

STONE[®]

AC Power Units

DC Power Units

Motor Pump Assemblies

Gear Pumps

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Dedication to engineering since 1968

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LIMITED WARRANTY

FOR A PERIOD OF TIME STATED BELOW, SPX FLUID POWER will repair or replace, free of charge, any products SPX Fluid Power has determined, upon inspection by SPX Fluid Power, to be faulty due to defective material and/or workmanship. SPX Fluid Power may, at its discretion, issue credit in lieu of repair or replacement.

This warranty shall not apply to any loss or damage resulting from: (i) normal wear and tear; (ii) alteration, misuse, abuse or improper installation, operation or maintenance by Buyer or a third party; (iii) accident, fire, flood or acts of God; or (iv) inaccurate or incomplete information or data supplied or approved by the Buyer. Buyer shall defend and indemnify SPX Fluid Power for any loss or damage of SPX Fluid Power arising out of (i) through (iv) above and any breach by Buyer of its covenants and obligations under the SPX Fluid Power Terms and Conditions of Purchase.

THIS WARRANTY IS LIMITED TO REPLACEMENT OR REPAIR AND IS IN LIEU OF AND EXCLUSIVE OF ALL OTHER REMEDIES. No claim by a Buyer, other than a demand for replacement or repair, shall be honored by SPX Fluid Power; and, SPX Fluid Power shall not be liable for contingent liabilities arising out of the improper function of any product, nor shall SPX Fluid Power be liable for any claims for labor or inconsequential damage or incidental damages resulting from, arising out of or in connection with the testing, use, operation, replacement or repair of any SPX Fluid Power product or part.

SPX FLUID POWER DOES NOT WARRANT THE PRODUCT FOR MERCHANTABILITY OR FITNESS FOR ANY PARTICULAR PURPOSE AND THERE IS NO WARRANTY, EXPRESSED OR IMPLIED, EXCEPT THAT THE PRODUCT SHALL BE OF THE KIND AND QUALITY DESCRIBED IN OUR SPECIFICATIONS. SPX Fluid Power has not authorized anyone to make representation of warranty other than the warranty contained herein. Under no circumstances shall SPX Fluid Power be liable for any special or consequential damages whether based upon lost goodwill, lost resale profits, work stoppage, impairment of other goods or otherwise and whether arising out of breach of warranty, breach of contract, negligence or otherwise, except only in the case of personal injury where applicable law requires such liability.

WARRANTY PERIOD

STONE® PRODUCTS, STANDARD AND OEM, a period of twelve (12) months from the date of manufacture.

STONE® PRODUCTS, AUTO HOIST POWER UNITS, a period of twenty-four (24) months from date of manufacture.

PRODUCTS NOT COVERED UNDER WARRANTY.

An inspection fee may be applied to all returns determined by SPX Fluid Power to be not under warranty. Charges for labor and applicable repair parts will be in addition to the aforementioned inspection fee. Repair estimates will be

communicated to the Buyer. SPX Fluid Power will allow a maximum of two weeks (10 working days) from the date of notification for the Buyer to advise SPX Fluid Power whether to: 1) Return, 2) Repair or 3) Scrap the product. If SPX Fluid Power does not receive written notification within this two-week period, SPX Fluid Power will, at its discretion, scrap the product in question.

RETURNS

Returns of product will be accepted only for the purpose set forth above and will not be accepted without a Return Authorization (RA) Number. An RA number can be obtained by calling Customer Service at 800-541-1418.

WARNINGS

- People who work on and around hydraulic systems of any kind without formal training expose themselves, and others, to serious safety hazards. An accident with a hydraulic system can result in severe injury, death, or substantial property damage.
- Always wear eye protection and protective clothing when working on and around hydraulic systems.
- Some hydraulic power units contain pumps that can generate pressures in excess of 5000 PSI (345 Bar). A pressure relief valve is used to set the pressure at the desired level. Tampering with, adjusting, modifying or removing the relief valve is extremely dangerous and is not recommended.
- Hydraulic fluid poses a fire hazard, and can cause skin irritation or burning if not properly handled.
- Never exhaust hydraulic fluid under pressure to atmosphere.
- Hydraulic fluid can reach high temperatures under normal operating conditions and can burn exposed skin.
- Fluid pressure (even as low as 100 PSI) can penetrate skin and cause death or serious injury.
- Hydraulic devices should be properly "Locked-Out" or "Tagged-Out" before being worked on, including the release of any stored energy and mechanically locking the device in place when appropriate.
- Remove any jewelry and/or objects that are electrical conductors before working on power units.
- Properly contain and dispose of fluids according to local codes and regulations.
- SPX Fluid Power is not responsible for misuse or misapplication of product.

SPX FLUID POWER QUALITY POLICY

At SPX FLUID POWER we are committed to meeting or exceeding Customer defined expectations by continuously improving the Quality of our Products, Processes, and Services.

SPX Fluid Power is an ISO 9001:2000 certified facility.



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AC/DC Hydraulic Power Unit

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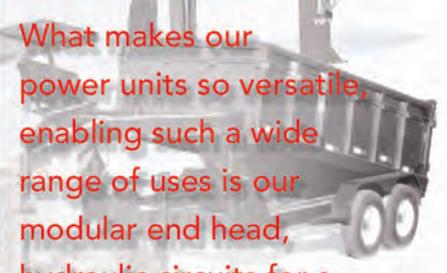


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What makes our power units so versatile, enabling such a wide range of uses is our modular end head, hydraulic circuits for a variety of application uses, easy field service and interchangeable cartridge valves, exclusive patented engineered seal fitting, fixed relief valve that the lift cannot be overloaded, and quick push button motor starts. We have engineered our products for a wide range of applications ensuring a power unit will fit your need.



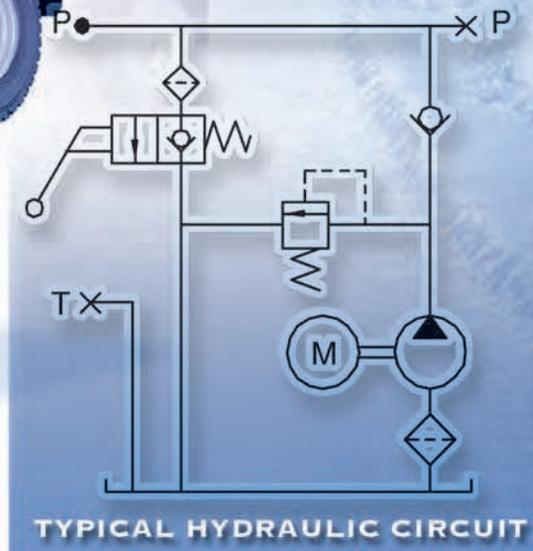
AC/DC Hydraulic Power Unit Applications

Auto Hoist

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 the cylinder size) can be used on most 7000 to 9000 lbs. (3175 to 4082 kg) capacity lifts. Cartridge valves are used, allowing easy field service and interchangeability. Air motor driven models also available.

Typical units for this application:

- AC-10AH •AC-10KS •AC-10FP



TYPICAL HYDRAULIC CIRCUIT

AC/DC Hydraulic Power Unit Applications

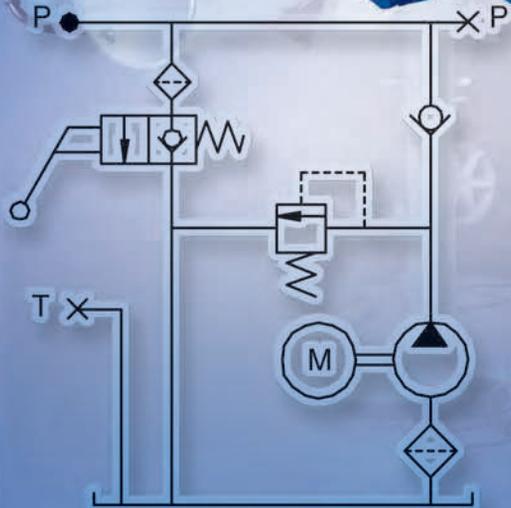
Tire Changer

Typical units for this application:

- AC-10TC



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 finger-tip control of lowering speed.



TYPICAL HYDRAULIC CIRCUIT

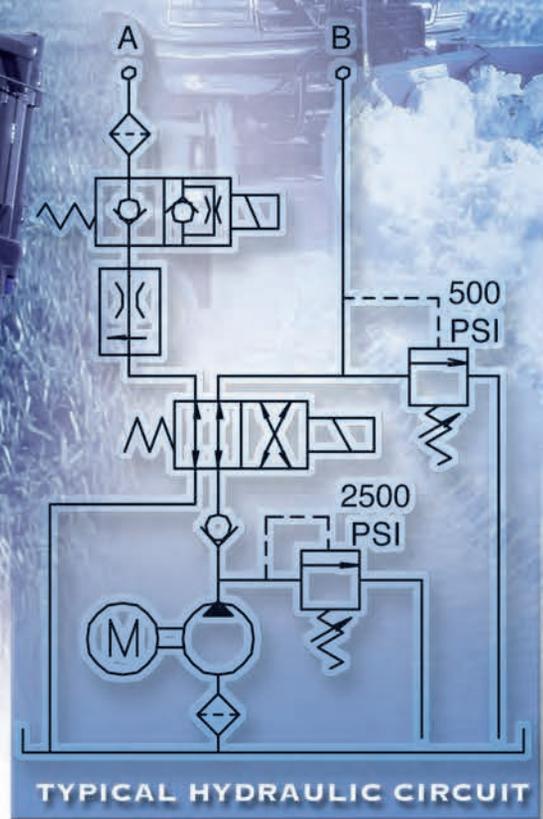
Power Unit shown is a representation of a typical unit. Actual unit may vary.

