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1-800-264-9571 - OUTSIDE U.S

CENTRALHYDRAULICS@GMAIL.COM

Specializing in sales and repairs of hydraulic hose, pumps, motors, cylinders, valves, & components



ENGINEERING
TOMORROW



Kuriyama of America, Inc.



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AEROQUIP
APSCO INC
ALEMITE
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BRAND HYDRAULICS
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HEAVY MOTION

PRODUCTS OFFERED

Hose, Fittings, Adapters, Flexmaster Joints
Pneumatic Valves - Electric and Manual
Lube Equipment & Fluid Handling Products
Punch Type Clamps & Tools
Air, Water, Fuel, Chemical Hose
Valves, Stackable, Mono Block
Monoblock & Sectional Directional Control Valves
High Pressure Pumps & Rams to 10k psi
Cylinders, Valves, Gear Pumps & Motors
Air Compressors
Hydraulic Valve Manifolds
Needle, Flow Control, Check & Cartridge Valves
Valves, Couplings, Camlocks
Instrumentation Fittings & Valves
Hydraulic Filters & Components
Pressure Gages, High Pressure Ball Valves
Gear Pumps & Gear Motors
Filters Regulators & Lubricators
Fuel Transfer Pumps & Meters
Water & Air Disconnects
Bulk Fluid and Grease Dispensing Air Pumps
Best Quality Hose Reels for Industry
Testers & Flow Meters for Liquid, Air & Compressed Gases
Economical Hose Reels
Fuel Nozzles & Accessories
Pump/Motor Mounting Brackets
Full Time Hydraulic 3000psi Live Swivels
NFPA Valves and Accessories
Sewer Cleaning Hose
Air Accessories & Fittings
European Quick-Connect Couplings
Gear Pump, Motors, & Dump Pumps
AC/DC Hydraulic Power Units
Hydraulic Quick-Disconnect Couplers
Live Swivels Oil, Water & Air up to 5000psi
Pressure Washer Accessories
LSHT Motors and Brakes
Solenoid Operated Directional Control Valves
Overhung Load Adapters
Replaces DVA-20 & DVA-35 Valves
Gear Pumps & Parts



Central Hydraulics Inc.

1580 North Nova Road Daytona Beach, FL
32117

386-253-2568

www.Cenhyd.com
Tampa Ocala Leesburg Cocoa

About Central Hydraulics, Inc.

Central Hydraulics has been involved in the Hydraulic repair and supply business since 1983. We are factory direct with over 150 product lines in the hydraulic industry to bring the best availability of products and services to our customers. We have five locations in Florida to be able to keep up with the hydraulic sales and repair demand of the southeast while also becoming a worldwide hydraulic component supplier.

Central Hydraulics is a Premier Aeroquip hose and fitting distributor. We offer all of our customers the best prices available and supply a wide variety of hydraulic components. We boast our repair facilities with having state of the art machinery and testing equipment. Central Hydraulics stocks chrome hydraulic rod up to 6" O.D. and honed seamless hydraulic pistons, rods, and have the expertise and specialized machinery to fabricate any custom cylinder. Central Hydraulics keeps an inventory of over 50 different styles of refuse cylinders and hydraulic pumps. This allows us not to have to rely on long lead times from OEM manufacturers, enabling our customers to be back in business with minimal down-time to increase profits and productivity. We pride ourselves in our fast response and shipping times for your cylinder repair and hydraulic related requirements. We also stock a large inventory hydraulic pumps, motors, valves, cylinders, and can bend hydraulic tubing per the customer samples. Enclosed is our product line card showing just a few of the high quality products we stock and supply to our customers. We look forward to supplying your company with the best products and services that Central Hydraulics has to offer.

**Central Hydraulics
& Equipment, Inc.**

2195 W King St
Cocoa, FL 32926

T: (321) 639-9967

F: (321) 636-3156

**Central Hydraulics
& Equipment, Inc.**

820 Thomas Ave
Leesburg, FL 34748

T: (352) 323-8008

F: (352) 323-8533

**Central Hydraulics of
Ocala, Inc.**

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Ocala, FL 34475

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F: (352) 840-0858

**Global Hose
& Hydraulics, Inc.**

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Tampa, FL 33605

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CENTRAL HYDRAULICS INC.

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Hydraulic Hoses



Part#	MAX PSI	Min.Bend Radius (in)
GH781-4	6500	2.00
GH781-6	5300	2.50
GH781-8	4500	3.50
GH781-10	4000	4.00
GH781-12	3500	4.75
GH781-16	3000	6.00
GH781-20	2500	8.25
GH781-24	2000	10.0
GH781-32	1600	12.5

Two Wire Meets or Exceeds SAE 100R16 Type S, EN857 2SC, ISO 11237-1 Type 2SC -40 degrees F. to +212 degrees F. Uses: Hydraulic system service with petroleum and water-base fluids, for general industrial service.



Part#	MAX PSI	Min.Bend Radius (in)
GH793-4	6500	4.00
GH793-6	5800	5.00
GH793-8	5000	7.00
GH793-10	4000	8.00
GH793-12	3500	9.50
GH793-16	3000	12.00
GH793-20	2500	16.5
GH793-24	2000	20
GH793-32	1600	25

Two Wire Meets or Exceeds SAE 100R2AT Type S, EN853 2SC, ISO 1436-1 Type 2SN -40 degrees F. to +212 degrees F. Uses: Hydraulic system service with petroleum and water-base fluids, for general industrial service.



Part#	MAX PSI	Min.Bend Radius (in)
GH663-4	3700	4.00
GH663-6	3400	5.00
GH663-8	2900	7.00
GH663-12	2000	9.50
GH663-16	1500	12.00
GH663-20	1000	16.50
GH663-24	750	20.00
GH663-32	600	25.00

One Wire SAE 100R1AT Type S, EN853 1SC, ISO 1436-1 Type 1SN -40 degrees F. to +212 degrees F. Uses: Hydraulic system service with petroleum and water-base fluids, for general industrial service.

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Hydraulic Hoses



Part#	MAX PSI	Min.Bend Radius (in)
GH120-4	6000	2.00
GH120-6	5000	2.50
GH120-8	4500	3.50
GH120-10	4000	4.00
GH120-12	3000	4.75
GH120-16	2800	12.00

Two Wire Meets or Exceeds SAE 100R2AT Type S, EN853 2SN, ISO 1436-1 Type 2SN -40°F. to +300°F. Uses: Hydraulic system service with petroleum, fire resistant and water-base fluids, fuel and lubricating systems.



Part#	MAX PSI	Min.Bend Radius (in)
GH493-6	6500	2.50
GH493-8	6000	3.50
GH493-10	6000	4.00
GH493-12	5500	4.75
GH493-16	5100	6.00
GH493-20	4500	8.25
GH493-24	4000	10.00
GH493-32	4000	12.50

Four Spiral Wire SAE 100R12, EN 856 Type R12 -40°F to +250°F. Hydraulic system service with petroleum and water-base fluids, for general industrial service.



Part#	MAX PSI	Min.Bend Radius (in)
FC254-08	7700	8.00
FC254-12	7200	11.00
FC254-16	5900	12.00
FC254-20	5100	16.50
FC254-24	4350	20.00

Four Heavy Spiral Wire Exceeds SAE 100R11, EN 856 4SP -40°F to +250°F. Hydraulic system service with petroleum and water-base fluids, for general industrial service.



Part#	MAX PSI	Min.Bend Radius (in)
FC273-20	5000	16.50
FC273-24	5000	20.00

Six Heavy Spiral Wire SAE 100R13, EN 856 Type R13 -40°F to +250°F. HYdraulic system service with petroleum and water-base fluids, for general industrial service.

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Hydraulic Hoses



Part#	Max. PSI	Hose I.D. (in)	Min. Bend Radius (in)
FC300-4	3000	0.19	3.00
FC300-5	3000	0.25	3.38
FC300-6	2250	0.31	4.00
FC300-8	2000	0.41	4.62
FC300-10	1750	0.50	5.50
FC300-12	1500	0.63	6.50
FC300-16	800	0.88	7.38
FC300-20	625	1.12	9.00
FC300-24	500	1.38	10.50
FC300-32	300	1.81	13.25

FLEET TRUCK HOSE

Single Wire Braid

DOT Fuel, Hot Oil, Air Brakes

Exceeds 100R5 -55°F to +300°F

*Except air +250°F



Part#	Max. PSI	Hose I.D.	Min. Bend Radius (in)
FC234-5	1500	0.25	1
FC234-6	1500	0.31	1.25
FC234-8	1250	0.41	1.75
FC234-10	1250	0.50	2.25
FC234-12	750	0.63	2.75
FC234-16	400	0.88	3.5

High Temperature Fuel and Oil

Fire Resistant USC G/
MMT, NMMA/BIA -40°F to
+300°F.



Part#	Max. PSI	Hose I.D.	Min. Bend Radius (in)
FC332-4	250	0.25	3
FC332-6	250	0.31	3
FC332-8	250	0.41	5
FC332-10	250	0.50	6
FC332-12	250	0.63	7

Textile Braid

Gasoline, Diesel, Oil/vv

-40°F to +300°F.

*Except air +250°F. Water +180°F.

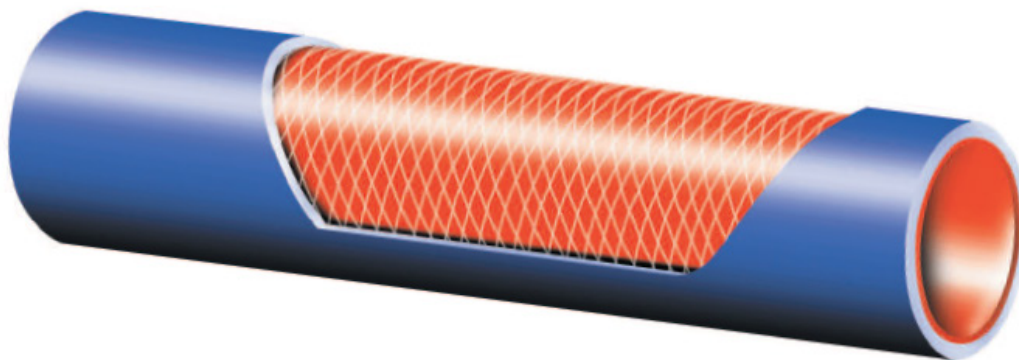
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Silicone Hose

1-Ply Silicone Heater Hose

Extruded heater hoses meet or exceed the requirements of the SAE J20 R3 Class A specification. The silicone hoses are reinforced with polyester fabric. An aramid fiber reinforcement is available for high temperature applications up to +500°F. Heater hoses are resistant to coolant solutions, cold leaks, racking, peeling, aging and ozone. **Color Blue.**



Temperature - Low/High	- 65°F to +350°F
Abrasion - Interior/Exterior	Good/Good
Flexibility	Excellent
Pressure	Positive
Chemical	Good
Standard Length	25' to 50' (Heater)
Size - ID	.250" to 1.25" ID

Applications

Standard equipment on trucks, cars and buses.

Not recommended for fuel or oil transfer use.

1-Ply Silicone Heater Hose

Diameter (I.D.)	Diameter (O.D.)	Part #	Burst Pressure P.S.I.	Operating Pressure P.S.I.	Weight lb/ft
.250	.56	5526-025	250	60	.12
.375	.69	5526-038	250	60	.18
.500	.81	5526-050	250	60	.24
.625	.93	5526-062	250	60	.28
.750	1.06	5526-075	200	50	.34
1.00	1.36	5526-100	175	40	.46
1.25	1.58	5526-125	175	40	.49

FEDERAL HOSE®
Since 1921

CENTRAL HYDRAULICS INC.

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Flexmaster

1-800-264-9571



**Danfoss Aeroquip
Flexmaster Pipe and Tube Couplers
In Stock at the best prices available.**

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Hose Sleeves and Wraps

Heavy Wall High Density Spiral Hose Wrap

Advantages:

- ADDS CRUSH PROTECTION
- ABRASION PROTECTION
- BUNDLES HOSES
- EASY TO INSTALL



RATED FROM -180°F TO 250°F



BLACK WRAP IS **IN STOCK**.
CUT LENGTHS AVAILABLE.

6 Other colors available in
BOX QUANTITIES ONLY.

Part #	I.D. Inches	Box Quantity
93050	1/2" #4 Hose(1/4")	100 F.T.
93075	3/4" #6 Hose (3/8")	100 F.T.
93100	1" #8 & #10 Hose (1/2" & 5/8")	100 F.T.
93125	1-1/4" #12 Hose (3/4")	100 F.T.
93150	1-1/2" #16 & #20 Hose (1" & 1 1/4")	100 F.T.
93200	2" #24 Hose (1 1/2")	50 F.T.
93250	2-1/2" #32 Hose (2")	50 F.T.
93300	3" Used Mainly For Bundling	50 F.T.
93350	3-1/2" Used Mainly For Bundling	30 F.T.
93400	4" Used Mainly For Bundling	30 F.T.
93600	6" Used Mainly For Bundling	20 F.T.



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Hose Reels



Alemite Heavy Duty Reels



Oil Reel #8078-D

With hose type:

1/2" x 50' (1,500psi)

Grease Reel #8078-B

With hose type:

1/4" x 50' (5,000psi)

Air/Water Reel #8078-F

With hose type:

3/8" x 50' (200psi)

Air/Water Reel #8078-M

With hose type:

1/2" x 50' (200psi)

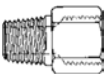
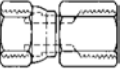
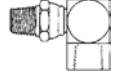
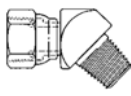
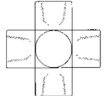
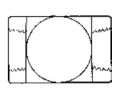
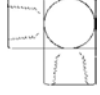
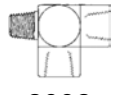
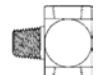


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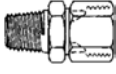
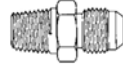
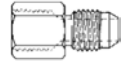
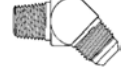
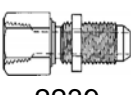
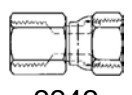
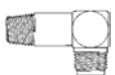
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Fittings and Adapters

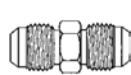
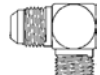
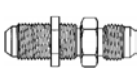
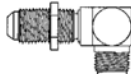
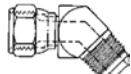
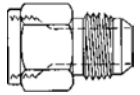
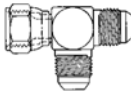
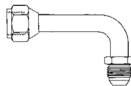
NPT to NPT FITTINGS

 2040	 2045	 2046	 2047	 2252
 2048	 2049	 2080	 2081	 2096
 2082	 2083	 2085	 2087	 2092
 2088	 2089	 2090	 2091	

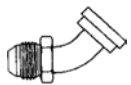
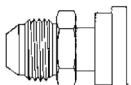
NPT to JIC FITTINGS

 2018	 2021	 2022	 2023
 2024	 2025	 2028	 2030
 2031	 2239	 2240	 2242
 2249	 2250	 202411	

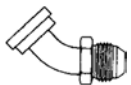
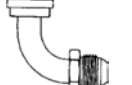
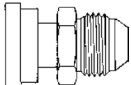
JIC to JIC FITTINGS

 2020	 2027	 2033	 2039
 2041	 2043	 2070	 2071
 2406	 203101	 203102	 210292
 500454	 504095	 900599	

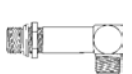
CODE 61 to JIC

 500023	 500024
 500025	

CODE 62 to JIC

 ff5539	 ff5540
 ff5541	

ORB to JIC FITTINGS

 2061	 2062	 202702
 203003	 203005	 206209</

CENTRAL HYDRAULICS INC.

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Stainless Steel Products



Crimp Fittings



Adapters



Instrumentation
Tube Fittings



Weld-Ons



Hose Barbs



Push-Ons



Reuseable



Flange Adapters



Metric Tubing



Valves



Custom Fittings



Accessories

CENTRAL HYDRAULICS INC.

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Super Swivels



Hydraulic Live Swivels

5000 psi



Inline & 90° Swivels

Heavy Duty Ball Bearing, Rebuildable Design

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High Pressure Hydraulic Swivel Joints

“S” Series/In-Line Swivel Joint

Sizes - 1/4" through 2" pipe size

Connection types - JIC, pipe, SAE O-Ring face seal (male & female)

Operating pressures - vacuum & to 3,000 PSI

Operating temperatures - 40° to 200° F



“9S” Series/90° Swivel Joint

Sizes - 1/4" through 2" pipe size

Connection types - JIC & O-Ring (male), pipe and SAE O-Ring face seal (male & female) & pipe union

Operating pressures - vacuum & to 3,000 PSI

Operating temperatures - 40° to 200° F



“9SS” Series/Dual Plane Swivel Joint

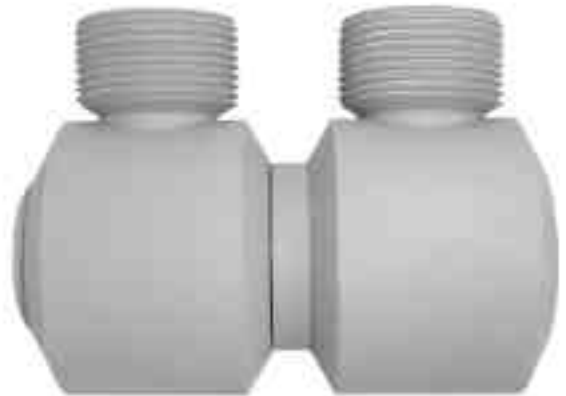
Sizes - 1/4" through 1 1/4" pipe size

Connection types - JIC & O-Ring (male), pipe & SAE

O-Ring face seal (male & female)

Operating Pressures - vacuum & to 3,000 PSI

Operating Temperatures - 40° to 200° F



“18S” Series/180° Swivel Joint

Sizes - 1/4" through 2" pipe size

Connection types - JIC (male), pipe & SAE O-Ring face seal (male & female) & pipe union

Operating pressures - vacuum & to 3,000 PSI

Operating temperatures - 40° to 200° F



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AC HYDRAULIC POWER UNITS

Auto Hoist

•AC-10AH •AC-10FP-A

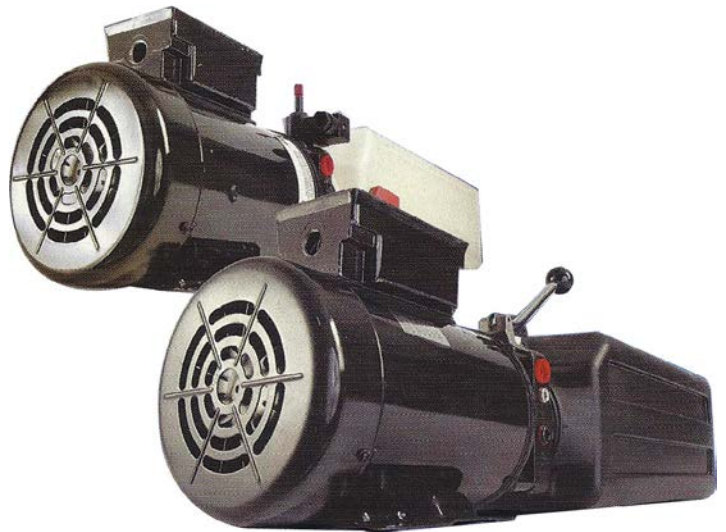
Power Up Button/
Gravity Down Handle

AC-10AH 2-POST

230VAC 2hp 1ph Hoist 1.82gpm
2750 psi 4gal verticle tank down

AC-10FP-A 4-POST

230VAC 3hp 1ph Hoist 2.82gpm
2450 psi 6.3gal verticle tank down



This power unit is designed specifically for use on 2 and 4 post auto hoists. This is for raise-hold-lower of the lift, with manual control of the lowering speed. A push-button, mounted on the unit, starts the motor to raise the lift. The unit features a fixed relief valve, so the lift cannot be overloaded, but (depending on cylinder size) can be used on most 7000 to 9000 lbs. capacity lifts.

SPX **STONE**

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AC HYDRAULIC POWER UNITS

Auto Hoist for Tire Changer

•AC-10TC

AC-10TC

115v AC 1PH Auto Hoist for Tire Changer
Power Up/Gravity Down

3/4HP 115 VAC
1.5 gal Tank is standard.
Fixed relief set at 2300 psi.
#6 ORB 9/16"-18 port
.73 gpm



This power unit is designed for smaller, low-rise auto hoists and can be mounted either horizontally or vertically, operating on AC power. A push button on the motor starts the unit to raise the vehicle on the lift. To lower, a manually operated cartridge style release valve is used for fingertip control of lowering speed.



