in the traditional sliding air valves is too high to allow for the fast reversing action required by the FDS short stroke. Therefore, a new friction free and fast air valve, the FPV, was developed.

The FPV is critical to the reciprocating drive system and ensures reliability. The air distribution system (including the pivoting air valve module, the special air sensor valves, and the air channels) is self-cleaning and withstands non-lubricated, oily, dry, humid, and dirty compressed air.

This new technology decrease the distance between the diaphragms and valves improving performance and decreasing pulsations commonly associated with diaphragm pumps. An FDS pump eliminates typical stress points and improves overall diaphragm life.

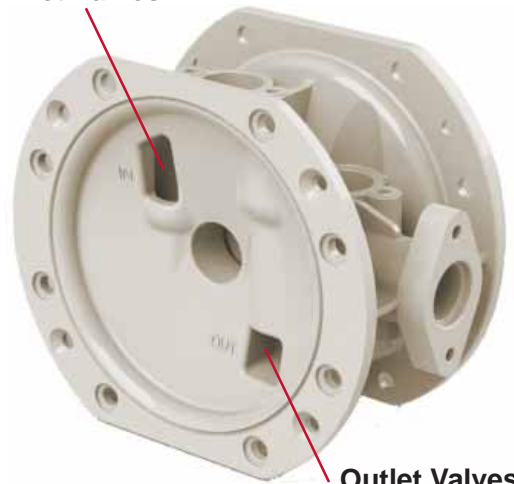


The CenterFlo Pump Body

The pump body is a single molded part that includes the flow path, the valve housings, and the wetted pump chambers. This single molded part alleviates the possibility of leaks. Thanks to CenterFlo technology, the fluid flows directly through the center of the pump body eliminating the need for manifolds.

In contrast, CenterFlo pumps are more compact, have less pressure drop within the pump, and eliminate the risk of leaks from seals. The wet chamber inlet and outlet valves are directly adjacent to the diaphragms, dramatically improving pump suction capacity, and pump performance against back pressure.

Inlet Valves



Outlet Valves



Flexible Diaphragm Suspension

The innovation behind the pump's smooth operation is the Flexible Diaphragm Suspension technology: FDS uses diaphragms that are not rigidly fixed to the shaft, reducing fatigue on the diaphragms, and extending their service life. In addition, shaft life is significantly increased, since the diaphragm only pushes the shaft but does not transmit non-axial loads. Minimizes pulsations and increases time between service intervals.

Pump Check Valves

CenterFlo pump check valves have three components: the ball, the valve-seat, and the valve-cage. Balls are guided by the valve-cage, which contributes to efficient operation preventing fluid flow from causing erratic ball movements, performance and pump faltering.



Installation & Maintenance Made Easy

Pump maintenance has never been so easy. In-line servicing of air valve, diaphragms, and ball valves, without disconnecting from the fluid distribution line. Fewer number of parts allow fast and reliable servicing by non-expert technicians. This makes replacing diaphragms, cleaning valves and other maintenance jobs easier and faster than in other diaphragm pumps.

Simple Reliability

CenterFlo pumps are extremely simple. Reduced number of internal components results in a reliable pump, with minimal maintenance required.

CenterFlo Product Selection Matrix



CF10
1120-029
Polypropylene



CF15
1120-023
Polypropylene



CF15
1120-025
Polypropylene/DEF



CF15
1120-027
Aluminum

Maximum free flow	10.4 gal/min	14 gal/min	14 gal/min	14 gal/min
Delivery per stroke	.019 gal	.026 gal	.026 gal	.026 gal
Fluid inlet	1/2" NPT(F) & flange	1/2" NPT(F) & flange	1/2" BSP(F) & flange	1/2" NPT(F) & flange
Fluid outlet	1/2" NPT(F) & flange	1/2" NPT(F) & flange	1/2" BSP(F) & flange	1/2" NPT(F) & flange
Air inlet	3/8" NPSM(F)	3/8" NPSM(F)	3/8" NPSM(F)	3/8" NPSM(F)
Wetted parts	Polypropylene	Polypropylene	Polypropylene	Aluminum
Check balls	PTFE (Teflon®)	PTFE (Teflon®)	PTFE (Teflon®)	Acetal
Diaphragms	Hytrel®	Hytrel®	Hytrel®	Hytrel®
Recommended Fluids	Anti-freeze and windshield wash solution	Anti-freeze and windshield wash solution	Diesel exhaust fluid	Light viscosity fluids synthetic, mineral oils, waste oil, and anti-freeze
Recommended Applications	Fluid dispensing, transfer, evacuation, and distribution systems	Fluid dispensing, transfer, evacuation, and distribution systems	Fluid dispensing, transfer, evacuation, and distribution systems	Fluid dispensing, transfer, evacuation, and distribution systems
Service Bulletin	SB1121	SB1122	SB1122	SB1122
Accessories & Kits pgs.	10-11	10-11	10-11	10-11