AC/DC Hydraulic Power Unit Applications

Dump Trailer

This power unit is designed for use on a double acting dump trailer or dump bed applications. Provides power lift-hold-power down operation. Two models available, with and without corded hand control, allowing the unit to be used as a replacement or as original equipment.

Typical units for this application:
•DC-41DT • DC-41DTC



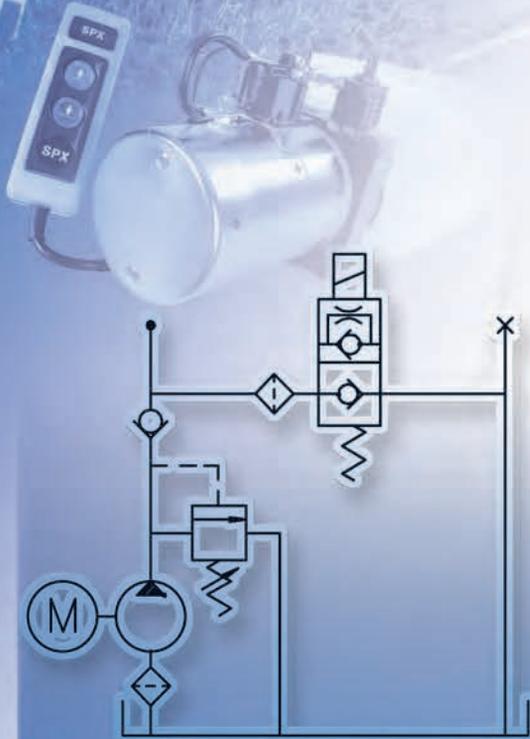
Tail Gate

Typical units for this application:

- DC-20SF

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. Steel or poly tanks available for custom design.



TYPICAL HYDRAULIC CIRCUIT

Power Unit shown is a representation of a typical unit. Actual unit may vary.



AC/DC Hydraulic Power Unit Applications

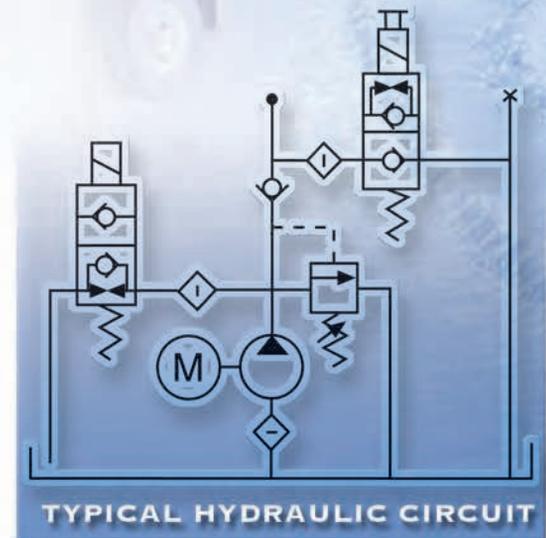
Man Lift AC & DC

These power units are designed for use on elevated work platforms using a raise-hold and gravity lower circuit. The following additional features include:

- Normally open valve to protect operators from run-on in case of motor contactor failures
- Manual override to allow the platform to be lowered in case of power failure
- **AC ONLY:** Electronic load delay for reliable operation in degraded voltage areas

Typical units for this application:

•AC-20ML •DC-20ML



STONE[®]

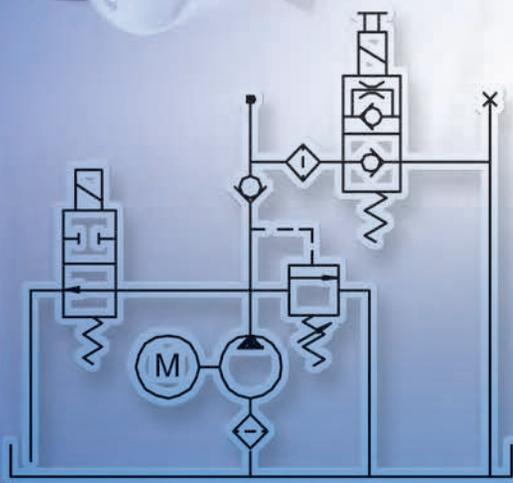
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AC/DC Hydraulic Power Unit Applications

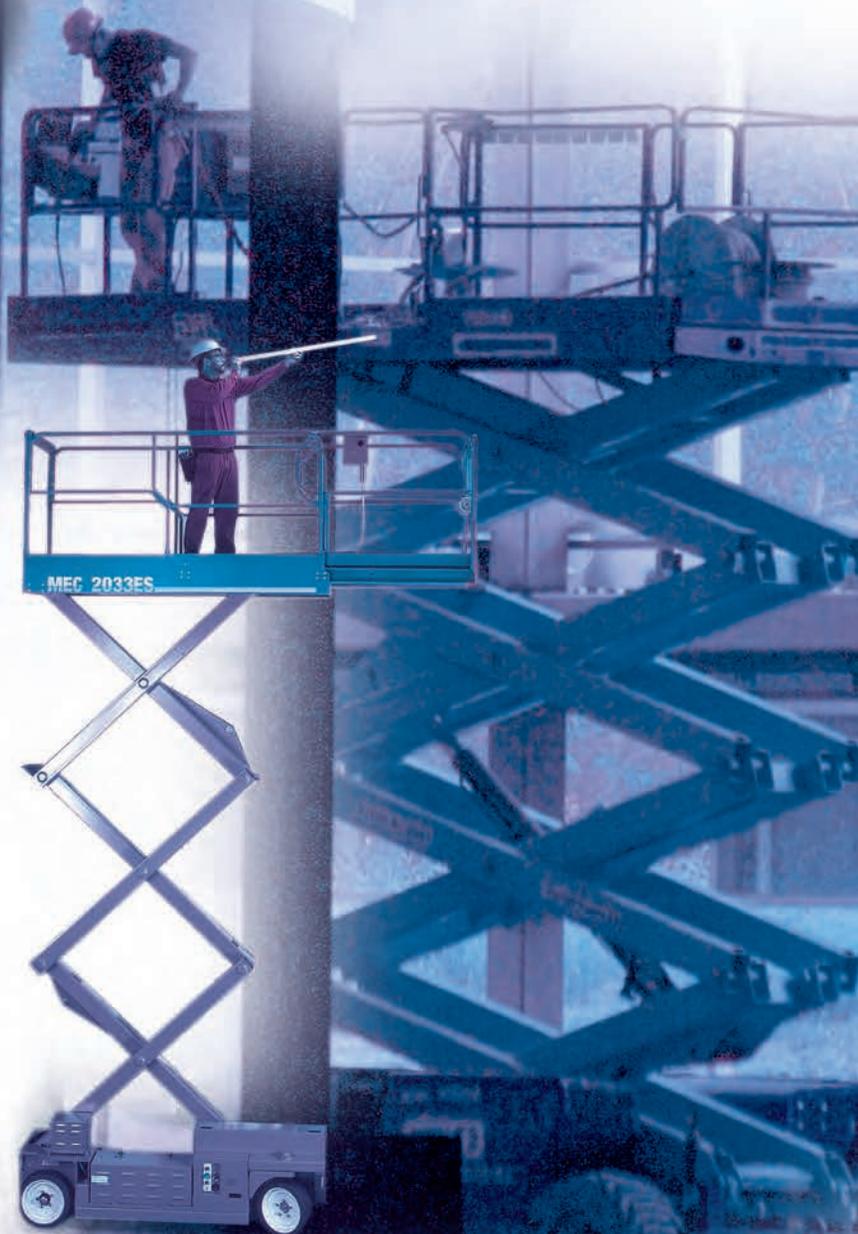
Scissor Lift

Typical units for this application:
•DC-20ML •AC-20ML

The power raise/gravity lowering circuit is ideal for Scissor Lift applications. While the circuit below will cover a wide range of scissor lifts, other pump, motor and tank capacities are available to suit various sizes.



TYPICAL HYDRAULIC CIRCUIT



Power Unit shown is a representation of a typical unit. Actual unit may vary.

AC/DC Hydraulic Power Unit Applications

Dock Leveler

This hydraulic circuit has been specifically designed for Dock Levelers with a hydraulic lip. After powering the platform to its full height a sequence valve operates to redirect the oil flow to extend the lip. The valving ensures the lip remains extended until the pressure on the main lift ram has ceased.

Power units vary from application to application. Submit application specifications to your distributor and our customer application engineering team can provide a specific quotation.

Typical units for this application:
Contact Stone Technical Service



TYPICAL HYDRAULIC
CIRCUIT NOT SHOWN.
CONTACT STONE TECHNICAL
SERVICE FOR YOUR
SPECIFIC APPLICATION.

STONE[®]

Power Unit shown is a representation of a typical unit. Actual unit may vary.