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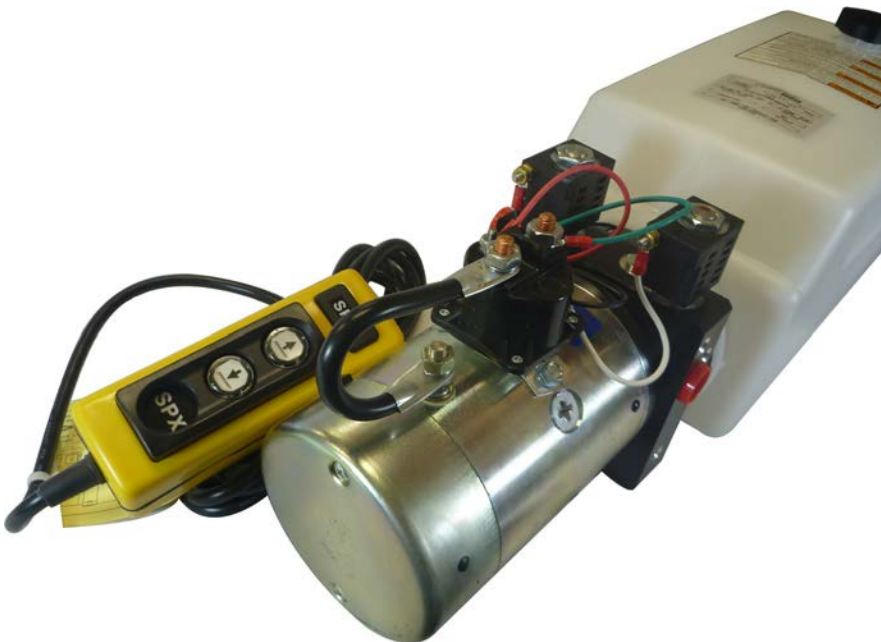
DC HYDRAULIC POWER UNITS

Dump Trailer •DC-41DTC

DC-41DTC-20-25P-25

12V DC Solenoid Operated
Power Up/Power Down

2.5 gal Poly Tank is standard.
High Pressure relief set at 2500lbs.
Low Pressure relief set at 500lbs.
Complete w/ Electric Controller.
3/8"NPT Ports



This power unit is designed for use on a double acting dump trailer or dump bed application. Provides power lift-hold-power down operation. It can also be used to operate double-acting cylinder needs. All the Steel or Poly tank options are available in our stock.



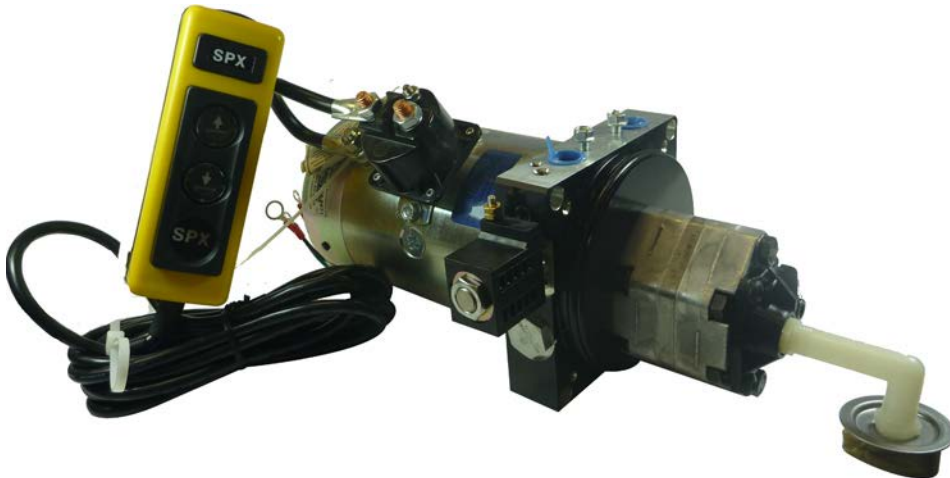
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DC HYDRAULIC POWER UNITS

•Tail Gate •Truck Mounted Crane •Dump Truck
•DC-20SF



DC-20SF (Base Unit)

12v DC Solenoid Operated
Power Up/Gravity Down

Controller Included
Adj. Relief set at 2500lbs.
3/8" NPT Ports
Tank Sold separately

The most common, rugged and reliable piece of truck equipment is the tail gate. The original Stone unit, now manufactured by SPX Fluid Power, has been used by manufacturers of this equipment since the industry began. Our 12V and 24V DC power packs come in manual or solenoid-operated versions for basic power up/gravity down tail gates. Power packs also available for cantilever and tuck-away designs of tail gates. Two button hand control is available for many DC lift/hold/lower applications. Various steel or poly tank sizes can be supplied to suit hydraulic cylinder capacities.



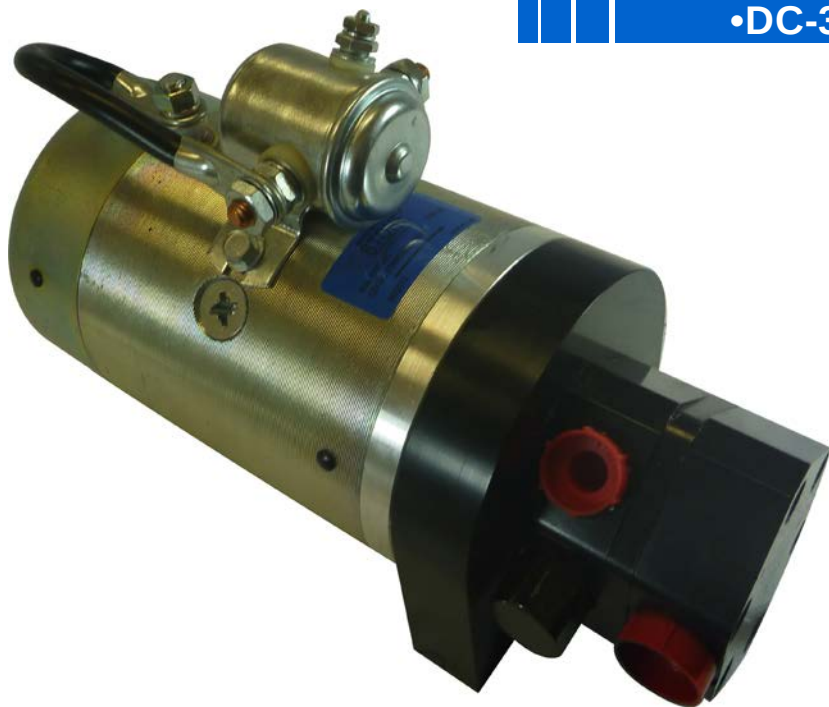
SPX **STONE**

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DC HYDRAULIC POWER UNITS

Auxiliary Power Unit •DC-30APU



DC-30APU

12v DC 1T Std. Duty

Check and Adj. Relief set at 2500psi

3/4" SAE Side Inlet

9/16" SAE Side Outlet and Relief
Drain Ports

2.2 gpm @ 500 psi

1.7 gpm @ 1000 psi

1.4 gpm @ 2000 psi

The power unit is intended to be used with remote directional control valving and reservoir. This unit has an adjustable relief valve and outlet check valve. They are designed for applications such as backup (auxiliary) hydraulic power for truck mounted or the other mobile equipment, including emergency power steering for off-highway vehicles, elevated platforms, aerial buckets and manlifts. It can also be used to power material handling functions and other intermittent duty applications.

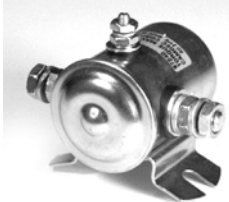


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Power Units

Switches and Solenoids

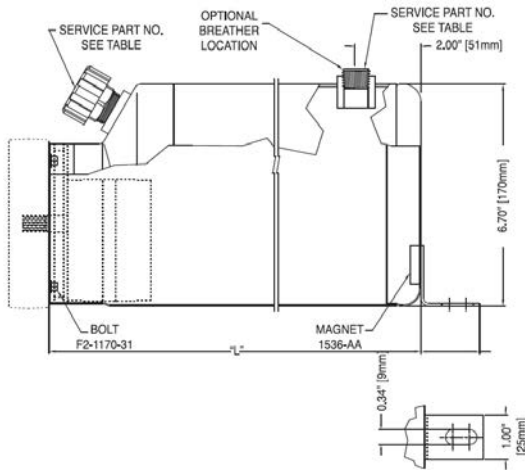
	APL2250 Push Button Start Switch	APL3020 V3 Post Positive grounded Prestolite Solenoid	
	APL2252 Canister Switch, Jam-type mount	APL3051 Smart Start Solenoid SPX EF-1070	
	APL3000 3 post, positive to excite, grounded solenoid with flat base.	APL3094 3 Post positive grounded solenoid Maxon	
	APL3004 4 post insulated solenoid with flat base	APL3390 Drain Solenoid	
	APL3010 3 post, positive to excite, grounded solenoid with curved base	BPL2250 Monarch Canister Switch Screw-type	
	APL3014 4 post insulated solenoid with curved base	BPL2254 Canister Switch for Condenser Valve	
		BPL3000 3 post, negative to excite, insulated solenoid with flat base	

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RESERVOIRS

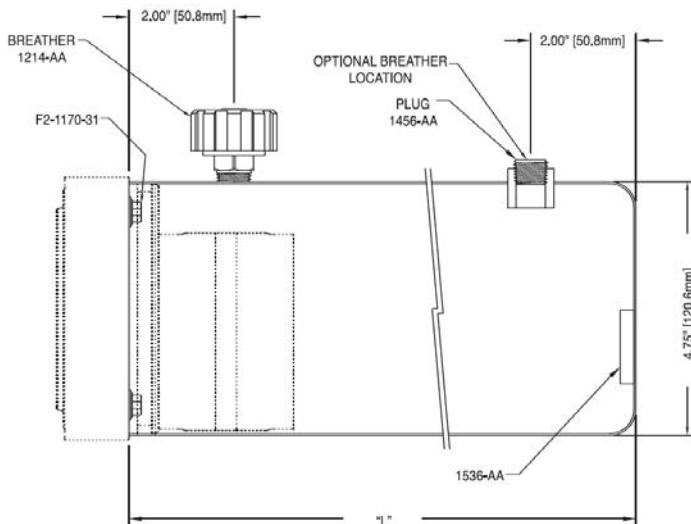
TRANSITION STYLE STEEL 6.7"/170MM



Kit #	Gallons	Length (in)	Useable Oil Capacity		Breather Part #	Plug Part #
			Vertical (ci)	Horizontal (ci)		
KR40	1.0	7.88	100	170	1214-AA	1465-AA
KR45	1.2	9.84	160	220	1214-AA	1465-AA
KR41	1.5	11.81	220	270	1683-AB	1896-AA
KR42	2.0	15.75	340	360	1683-AB	1896-AA
KR46	2.5	17.00	380	390	1683-AB	1896-AA
KR43	3.0	21.65	520	500	1683-AB	1896-AA
KR44	4.0	26.00	650	600	1683-AB	1896-AA

Foot included on 1.5 gallon and larger.

ROUND STEEL 4.75"/120MM



Kit #	Quarts	Length (in)	Useable Oil Capacity	
			Vertical (ci)	Horizontal (ci)
KR12	2	8.5	85	90
KR14	3	12.00	138	135
KR15	4	14.50	165	161

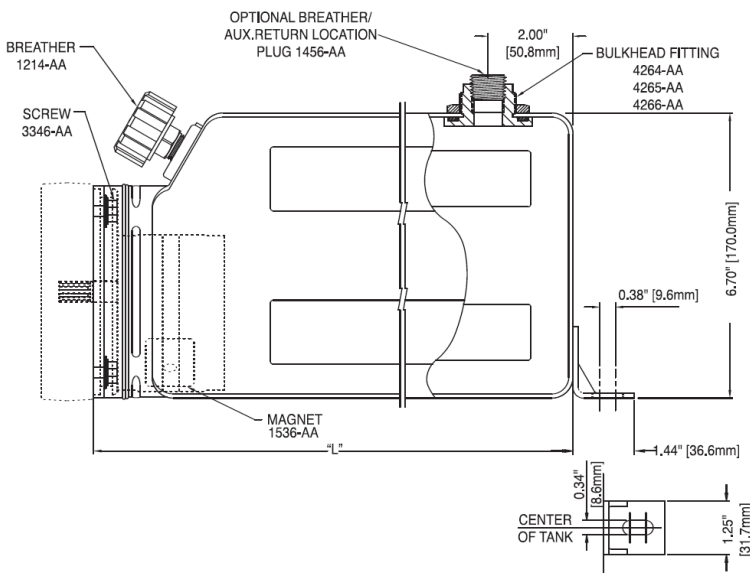
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RESERVOIRS

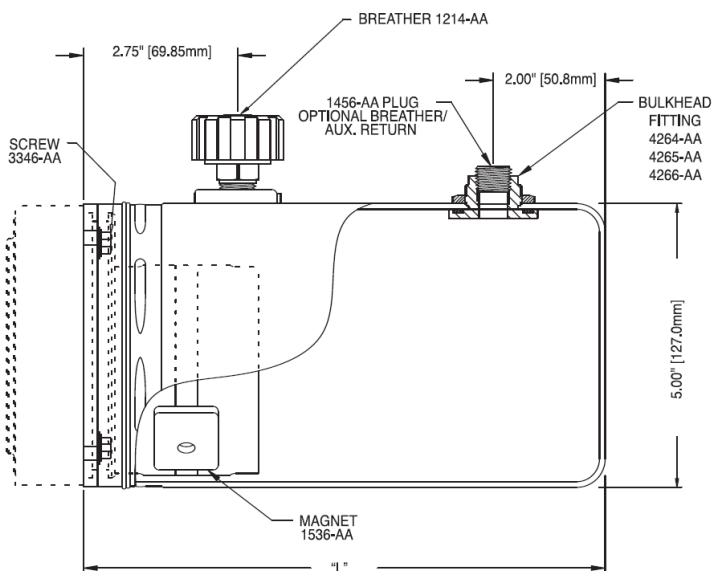
OFFSET PLASTIC 6.7"/170MM



Kit #	Gallons	Length (in)	Useable Oil Capacity	
			Vertical (ci)	Horizontal (ci)
KR50	1.0	7.50	120	186
KR55	1.2	9.00	180	230
KR51	1.5	11.00	260	286
KR52	2.0	13.00	340	345
KR56	2.5	15.00	420	400
KR53	3.0	20.00	620	540
KR54	4.0	26.00	860	715

Foot included on 1.5 gallon and larger.

SQUARE PLASTIC 5.0"/127MM



Kit #	Quarts	Length (in)	Useable Oil Capacity	
			Vertical (ci)	Horizontal (ci)
KR22	2	8.5	83	100
KR24	3	11.00	138	130
KR25	4	14.00	200	175

SPX **STONE**

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Spin-On Hydraulic Filters



3/4" NPT

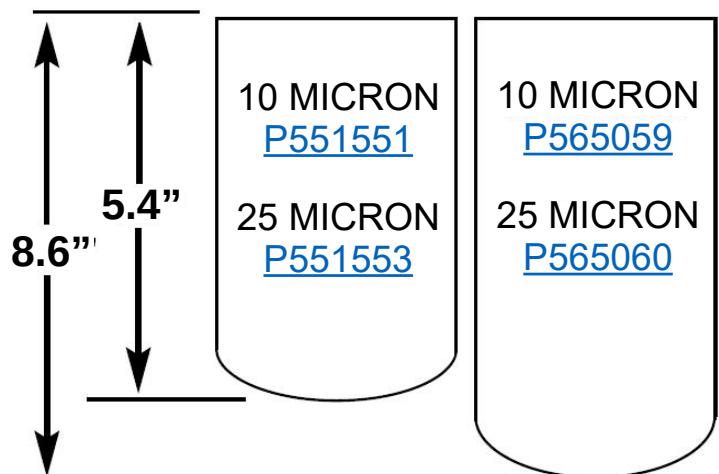
Flow Range to
30gpm.

Up to 150psi



[P561131](#)

Single Filter Head



P563298



Color-Coded
0-100psi
Gage

1 1/4" NPT

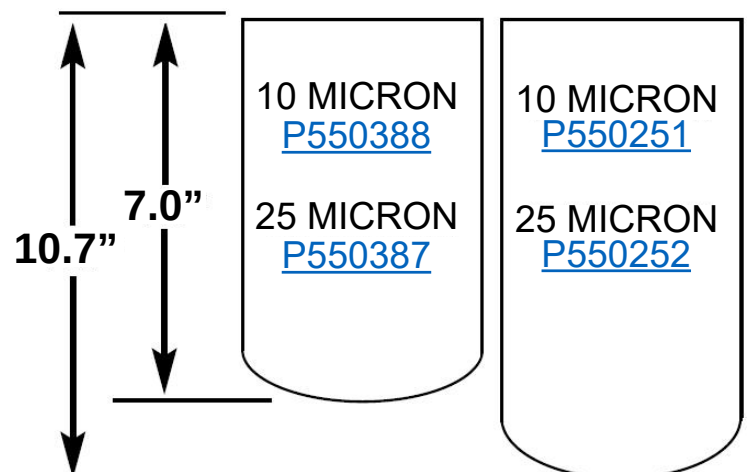
Flow Range to
60gpm.

Up to 150psi



[P563268](#)

Single Filter Head



CENTRAL HYDRAULICS INC.

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Spin-On Filters



1-1/2" NPT Head P563274

Part #	Micron Rating
P550388	10 Micron
P550387	25 Micron
P550251	10 Micron Long Element
P550252	25 Micron Long Element

Working Pressures to: 150 psi

Rated Static Burst to: 250 psi

Flow Range to: 100 gpm

Features

SP80/90 double element head allows for double the flow capacity, with two filters to hold more contaminant. Aluminum casting and Buna-N seals standard.

Beta Rating

- Performance to $\beta_{6(c)} = 1000$

Porting Sizes

- 1½" NPT, 2" SAE Flange, SAE-24

Porting Sizes

- 6.7"
- 7.0"
- 10.7"

Standard Bypass Ratings

- 25 psi
- 15 psi
- 5 psi
- No Bypass

Operating Temperatures

- -22°F to 250°F / -30°C to 121°C

Assembly Weight

- 10.0 lbs (short)
- 11.8 lbs (long)

CENTRAL HYDRAULICS INC.

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Low to Medium Pressure Filters

Working Pressure: 500 psi

Rated Static Burst to: 1000 psi

Flow Range to:	HMK04	HMK24
	35 gpm	60 gpm

Porting Sizes:	HMK04	HMK24
	SAE-16 O-Ring	SAE-20 O-Ring

Replacement Filter Lengths: 6" and 8.12"

Standard Bypass Rating: 25psi, 50psi, No Bypass

Operating Temperatures: -20°F to 250°F

Head
P163681

HMK04

20 Micron Std.
P164375

33 Micron Long
P164384

HMK24
P179609

10 Micron Long
P176566

Features

HMK04 (single) and HMK24 (double) Duramax® spin-on filters both feature a die-cast aluminum head, a heavyduty steel body, with diecast aluminum top plate for added strength. A special head-to-canister O-Ring seal prevents leakage. BunaN seals are standard; Viton® seals are available on some models.

Since both HMK04 and HMK24 models use the same replacement filter elements, they make a great team for your application. Both filters feature identical pressure ratings, but HMK24 handles double the flow capacity as HMK04, so there's no need to inventory two different part numbers for replacement elements.

A full range of media options are available, using Donaldson's exclusive **Synteq®** synthetic media designed especially for liquid filtration. Likewise, select the exact indicator types and bypass options to suit your application.

Working Pressure: 1000 psi

Rated Static Burst to: 2000 psi

Flow Range to: 25 gpm

Porting Sizes: ¾" SAE O-Ring (standard)

Replacement Filter Lengths: 5.5" and 9.5"

Standard Bypass Rating: 50psi or No Bypass

Operating Temperatures: -20°F to 250°F

Head
P170773

20 Micron Long
P170310

20 Micron Std.
P170311

HMK03

Features

HMK03 Series Duramax® spin-on filters offer twice the capacity of competitive filters, yet they are physically smaller than traditional housing/cartridge filter assemblies. It features a die cast aluminum head and a unique radial seal O-Ring gasket design that eliminates leakage.

Take advantage of Donaldson's Mix 'n Match system of in-stock heads, housings and media choices—so you can get exactly what you need.

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High Pressure Filters

Working Pressure: 2000 psi

Rated Static Burst to: 4500 psi

Flow Range to: 20 gpm

T-Type Porting Sizes: SAE-12 O-Ring

Replacement Filter Lengths: 4.37" and 8.12"

Standard Bypass Rating: 50psi / No Bypass

Operating Temperatures: -20°F to 250°F



Head
P167728



Housing
P167452



HPK02

10 Micron Long Element
P170311

The HPK02 is a heavy-duty filter built for high pressure applications, with cast aluminum head and impact-extruded aluminum housing for strength and durability at relatively light weight.

Take advantage of our Mix 'n Match system of in-stock heads, housings and cartridges—so you can get exactly what you need! HPK02 is available with your choice of visual or AC/DC electrical indicators. Likewise, choose the bypass option that's right for your application—50 psi bypass, or no bypass. Seals made of fluorocarbon (such as Viton® and Fluorel®) or BunaN are available with HPK02.

All HPK02 filters contain Synteq®, our synthetic filter media designed especially for liquid filtration.