CenterFlo Product Selection Matrix



CF15
1120-028
Polypropylene/Mixing

CF30
1120-026
Polypropylene

CF30
1120-031
Polypropylene/DEF

CF30
1120-024
Aluminum

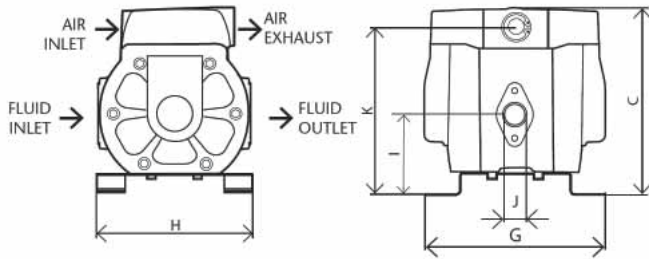
Maximum free flow	14 gal/min	28 gal/min	28 gal/min	28 gal/min
Delivery per stroke	.026 gal	0.060 gal	0.060 gal	0.060 gal
Fluid inlet	2-3/8" NPT(F)	1" NPT(F) & flange	1" BSP(F) & flange	1" NPT(F) & flange
Fluid outlet	1/2" NPT(F)	1" NPT(F) & flange	1" BSP(F) & flange	1" NPT(F) & flange
Air inlet	3/8" NPSM(F)	3/8" NPSM(F)	3/8" NPSM(F)	3/8" NPSM(F)
Wetted parts	Polypropylene	Polypropylene	Polypropylene	Aluminum
Check balls	PTFE (Teflon®)	PTFE (Teflon®)	PTFE (Teflon®)	Acetal
Diaphragms	Hytrel®	Hytrel®	Hytrel®	Hytrel®
Recommended Fluids	1:1 solutions of water, anti-freeze, and windshield wash	Anti-freeze and windshield wash solution	Diesel exhaust fluid	Light viscosity fluids synthetic, mineral oils, waste oil, and anti-freeze
Recommended Applications	** Dual inlet pumps for 1:1 proportion mixing of fluids with similar viscosity	Fluid dispensing, transfer, evacuation, and distribution systems	Fluid dispensing, transfer, evacuation, and distribution systems	Fluid dispensing, transfer, evacuation, and distribution systems
Service Bulletin	SB1123	SB1124	SB1124	SB1124
Accessories & Kits pgs.	10-11	10-11	10-11	10-11

** NOTE: both fluids and their resulting solution must be compatible with the pump wetted materials



CF10 Pump Dimensions

C: 6.38"	G: 5.51"	H: 5.32"	I: 2.75"	J: 1/2"(F)	K: 5.71"
162 mm	140 mm	135 mm	70 mm	1/2"(F)	145 mm



Models Available

1120-029	CF10 Polypropylene
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Technical Data

Air inlet	3/8" NPSM(F)
Fluid inlet port	1/2" NPT(F) & flange
Fluid outlet port	1/2" NPT(F) & flange
Max. Free Flow	10.4 gpm 1/Min. 38 l/min.
Air Pressure Range	45 psi - 100 psi 3 to 7 bar
Solid Suspension	1/8" 3 mm. Max. size
Wetted Materials	Teflon®, Viton, Polypropylene, Stainless Steel, Acetal, Hytrel®