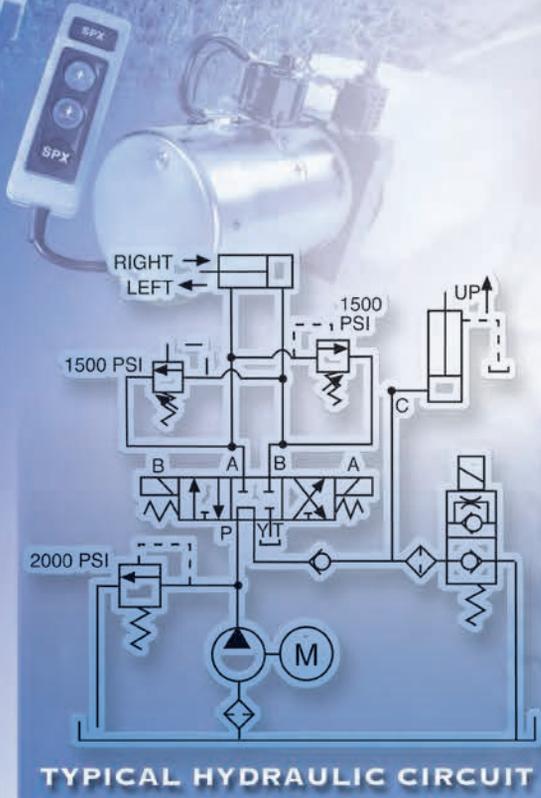
AC/DC Hydraulic Power Unit Applications

Snow Plow

Typical units for this application:

- DC-80SP

This power unit is designed to operate all functions of a power operated angling snow plow. The unit includes a lift-hold-gravity-lower function for the blade, with a continuous "float" capability. A directional valve controls angling of the blade, two cross-over reliefs protect the system from damage should the blade be obstructed while plowing.

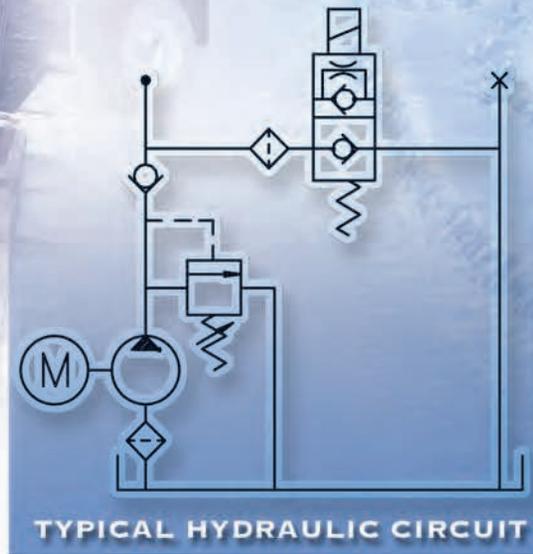


Power Unit shown is a representation of a typical unit. Actual unit may vary.

AC/DC Hydraulic Power Unit Applications Truck Mounted Crane

The DC power unit has been designed for truck applications with power lift, hold and gravity lower via a solenoid or manual release valve. Various tank sizes can be supplied to suit hydraulic cylinder capacities.

Typical units for this application:
•DC-20SF



TYPICAL HYDRAULIC CIRCUIT

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Power Unit shown is a representation of a typical unit. Actual unit may vary.

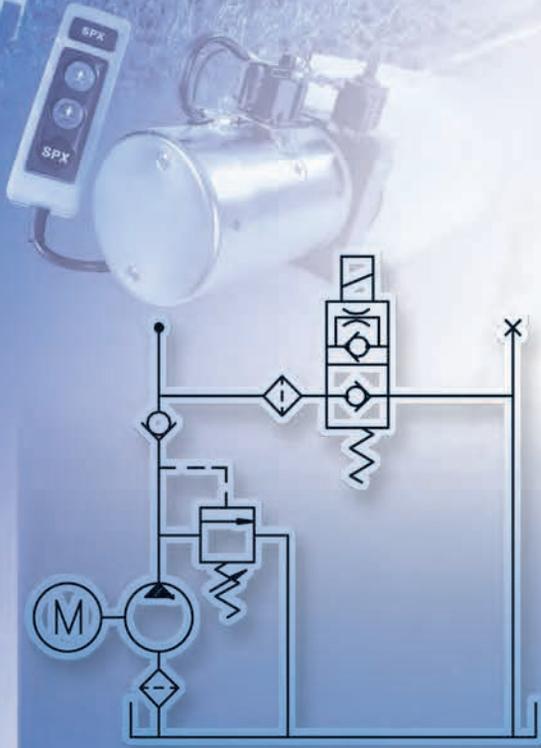
AC/DC Hydraulic Power Unit Applications

Dump Truck

Typical units for this application:

•DC-20SF •UD2431

The power unit has been designed for Dump Truck applications with power lift, hold and gravity lowering via a solenoid or manual release valve. Various tank sizes can be supplied to suit hydraulic cylinder capacities. An option to add a "tipper up" indication or warning pressure switch is available.



TYPICAL HYDRAULIC CIRCUIT

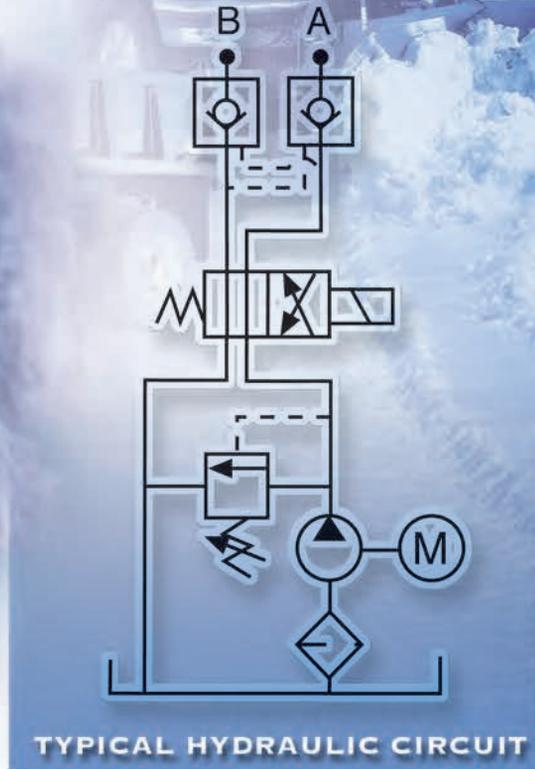
Power Unit shown is a representation of a typical unit. Actual unit may vary.

AC/DC Hydraulic Power Unit Applications

Bale Spike

The power unit is designed primarily to operate tines (or "spikes") which pick up round bales and allow these to be hauled by a pickup truck, tractor or other vehicle. The unit incorporates a two position, four way cartridge valve and double pilot-operated checks to control a double acting cylinder, to lift, hold and then lower (under power) the round bale. It may also be used to power any double-acting, intermittent duty application.

Typical units for this application:
•DC-70BS



Power Unit shown is a representation of a typical unit. Actual unit may vary.

AC/DC Hydraulic Power Unit Applications Recreational Vehicle

Typical units for this application:
Contact Stone Technical Service

This power unit design will operate the leveling and slide out systems for recreational vehicles. The circuit allows for the use of a hand pump for emergency purposes.



TYPICAL HYDRAULIC
CIRCUIT NOT SHOWN.
CONTACT STONE TECHNICAL
SERVICE FOR YOUR
SPECIFIC APPLICATION.

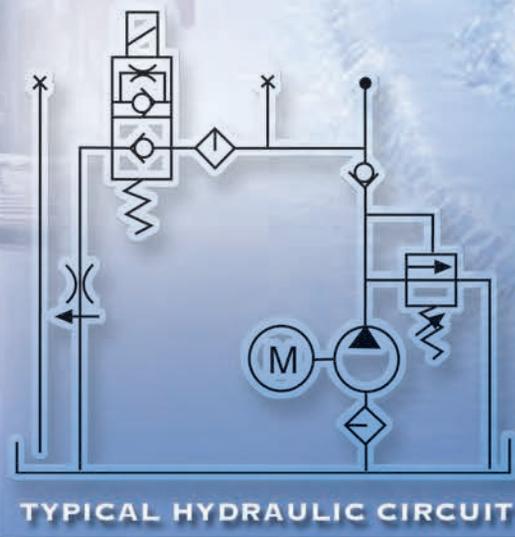
Power Unit shown is a representation of a typical unit. Actual unit may vary.

AC/DC Hydraulic Power Unit Applications

Material Handling 12V & 24V

These power units are designed primarily for low-lift pallet trucks. The units have a three way circuit for raise-hold-lower functions and are used with a single acting cylinder. Lowering speed is controlled over the entire load range by a built-in, pressure-compensated flow control. This unit is plumbed for vertical mounting (motor up) and is interchangeable with other manufacturer's power packs.