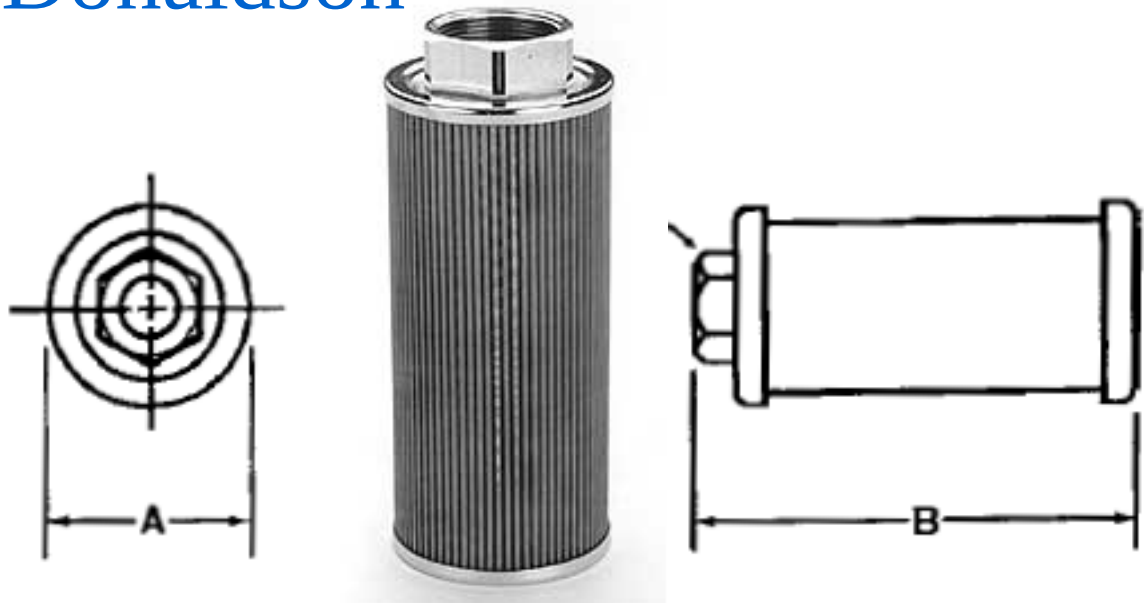
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Suction Strainers



Donaldson



Part #	NPT Size	Dim. A	Dim. B	Max. Flow
P169013	3/4"	2.63	3.55	8
P169014	1"	2.63	5.35	10
P169015	1-1/4"	3.38	6.85	20
P169016	1-1/2"	3.38	8.01	30
P169017	1-1/2"	3.94	9.80	50
P169018	2"	3.94	9.80	50
P169019	2-1/2"	5.12	10.10	75
P169020	3"	5.12	11.78	100

Many other sizes available!

Donaldson suction strainers are zinc-plated, with stainless steel mesh screens and rugged steel core centers epoxy bonded to heavy gauge connector and end caps. Suction strainers filter petroleum-based hydraulic fluids, phosphate esters, waters glycols, lubricating oils, coolants, fuels and water in fluid reservoirs, sumps and similar applications. They are cleanable and reusable. Clean by swishing in non-caustic solvent, then blow dry from inner diameter to outer diameter with compressed air.

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Donaldson Filter Spreadsheet

Pressure	Thread	MAX Flow	Head	Hi-Pressure Housing	Micron	Standard Element	Long Element	Series
SUCTION	3/4"NPT	20 GPM	P561132		150 MESH	P550274		
SUCTION	1-1/4"NPT	40 GPM	P563491		150 MESH	P550275	P550276	SP50/60
150 PSI	3/4"NPT	30 GPM	P561131		10M	P551551	P565059	LPS04
					25M	P551553	P565060	LPS04
150 PSI	1-1/4"NPT	40 GPM	P563268		10M	P550388	P550251	SP50/60
					25M	P550387	P550252	SP50/60
150 PSI	1-1/2"NPT	90 GPM	P563274		10M	P550388	P550251	SP80/90
			DUAL FILTER		25M	P550387	P550252	SP80/90
500 PSI	#16 ORB	35 GPM	P163681		10M		P176566	HMK04
500 PSI	#24 ORB	60 GPM	P179609		20M	P164375		HMK04
					33M		P164384	HMK04
1000 PSI	#12 ORB	25 GPM	P170773		20M	P170310	P170311	HMK03
2000 PSI	#12 ORB	20 GPM	P167728	P167452	9M		P165043	HPK02
3000 PSI	#16 ORB	60 GPM	P166353	P179579	10M	P164166		HPK03
6000 PSI	Split Flange Code 62	100 GPM	P170057	P162451	10M	P164166		HPK04

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3500 PSI Flow Meters

HEDLAND

Aluminum Flow Meters



for Petroleum Fluids

FEATURES

- Direct reading
- Install in any position
- 360° rotatable guard/scale
- Easier-to-read linear scale
- No flow straighteners or special piping required
- Relatively insensitive to shock and vibration
- Good viscosity stability
- Temperature up to 240 °F
- Accuracy $\pm 2\%$ full scale
- Repeatability $\pm 1\%$
- Special scales available
- Calibrated for .876 S.G.

NOMINAL PORT SIZE	GPM	Part #
1/4" SAE 6	0.1 - 1.0	H200A - 010
	0.2 - 2.0	H200A - 020
1/2" SAE 10	0.1 - 1.0	H600A - 001
	0.2 - 2.0	H600A - 002
	0.5 - 5.0	H600A - 005
	1 - 10	H600A - 010
	1 - 15	H600A - 015
3/4" SAE 12	0.2 - 2.0	H700A - 002
	.05 - 5.0	H700A - 005
	1 - 10	H700A - 010
	2 - 20	H700A - 020
	3 - 30	H700A - 030
1" SAE 16	0.2 - 2.0	H760A - 002
	.05 - 5.0	H760A - 005
	1 - 10	H760A - 010
	2 - 20	H760A - 020
	3 - 30	H760A - 030
	4 - 40	H760A - 040
	5 - 50	H760A - 050
1-1/4" SAE 20	3 - 30	H800A - 030
	5 - 50	H800A - 050
	10 - 75	H800A - 075
	10 - 100	H800A - 100
	10 - 150	H800A - 150
1-1/2" SAE 24	3 - 30	H860A - 030
	5 - 50	H860A - 050
	10 - 75	H860A - 075
	10 - 100	H860A - 100
	10 - 150	H860A - 150

THREADS:

SAE O-RING BOSS

TEMPERATURE RANGE:

-20 to +240 °F (-29 to +116 °C)

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Gauges

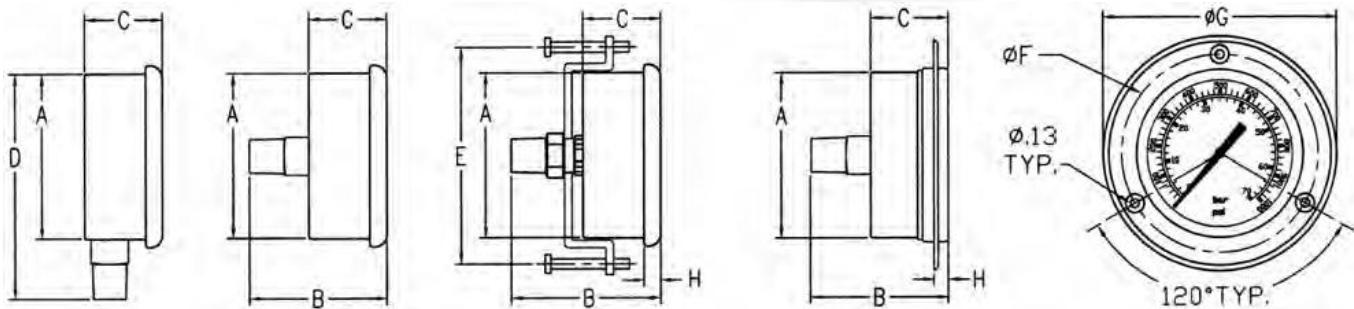
CF Series

1-1/2, 2 and 2-1/2
Glycerin Filled

- Stainless Steel Case & Bezel
- Brass & Phosphor Bronze Bourdon Tube
- Vacuum to 6,000psi Range
- Dual Scale PSI & BAR
- Accuracy $\pm 1.6\%$ FSD
- Temperature Range -40° to 180° F
- Brass Connection



INSTALLATION DATA



Size	A	B	C	D	E	F	G	H
1 - 1/2"	1.61	1.75	1.00	-	-	-	-	.20
2"	2.00	2.25	1.16	3.09	2.36	2.51	2.87	.21
2 - 1/2"	2.44	2.25	1.14	3.42	3.17	2.93	3.43	.24

Ordering Example: **CF** - **1** **P** - **004** - **A**

Model

CF
Designation
for glycerine
filled gauges

Size

1 to 2-1/2 dia.
5 to 2 dia.
*4 to 1-1/2 dia.

Type

C - compound
V - vacuum
P - pressure

Range

002 - 30" Hg - 30psi
000 - 30 Hg" - 0psi
001 - 15psi
002 - 30psi
004 - 60psi
007 - 100psi
010 - 160psi
015 - 200psi
020 - 300psi
040 - 600psi

070 - 1000psi
100 - 1500psi
140 - 2000psi
210 - 3000psi
280 - 4000psi
350 - 5000psi
420 - 6000psi

Style

A - stem
B - panel clamp
D - ctr. back
E - panel flange

*Note: 1-1/2" available only as a center
back mount

port size - 1/8npt. Limited to 5000psi.

Port Sizes for 2" and 2-1/2" are 1/4npt

Special sizes subject to minimum order qty.

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Needle and Flow Control Valves



Normal Operating Pressures

Brass - 2,000psi

Carbon Steel - 5,000psi

Stainless Steel - 5,000psi

(UNLESS OTHERWISE SPECIFIED)

Flow Control Valves Easy Read

SIZE	BRASS	CARBON STEEL
1/8"	EF10B	EF10S
1/4"	EF20B	EF20S
3/8"	EF25B	EF25S
1/2"	EF30B	EF30S
3/4"	EF35B	EF35S
1"	EF40B	EF40S



Color Band
Flow Control

Needle Valves Easy Read

SIZE	BRASS	CARBON STEEL
1/8"	EN10B	EN10S
1/4"	EN20B	EN20S
3/8"	EN25B	EN25S
1/2"	EN30B	EN30S
3/4"	EN35B	EN35S
1"	EN40B	EN40S



Color Band
Needle Valve

Ball Check Valves

SIZE	BRASS	CARBON STEEL
1/8"	EC10B	-----
1/4"	EC20B	EC20S
3/8"	EDC25B	EDC25S
1/2"	EDC30B	EDC30S
3/4"	EDC35B	EDC35S
1"	EC40B	EC40S



Check Valve

Cracking Pressure 1-2.5psi

Globe Check Valves

SIZE	CARBON STEEL
1/4"	S250S1
3/8"	S350S1
3/8"	S450S1
1/2"	S650S1
1"	S850S1

Carbon Steel - 10,000psi



Globe Needle
Valves

CENTRAL HYDRAULICS INC.

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Hydraulic Valves

Single Spool



Double Spool



Triple Spool



SBA Series- The Cross SBA series valve is a 3-position, 4-way valve in 1, 2, or 3 spool versions with float option available. Fully balanced select-fit honed spools with excellent metering characteristics give a maximum load holding capability.

Features

- 2500 psi operating pressure*
- 30 gpm flow rating
- 3/4" NPT inlet & outlet ports
- 1/2" NPT work ports
- 2000 psi adjustable relief valve
- Open center, spring centered
- Load holding cylinder port check valves

Part Number	Options
1V0208	Power Beyond Sleeve
1V0206	Closed Center Plug
1V0294	3-Position Detent
1V0096	3-way 3-Pos Spool



Made in the U.S.A.



MANUFACTURING, INC.

USES

- Double-acting cylinder or motor.
- Float position allows a dozer blade to ride the contours of the ground.

Part #	MFR	Description
SBA1-3WAY	133259	Single Spool 3-position, 3-way
SBA2	131135	Single Spool, 3-position, 4-way #100173 ALL parts #12 ORB
SBA22	136250	Double Spool, both 3-position, 4-way
SBA222	145737	Triple Spool, all 3-position, 4-way
SBAF2	143799	Double Spool, 1st spool 4-position, with detent in float, 2nd spool 3-position
SBAF22	150340	Triple Spool, 1st spool 4-position, with detent in float, 2nd & 3rd spools 3-pos.

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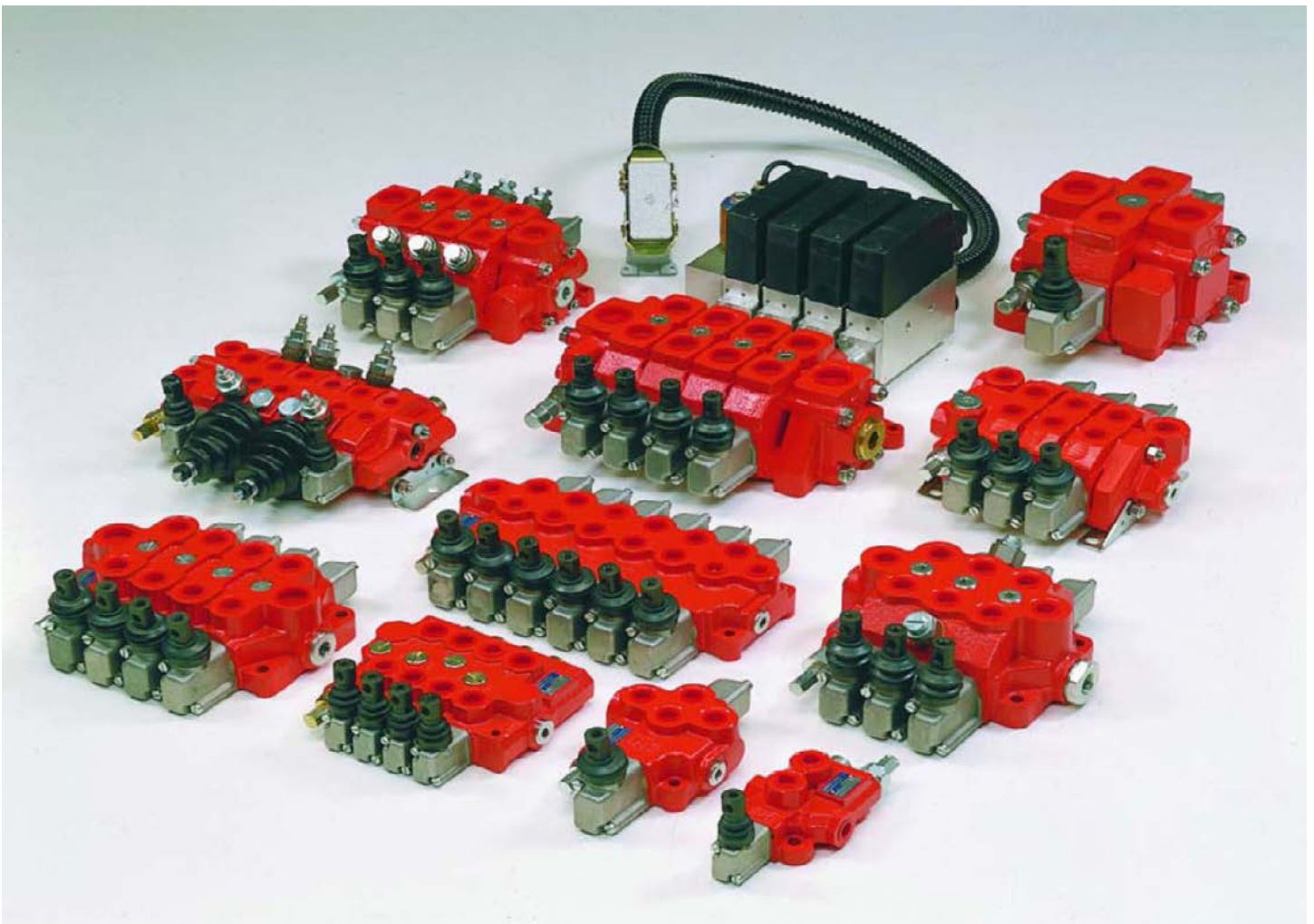
BUCHERHYDRAULICS



Monobloc and sectional directional control valves

Custom designs available

We keep the Monobloc styles in stock!

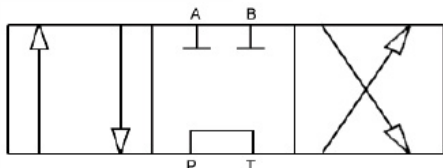


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MANUAL CONTROL VALVES

4-way 3-Position S/C to neutral



HDM140 - 1 spool
P/N 200051417006



BUCHER
HYDRAULICS

Monoblock - 8 O-Ring Boss
Max. 10gpm - 3600psi
(SOLD SEPERATELY)

6" Handle
P/N 200702210190

Detent Kit
P/N 200768520010

IN STOCK!

HDM11P - 2 spool
P/N 200061127007

HDM11P - 3 spool
P/N 200061137011

HDM11P - 4 spool
P/N 200061147007

HDM11P - 5 spool
P/N 200061157003

HDM11P - 6 spool
P/N 200061167007

Monoblock - 8 O-Ring Boss
Max. 12gpm - 3600psi

(SOLD SEPERATELY)

6" Handle
P/N 200702210190

3 POS DETENT
P/N 200768520010

Power Beyond Option
P/N 200527160201



IN STOCK!

IN STOCK!



Monoblock - 10 O-Ring Boss

Max. 18gpm - 5000psi

Load Hold Check Valves

7-1/4" Handle
P/N 200702220010

Detent Kit
P/N 200968620140

Power Beyond Option
P/N 200770000460

HDM18 - 1 spool
P/N 200071818007

HDM18 - 2 spool
P/N 200071828010

HDM18 - 3 spool
P/N 200071838025

HDM18 - 4 spool
P/N 200071848007

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Sectional Electric Control Valves



12vDC HDS11

12gpm Max Flow

1-6 Spools Assemblies

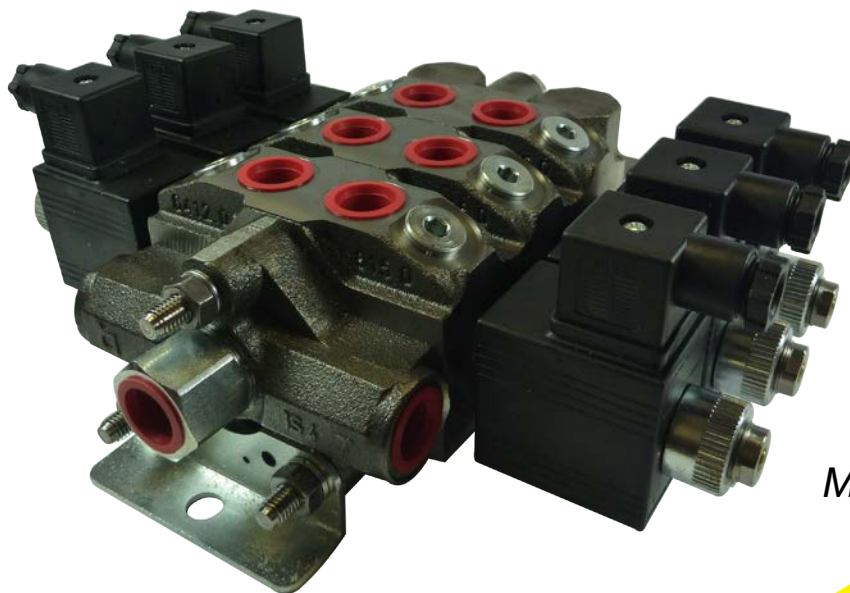
2100 - 3600 psi Relief Standard
up to 5000 psi available

#8 ORB Ports

4-Way 3-Pos is Standard

Load hold check valve in
each section

Many Spool Options Available!



**Custom
Built from
Stock in
24 Hours!**

Inlet no-Relief Top Ported P1, T1	200931070050
Inlet w/Adj. Relief 1300-3000psi set@ 2100 End Ported P1	200931070030
Outlet - Standard	200630070010
Outlet with Power Beyond HPCO	200930070020
Section 4way 3position A/B closed	200741270017
Mounting Bracket	200677200421

* Bolt Kits Based on Number of Spools

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Sectional Directional Control Valves



**Custom
Built from
Stock in
24 Hours!**

HDS20

25gpm Max Flow

3600 Max operating pressure

1-10 Spools Assemblies

Adjustable Direct Acting Relief Valve

#12 ORB Inlet/Outlet

#10 ORB Work Ports

4-Way 3-Position is Standard

Many Spool Options Available!

#12 ORB LH Inlet w/relief	200787400800
#12 ORB RH Outlet w/HPCO	200930490080
#12 ORB RH Outlet Standard	200930490020
#10 ORB 4-Way 3-Pos Cylinder Spool Section	200741480001
#10 ORB MTR Spool Section ABT Common	200741480005
3 Position Detent Kit	200968620020
7.25" Handle	200702220010

* Bolt Kits Based on Number of Spools

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Sectional Directional Control Valves



**Custom
Built from
Stock in
24 Hours!**

HDS30

35 Gpm Max Flow

3600 Max operating pressure

1-10 Spools Assemblies

#16 ORB Inlet/Outlet

#12 ORB Work Ports

4-Way 3-Position is Standard

Many Spool Options Available!