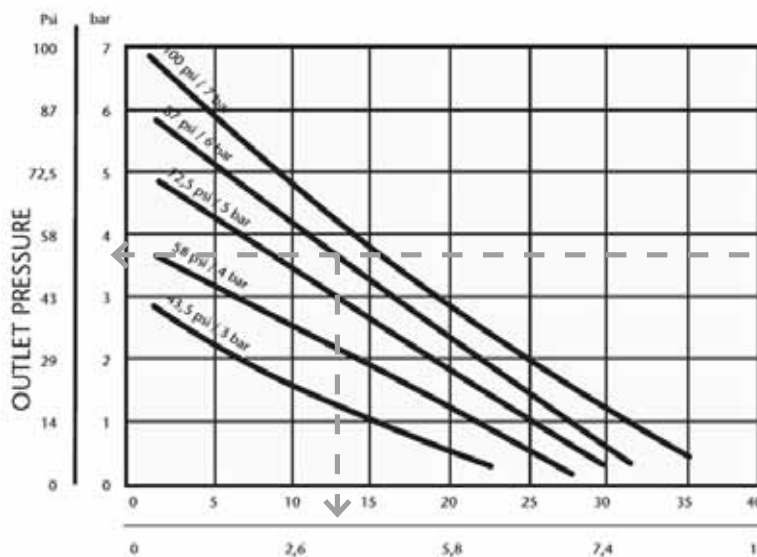
Recommended Fluids	Anti-freeze and windshield wash solution
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Recommended Applications	Fluid dispensing, transfer, evacuation, and distribution systems
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Service Bulletin	SB1121
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Accessories & Kits	pgs. 10-11
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AIR CONSUMPTION

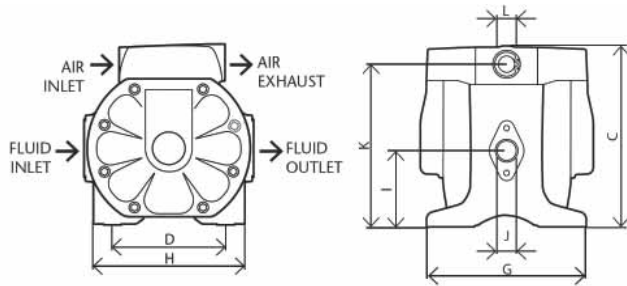


Flow Rate (L/min)	Flow Rate (US GPM)	Outlet Pressure (Psi) at 100 psi supply	Outlet Pressure (Psi) at 75 psi supply	Outlet Pressure (Psi) at 50 psi supply
0	0	100	75	50
1.0	0.26	99.3	74.3	49.3
2.0	0.52	98.6	73.6	48.6
3.0	0.78	97.9	72.9	47.9
4.0	1.04	97.2	72.2	47.2
5.0	1.30	96.5	71.5	46.5
6.0	1.56	95.8	70.8	45.8
7.0	1.82	95.1	70.1	45.1
8.0	2.08	94.4	69.4	44.4
9.0	2.34	93.7	68.7	43.7
10.0	2.60	93.0	68.0	43.0
11.0	2.86	92.3	67.3	42.3
12.0	3.12	91.6	66.6	41.6
13.0	3.38	90.9	65.9	40.9
14.0	3.64	90.2	65.2	40.2
15.0	3.90	89.5	64.5	39.5
16.0	4.16	88.8	63.8	38.8
17.0	4.42	88.1	63.1	38.1
18.0	4.68	87.4	62.4	37.4
19.0	4.94	86.7	61.7	36.7
20.0	5.20	86.0	61.0	36.0
21.0	5.46	85.3	60.3	35.3
22.0	5.72	84.6	59.6	34.6
23.0	5.98	83.9	58.9	33.9
24.0	6.24	83.2	58.2	33.2
25.0	6.50	82.5	57.5	32.5
26.0	6.76	81.8	56.8	31.8
27.0	7.02	81.1	56.1	31.1
28.0	7.28	80.4	55.4	30.4
29.0	7.54	79.7	54.7	29.7
30.0	7.80	79.0	54.0	29.0
31.0	8.06	78.3	53.3	28.3
32.0	8.32	77.6	52.6	27.6
33.0	8.58	76.9	51.9	26.9
34.0	8.84	76.2	51.2	26.2
35.0	9.10	75.5	50.5	25.5



CF15 Pump Dimensions

C: 6.57" 167 mm	D: 4.13" 105 mm	G: 5.75" 146 mm	H: 5.51" 140 mm
I: 2.75" 70 mm	J: 1/2" (F) 1/2" (F)	K: 5.90" 150 mm	L: 3/8" (F) 3/8" (F)