Typical units for this application:
•DC-20MH



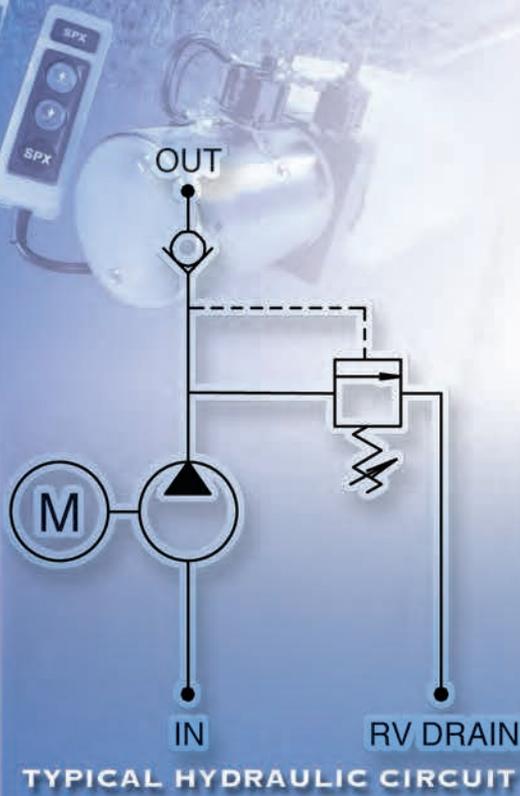
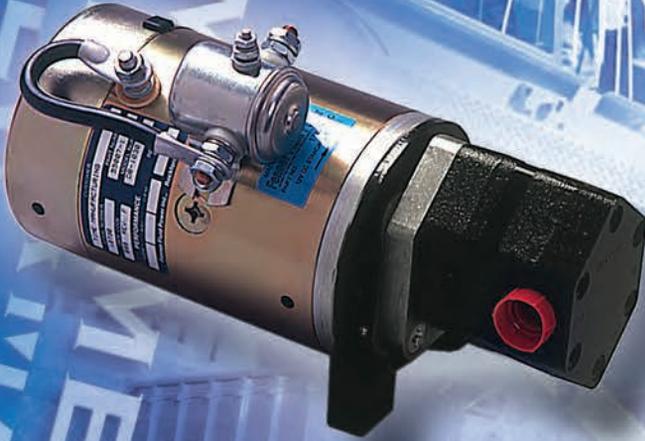
AC/DC Hydraulic Power Unit Applications

Auxiliary Power Unit

Typical units for this application:

- DC-30APU

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 back-up (auxiliary) hydraulic power for truck mounted or 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.



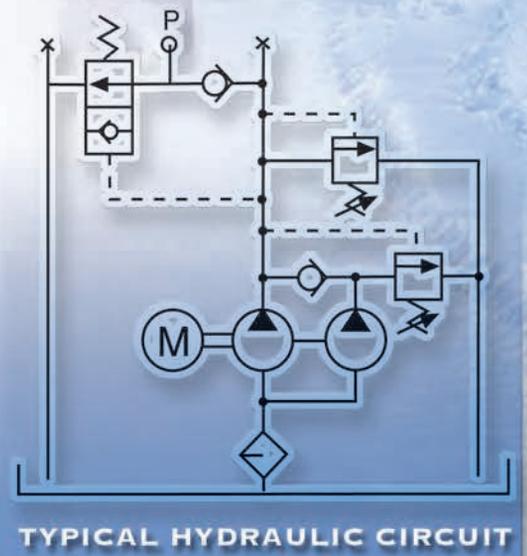
Power Unit shown is a representation of a typical unit.
Actual unit may vary.

AC/DC Hydraulic Power Unit Applications Filter Crusher/Compactor

This power unit incorporates a high-low pump for maximum output of oil for a fast extension of the cylinder, as well as a high pressure/low volume flow for the work portion of the cycle. Standard design is 1 phase operation. Air driven, 3 phase designs also available. For use with single acting spring return cylinders only.

Typical units for this application:

•AC-40FC



STONE[®]

Power Unit shown is a representation of a typical unit. Actual unit may vary.

www.mfcp.com

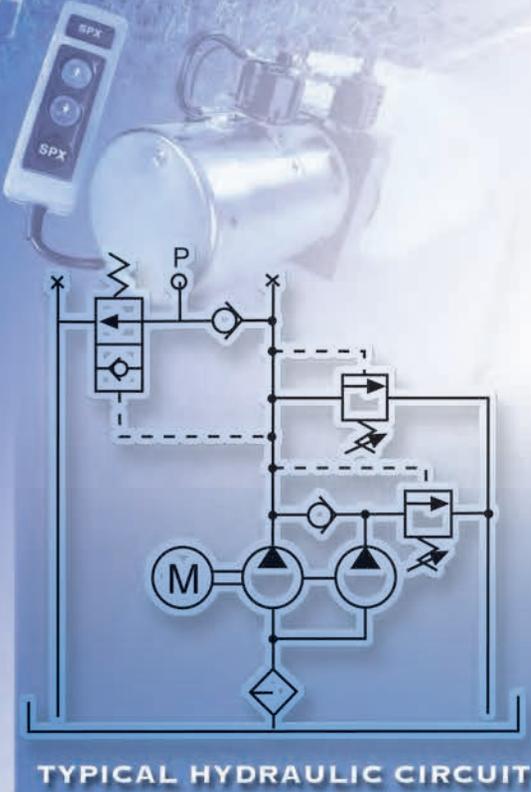
AC/DC Hydraulic Power Unit Applications

Hose Crimper

Typical units for this application:

- AC-40FC

This power unit incorporates a pilot operated control valve to operate a single acting circuit. Momentary toggle switch to start cylinder extension, upon release of toggle unit will automatically allow retraction of single-acting spring return cylinder.



Power Unit shown is a representation of a typical unit. Actual unit may vary.

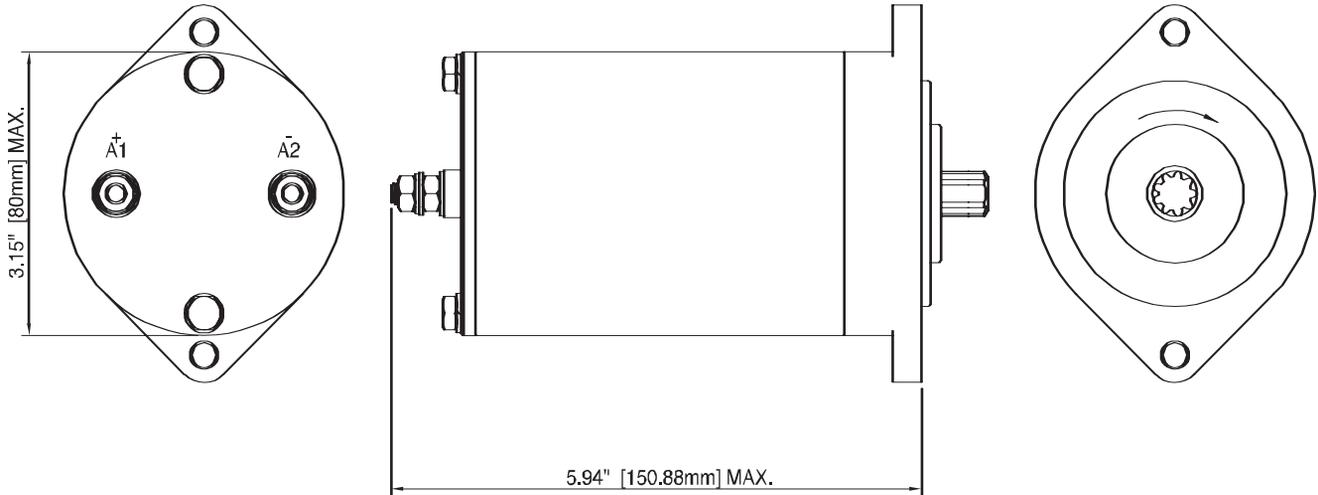


Motors

Kit Number	Description	Page Number
KM05-09	3.0" 12/24V DC Motor Performance	Page 25
KM05-08	3.0" 12V DC Motor Performance	Page 26
KM06-09	3.0" 12-24V DC Motor Performance	Page 27
KM96	Motor Adaptor 182/184 Nema C Face	Page 28
KM97	Motor Adaptor 56/143/145 Nema C Face	Page 29
KM98-80	Motor Adaptor IEC Motors 80 Frame 80 C Face	Page 30
KM98-90	Motor Adaptor IEC Motors 90 Frame 95 C Face	Page 31
KM98-100	Motor Adaptor IEC Motors 100 Frame 100 C Face	Page 32
KMC16-17	Continuous Duty 1PH AC Motors	Page 33
KMC21-23	Continuous Duty 1 PH AC Motors	Page 34
KMC18-20	Continuous Duty 3 PH AC Motors	Page 35
KMC22-24	Continuous Duty 3 PH AC Motors	Page 36
KMC29	Continuous Duty 3 PH AC Motors	Page 37
KMC30	Continuous Duty 3 PH AC Motors	Page 38
KMD1-6	4.5" Field Wound DC Motors	Page 39
KMD1-3	4.5" 12V DC Motor (Std. & Ext. Duty) Performance & Duty Cycle	Page 40
KMD4-6	4.5" 24V DC Motor (Std. & Ext. Duty) Performance & Duty Cycle	Page 41
KMD8	5.0" 12/24V DC Heavy Duty Motor	Page 42
KMP2	12V DC 50in-LB Permanent Magnet Motor	Page 44
KMP5	24V DC 80in-LB Permanent Magnet Motor	Page 45

For continuous applications, Stone® recommends changing the coupling every 5,000 hours of use.