#16 ORB LH Inlet w/relief	200931690020
#16 ORB RH Outlet w/HPCO	200930690040
#16 ORB RH Outlet Standard	200630690030
#12 ORB 4-Way 3-Pos Cylinder Spool Section	200741690001
#12 ORB MTR Spool Section ABT Common	600130100549
3 Position Detent Kit	200968620020
7.25" Handle	200702220010

* Bolt Kits Based on Number of Spools

b **BUCHER**
HYDRAULICS

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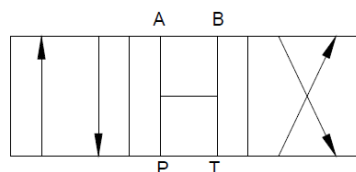
45GPM Directional Control Valve



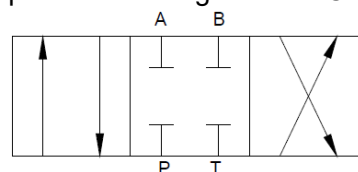
Common "DCSERIES" Stock #'s

DC	75	T	3	L	B	S
DC	75	T	4	H	E	B
DC	16	O	4	L	B	D
DC	16	T	3	L	B	D
DC	16	T	3	L	B	S
DC	16	T	4	L	B	D
DC	16	T	4	L	B	S
1	2	3	4	5	6	

45 gpm
3000 psi
#16 SAE ORB
3/4" NPT



Open Center (O) - All of the ports are connected to tank when the spool is in neutral. Allows cylinder to move or motor to rotate when spool is in neutral. This spool is not designed for DCF valve.



Closed Center (C) - All ports are blocked in neutral. Blocks cylinder or motor in neutral. Required for use with pressure compensated pump. This is not available for DCF valve.

1 SERIES

DC - 4-way directional control valve

2 PORT SIZE

75 - 3/4" inlet/outlet and work ports

16 - #16 SAE inlet/outlet and work ports

3 SPOOL TYPE

T3 - Tandem center 3-way (DC only)
(Omit 4)

C - Closed center (DC only)

T - Tandem center (DC only)

O - Open center (DC only)

M - Fine metering

TM - Tandem metering

4 3-WAY or 4-WAY

3 - 3-way (Tandem spool and DC only)

4 - 4-way

5 ACTUATORS

L - Lever handle (B port is active when handle is pushed)

H - Rotary handle (Used in conjunction

with rotary ball friction detent (E))

6 SPOOL ATTACHMENTS

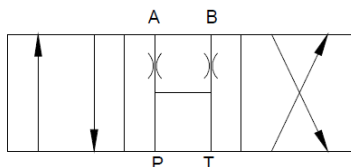
S - Spring center

D - Three-position detent

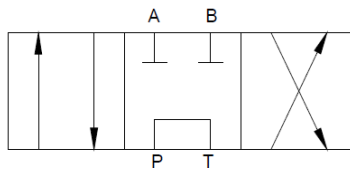
F1 - Ball friction detent

B - High lift ball spring relief for DC (TS-B)

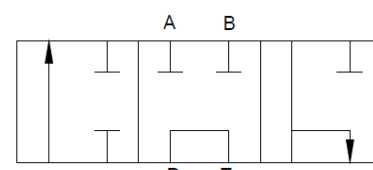
E - Rotary ball friction detent



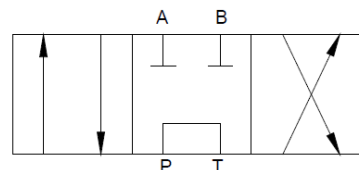
Fine Metering Spool (M) - The pressure drop in neutral is higher than the (TM) spool. Requires external locking valves to hold cylinder, because ports A and B are open (orificed) in the neutral position. Extremely fine metering control. This spool is designed for the DCF valve and acts as closed center in DC valve.



Tandem Metering Spool (TM) - Similar to (T) spool except much finer metering control. The pressure drop in neutral is lower than the (M) spool. Cylinder or motor blocked in neutral and pump unloads to tank. This spool is designed for DCF valve.



Tandem Three Way (T3) - Powers the cylinder in one direction. Pump unloads to tank when spool is in neutral, or when spool is being reversed. Cylinder is blocked when spool is in neutral. Port "B" is plugged. This spool is designed for the DC valve.



Tandem Center (T) - Powers cylinder or motor in both directions (metering capability is very limited). Pump unloads to tank when spool is in neutral. Cylinder or motor blocked when spool in neutral. This spool is not designed for DCF valve.

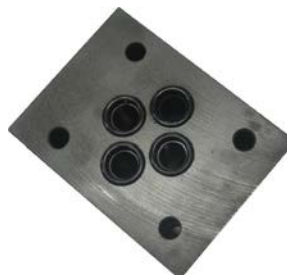
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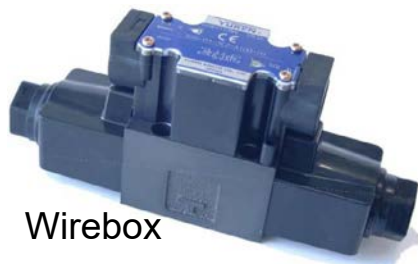
Directional Control Valves

T = Tank
P = Pressure
A & B = Work Ports

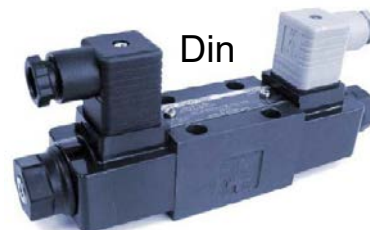
*Flow path when de-energized
is box between letters.



YUKEN



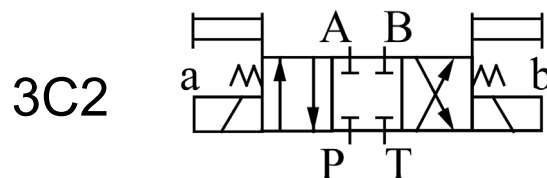
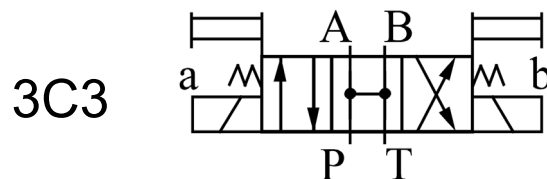
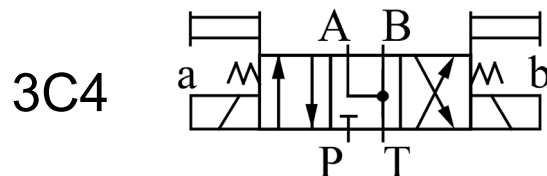
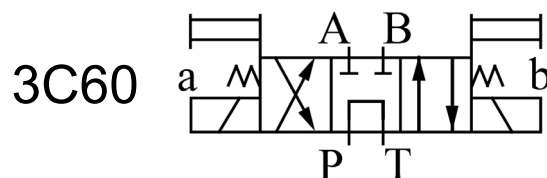
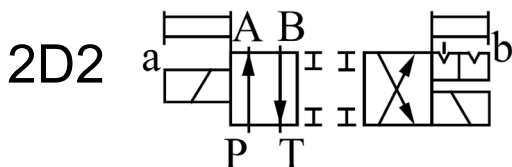
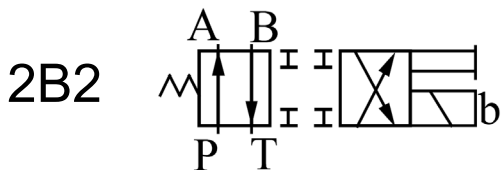
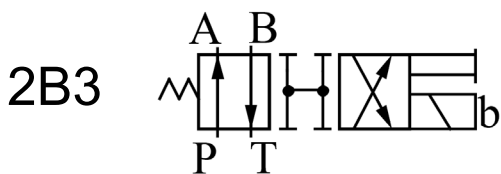
Wirebox



12v - 24v - 110v - 220v
D01 - D03 - D05 - etc...

We can interchange
Vickers, Parker, Rexroth,
Nachi, Northman, etc..

Single Coil 2 Position



Double Coil 3 Position

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DELTROL - Fluid Products

DELTROL

fluid products

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Cartridge Valves

Spool and
Poppet types



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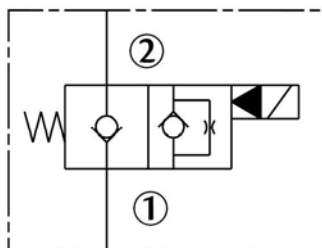
Cartridge Valves



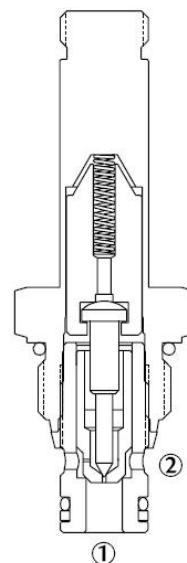
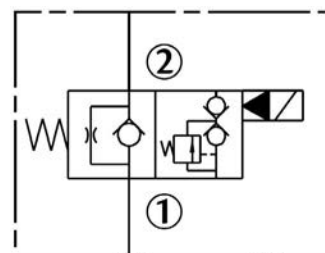
2-Way 2-Position Cartridge Valves

Poppet Type
(10v 12v 110v 220v)

Part #	Description
NORMALLY CLOSED DSV-080-2NCP-N Up to 5gpm DSV2-100-2NCP-N Up to 16gpm SV12-22 Up to 30gpm 3500# SV16-22 Up to 40gpm 3000#	A cartridge valve designed with positive shut off to be used in load holding applications. OPERATION When <i>de-energized</i> , the DSV-2NCP acts as a check valve, allowing flow from ① to ②, while blocking flow from ② to ①. When <i>energized</i> , the poppet lifts to open the ② to ① flow path.



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Part #	Description
NORMALLY OPEN DSV-080-2NOP-N Up to 5gpm DSV2-100-2NOP-N Up to 16gpm SV12-21 Up to 30gpm 3500# SV16-21 Up to 35gpm 3000#	A cartridge valve designed with positive shut off to be used in load holding applications. OPERATION When <i>de-energized</i> , the DSV-2NOP is open to allow flow from ② to ①. When <i>energized</i> , the poppet closes to block the flow from ② to ①. In this condition, the cartridge allows reverse flow from ① to ②.

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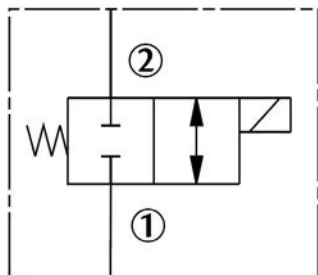
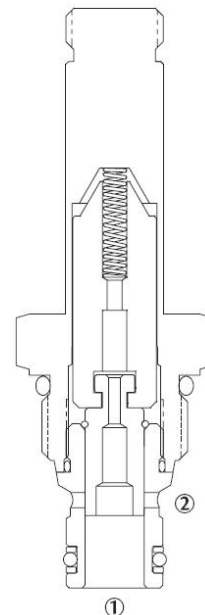
Cartridge Valves



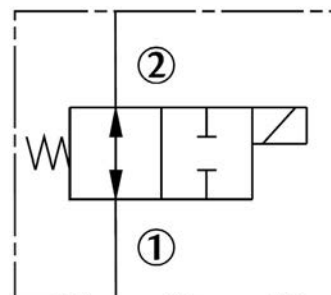
2-Way 2-Position Cartridge Valves

Spool Type
(10v 12v 110v 220v)

Part #	Description
NORMALLY CLOSED	A cartridge valve designed to operate as a bidirectional blocking valve.
DSV2-080-2NCS-N Up to 3gpm	OPERATION When <i>de-energized</i> , the DSV-2NCS blocks flow in both directions.
DSV2-100-2NCS-N Up to 3gpm	When <i>energized</i> , the cartridge's spool shifts to allow flow in either direction.



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Part #	Description
NORMALLY OPEN	A cartridge valve designed to operate as a bidirectional blocking valve.
DSV2-080-2NOS-N Up to 3gpm	OPERATION When <i>de-energized</i> , the DSV-2NOS allows flow in both directions.
DSV2-100-2NOS-N Up to 6gpm	When <i>energized</i> , the cartridge's spool shifts to block flow in either direction.

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Cartridge Valves

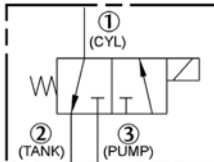
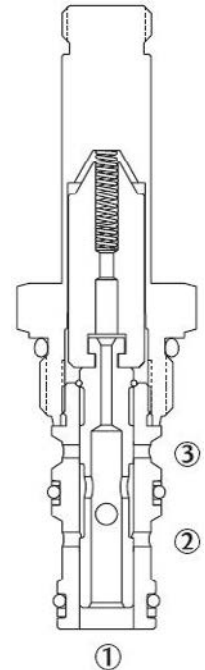


3-Way 2-Position Cartridge Valves

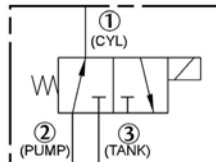
Spool Type

(10v 12v 110v 220v)

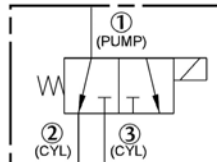
Part #	Description
DSV2-080-3-N Up to 4gpm	A cartridge valve designed as a three-way, spool-type, directional control valve. OPERATION When <i>de-energized</i>, the DSV-3 allows flow between ② and ① while blocking flow at ③. When <i>energized</i>, the cartridge's spool shifts to allow flow between ① and ③ while blocking flow at ②.
DSV2-100-3-N Up to 6gpm	



NORMALLY CLOSED

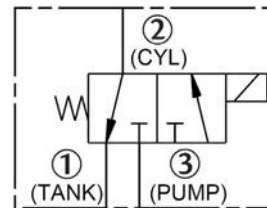


NORMALLY OPEN

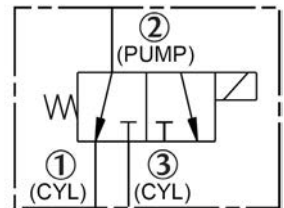


SELECTOR

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NORMALLY CLOSED



SELECTOR

Part #	Description
DSV2-080-3B-N Up to 5gpm	A cartridge valve designed as a three-way, spool-type, directional control valve. OPERATION When <i>de-energized</i>, the DSV-3B allows flow between ② and ①, while blocking flow at ③. When <i>energized</i>, the cartridge's spool shifts to allow flow between ② and ③ while blocking flow at ①.
DSV2-100-3B-N Up to 6gpm	

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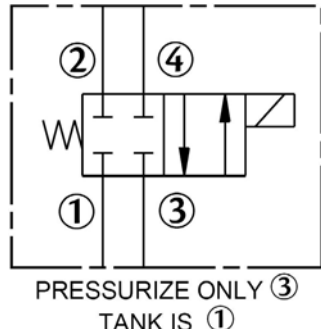
Cartridge Valves



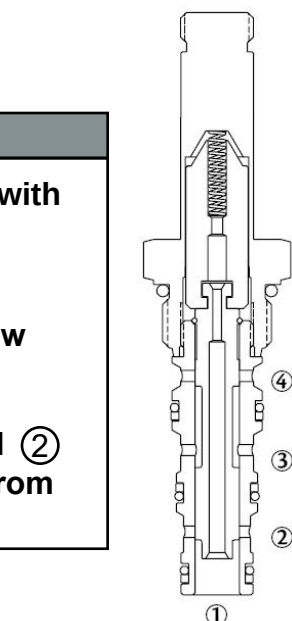
4-Way 2-Position Cartridge Valves

Spool Type
(10v 12v 110v 220v)

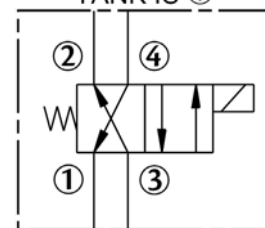
Part #	Description
NORMALLY CLOSED	Spool-type, directional control valve with all ports normally-closed
DSV2-080-4NC-N Up to 3gpm	OPERATION When <i>de-energized</i> , the DSV2-4NC flow paths are blocked.
DSV2-100-4NC-N Up to 6gpm	When <i>energized</i> , the cartridge's spool ② shifts and allows flow from ③ to ④ and from ① to ②.



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PRESSURIZE ③ ONLY
TANK IS ①



Part #	Description
NORMALLY CLOSED	Spool-type, directional control valve with all ports normally-open.
DSV2-080-4CO-N Up to 3gpm	OPERATION When <i>de-energized</i> , the DSV2-4CO allows flow from ③ to ②, and from ④ to ①.
DSV2-100-4CO-N Up to 6gpm	When <i>energized</i> , the cartridge's spool shifts to allow flow between ③ and ④ and from ② to ①.

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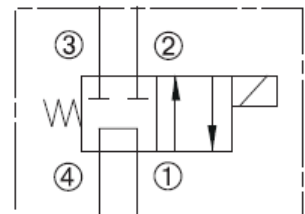
Cartridge Valves



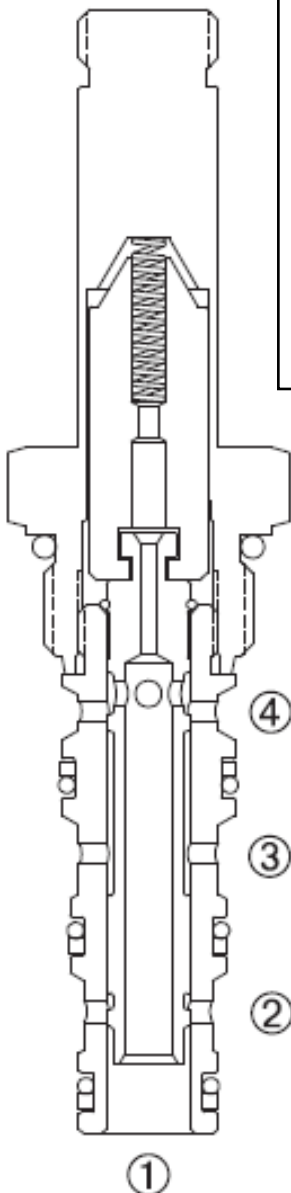
4-Way 2-Position Cartridge Valves

Spool Type

(10v 12v 110v 220v)

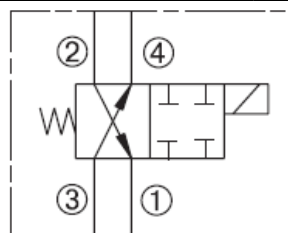


PRESSURIZE ④ ONLY
TANK IS ①



Part Number	Description
DSV2-080-4TC-N Up to 3gpm	Spool-type, directional control valve with two ports normally-closed and two ports normally-open` OPERATION When <i>de-energized</i> , the DSV2-4TC allows flow from ④ to ① and is blocked at ② and ③. When <i>energized</i> , the cartridge's spool shifts and allows flow from ④ to ③ and from ② to ① .
DSV2-100-4TC-N Up to 6gpm	

Part Number	Description
DSV2-080-4NO-N Up to 3gpm	A cartridge valve designed as a four-way, spool-type, directional control valve with all ports normally-open. This valve is commonly used in a circuit to allow flow to and from a double-acting cylinder or motor. OPERATION When <i>energized</i> , the spool shifts and all flow paths are blocked. When <i>de-energized</i> , the cartridge's spool allows flow from ③ to ④ and from ② and ①.
DSV2-100-4NO-N Up to 3gpm	



PRESSURIZE ③ ONLY
TANK IS ①

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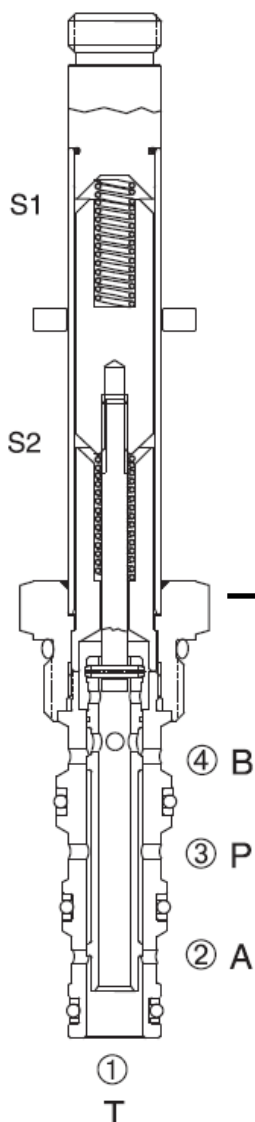
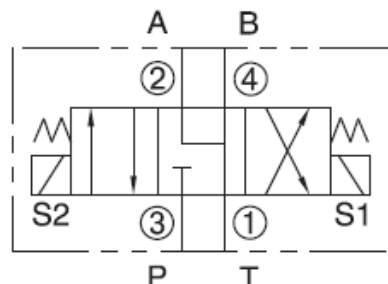
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Cartridge Valves

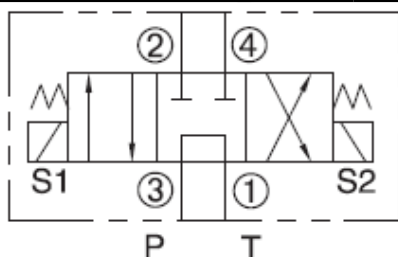


4-Way 3-Position Motor Center or Tandem Center Cartridge Valves Spool Type



Part #	Description
DSV-080-34M-N Up to 3.5gpm	A cartridge valve designed as a three position, four-way solenoid valve. OPERATION When <i>de-energized</i> , the valve allows flow between the ①, ②, and ④ ports with the ③ port blocked. When the upper solenoid (S1) is <i>energized</i> , the valve allows flow between ② and ① ports and the ③ and ④ ports. When the lower solenoid (S2) is <i>energized</i> , the valve allows flow between the ④ and ① ports and the ③ and ② ports.
DSV-100-34M-N Up to 6gpm	