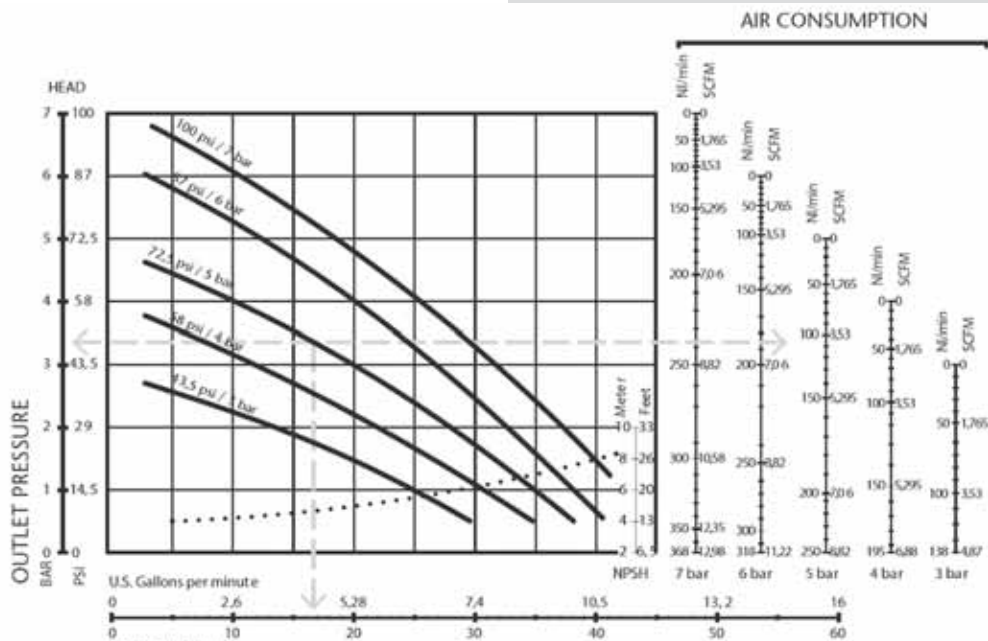
Models Available

1120-023	CF15 Polypropylene
1120-027	CF15 Aluminum
1120-025	CF15 Polypropylene/BSP

Technical Data

Air inlet	3/8" NPSM(F)
Fluid inlet port	1/2" NPT(F) & flange 1/2" BSP(F) DEF
Fluid outlet port	1/2" NPT(F) & flange 1/2" BSP(F) DEF
Max. Free Flow	14 gpm 1/Min. 50 l/min.
Air Pressure Range	45 psi - 100 psi 3 to 7 bar
Solid Suspension	1/8" 3 mm. Max. size
Wetted Materials	Teflon®, Viton, Polypropylene, Stainless Steel, Hytrel®
1120-027	Stainless Steel, Acetal, Buna-N, Hytrel® Viton, Aluminum

Recommended Fluids	Anti-freeze and windshield wash solution
1120-027	Light viscosity fluids, synthetic, mineral oils, and waste oil
1120-025	Diesel exhaust fluid
Recommended Applications	Fluid dispensing, transfer, evacuation, and distribution systems
Service Bulletin	SB1122
Accessories & Kits	pgs. 10-11

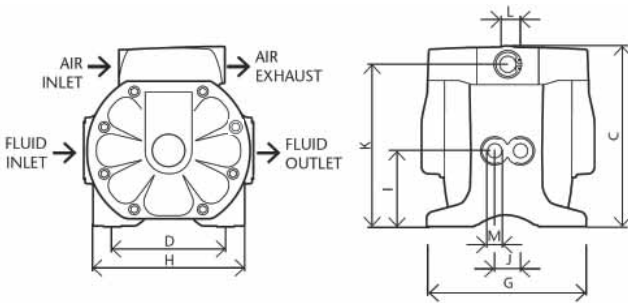


CenterFlo CF15 Mixing | Product Information



CF15 Mixing Pump Dimensions

C: 6.57" 167 mm	D: 4.13" 105 mm	G: 5.75" 146 mm	H: 5.51" 140 mm	
I: 2.75" 70 mm	J: .94 24 mm	K: 5.90" 150 mm	L: 3/8" (F) 3/8" (F)	M: 3/8" (F)



Models Available

1120-028	CF15 Mixing
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Technical Data

Air inlet	3/8" NPSM(F)
Fluid inlet port	2 - 3/8" NPT(F)
Fluid outlet port	1/2" NPT(F) & flange
Max. Free Flow	14 gpm 1/Min. 50 l/min.
Air Pressure Range	45 psi - 100 psi 3 to 7 bar
Solid Suspension	1/8" 3 mm. Max. size
Wetted Materials	Teflon®, Viton, Polypropylene, Stainless Steel, Acetal, Hytrel®