3.0" 12-24V DC MOTOR PERFORMANCE



KIT NO.	VOLTAGE	POWER	UL RECOGNIZED	BRUSH KIT
KM05	12 VDC	500W	YES	K-77
KM06	24 VDC	500W	YES	K-78
KM08	12 VDC	800W	YES	K-77
KM09	24 VDC	800W	YES	K-78

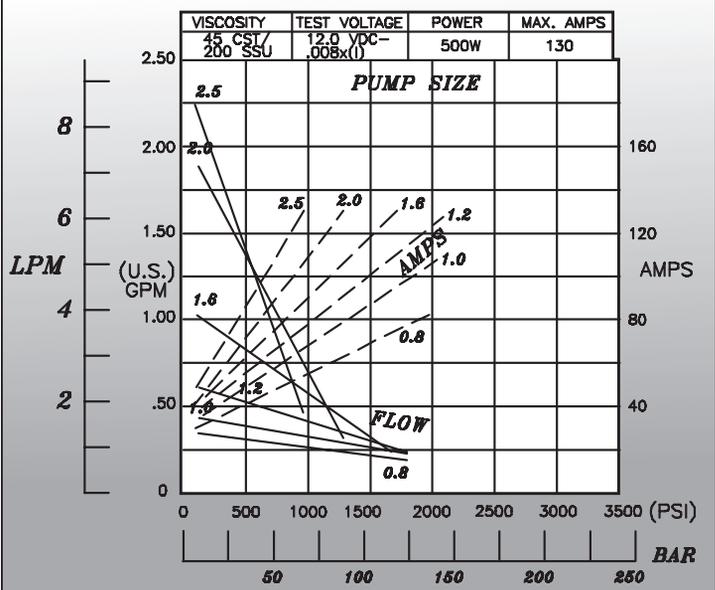
If using KS5 Smart Start, you must order K-104 and 5199-AA.

Note: Stone uses a network of qualified suppliers to ensure availability. There are minor dimensional and cosmetic differences between vendor's products.

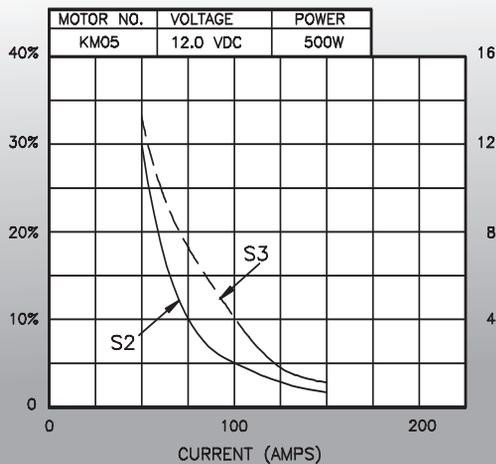
KM05-08

3.0" 12V DC MOTOR PERFORMANCE

KM05 Flow/AMP vs. Pressure Curve

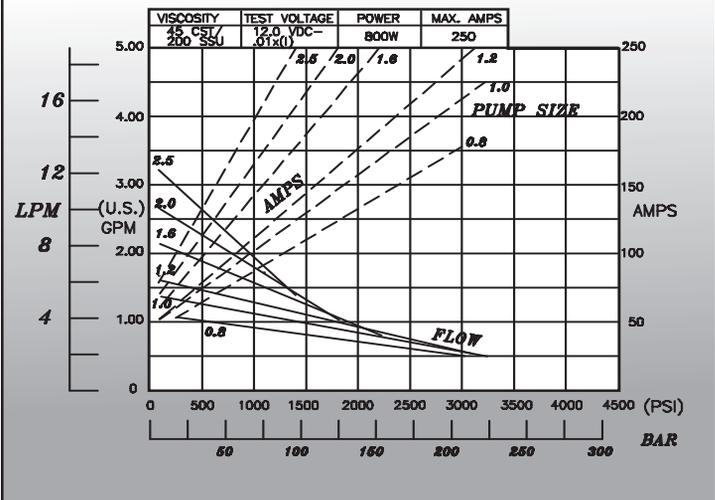


KM05 Motor Duty Cycle

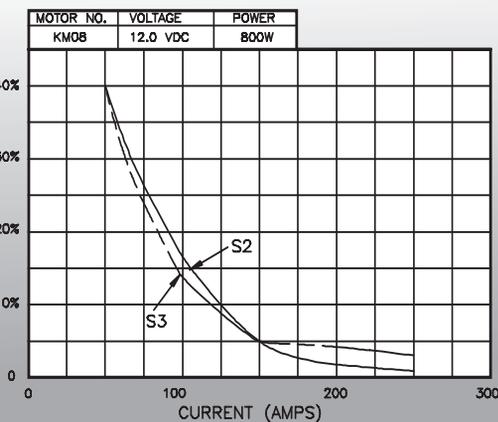


S2 Duty Rating in minutes.
S3 Duty Rating on time. (% of 5 minutes)

KM08 Flow/AMP vs. Pressure Curve

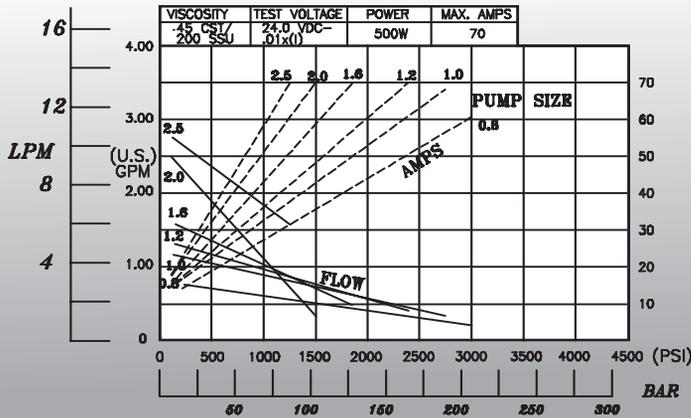


KM08 Motor Duty Cycle

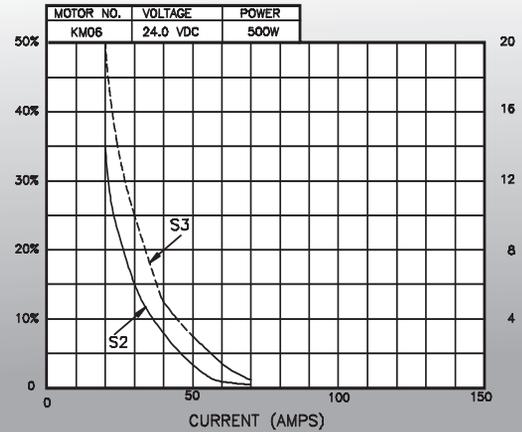


3.0" 12-24V DC MOTOR PERFORMANCE

KM06 Flow/AMP vs. Pressure Curve

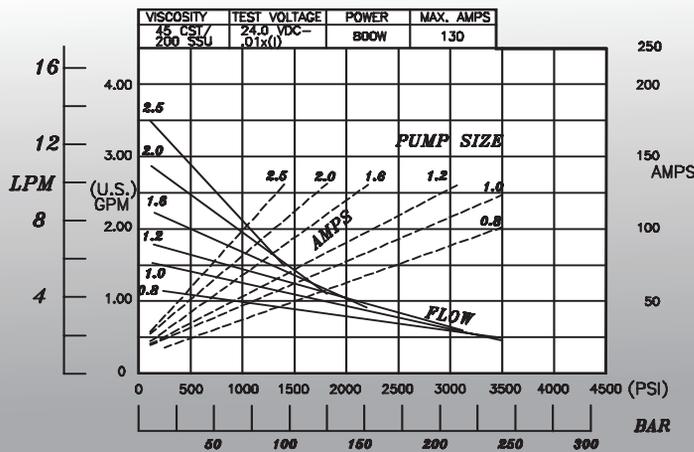


KM06 Motor Duty Cycle

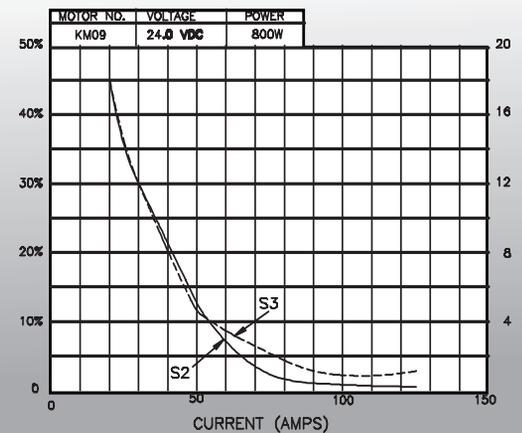


S2 Duty Rating in minutes.
S3 Duty Rating on time. (% of 5 minutes)