Part #	Description
DSV-080-34T-N Up to 3gpm	A cartridge valve designed as a three position, four-way solenoid valve. OPERATION When <i>de-energized</i> , the valve allows flow between the ③ and ① ports with ports ② and ④ blocked. When the lower solenoid (S2) is <i>energized</i> , the valve allows flow between the ① and ② ports and the ③ and ④ ports. When the upper (S1) solenoid is <i>energized</i> , the valve allows flow between the ① and ④ ports and the ② and ③ ports.
DSV-100-34T-N Up to 5gpm	



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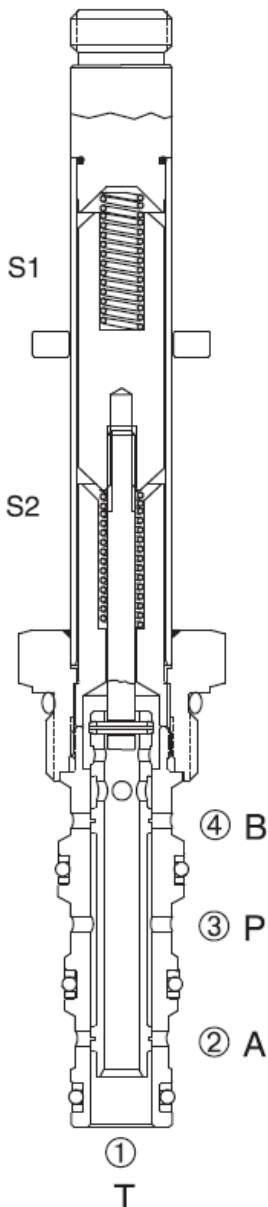
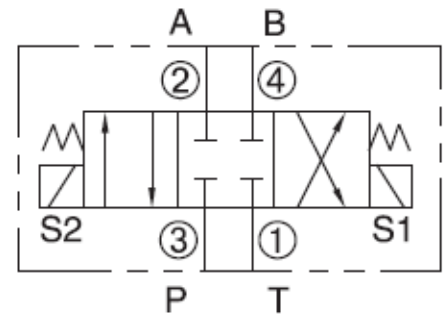
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Cartridge Valves



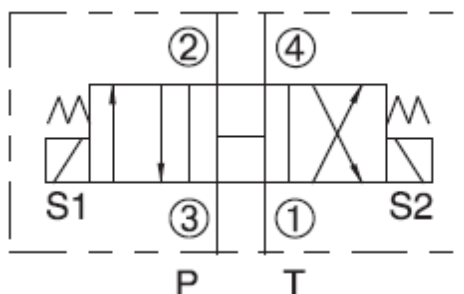
4-Way 3-Position Closed Center or Open Center Cartridge Valves

Spool Type



Part #	Description
DSV-080-34C-N Up to 3gpm	A cartridge valve designed as a three position, four-way solenoid valve. OPERATION When <i>de-energized</i> , the valve prevents flow at all ports. When the upper solenoid (S1) is <i>energized</i> , the valve allows flow between the ② and ① ports and the ③ and ④ ports. When the lower solenoid (S2) is <i>energized</i> , the valve allows flow between the ④ and ① ports and the ③ and ② ports.
DSV-100-34C-N Up to 6gpm	

Part #	Description
DSV-080-34O-N Up to 2gpm	A cartridge valve designed as a three position, four-way solenoid valve. OPERATION When <i>de-energized</i> , the valve allows flow at all ports. When the upper solenoid (S1) is <i>energized</i> , the valve allows flow between the ③ and ② ports and the ④ and ① ports. When the lower solenoid (S2) is <i>energized</i> , the valve allows flow between the ③ and ④ ports and the ② and ① ports.
DSV-100-34O-N Up to 3gpm	



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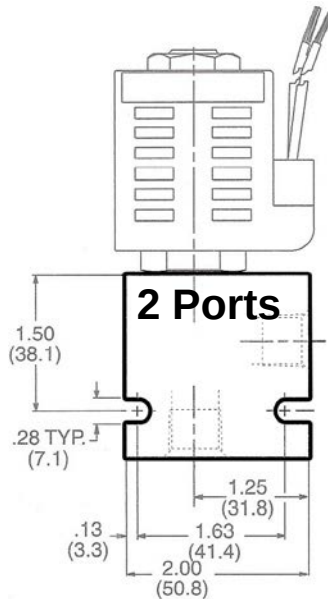
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Aluminum Cartridge Blocks

3000 PSI



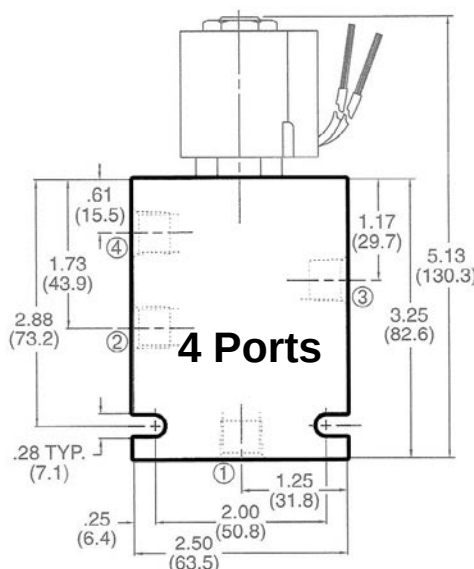
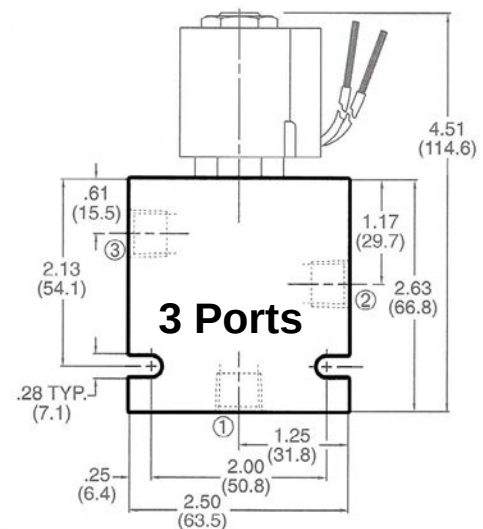
Two Way Two Position

Part #	Description
10138-44	B-080-2-2N 2W/2POS 1/4" NPT
10138-47	B-080-2-6T 2W/2POS #6 ORB
10138-48	B-100-2-2N 2W/2POS 1/4" NPT
10138-49	B-100-2-3N 2W/2POS 3/8" NPT
10138-51	B-100-2-8T 2W/2POS #8 ORB

(All cartridge valves & coils sold separately)

Three Way Two Position

Part #	Description
10134-93	B-080-3-6T 3W/2POS #6 ORB
10134-98	B-100-3-6T 3W/2POS #6 ORB
10134-99	B-100-3-8T 3W/2POS #8 ORB



Four Way Two Position

Part #	Description
10134-35	B-080-4-2N 4W/2 POS 1/4" NPT
10134-38	B-080-4-6T 4W/2 POS #6 ORB
10134-39	B-100-4-2N 4W/2 POS 1/4" NPT
10134-40	B-100-4-3N 4W/2 POS 3/8" NPT
10134-42	B-100-4-8T 4W/2 POS #8 ORB

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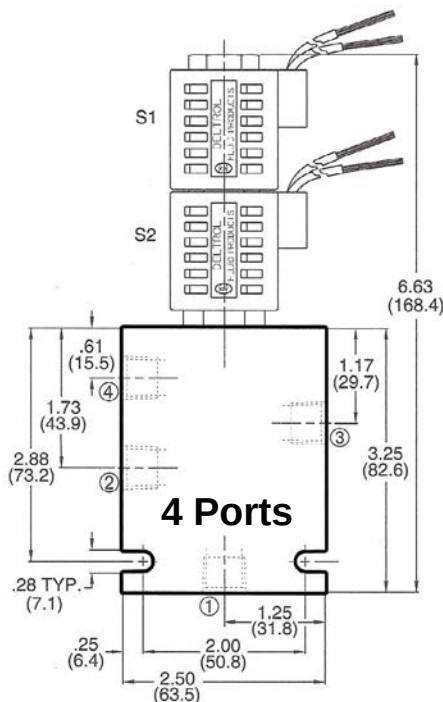
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Aluminum Cartridge Blocks

3000 PSI

(All cartridge valves & coils
sold seperately)

Four Way Three Position



Part #	Description
10134-35	B-080-4-2N 4W/3 POS 1/4" NPT
10134-38	B-080-4-6T 4W/3 POS #6 ORB
10134-39	B-100-4-2N 4W/3 POS 1/4" NPT
10134-40	B-100-4-3N 4W/3 POS 3/8" NPT
10134-42	B-100-4-8T 4W/3 POS #8 ORB

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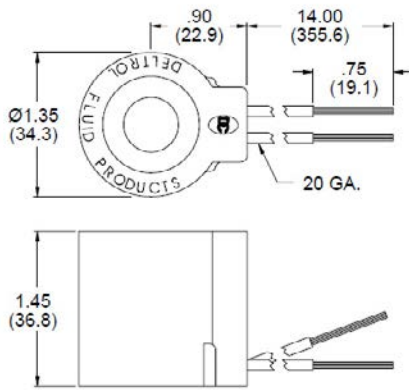


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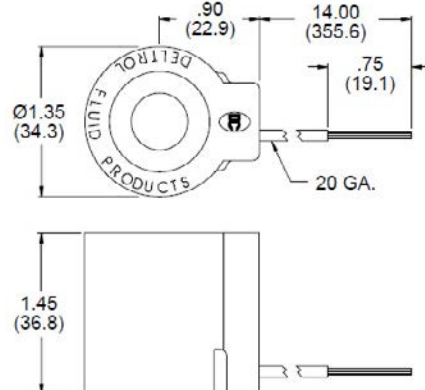
Solenoid Coil Data

80 Series - 1/2" ID Center Hole



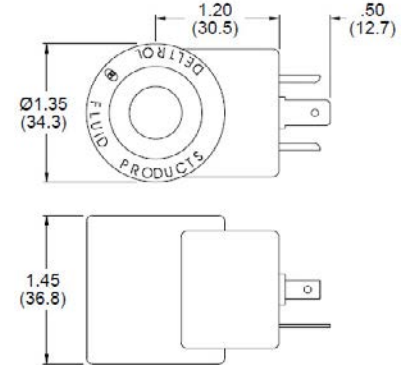
****D**
DOUBLE LEADS

PART #	VOLTS	WATTS
10148-57	120v	
10184-42	12v	
10226-37	10v	
10231-42	24v	
10238-66	12v	
10148-51	12v	



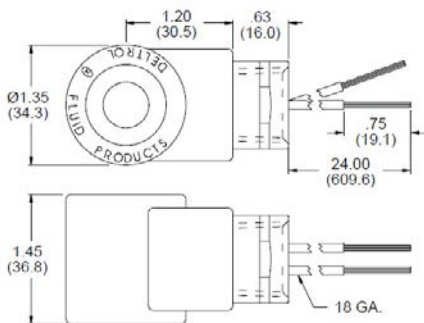
****S**
SINGLE LEAD (D'S ONLY)

PART #	VOLTS	WATTS
10226-14	12v	
10148-52	12v	



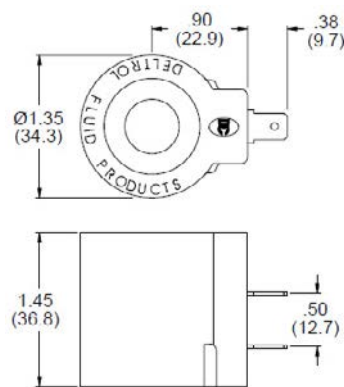
****H**
HIRSCHMANN® GSR 200
(2 POLE + GROUND APPLI-
ANCE PLUG) TO DIN 43650

PART #	VOLTS	WATTS
10148-79	240v	
10148-80	120v	
10148-81	24v	



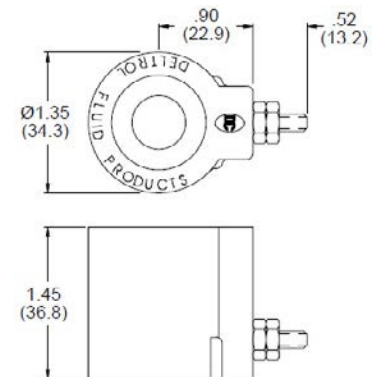
****C**
CONDUIT (FEMALE 1/2-14 NPT)

PART #	VOLTS	WATTS
10148-70	120v	



****B**
DOUBLE SPADE
1/4" MALE QUICK CONNECT
PER SAE J858A (TYPE 1B)

PART #	VOLTS	WATTS
10148-53	12v	
10148-56	120v	
10149-62	24v	
10166-25	20v	16w
10226-37	10v	



****E**
SINGLE STUD
8-32 MALE STUD
WITH 2 BRASS NUTS

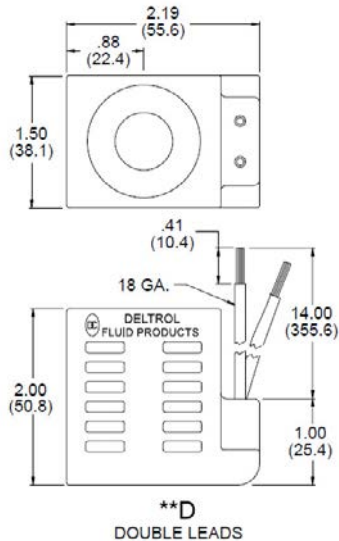
PART #	VOLTS	WATTS
10196-61	12v	
10196-62	24v	

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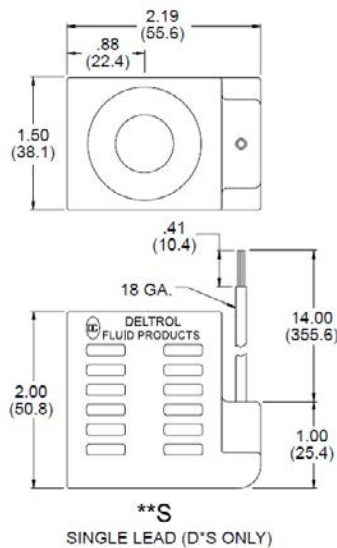
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Solenoid Coil Data

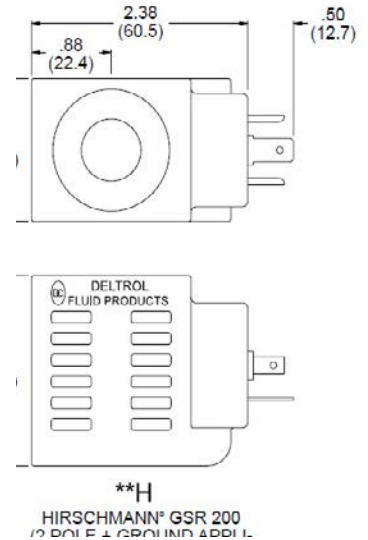
100 Series - 5/8" ID Center Hole



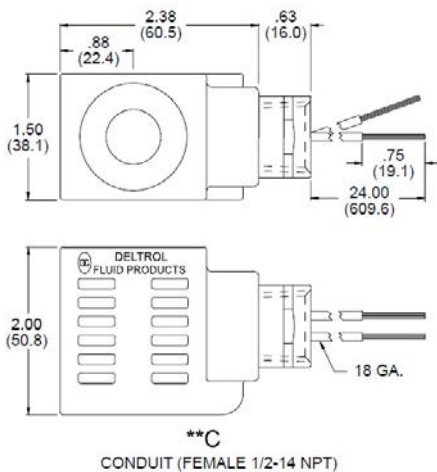
PART #	VOLTS	WATTS
10162-76	12vDC	
10162-77	24vDC	
10162-82	110/120v	



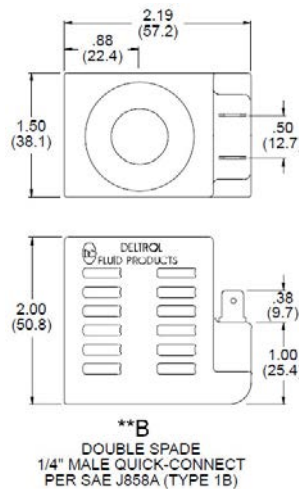
PART #	VOLTS	WATTS
10164-10	12vDC	



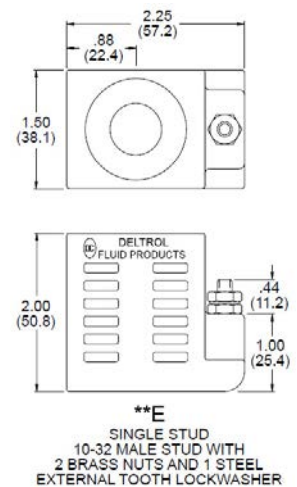
PART #	VOLTS	WATTS
10162-78	12v	
10162-79	24v	
10162-84	120v	
10162-85	240vAC	



PART #	VOLTS	WATTS
10162-86	110v	
10162-87	240vAC	



PART #	VOLTS	WATTS
10162-90	120v	
10162-91	12v	
10162-92	24v	
10164-09	240vDC	



PART #	VOLTS	WATTS
10164-13	12vDC	
10164-14	24vDC	
10164-73	12vDC	

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White Drive Products

WD (145)



WD motors have a smaller outline yet still provide high efficiency across a wide performance range and an economical solution for medium duty applications.

Typical applications include agriculture, conveyors, carwashes, sweepers and food processing.

Displacement - 1.5 - 23.5 in/rev

Max. Speed - 1361 RPM

Max. Pressure - 2000 psi

Max. Torque - 4248 lb-in

Max. Flow - 16 gpm

WP (155)



WP motors deliver significant power in a compact package, important where application space is at a premium and torque cannot be sacrificed.

Typical applications include grain augers, spreaders, hay rakes, carwashes, combines and food processing.

Displacement - 1.5 - 24.4 in/rev

Max. Speed - 1570 RPM

Max. Pressure - 2320 psi

Max. Torque - 4248 lb-in

Max. Flow - 16 gpm



RS (200)



WR motors are an upgrade to the RS motor used in light to medium duty applications and delivers greater performance in pressure, speed, and torque. Integral check valves offer improved seal life.

Typical applications include lightweight wheel drives, positioners, conveyors, swing drives, feed rollers, screw drives and spinners.

Displacement - 2.5 - 23.5 in/rev

Max. Speed - 1110 RPM

Max. Pressure - 2500 psi

Max. Torque - 4873 lb-in

Max. Flow - 16 gpm

WR (255)



WR motors are an upgrade to the RS motor used in light to medium duty applications and delivers greater performance in pressure, speed, and torque. Integral check valves offer improved seal life.

Typical applications include lightweight wheel drives, positioners, conveyors, swing drives, feed rollers, screw drives and spinners.

Displacement - 2.5 - 23.5 in/rev

Max. Speed - 1110 RPM

Max. Pressure - 2500 psi

Max. Torque - 4873 lb-in

Max. Flow - 16 gpm

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White Drive Products

HK

(315)



HK motor/brakes are a performance matched brake package utilizing BK brake and HB motor technologies.

The result is a proven, compact, integrated package suitable for applications needing holding capability up to 10,000 lb-in along with smooth efficient drive motor performance.

Displacement - 3.2 - 24.9 in/rev

Max. Speed - 700 RPM

Max. Pressure - 3000 psi

Max. Torque - 8400 lb-in

Max. Flow - 20 gpm

CE

(400, 410, 420, 430)



CE motors are 10-25% lighter and more compact than comparable designs, providing the perfect solution for medium duty applications with space restrictions.

Typical applications include medium duty wheel drives, grapple heads, feed rollers and broom drives.

Displacement - 7.4 - 45.6 in/rev

Max. Speed - 370 RPM

Max. Pressure - 3000 psi

Max. Torque - 9575 lb-in

Max. Flow - 20 gpm



WG

(275, 277, 280)



WG motors incorporated a needle bearing to provide and especially solid platform for any medium duty application where side load may present a concern.

Typical application include light to medium duty wheel drives, feed rollers, augers, brush drives and conveyors.

Displacement - 2.5 - 24.4 in/rev

Max. Speed - 830 RPM

Max. Pressure - 2000 psi

Max. Torque - 4850 lb-in

Max. Flow - 15 gpm

HB

(300, 310, 320)



HB motors are designed for applications requiring peak efficiency in continuous operation, while providing high performance at low flow rates.

Typical applications include medium duty wheel drives, spinners, chippers, broom drives, auger and machine tool indexers.

Displacement - 3.2 - 24.9 in/rev

Max. Speed - 700 RPM

Max. Pressure - 3000 psi

Max. Torque - 8400 lb-in

Max. Flow - 20 gpm

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White Drive Products

DT

(700, 701, 710, 740)



DT motors provides tremendous torque for medium to heavy duty applications. Heavy duty shaft bearings allow high load carrying capabilities, while many shaft options provide solutions for a wide variety of applications.

Typical applications include heavy duty wheel drives, concrete mixing machines, pumping units, conveyors, boring machines and rotators.