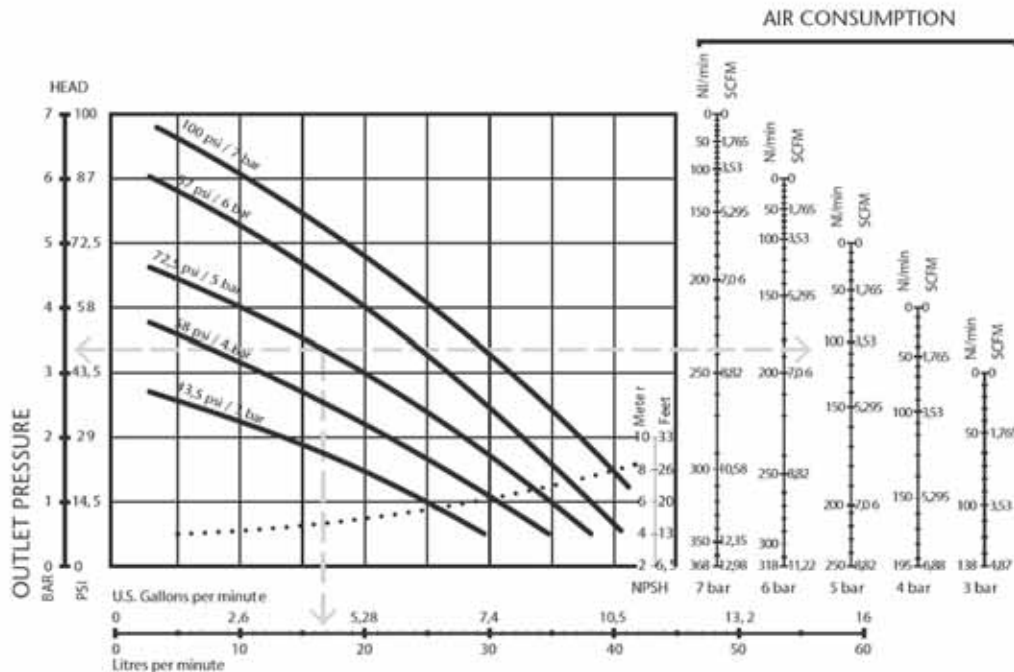
Recommended Fluids	Anti-freeze and windshield wash solution
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Dual inlet pumps for 1:1 proportion mixing of fluids with similar viscosity.

Recommended Applications
NOTE: both fluids and their resulting solution must be compatible with the pump wetted materials

Service Bulletin	SB1123
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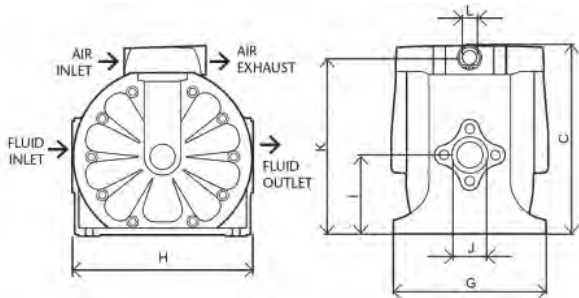
Accessories & Kits	pgs. 10-11
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CF30 Pump Dimensions

C: 8.94" 227 mm	G: 7.24" 184 mm	H: 8.27" 210 mm	I: 3.72" 94.5 mm
J: 1" (F)	K: 8.27" 210 mm	L: 3/8" (F)	