KM09 Flow/AMP vs. Pressure Curve

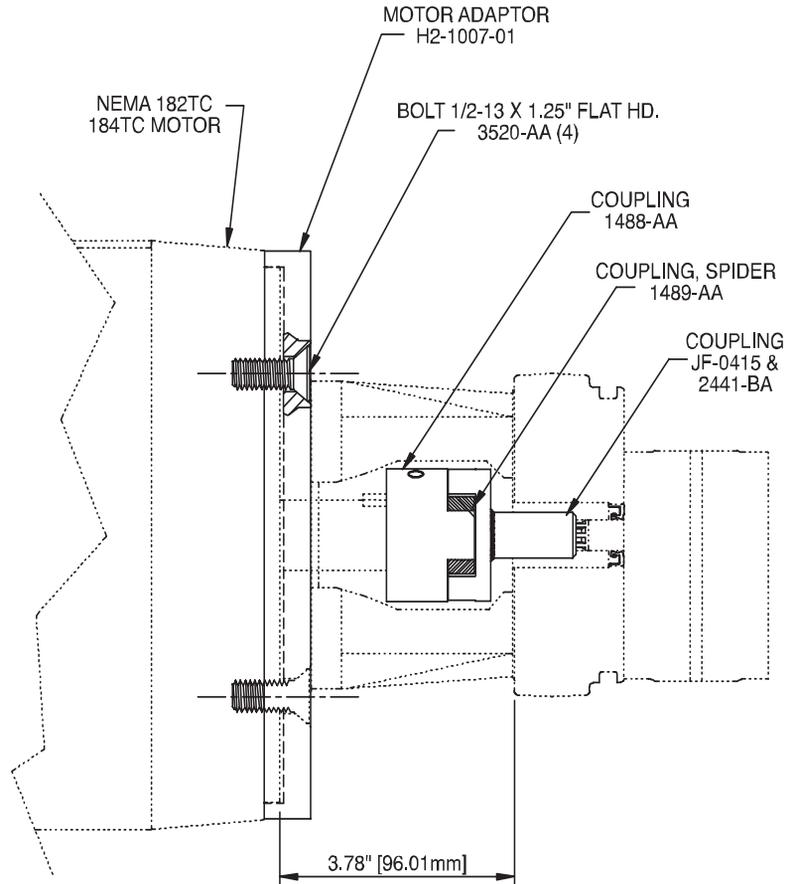


KM09 Motor Duty Cycle



KM96

MOTOR ADAPTOR 182/184 NEMA C FACE

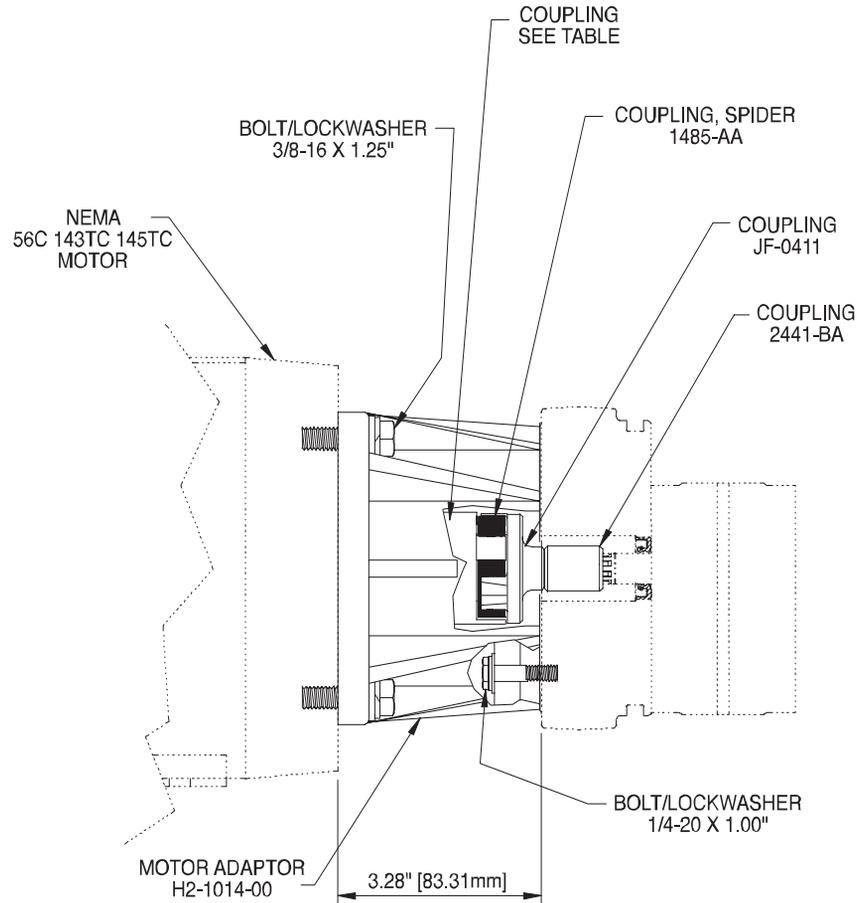


Mount H2-1007-01 to motor before assembling to KM97.

Must be ordered with KM97.

For use with 182TC and 184TC.

MOTOR ADAPTOR 56/143/145 NEMA C FACE

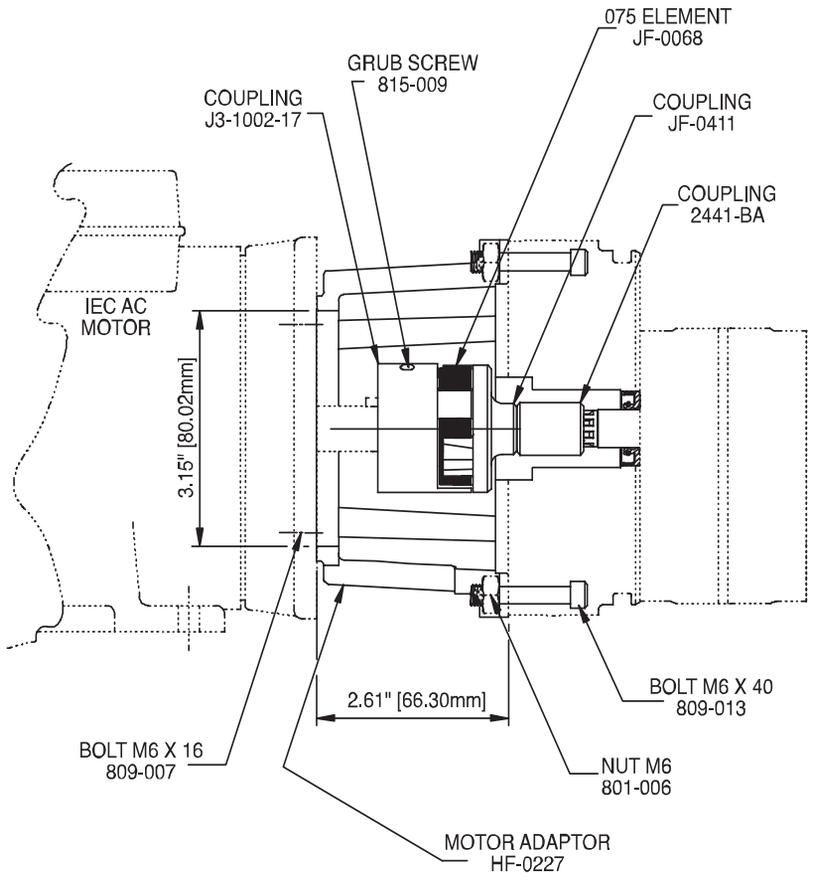


Motor Shaft	Motor Type	Part No.
.625" [15.87 mm]	56C	1487-AA
.875" [22.22mm]	143TC/145TC	1486-AA

Mounting motors of 3 hp or larger requires motor be mounted to rigid structure or adaptor failure may occur.

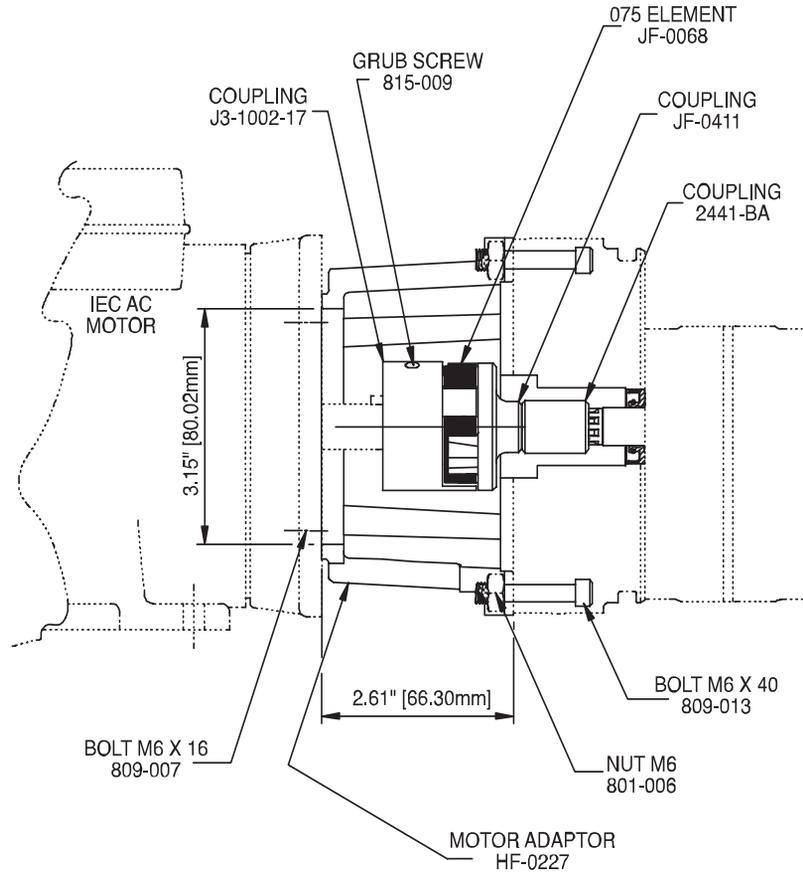
KM98-80

MOTOR ADAPTOR IEC MOTORS 80 FRAME 80 C FACE



Suitable for use with IEC 80 Frame motors with an 80C (B14) interface and a 19mm diameter shaft, measuring 40mm long from mounting face.