Displacement - 18.3 - 127.7 in/rev

Max. Speed - 320 RPM

Max. Pressure - 3000 psi

Max. Torque - 23550 lb-in

Max. Flow - 25 gpm

WS

(350, 355, 357)



WS motors feature a robust design for medium duty applications and high flow rates--a three zone commutator valve for higher flow capacity; heavy duty tapered roller bearings for increased side load; and a larger drive link to better withstand pressure and torque spikes.

Typical applications include skid steer attachments, augers, mowers, and harvesting equipment.

Displacement - 4.8 - 30.3 in/rev

Max. Speed - 870 RPM

Max. Pressure - 3000 psi

Max. Torque - 7295 lb-in

Max. Flow - 20 gpm

RE

(500, 510, 520, 530, 540)



RE motors provide excellent value for medium to heavy duty applications. The patented balance plate design assures high volumetric efficiency at start-up and high torque in running conditions.

Typical applications include medium duty wheel drives, mixers, augers, grapple heads, winch drives, swing drives and broom drives

Displacement - 7.4 - 45.6 in/rev

Max. Speed - 370 RPM

Max. Pressure - 3000 psi

Max. Torque - 9700 lb-in

Max. Flow - 20 gpm

DR

(600, 610, 620, 630, 640)



HB motors are designed for applications requiring peak efficiency in continuous operation, while providing high performance at low flow rates.

Typical applications include medium duty wheel drives, spinners, chippers, broom drives, auger and machine tool indexers.

Displacement - 12.4 - 45.6 in/rev

Max. Speed - 470 RPM

Max. Pressure - 3000 psi

Max. Torque - 9800 lb-in

Max. Flow - 25 gpm

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White Drive Products

BK

(910, 914)



BK brakes provide up to 10,000 lb-in. of holding torque. This compact spring-applied, hydraulically released brake eliminates the cables, linkages, cylinders and brackets used in other brake systems, providing a simpler, more cost-effective solution.

Typical applications include wheel drives, positioners, conveyors, door openers and swing drives.

Max. Speed - 870 RPM

Release Pressure - 400 psi

Max. Rel. Pressure - 3000 psi

Release Volume - 0.7 cu.in.

D9

(800)



D9 motors are the strongest in the product line, ruggedly constructed and able to operate in extreme conditions in a variety of applications, offering higher flow capabilities and greater axial and radial load capacities.

Typical applications include construction machinery, agricultural machinery and associated attachments.

Displacement - 15.6 - 62.7 in/rev

Max. Speed - 370 RPM

Max. Pressure - 3000 psi

Max. Torque - 9575 lb-in

Max. Flow - 20 gpm

SB

(930)



SB brakes feature a multiple-wet-disc design for superior performance in an extremely compact package, providing a holding capacity in excess of 5,500 lb-in.

SB brakes are easily mated to a variety of global industry standard motor mounting and shaft options, and can be used as a stand-alone brake without an input drive motor

Holding Torque - 2000-5000 lb-in

Release Volume - 0.51 cu.in.

Release Pressure - 290 psi

Max. Rel. Pressure - 3625 psi

FD

(950)



The FD flow divider is the most accurate available. Our patented Roller Stator design reduces internal leakage and friction, resulting in higher efficiency and providing more accurate output flows and quieter operation.

Typical applications include cylinder synchronization, parallel motor circuits and pressure intensification

Flow - 2 -40 gpm

Max. Pressure - 3000 psi

Max. Pressure Differential Between Ports - 2500 psi

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Dump Pumps and Accessories



Pump/valve assembly
for heavy and medium
duty dump trucks and
dump trailers



DM-640 (C101)

DMD-25 (C102)

Central Hydraulic Series	IN	GPM/900 rpm/ 2000 psi	GPM/1500 rpm/ 2000 PSI	GPM/1500rpm / 2000 psi
DM-640-25/DMD-25	6.4	21.0	29.0	37.5

Permco Dump Pump Features • Direct mount SAE "B" 4 bolt or twin shafted remote mount with bracket (DM-640) or built-in mounting bracket (DMR-400) • Manual shift, "OEM" air shift (DM-640 and DMD-25 only), or after market air shift, each with full metering capabilities • 100% factory tested • Heavy duty "controlled stress" roller bearings • Pump and cylinder protected in the raise and neutral position of the spool • 2 or 3 line configurations available • 2 extended studs for easy installation of pump support bracket on direct mount (DMD-20 and DMD-25 only) • Built-in load check maintains dump body angle and is installed in the cylinder port for superior self-cleaning • Built-in direct acting relief valve set at factory • Neutral lock-out safety cap for use with pull-out cable • High strength alloy steel gear and shaft set



DMD-400



Pump/valve assembly
for heavy and medium
duty dump trucks and
dump trailers



DMR-400

Central Hydraulic Series	IN	GPM/900 rpm/ 2000 psi	GPM/1500 rpm/ 2000 PSI	GPM/1500rpm / 2000 psi
DMR/DMD-300	3.0	10.0	14.0	17.5
DMR/D,D-400	4.0	13.5	19.0	24.0

The **PRM P1229** air valve controls both the Dump Pump and the PTO in one lever. There are options for detent of the lever controlling the pump and a PTO kickout.



The APS C-3505-DM is an air shift cylinder that fits the DMD-25 and DM-640 Dump Pump as well as all other units of similar design.



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Hydraulic Gear Pump



Model GP-F20 offers aluminium body and cast Iron end plate construction, high pressure Hydraulic Gear Pump with 11 displacement sizes from 0.24 to 1.95 cu.in/rev.

F20 - 5/8" 9 TOOTH SPLINE SHAFT SAE A - 2 Bolt Flange Mount

PART #	cu.in/ rev	Rotation	MAX psi	MAX RPM	GPM@ 1800rpm	SAE Ports
GP-F20-04-S9-A	0.24	C.C.W.	3650	3600	1.87	INLET #12 ORB 1-1/16"-12 OUTLET #10 ORB 7/8"-14
GP-F20-04-S9-C	0.24	C.W.	3650	3600	1.87	
GP-F20-06-S9-A	0.36	C.C.W.	3650	3600	2.81	
GP-F20-06-S9-C	0.36	C.W.	3650	3600	2.81	
GP-F20-08-S9-A	0.48	C.C.W.	3650	3600	3.74	
GP-F20-08-S9-C	0.48	C.W.	3650	3600	3.74	
GP-F20-10-S9-A	0.61	C.C.W.	3650	3600	4.75	
GP-F20-10-S9-C	0.61	C.W.	3650	3600	4.75	
GP-F20-12-S9-A	0.73	C.C.W.	3650	3600	5.69	
GP-F20-12-S9-C	0.73	C.W.	3650	3600	5.69	
GP-F20-14-S9-A	0.85	C.C.W.	3650	3600	6.62	
GP-F20-14-S9-C	0.85	C.W.	3650	3600	6.62	
GP-F20-16-S9-A	0.97	C.C.W.	2900	3600	7.56	
GP-F20-16-S9-C	0.97	C.W.	2900	3600	7.56	
GP-F20-20-S9-A	1.22	C.C.W.	2900	3600	9.51	
GP-F20-20-S9-C	1.22	C.W.	2900	3600	9.51	
GP-F20-25-S9-A	1.52	C.C.W.	2900	3600	11.84	INLET #16 ORB 1-5/16"-12 OUTLET #12 ORB 1-1/16"-12
GP-F20-25-S9-C	1.52	C.W.	2900	3600	11.84	
GP-F20-30-S9-A	1.83	C.C.W.	2300	3600	14.26	
GP-F20-30-S9-C	1.83	C.W.	2300	3600	14.26	
GP-F20-32-S9-A	1.95	C.C.W.	2300	3600	15.20	OUTLET #12 ORB 1-1/16"-12
GP-F20-32-S9-C	1.95	C.W.	2300	3600	15.20	

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Hydraulic Gear Pump

Model GP-F20 offers aluminium body and cast Iron end plate construction, high pressure Hydraulic Gear Pump with 11 displacement sizes from 0.24 to 1.95 cu.in/rev.



F20 - 5/8" KEYED SHAFT SAE A - 2 Bolt Flange Mount

PART #	cu.in/ rev	Rotation	MAX psi	MAX RPM	GPM@ 1800rpm	SAE Ports
GP-F20-04-P-A	0.24	C.C.W.	3650	3600	1.87	INLET #12 ORB 1-1/16"-12 OUTLET #10 ORB 7/8"-14
GP-F20-04-P-C	0.24	C.W.	3650	3600	1.87	
GP-F20-06-P-A	0.36	C.C.W.	3650	3600	2.81	
GP-F20-06-P-C	0.36	C.W.	3650	3600	2.81	
GP-F20-08-P-A	0.48	C.C.W.	3650	3600	3.74	
GP-F20-08-P-C	0.48	C.W.	3650	3600	3.74	
GP-F20-10-P-A	0.61	C.C.W.	3650	3600	4.75	
GP-F20-10-P-C	0.61	C.W.	3650	3600	4.75	
GP-F20-12-P-A	0.73	C.C.W.	3650	3600	5.69	
GP-F20-12-P-C	0.73	C.W.	3650	3600	5.69	
GP-F20-14-P-A	0.85	C.C.W.	3650	3600	6.62	
GP-F20-14-P-C	0.85	C.W.	3650	3600	6.62	
GP-F20-16-P-A	0.97	C.C.W.	2900	3600	7.56	
GP-F20-16-P-C	0.97	C.W.	2900	3600	7.56	
GP-F20-20-P-A	1.22	C.C.W.	2900	3600	9.51	
GP-F20-20-P-C	1.22	C.W.	2900	3600	9.51	
GP-F20-25-P-A	1.52	C.C.W.	2900	3600	11.84	INLET #16 ORB 1-5/16"-12 OUTLET #12 ORB 1-1/16"-12
GP-F20-25-P-C	1.52	C.W.	2900	3600	11.84	
GP-F20-30-P-A	1.83	C.C.W.	2300	3600	14.26	
GP-F20-30-P-C	1.83	C.W.	2300	3600	14.26	
GP-F20-32-P-A	1.95	C.C.W.	2300	3600	15.20	OUTLET #12 ORB 1-1/16"-12
GP-F20-32-P-C	1.95	C.W.	2300	3600	15.20	

CENTRAL HYDRAULICS INC.

•Daytona Beach •Cocoa •Leesburg •Ocala •Tampa 1-800-264-9571

Hydraulic Gear Pump

3/4" LONG KEYED SHAFT



Performance Data

PART # (L)CW (R)CCW	ci.	Continuous PSI	GPM@ 1800rpm	PORT	RPM Range
2GG9U05L	.30	3500(25)	2.34	INLET #12 ORB 1-1/16"-12	600
2GG9U05R	.30	3500(25)	2.34		
2GG9U07L	.43	3500(25)	3.35		
2GG9U07R	.43	3500(25)	3.35		
2GG9U08L	.52	3500(25)	4.05		
2GG9U08R	.52	3500(25)	4.05		
2GG9U09L	.58	3500(25)	4.52		
2GG9U09R	.58	3500(25)	4.52		
2GG9U11L	.69	3500(25)	5.38	OUTLET #10 ORB 7/8"-14	4000
2GG9U11R	.69	3500(25)	5.38		
2GG9U14L	.85	3500(25)	6.62		
2GG9U14R	.85	3500(25)	6.62		
2GG9U16L	.98	3500(25)	7.63		
2GG9U16R	.98	3500(25)	7.63		
2GG9U18L	1.10	3500(25)	8.57		
2GG9U18R	1.10	3500(25)	8.57		
2GG9U20L	1.20	3500(25)	9.35	INLET #16 ORB 1-5/16"-12	600
2GG9U20R	1.20	3500(25)	9.35		
2GG9U22L	1.31	3500(25)	10.20		
2GG9U22R	1.31	3500(25)	10.20		
2GG9U24L	1.44	2550(18)	11.22		
2GG9U24R	1.44	2550(18)	11.22		
2GG9U26L	1.53	2550(18)	11.92		
2GG9U26R	1.53	2550(18)	11.92		
2GG9U28L	1.71	2550(18)	13.32	OUTLET #12 ORB 1-1/16"-12	2500
2GG9U28R	1.71	2550(18)	13.32		
2GG9U30L	1.84	2550(18)	14.34		
2GG9U30R	1.84	2550(18)	14.34		
2GG9U33L	2.02	2550(18)	15.74		
2GG9U33R	2.02	2550(18)	15.74		

2G cast iron pump covers ensure up to 3500 psi working pressure. The extruded body and pressure loaded bearing blocks are made from the highest quality aluminum. Precision machined ne peice steel gears guarantee the highest performance standard available. Honor gear pumps are well suited for both industrial and mobile applications, and are very competetive so you can meet the competition with a good price advantage.

$$\frac{\text{cu in} / \text{Rev} \times \text{RPM}}{231} = \text{GPM}$$

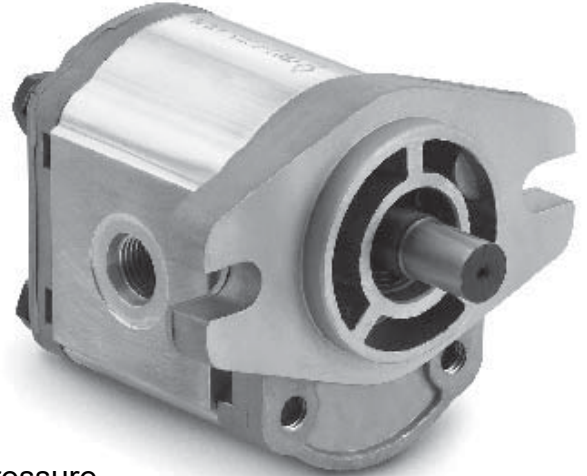
Figure for 85% efficiency
GPM x .85 = Actual GPM

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Hydraulic Gear Pump

F10 - 1/2" Dia. Straight SAE AA - 2 Bolt Flange Mount 2" Pilot



Model GP-F10 is an all aluminium construction, high pressure Hydraulic Gear Pump with 7 displacement sizes from 0.07 to 0.48 cu.in/rev. (1.3 to 8.0 cm³/rev). The standard mounting flange is SAE AA – 2 bolt, standard ports are SAE-8 inlet and SAE-6 outlet, and standard drive shaft is 1/2 inch straight shaft with 1/8 inch key.

PART #	cu.in/ rev	Rotation	MAX psi	MAX RPM	GPM@ 1800rpm	SAE Ports
GP-F10-13-P-A	0.08	C.C.W.	3650	5000	0.62	INLET #8 ORB 3/4"-16 OUTLET #6 ORB 9/16"-18
GP-F10-13-P-C	0.08	C.W.	3650	5000	0.62	
GP-F10-20-P-A	0.12	C.C.W.	3650	5000	0.94	
GP-F10-20-P-C	0.12	C.W.	3650	5000	0.94	
GP-F10-27-P-A	0.16	C.C.W.	3650	5000	1.25	
GP-F10-27-P-C	0.16	C.W.	3650	5000	1.25	
GP-F10-34-P-A	0.20	C.C.W.	3650	5000	1.56	
GP-F10-34-P-C	0.20	C.W.	3650	5000	1.56	
GP-F10-41-P-A	0.25	C.C.W.	3650	4000	1.95	
GP-F10-41-P-C	0.25	C.W.	3650	4000	1.95	
GP-F10-51-P-A	0.31	C.C.W.	3650	4000	2.42	
GP-F10-51-P-C	0.31	C.W.	3650	4000	2.42	
GP-F10-61-P-A	0.37	C.C.W.	2900	4000	2.88	
GP-F10-61-P-C	0.37	C.W.	2900	4000	2.88	
GP-F10-80-P-A	0.48	C.C.W.	2900	4000	3.74	
GP-F10-80-P-C	0.48	C.W.	2900	4000	3.74	

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Hydraulic Gear Pump



Model GP-F20 offers aluminium body and cast Iron end plate construction, high pressure Hydraulic Gear Pump with 11 displacement sizes from 0.24 to 1.95 cu.in/rev.

F20 - 3/4" Dia. Straight SAE A - 2 Bolt Flange Mount

Part #	cu.in/rev	Rotation	PSI	MAX RPM	GPM@ 1800	SAE Ports
GP-F20-04-P1-A	0.24	C.C.W.	3650	3600	1.87	INLET #12 ORB 1-1/16"-12 OUTLET #10 ORB 7/8"-14
GP-F20-04-P1-C	0.24	C.W.	3650	3600	1.87	
GP-F20-06-P1-A	0.36	C.C.W.	3650	3600	2.81	
GP-F20-06-P1-C	0.36	C.W.	3650	3600	2.81	
GP-F20-08-P1-A	0.48	C.C.W.	3650	3600	3.74	
GP-F20-08-P1-C	0.48	C.W.	3650	3600	3.74	
GP-F20-10-P1-A	0.61	C.C.W.	3650	3600	4.75	
GP-F20-10-P1-C	0.61	C.W.	3650	3600	4.75	
GP-F20-12-P1-A	0.73	C.C.W.	3650	3600	5.69	
GP-F20-12-P1-C	0.73	C.W.	3650	3600	5.69	
GP-F20-14-P1-A	0.85	C.C.W.	3650	3600	6.62	
GP-F20-14-P1-C	0.85	C.W.	3650	3600	6.62	
GP-F20-16-P1-A	0.97	C.C.W.	2900	3600	7.56	
GP-F20-16-P1-C	0.97	C.W.	2900	3600	7.56	
GP-F20-20-P1-A	1.22	C.C.W.	2900	3600	9.50	
GP-F20-20-P1-C	1.22	C.W.	2900	3600	9.50	
GP-F20-25-P1-A	1.52	C.C.W.	2900	3600	11.84	
GP-F20-25-P1-C	1.52	C.W.	2900	3600	11.84	
GP-F20-30-P1-A	1.83	C.C.W.	2300	3600	14.26	INLET #16 ORB 1-5/16"-12 OUTLET #12 ORB 1-1/16"-12
GP-F20-30-P1-C	1.83	C.W.	2300	3600	14.26	
GP-F20-32-P1-A	1.95	C.C.W.	2300	3600	15.19	
GP-F20-32-P1-C	1.95	C.W.	2300	3600	15.19	

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Hydraulic Gear Pump



F25 7/8\"

Model GP-F25 is a aluminium center section and cast iron end plate construction, high pressure Hydraulic Gear Pump with 10 displacement sizes from 1.34 to 5.43 cu. in/rev.

Part #	cu.in/rev	Rotation	PSI	MAX RPM	SAE ORB Ports
GP-F25-22-P-C	1.34	C.W.	3625	3000	INLET #16 ORB 1-5/16\"-12 OUTLET #12 ORB 1-1/16\"-12
GP-F25-22-P-A	1.34	C.C.W.	3625	3000	
GP-F25-25-P-C	1.59	C.W.	3625	3000	
GP-F25-25-P-A	1.59	C.C.W.	3625	3000	
GP-F25-34-P-C	2.07	C.W.	3625	3000	
GP-F25-34-P-A	2.07	C.C.W.	3625	3000	
GP-F25-39-P-C	2.38	C.W.	3625	3000	
GP-F25-39-P-A	2.38	C.C.W.	3625	3000	
GP-F25-43-P-C	2.62	C.W.	3625	2800	
GP-F25-43-P-A	2.62	C.C.W.	3625	2800	
GP-F25-51-P-C	3.11	C.W.	3625	2800	
GP-F25-51-P-A	3.11	C.C.W.	3625	2800	
GP-F25-60-P-C	3.84	C.W.	2900	2800	
GP-F25-60-P-A	3.84	C.C.W.	2900	2800	
*GP-F25-70-P-C	4.27	C.W.	2900	2500	INLET #20 ORB 1-5/8\"-12 OUTLET #16 ORB 1-5/16\"-12
*GP-F25-70-P-A	4.27	C.C.W.	2900	2500	
*GP-F25-78-P-C	4.76	C.W.	2900	2300	
*GP-F25-78-P-A	4.76	C.C.W.	2900	2300	
*GP-F25-89-P-C	5.43	C.W.	2300	2000	
*GP-F25-89-P-A	5.43	C.C.W.	2300	2000	

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Hydraulic Gear Pump

F25 7/8-13tooth Spline Shaft 2 Bolt "B" Flange 4" Pilot Side Ported

Model GP-F25 is a aluminium center section and cast iron end plate construction, high pressure Hydraulic Gear Pump with 10 displacement sizes from 1.34 to 5.43 cu. in/rev.