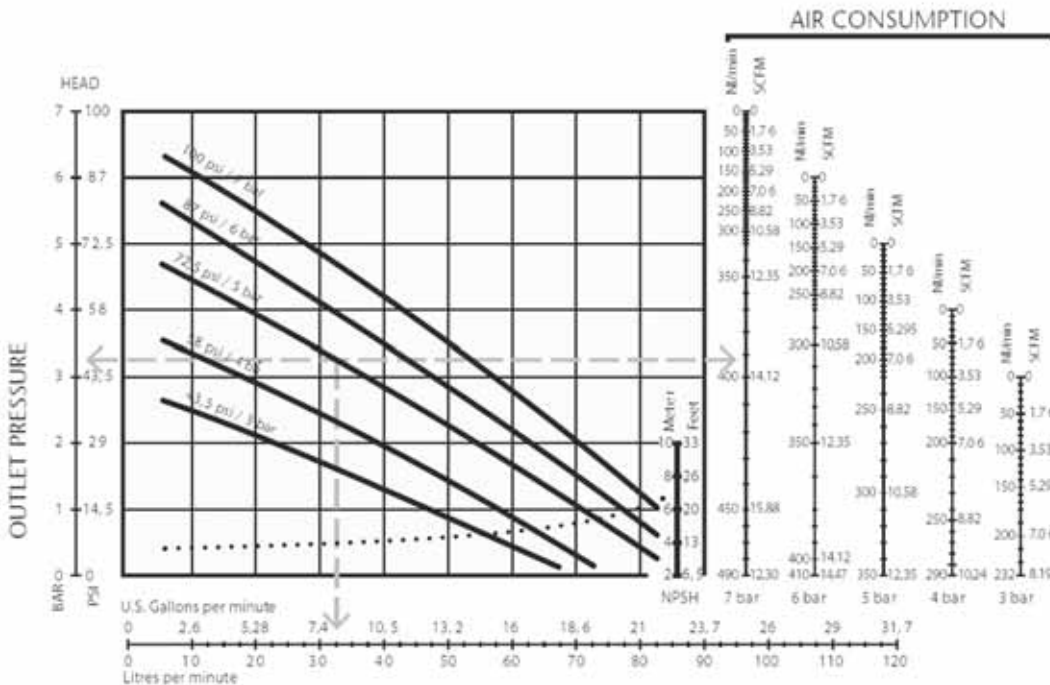


Models Available

1120-026	CF30 Polypropylene
1120-024	CF30 Aluminum
1120-031	CF30 Polypropylene/BSP

Technical Data


Air inlet	3/8" NPSM(F)
Fluid inlet port	1" NPT(F) & flange 1" BSP(F) DEF
Fluid outlet port	1" NPT(F) & flange 1" BSP(F) DEF
Max. Free Flow	28 gpm 1/Min. 100 l/min.
Air Pressure Range	45 psi - 100 psi 3 to 7 bar
Solid Suspension	3/16" 4 mm. Max. size
Wetted Materials	
1120-026	Teflon®, Viton, Polypropylene, Stainless Steel, Hytrel®
1120-031	Teflon®, Viton, Polypropylene, Stainless Steel, Hytrel®
1120-024	Teflon®, Buna-N, Acetal, Aluminum, Stainless Steel, Hytrel®
Recommended Fluids	Anti-freeze and windshield wash solution
1120-026	Anti-freeze and windshield wash solution
1120-024	Light viscosity fluids, synthetic, mineral oils, and waste oil
1120-031	Diesel exhaust fluid
Recommended Applications	Fluid dispensing, transfer, evacuation, and distribution systems
Service Bulletin	SB1124
Accessories & Kits	pgs. 10-11




CenterFlo Accessories

Couplers, Strainers & Valves

Air Line Quick Couplers - For quick connection and detachment of pump air supply hoses

	3270-001	Nipple-Automotive Standard	3/8" NPT(M)
	3270-002	Coupler-Automotive Standard	3/8" NPT(F)
	3270-005	Nipple - ARO Series	1/4" NPT(F)
	3270-004	Nipple - ARO Series	1/4" NPT(M)
	3270-003	Coupler - ARO Series	1/4" NPT(F)


Quick Couplers - For quick connection and detachment of fluid hoses - rated for vacuum or up to 3,000 psi fluid pressure

	4140-016	Coupler, Dry Break	3/4" NPT(F)
	4140-023	Nipple, Dry Break	3/4" NPT(F)

Y-Strainer - For filtering debris after the pump - 1,000 PSI - all strainers have 60 mesh


	3120-051	Y Strainer	1/2" NPT(F)
	3120-010	Y Strainer	3/4" NPT(F)
	3120-040	Y Strainer	1" NPT(F)

In-Line Hand Operated Valves - For use in piping systems to control pressure


	3230-003	200 psi (air)	1/4" NPT(F)
	3230-004	200 psi (air)	1/2" NPT(F)
	3230-002	2,000 psi	1/2" NPT(F)
	3230-006	2,000 psi	3/8" NPT(F)
	3230-007	2,000 psi	3/4" NPT(F)
	3230-008	2,000 psi	1" NPT(F)
	3230-001	10,000 psi	1/2" NPT(F)