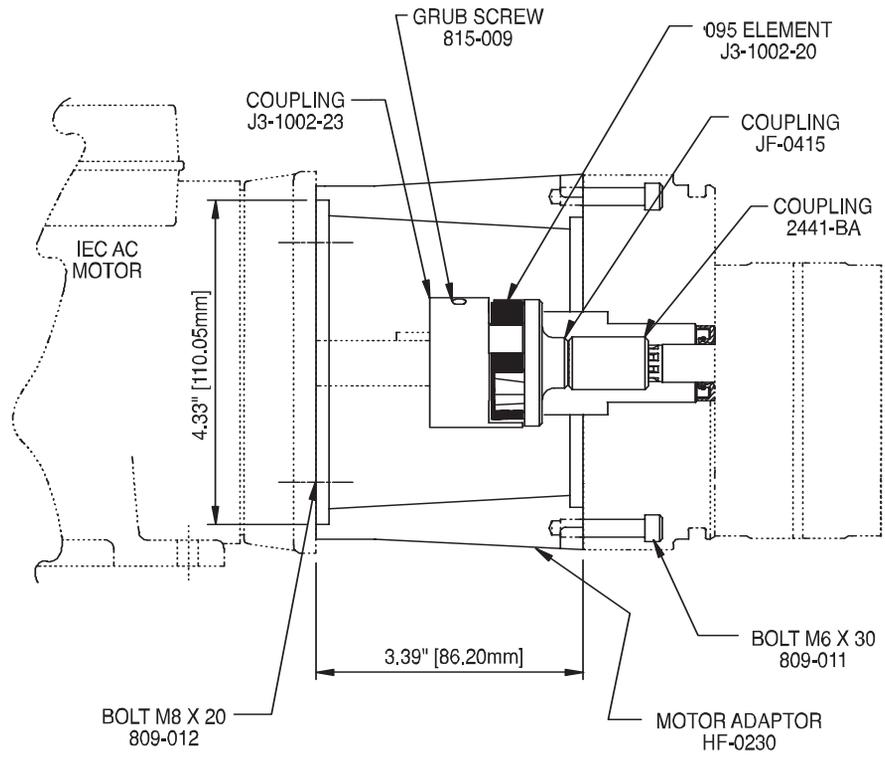
MOTOR ADAPTOR IEC MOTORS 90 FRAME 95 C FACE



Suitable for use with IEC 90 Frame motors with an 95C (B14) interface and a 24mm diameter shaft, measuring 50mm long from mounting face.

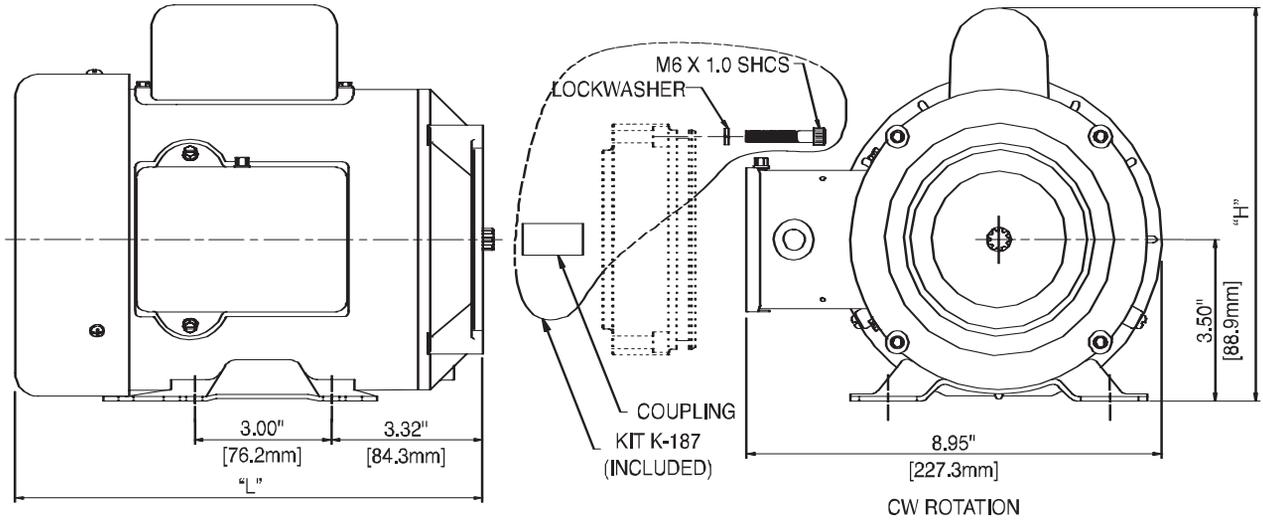
KM98-100

MOTOR ADAPTOR IEC MOTORS 100 FRAME 100 C FACE



Suitable for use with IEC 100 frame motors with an 110C (B14) interface and a 28mm diameter shaft, measuring 60mm long from mounting face.

CONTINUOUS DUTY 1PH AC MOTORS



Motor Shaft	"L"	"H"
KMC16	10.38" [263.5mm]	8.52" [216mm]
KMC17	11.75" [298.5mm]	8.52" [216mm]

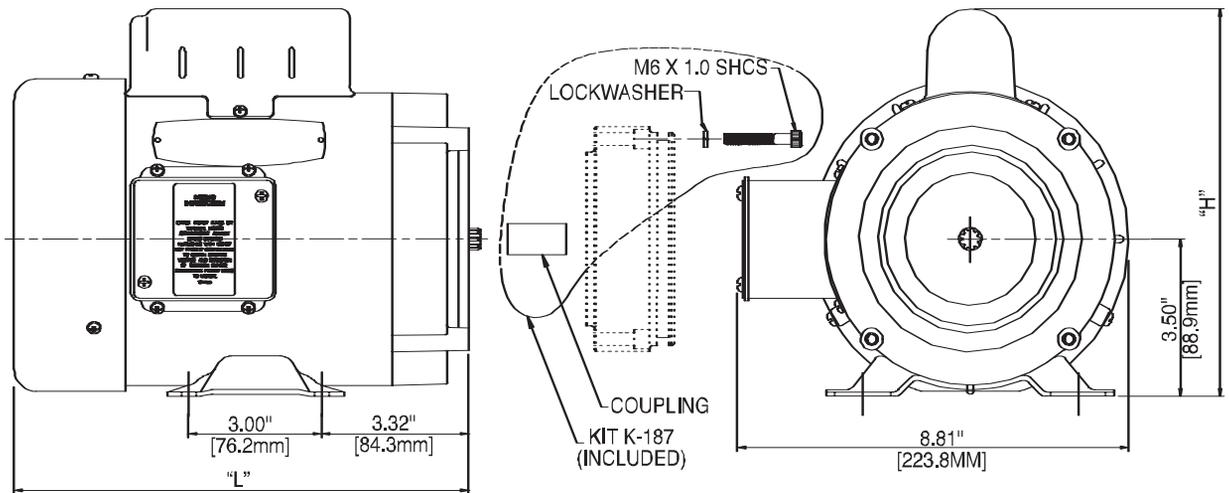
Motor/Pump	KP08	KP10	KP12	KP16	KP20	KP25	KP31	KP40	KP50	KP63	KP80
KMC16 1HP 3450 RPM, 1PH 115/230v 60Hz	.65 GPM 2150 PSI	.8 GPM 1700 PSI	.99 GPM 1400 PSI	1.4 GPM 1050 PSI	1.7 GPM 800 PSI	2.2 GPM 650 PSI	2.7 GPM 450 PSI	3.5 GPM 300 PSI	4.4 GPM 200 PSI	NOT RECOMMENDED	
	2.5 LPM 150 BAR	3.1 LPM 120 BAR	3.8 LPM 100 BAR	5.3 LPM 75 BAR	6.7 LPM 55 BAR	8.5 LPM 45 BAR	11 LPM 30 BAR	14 LPM 20 BAR	17 LPM 14 BAR		
KMC17 2HP 3450 RPM, 1PH 115/230v 60Hz	.58 GPM 4300 PSI	.79 GPM 3625 PSI	.91 GPM 2850 PSI	1.3 GPM 2150 PSI	1.7 GPM 1700 PSI	2.1 GPM 1300 PSI	2.6 GPM 1000 PSI	3.5 GPM 750 PSI	4.4 GPM 500 PSI		
	2.3 LPM 300 BAR	2.7 LPM 240 BAR	3.5 LPM 200 BAR	5.1 LPM 150 BAR	6.6 LPM 115 BAR	8.4 LPM 90 BAR	10 LPM 70 BAR	13 LPM 50 BAR	16 LPM 35 BAR		

Performance at 45 CST (200 SSU) and 90% mechanical efficiency. GPM's are U.S. values.