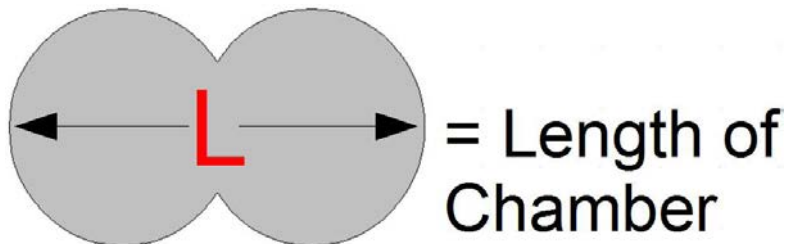


Part #	cu.in/rev	Rotation	PSI	Max RPM	SAE ORB Ports
GP-F25-22-S13-C	1.34	C.W.	3625	3000	INLET #16 ORB 1-5/16"-12 OUTLET #12 ORB 1-1/16"-12
GP-F25-22-S13-A	1.34	C.C.W.	3625	3000	
GP-F26-26-S13-C	1.59	C.W.	3625	3000	
GP-F26-26-S13-A	1.59	C.C.W.	3625	3000	
GP-F25-34-S13-C	2.07	C.W.	3625	3000	
GP-F25-34-S13-A	2.07	C.C.W.	3625	3000	
GP-F25-39-S13-C	2.38	C.W.	3625	3000	
GP-F25-39-S13-A	2.38	C.C.W.	3625	3000	
GP-F25-43-S13-C	2.62	C.W.	3625	2800	
GP-F25-43-S13-A	2.62	C.C.W.	3625	2800	
GP-F25-51-S13-C	3.11	C.W.	3625	2800	
GP-F25-51-S13-A	3.11	C.C.W.	3625	2800	
GP-F25-60-S13-C	3.84	C.W.	2900	2800	
GP-F25-60-S13-A	3.84	C.C.W.	2900	2800	
*GP-F25-70-S13-C	4.27	C.W.	2900	2500	INLET #20 ORB 1-5/8"-12 OUTLET #16 ORB 1-5/16"-12
*GP-F25-70-S13-A	4.27	C.C.W.	2900	2500	
*GP-F25-78-S13-C	4.76	C.W.	2900	2300	
*GP-F25-78-S13-A	4.76	C.C.W.	2900	2300	
*GP-F25-89-S13-C	5.43	C.W.	2300	2000	
*GP-F25-89-S13-A	5.43	C.C.W.	2300	2000	

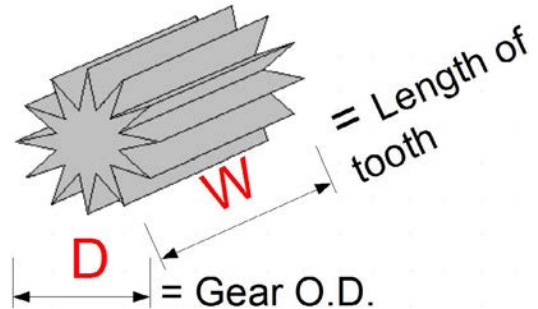
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Gear Pump Formulas



= Length of Chamber



= Length of tooth
= Gear O.D.

To calculate the GPM at 1800rpm by measurements of the pump.

$$47 \times W \times (2D - L) \times \frac{(L - D)}{2}$$

To calculate the cubic inch displacement if you have GPM & speed.

$$\frac{\text{GPM} \times 231}{\text{Speed}} = \text{Cubic Inch}$$

To calculate the GPM if you know displacement & speed.

$$\frac{\text{Cubic inch} \times \text{Speed}}{231} = \text{GPM}$$

To calculate the HP if you know the torque and speed of the motor.

$$\frac{\text{Inch lbs of torque} \times \text{RPM}}{63024} = \text{HP}$$

To calculate the HP required if you know the pressure and GPM of the pump.

$$\frac{\text{Pressure} \times \text{GPM}}{1714} = \text{HP Required to drive the pump}$$

Good rule of thumb

Allow for: 3/4hp per 1 gal. @ 1000psi
1-1/2hp per 1 gal. @ 2000psi
2hp per 1 gal. @ 3000psi

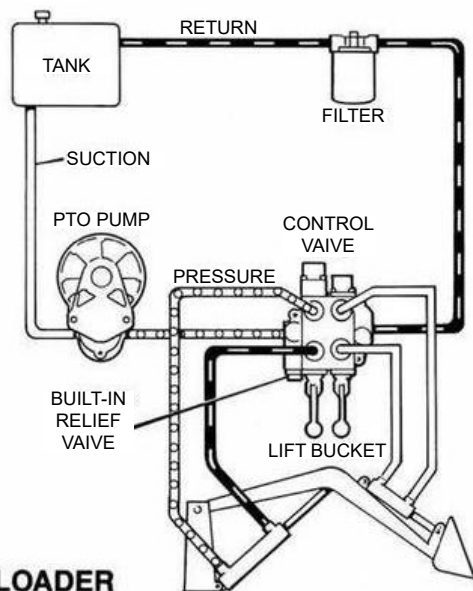
Fact

231 ci = 1 gal

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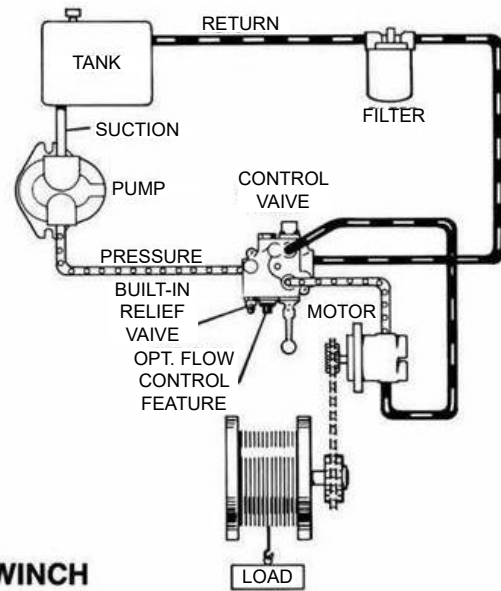
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Sample Hydraulic Systems



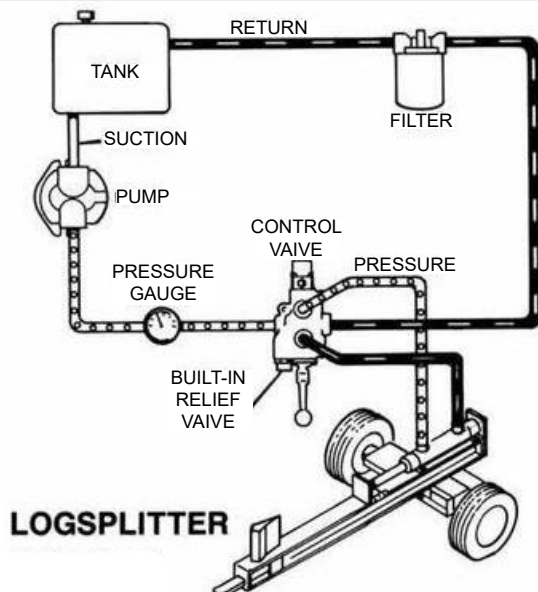
LOADER

The above system shows a front end loader powered by a PTO driven pump. A 2-spool directional control valve with built-in relief controls the lift and bucket cylinders of the loader. A return line filter is used to prevent contamination.



WINCH

The diagram shows a winch powered by a hydraulic motor. The directional control valve with built-in relief features optional flow control to control the speed of the winch. The hydraulic pump and motor must be matched to the torque requirements of the winch.



LOGSPLITTER

A directional control valve with optional pressure kickout feature controls a double acting cylinder. A pressure gauge is recommended to help spot potential system problems. The tank should be at least one and a half times the pump gpm output and the oil level must remain above the pump intake at all times.

Useful Formulas

PSI	=	$\frac{\text{FORCE}}{\text{AREA}}$
CYL. AREA (sq. in.)	=	πr^2
FORCE (lbs.)	=	PSI x AREA
CYL. SPEED (ft. per second)	=	$\frac{.3208 \times \text{GPM}}{\text{AREA}}$
HORSE POWER	=	$\frac{\text{PSI} \times \text{GPM}}{1714}$
HORSE POWER (Fluid motor)	=	$\frac{\text{TORQUE (in. lbs.)} \times \text{RPM}}{63025}$
TORQUE (in lbs.)	=	$\frac{\text{PSI} \times \text{DISP. (cu.in.)}}{2 \pi}$
RPM	=	$\frac{231 \times \text{GPM}}{\text{DISP. (cu.in.)}}$
GPM (pump outflow)	=	$\frac{\text{RPM} \times \text{DISP. (cu.in.)}}{231}$

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Lift Gate Motors

12v Heavy Duty

MONARCH

**Position 3/9 Bolts*



MON8111

CCW, TANG
Heavy Duty
SERIES
MDY, MHA, MHN,
MMY, MUE

7027	7068	4001	4001-A
7057	7059	7004	6106
6001	6001-S	7006	BMT0021
8111-D	8111-A	4005	8112

FENNER (spx)



SPX KMD-1

CW, 9-SPLINE
Heavy Duty
SERIES
MDY, MFX, MMY

6116-S	7032-A	7039	7061
7022	7032-B	7039-S	7063
7031	7037	7042	7066
7032	7037-S	7042-A	7066-S
4002	4001-S	4001	

FENNER (spx)



AMT0077

CW, TANG
Heavy Duty

1175-AC	1197-AC	1787-AC	1789-AC
1185-AC	1931-AC	1785-AC	

MAXON **Position 5/11 Bolts*



BMT0167

CCW, TANG
Heavy Duty

	6119
229272	250093
P33818	39200398
MYD7057	6104

position of mounting bolt when facing the drive & hot post is at 12:00

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Diaphragm Pumps



1:1 Air Powered Double Diaphragm Pumps

1/4" 8301 Alemite 4gpm

3/8" 7gpm Free Flow Rate

Acetal Plastic Housing / Hytrel Diaphragm

Graco-Part # - D31255

1/2" 8322 Alemite 15gpm

Applications:

- Oil Transfer
- Water / Anti-freeze
- Windshield Washer Fluid

3/4" 16gpm Free Flow Rate

Aluminum Housing / Buna N Diaphragm

Graco- Part # - 241906

Applications:

- Oil Transfer
- Oil Evacuation
- Water / Anti-freeze
- Windshield Washer Fluid

1" 40gpm Free Flow Rate

Aluminum Housing / Hytrel Diaphragm

Graco- Part # - 647666

1" #8323 Alemite 45gpm Buna

Applications:

- Oil Transfer
- Oil Evacuation
- Water / Anti-freeze

1" 40gpm Free Flow Rate

Aluminum Housing / Hytrel Diaphragm

Graco- Part # - 647016

1" #8325 Alemite 45gpm Buna UL Listed

Applications:

- Diesel Fuel Transfer
- Oil Evacuation
- Water / Anti-freeze
- Harder Check Balls for Thermal Expansion

1.5" 90gpm Free Flow Rate

Aluminum Housing / Hytrel Diaphragm

Graco- Part # - DB3525

1" #8324 Alemite 106gpm Buna

Applications:

- Oil Transfer
- Oil Evacuation
- Water / Anti-freeze

Accessories:

**55 Gallon Drum
Adapter**

DTBUSHING



**Air Regulator
109075**



**Telescoping
Suction Tube
100KTG8127**

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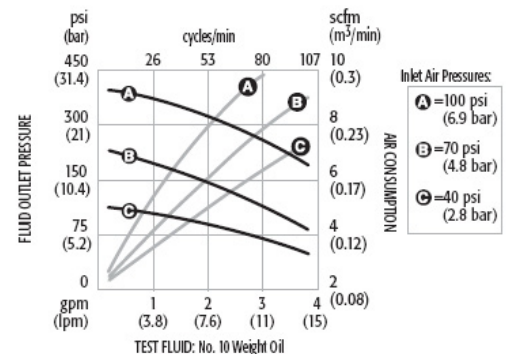
Oil and Grease Pumps

Oil Pump Specification

Fire-Ball 300, 5:1 Air-Operated Piston Pump

Cycles/gallon(cycles/liter).....28.4(8.6)
Fluid flow @ 80cpm(gpm/lpm).....2.8(9.3)
Maximum fluid pressure.....900psi (62 bar, 6.2 MPa)
Air motor effective diameter.....3in(76.2mm)
Air operating range.....40-180 psi 2.8-12 bar (0.28-1.2 MPa)
Approx. air consumption and.....27 scfm @ 3gpm
fluid flow @ 100psi air and 80 cpm (0.765m³/min @ 115 lpm)
Wetted materials.....Steel, polyurethane, aluminum, buna-N
Air inlet port size.....3/8npt(f)
Fluid inlet port size.....1-1/2 npt(f)
Fluid outlet port size.....1/2 npt(f)
Instruction manual.....309869

Pump Performance



Typical Fluids Handled

*Grease up to NGLI #2

Grease Pump Specification

Fire-Ball 300, 50:1 Air-Operated Piston Pump

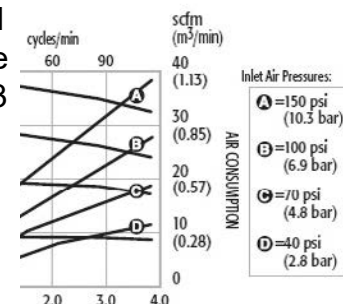
Maximum Fluid Pressure.....8400psi (580 bar)
Air motor effective diameter.....3in (76.2mm)
Operating range.....30-140psi (3.0-9.7 bar)
Continuous duty flow rate.....1.19lb/min
Approx. air consumption @100psi (7 bar).....22.8cfm
Air inlet.....3/8 npt(f)
Material outlet.....1/4 npt(f)
Material inlet.....slotted
Wetted Parts.....CS, Delrin, Buna-N, Polyurethane
Instruction Manual.....300883

Typical Fluids Handled

*Petroleum and synthetic based oils



Pump Performance



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Pump for Oil/ATF/Gear Lube

Key Applications
Fluid oil transfer to
multiple metered
dispense points.

Key Materials

- Motor oil
- Synthetic oil
- Hydraulic oil
- Gear oil
- ATF

Recommended For

- Service Shops
- Construction Equip.
- Maintenance
- Service Shops
- Fast Lubes
- Fleet

5:1 55gal or 275gal Bung Mounted

Air operated from 40psi to 180psi

Perfect for high pressure fluid oil transfer in medium volume applications!
This pump has been the 'crown jewel' of Graco since the 1950's and is the
pump of choice in the most demanding environments.



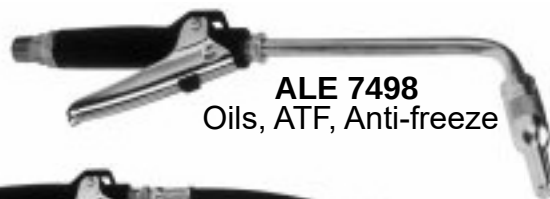
Features and Benefits

- Corrosion-resistant design utilizes liquid salt nitriding, nickel plating, stainless steel, aluminum and chrome on key components for longer life.
- Few moving parts in the air motor assembly means less downtime and low repair cost.
- Displacement rods have minimal wear due to a proprietary Graco manufacturing process.
- Large air porting design provides efficient use of compressed air supply for continuous pump operation without icing.
- Thick cast aluminum air motor housing offers unmatched durability.

Non-Metered Valves



ALE 7492
Gear Oil



ALE 7498
Oils, ATF, Anti-freeze



ALE 7498-A
Oils, ATF, Anti-freeze



8078-D



Hose Reels

with 1/2" x 50FT
Fluid Hose Assy.

Metered Valves

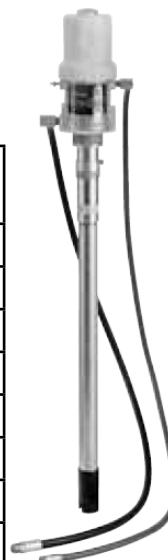


ALE 3685-F
Mechanical



3670-B
Digital

* = included in package	Bung-Mounted pkg.	Bung-Mounted pkg.
Container Size	55gal	275gal
Package No.	225640*	225931*
Pump	204254*	222087
Dispense/Hose Fitting Kit	222063*	222063
Fluid Hose	6ft x 1/2in*	6ft x 1/2in
Air Hose	6ft x 3/8in*	6ft x 3/8in
Air Regulator(<i>with gauge</i>)	109075 (<i>optional</i>)	109075
Bung Adapter	222308*	222308



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Stub Pump for bulk oil

5:1 Air Operated from 40psi to 180psi

Key Applications

Fluid oil transfer to multiple metered dispense points.

Key Materials

- Motor oil
- Synthetic oil
- Hydraulic oil
- Gear oil
- ATF

Recommended For

- Service Shops
- Construction Equip. Maintenance
- Service Shops
- Fast Lubes
- Fleet

Perfect for high pressure fluid oil transfer in medium volume applications! This pump has been the 'crown jewel' of **Graco** since the 1950's and is the pump of choice in the most demanding environments.

Features and Benefits

- Corrosion-resistant design utilizes liquid salt nitriding, nickel plating, stainless steel, aluminum and chrome on key components for longer life.
- Few moving parts in the air motor assembly means less downtime and low repair cost.
- Displacement rods have minimal wear due to a proprietary Graco manufacturing process.
- Large air porting design provides efficient use of compressed air supply for continuous pump operation without icing.
- Thick cast aluminum air motor housing offers unmatched durability.



Stub Pump

203876 Fire-Ball 300,
5:1 pump universal

Suction Adapters

SVF HB150X100 1-1/2" to 1"
Bushing

LIN DTBUSHING Tank bushing
for telescoping tube

TUT 100KTG-8127 Telescoping
suction tube

Optional Accessories

109075 3/8" Air regulator/gauge

222308 2" bung adapter

238286 Complete Repair Kit



with 1/2" x 50FT
Fluid Hose Assy.



Metered Valves



238461
Digital



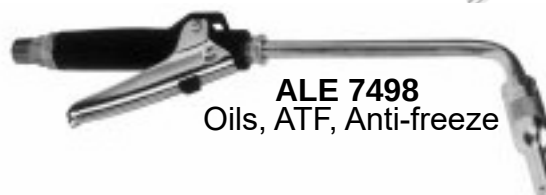
3685-F
Mechanical



ALE 7498-A
Oils, ATF, Anti-freeze



ALE 7492
Gear Oil



ALE 7498
Oils, ATF, Anti-freeze



222413
ATF

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Pump for Grease (35lbs)

50:1 For 5 Gallon (35lbs) Container

Air operated from 30psi to 140psi

Key Applications

High-pressure
grease dispense

Key Materials

- NLGI #00 Grease
- NLGI #0 Grease
- NLGI #1 Grease
- NLGI #2 Grease

Recommended For

- Service Shops
- Construction Equip.
Maintenance
- Service Shops
- Automotive Dealerships
- Fast Lubes
- Fleet

Perfect for high pressure grease dispense!

Graco's Fire-Ball pumps are built to last. For almost 50 years the Fire-Ball 300, 50:1 ratio has been a mainstay in the lubrication marketplace for its durability and long life. A package including a trusty Fire-Ball is sure to last!

Features and Benefits

- Corrosion-resistant design utilizes liquid salt nitriding, nickel plating, stainless steel, aluminum and chrome on key components for longer life.
- Few moving parts in the air motor assembly means less downtime and low repair cost.
- Displacement rods have minimal wear due to a proprietary Graco manufacturing process.
- Large air porting design provides efficient use of compressed air supply for continuous pump operation without icing.
- Thick cast aluminum air motor housing offers unmatched durability.



Container Size 35lbs	
Package No.	222069*
Pump No.	239877*
Dispense Kits	222070*
Fluid Hose	12ft x 1.4in*
Follower Plate	220653*
Cover	222059*

* = included in package

Optional Accessories	
Air regulator with gauge	109075
Flex Hose for gun	5812
Hose Reel	8078-B



Regulator & Gauge
109075



8078-B

with 1/4" x 50ft Grease
Hose Assy.



Hose Reels

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Pump for Grease (120lbs)

50:1 For 120lb Containers

Air operated from 30psi to 140psi

Key Applications

High-pressure
grease dispense

Key Materials

- NLGI #00 Grease
- NLGI #0 Grease
- NLGI #1 Grease
- NLGI #2 Grease

Recommended For

- Service Shops
- Construction Equip.
Maintenance
- Service Shops
- Automotive Dealerships
- Fast Lubes
- Fleet

Perfect for high pressure grease dispense!

Graco's Fire-Ball pumps are built to last. For almost 50 years the Fire-Ball 300, 50:1 ratio has been a mainstay in the lubrication marketplace for its durability and long life. A package including a trusty Fire-Ball is sure to last!

Features and Benefits

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- Few moving parts in the air motor assembly means less downtime and low repair cost.
- Displacement rods have minimal wear due to a proprietary Graco manufacturing process.
- Large air porting design provides efficient use of compressed air supply for continuous pump operation without icing.
- Thick cast aluminum air motor housing offers unmatched durability.



Container Size 120lbs	
Package No.	225014*
Pump No.	239887*
Dispense Kits	222072*
Fluid Hose	6ft x 1/4in*
Air Hose	6ft x 3/8in*
Follower Plate	220654*
Cover	204574*

* = included in package

Optional Accessories	
Air regulator with gauge	109075
Flex Hose for gun	5812
Control Handle	242056
Z Swivel	202577
Hose Reel	8078-B



Pro Shot Grease Gun
242056



Regulator & Gauge
109075



Z Swivel
202577



8078-B



Hose Reels

with 1/4" x 50ft Grease
Hose Assy.

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Pump for Grease(400lbs)

50:1 For 400lb Containers

Air operated from 30psi to 140psi

Key Applications

High-pressure
grease dispense

Key Materials

- NLGI #00 Grease
- NLGI #0 Grease
- NLGI #1 Grease
- NLGI #2 Grease

Recommended For

- Service Shops
- Construction Equip.
Maintenance
- Service Shops
- Automotive Dealerships
- Fast Lubes
- Fleet



Perfect for high pressure grease dispense!