Filter Regulators

1 Piece Filter Regulators - For pump air control

	3260-033	Up to 250 PSI and flows of 15 SCFM	1/4" NPT(F) mini, zinc
	3260-034	Up to 250 PSI and flows of 40 SCFM	1/4" NPT(F)
	3260-035	Up to 250 PSI and flows of 60 SCFM	3/8" NPT(F)
	3260-036	Up to 250 PSI and flows of 90 SCFM	1/2" NPT(F)
	3260-037	Up to 250 PSI and flows of 100 SCFM	3/4" NPT(F)
	3260-060	Up to 150 PSI and flows of 15 SCFM	1/4" NPT(F) mini, poly

In-Line filter - For removing moisture and solids from air supply lines

	3260-038	Air system pressure up to 150 PSI	1/4" NPT(F) mini **
	3260-039	Air system pressure up to 250 PSI	1/4" NPT(F) ***
	3260-040	Air system pressure up to 250 PSI	3/8" NPT(F) ***
	3260-041	Air system pressure up to 250 PSI	1/2" NPT(F) ***
	3260-042	Air system pressure up to 250 PSI	3/4" NPT(F) ***

** 5 Micron filter element, *** 40 Micron filter element

Wall Mount Packages for CF15 Models



1121-015

Wall mount pumping system for anti-freeze or windshield washer fluid, designed for the CF15 series

1	1120-023	1/2" Aluminum CF Diaphragm Pump
1	8134-005	5' x 3/8" LP Connectivity Hose Assembly
1	3260-035	3/8" Auto Drain Filter Regulator
1	8249-005	5' x 1/2" MP Connectivity Hose Assembly
1	8145-005	5' x 1/2" Suction Rated LP Hose Assembly
1	4412-019	1/2" & 3/8" CF AODD Suction Kit
1	833097	Mounting Bracket for AODD Pumps

Mixing Packages for CF15 Models



1121-016

Blending pump system for anti-freeze or windshield washer solvent, designed for the CF15 mixing

1	1120-028	1/2" Mixing CF Diaphragm Pump
1	8134-005	5' x 3/8" LP Connectivity Hose Assembly
1	3260-035	3/8" Auto Drain Filter Regulator
1	8249-005	5' x 1/2" MP Connectivity Hose Assembly
2	8146-010	10' x 1/2" Suction Rated LP Hose Assembly
2	4412-019	1/2" & 3/8" CF AODD Suction Kit
1	833097	Mounting Bracket for AODD Pumps

Evacuation Packages for Used Oil CF15



1121-017

Evacuation system for waste oil disposal, designed for the CF15 series

1	1120-027	1/2" Aluminum CF Diaphragm Pump
1	8134-005	5' x 3/8" LP Connectivity Hose Assembly
1	3260-035	3/8" Auto Drain Filter Regulator
1	8249-005	5' x 1/2" MP Connectivity Hose Assembly
1	8145-005	5' x 1/2" Suction Rated LP Hose Assembly
1	4140-016	3/4" NPT Dry Break Coupler
1	806463	3/4" MPT x 1/2" FTP Class 3000 Bushing
1	833097	Mounting Bracket for AODD Pumps

Evacuation Packages for Used Oil CF30



1121-018

Evacuation system for waste oil disposal, designed for the CF30 series

1	1120-024	1" Aluminum CF Diaphragm Pump
1	8134-005	5' x 3/8" LP Connectivity Hose Assembly
1	3260-035	3/8" Auto Drain Filter Regulator
1	8281-005	5' x 1" MP Connectivity Hose Assembly
1	8181-005	5' x 1" Suction Rated LP Hose Assembly
1	4140-016	3/4" NPT Dry Break Coupler
1	833097	Mounting Bracket for AODD Pumps



Customer Support

800-747-5300 or 828-645-4261
(Mon. - Fri., 8 am - 5 p.m. ET)

- Order entry
- Product availability
- Pricing
- Basic product information
- Shipping dates and delivery information
- Product return authorization

Order by fax

800-763-0840 or 828-658-0840

- Fax orders day or night
- Free-up phone lines
- Order confirmed next business day by fax or email

Technical Support

800-747-5300 or 828-645-4261
(Mon. - Fri., 8 am - 5 p.m. ET)

- Repair Advice
- Product application recommendations
- Warranty claims and returns
- Service bulletins

E-mail Ordering & Online Support

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Service Bulletins

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