Graco's Fire-Ball pumps are built to last. For almost 50 years the Fire-Ball 300, 50:1 ratio has been a mainstay in the lubrication marketplace for its durability and long life. A package including a trusty Fire-Ball is sure to last!

Features and Benefits

- Corrosion-resistant design utilizes liquid salt nitriding, nickel plating, stainless steel, aluminum and chrome on key components for longer life.
- Few moving parts in the air motor assembly means less downtime and low repair cost.
- Displacement rods have minimal wear due to a proprietary Graco manufacturing process.
- Large air porting design provides efficient use of compressed air supply for continuous pump operation without icing.
- Thick cast aluminum air motor housing offers unmatched durability.

Container Size 400lbs	
Package No.	225016*
Pump No.	239888*
Dispense Kits	222072*
Fluid Hose	6ft x 1/4 in"
Air Hose	6ft x 3/8 in"
Follower Plate	223845*
Cover	200326*

* = included in package

Optional Accessories	
Air regulator with gauge	109075
Flex Hose for gun	5812
Control Handle	242056
Z Swivel	202577
Hose Reel	8078-B



Pro Shot Grease Gun
242056



Regulator & Gauge
109075



Z Swivel
202577



8078-B



Hose Reels

with 1/4" x 50ft Grease
Hose Assy.

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Fuel Nozzles and Accessories



337004
18 GPM
for 12v pumps



159404
10GPM
Unleaded



3/4" Automatic Shut-off



2273
Disposable
Breakaway



3360
Reuseable
Breakaway



0350
3/4" Z
Swivel

1" Automatic Shut-off



173310
75GPM
Diesel 45psi



045704
15GPM
Unleaded



2276
Reuseable
Breakaway



0087
1" Z Swivel

1.5" Automatic Shut-off



169010
100 GPM
45psi



3/4" or 1"
custom length
curb pump hoses



1", 1-1/4", 1-1/2"
Diesel fuel oil
hose with custom
lengths made.

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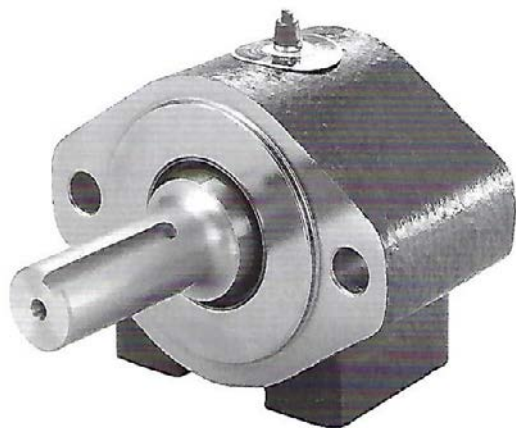
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BVA



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OHLA 200

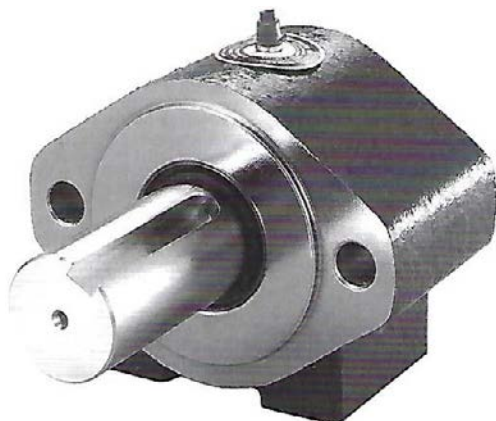
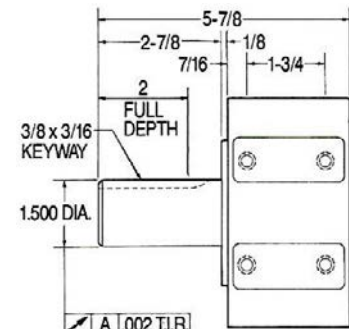
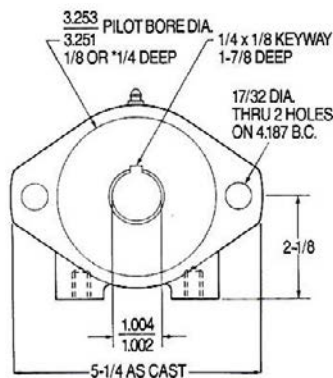
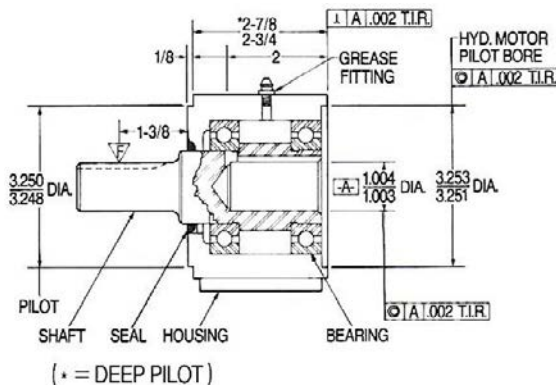
•For SAE "A" 2-bolt mount applications with motor or pump shafts up to 1" diameter.

•Features deep-grooved ball bearings.
•Accepts speeds up to 3600 RPM.

Standard Models

Model*	Output Shaft - Keyway	Input Bore - Keyway
210	1.00 - 1/4 x 1/8	1.00 - 1/4 x 1/8
210F	1.00 Bore - 1/4 x 1/8	1.00 - 1/4 x 1/8
215	1.50 - 3/8 x 3/16	1.00 - 1/4 x 1/8
210-10	1.00 - 1/4 x 1/8	.625 - 5/32 x 5/64
210-12	1.00 - 1/4 x 1/8	.750 - 3/16 x 3/32
215-12	1.50 - 3/8 x 3/16	.750 - 3/16 x 3/32

*0.125 Pilot depth is Standard. Add "DP" to Model Number for a Deep Pilot. (0.25)



OHLA 300

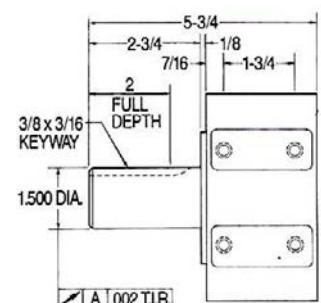
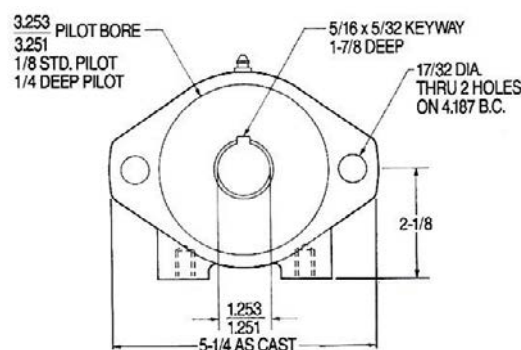
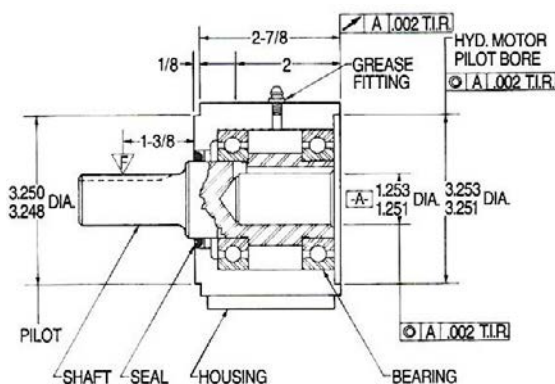
•For SAE "A" 2-bolt mount for medium to heavy-duty applications.
•Features deep-grooved ball bearings.

•Accepts speeds up to 3600 RPM.
•Featuring the same overall size as the Model 200, the Model 300 has larger bearings for heavy-duty applications.

Standard Models

Model*	Output Shaft - Keyway	Input Bore - Keyway
312	1.25 - 5/16 x 5/32	1.25 - 5/16 x 5/32
300F	1.25 Bore - 5/16 x 5/32	1.25 - 5/16 x 5/32
315	1.50 - 3/8 x 3/16	1.25 - 5/16 x 5/32

*0.125 Pilot depth is Standard. Add "DP" to Model Number for a Deep Pilot. (0.25)



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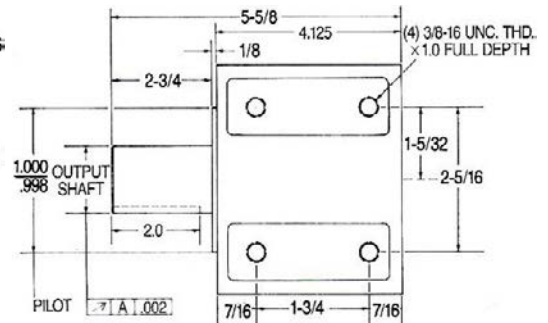
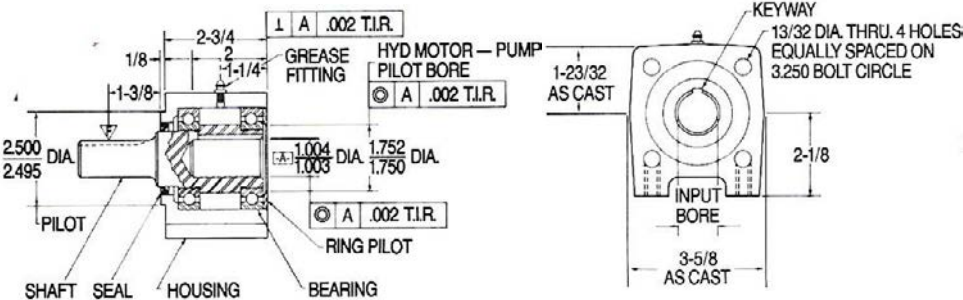
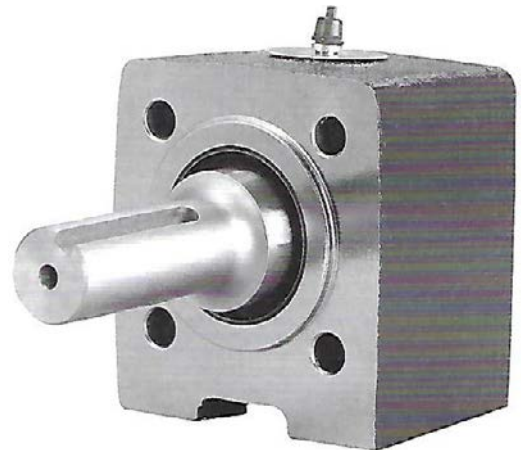
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OHLA 400

- For applications with motor or pump shafts up to 1" diameter.
- Features deep-grooved ball bearings.
- Accepts speeds up to 3600 RPM.

Standard Models

Model	Output Shaft - Keyway	Input Bore - Keyway
410	1.00 - 1/4 x 1/8	1.00 - 1/4 x 1/8
410F	1.00 Bore - 1/4 x 1/8	1.00 - 1/4 x 1/8
415	1.50 - 3/8 x 3/16	1.00 - 1/4 x 1/8

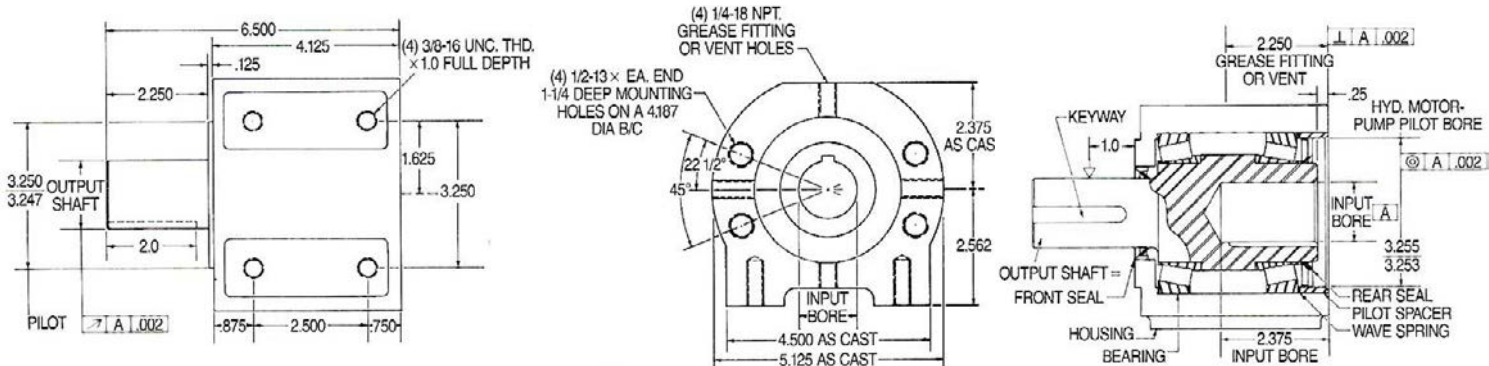
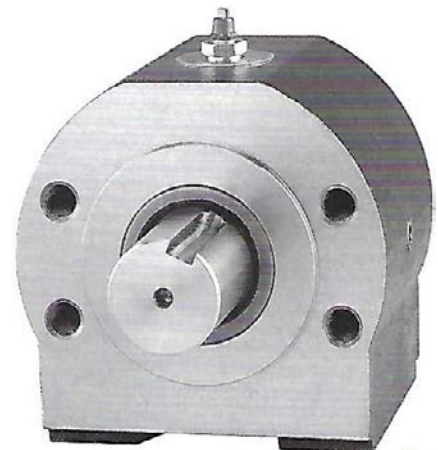


OHLA 500

- For SAE "A" heavy-duty bearing block applications with 4-bolt mounting.
- Features heavy-duty tapered roller bearings.
- Accepts speeds up to 3600 RPM.
- May be used on 2-bolt mount by tilting 22-1/2°.

Standard Models

Model	Output Shaft - Keyway	Input Bore - Keyway
512-20	1.250 - 5/16 x 5/32	1.250 - 5/16 x 5/32
512-6BS	1.250 - 5/16 x 5/32	1.000 6B Spline
512-14S	1.250 - 5/16 x 5/32	14 Tooth 12/24 Spline
515-20	1.500 - 3/8 x 3/16	1.250 - 5/16 x 5/32
515-6BS	1.500 - 3/8 x 3/16	1.000 6B Spline
515-14S	1.500 - 3/8 x 3/16	14 Tooth 12/24 Spline



OHLA 400-500

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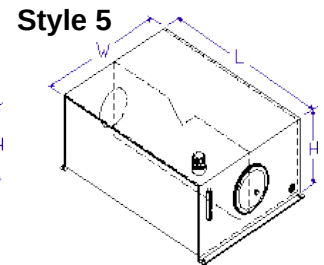
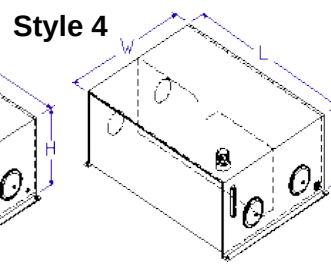
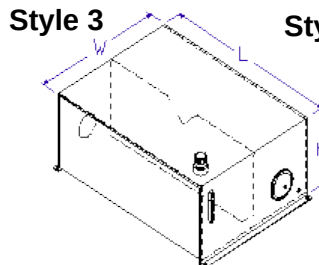
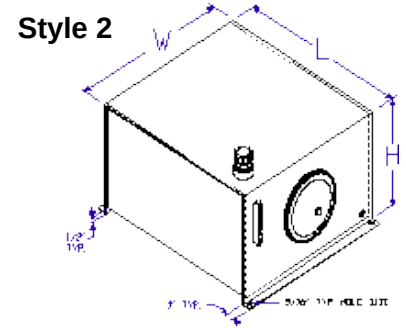
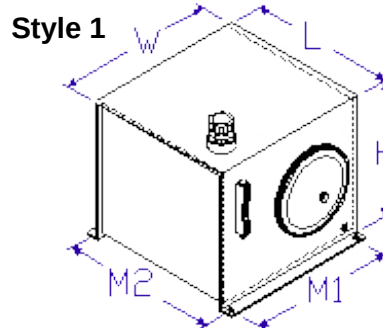
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STEEL RESERVOIRS

WELD-ON TOP NON-JIC TYPE RESERVOIR

Each Reservoir Includes The Following
Standard Features & Accessories:

- Weld riser with Filler Breather
- Fluid Level / Temp. Gauge (5")
- Drain
- Mounting Holes
- Endcover with seal
- Interior and exterior treated with a rust preventative oil coating, shipped unprimed
- Material is Pickled and Oiled steel
- All accessories are shipped loose inside of reservoir



Style 1 - No baffle, one endcover offset

Style 2 - No baffle, one endcover

Style 3 - Baffle, two endcovers on alternate sides of baffle

Style 4 - Baffle, two endcovers on alternate sides of baffle

Style 5 - Baffle, two endcovers centered on baffle

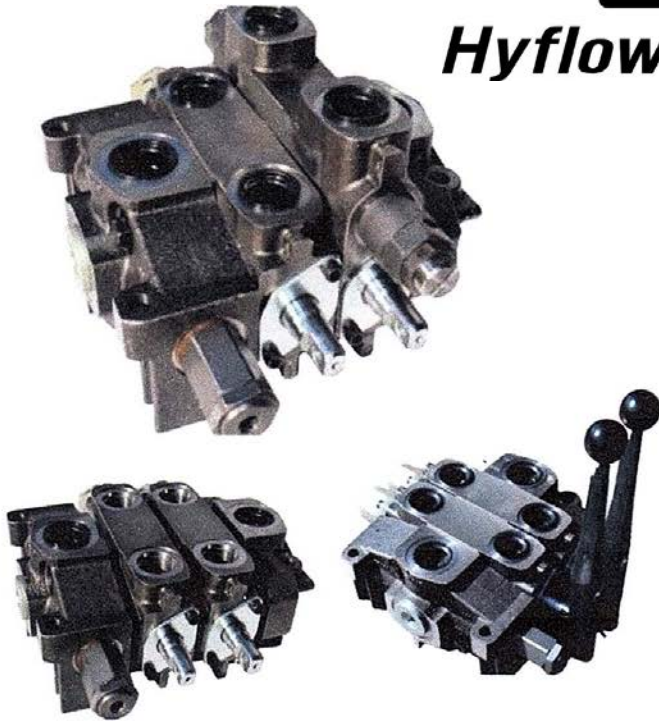
MODEL NUMBER	GALLON CAPACITY	LENGTH L	WIDTH W	HEIGHT H	STYLE NUMBER	E/C SIZE	MOUNTING		WEIGHT IN LBS.
							M1	M2	
NJ-3	3 GAL.	11"	13"	8"	1	6"	11 1/2"	12"	24
NJ-5	5 GAL.	12"	14"	10"	1	6"	12 1/2"	13"	30
NJ-8	8 GAL.	15"	14"	12"	1	6"	12 1/2"	16"	39
NJ-10	10 GAL.	18"	15"	12"	2	6"	13 1/2"	19"	47
NJ-15	15 GAL.	20"	16"	14"	2	6"	14 1/2"	21"	58
NJ-20	20 GAL.	24"	18"	14"	3	6"	16 1/2"	25"	82
NJ-25	25 GAL.	28"	18"	15"	4	6"	16 1/2"	29"	97
NJ-30-4	30 GAL.	28"	21"	15"	4	6"	19 1/2"	29"	106
NJ-30-5	30 GAL.	28"	21"	15"	5	12"	19 1/2"	29"	128
NJ-40-4	40 GAL.	28"	28"	15"	4	6"	26 1/2"	29"	128
NJ-40-5	40 GAL.	28"	28"	15"	5	12"	26 1/2"	29"	157
NJ-50	50 GAL.	38"	24"	16"	5	14"	22 1/2"	39"	183
NJ-60	60 GAL.	38"	29"	16"	5	14"	27 1/2"	39"	209
NJ-80	80 GAL.	38"	37"	16"	5	14"	35 1/2"	39"	250
NJ-100	100 GAL.	50"	35 1/2"	16"	5	14"	34"	51"	300

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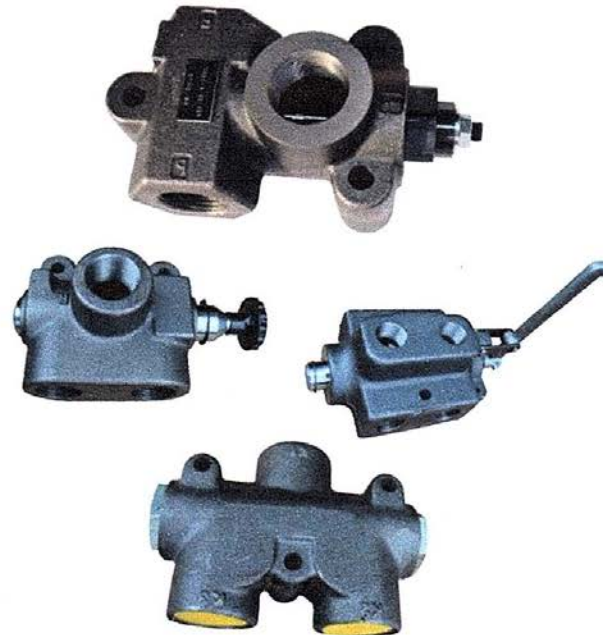
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Hyflow Controls



Sectional Valves



Mobile Accessory Valves



Flow Controls



Cartridge & Manifold

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