For flows over 3 U.S. GPM (11 LPM), use a 1413-AA filter

KMC21-23

CONTINUOUS DUTY 1 PH AC MOTORS



Motor Shaft	"L"	"H"
KMC21	9.25" [234.9mm]	8.31" [211.1mm]
KMC23	10.25" [260.3mm]	8.62" [218.9mm]

Motor/Pump	KP08	KP10	KP12	KP16	KP20	KP25	KP31	KP40	KP50	KP63	KP80
KMC21 1/2 HP 1725 RPM, 1PH 115/230v 60Hz	.29 GPM 2150 PSI	.35 GPM 1700 PSI	.46 GPM 1400 PSI	.65 GPM 1050 PSI	.84 GPM 850 PSI	1.1 GPM 650 PSI	1.3 GPM 500 PSI	1.7 GPM 400 PSI	2.2 GPM 300 PSI	2.8 GPM 200 PSI	3.5 GPM 100 PSI
	1.1 LPM 150 BAR	1.4 LPM 120 BAR	1.8 LPM 100 BAR	2.5 LPM 75 BAR	3.3 LPM 60 BAR	4.2 LPM 45 BAR	5.2 LPM 35 BAR	6.7 LPM 25 BAR	8.5 LPM 20 BAR	11 LPM 14 BAR	14 LPM 7 BAR
KMC23 1 HP 1725 RPM, 1PH 115/230v 60Hz	.22 GPM 4300 PSI	.26 GPM 3450 PSI	.38 GPM 2850 PSI	.59 GPM 2150 PSI	.8 GPM 1700 PSI	1.0 GPM 1350 PSI	1.3 GPM 1100 PSI	1.7 GPM 800 PSI	2.2 GPM 650 PSI	2.7 GPM 450 PSI	3.5 GPM 300 PSI
	.9 LPM 300 BAR	1.0 LPM 240 BAR	1.5 LPM 200 BAR	2.3 LPM 150 BAR	3.1 LPM 115 BAR	4.0 LPM 95 BAR	5.0 LPM 75 BAR	6.5 LPM 55 BAR	8.3 LPM 45 BAR	11 LPM 30 BAR	14 LPM 20 BAR

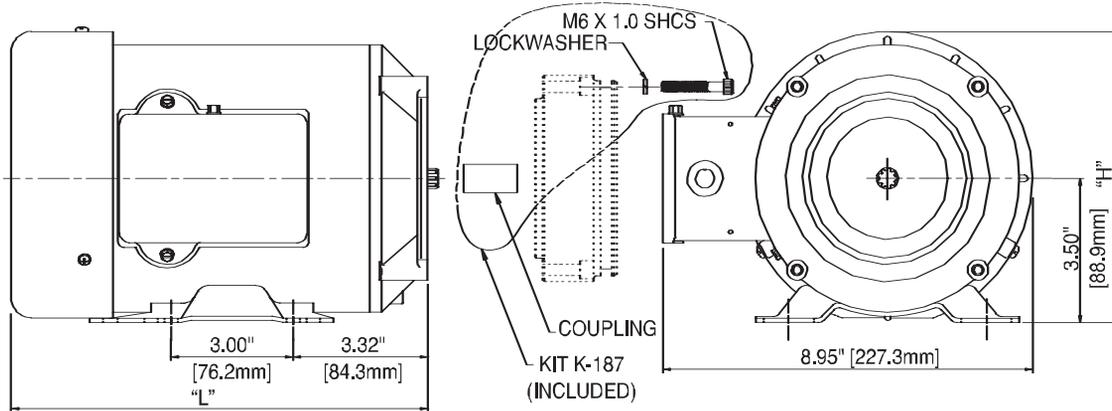
Performance at 45 CST (200 SSU) and 90% mechanical efficiency. GPM's are U.S. values.

Motors are continuous duty but cannot be used above their rated kilowatts, regardless of duty cycle and must have full voltage to achieve rated kilowatts.

For flows over 3 U.S. GPM (11 LPM), use 1413-AA filter.

Note: Stone uses a network of qualified suppliers to ensure availability. There are minor dimensional and cosmetic differences between vendor's products.

CONTINUOUS DUTY 3 PH AC MOTORS



Motor Shaft	"L"	"H"
KMC18	10.38" [263.5mm]	7.04" [178.8mm]
KMC19	11.75" [298.5mm]	7.04" [178.8mm]
KMC20	12.48" [317.0mm]	8.74" [222.0mm]

Motor/Pump	KP8	KP10	KP12	KP16	KP20	KP25	KP31	KP40	KP50	KP63	KP80
KMC18 2 HP 3450 RPM, 3PH 230/460v 60Hz	.58 GPM 4300 PSI	.7 GPM 3450 PSI	.91 GPM 2850 PSI	1.3 GPM 2150 PSI	1.7 GPM 1700 PSI	2.2 GPM 1300 PSI	2.7 GPM 1000 PSI	3.5 GPM 750 PSI	4.4 GPM 500 PSI	NOT RECOMMENDED	
	2.3 LPM 300 BAR	2.7 LPM 240 BAR	3.5 LPM 200 BAR	5.1 LPM 150 BAR	6.6 LPM 115 BAR	8.4 LPM 90 BAR	10 LPM 70 BAR	14 LPM 50 BAR	17 LPM 35 BAR		
KMC19 3 HP 3450 RPM, 3PH 230/460v 60Hz	.56 GPM 5000 PSI	.62 GPM 5000 PSI	.83 GPM 4300 PSI	1.2 GPM 3200 PSI	1.6 GPM 2550 PSI	2.1 GPM 2000 PSI	2.6 GPM 1600 PSI	3.4 GPM 1200 PSI	4.3 GPM 900 PSI		
	2.2 LPM 350 BAR	2.4 LPM 350 BAR	3.2 LPM 300 BAR	4.8 LPM 225 BAR	6.4 LPM 175 BAR	8.2 LPM 140 BAR	10 LPM 110 BAR	13 LPM 80 BAR	17 LPM 60 BAR		
KMC20 5 HP 3450 RPM, 3PH 230/460v 60Hz	.56 GPM 5000 PSI	.62 GPM 5000 PSI	.79 GPM 5000 PSI	1.2 GPM 5000 PSI	1.5 GPM 4300 PSI	2.0 GPM 3400 PSI	2.5 GPM 2700 PSI	3.3 GPM 2050 PSI	4.2 GPM 1600 PSI		
	2.2 LPM 350 BAR	2.4 LPM 350 BAR	3.1 LPM 350 BAR	4.5 LPM 350 BAR	6.0 LPM 295 BAR	7.9 LPM 235 BAR	9.8 LPM 185 BAR	13 LPM 140 BAR	16 LPM 110 BAR		

Performance at 45 CST (200 SSU) and 90% mechanical efficiency. GPM's are U.S. values. All motors are totally enclosed, fan-cooled (TEFC).

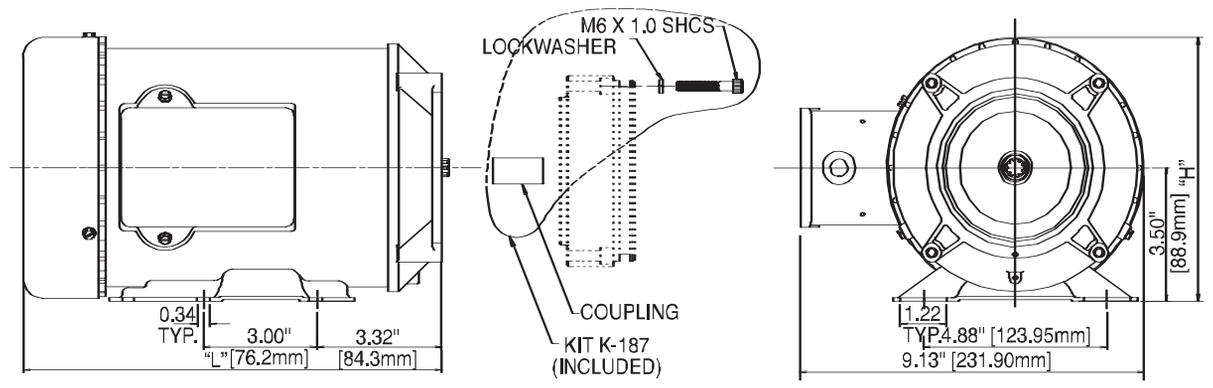
Motors are continuous duty but cannot be used above their rated kilowatts, regardless of duty cycle and must have full voltage to achieve rated kilowatts.

For flows over 3 U.S. GPM (11 LPM), use 1413-AA filter.

Note: Stone uses a network of qualified suppliers to ensure availability. There are minor dimensional and cosmetic differences between vendor's products.

KMC22-24

CONTINUOUS DUTY 3 PH AC MOTORS



Motor Shaft	"L"	"H"
KMC22	9.75" [247.7mm]	9.13" [231.9mm]
KMC24	10.23" [259.8mm]	9.13" [231.9mm]

Motor/Pump	KP08	KP10	KP12	KP16	KP20	KP25	KP31	KP40	KP50	KP63	KP80
KMC22 1/2 HP 1725 RPM, 3PH 230/460v 60Hz	.29 GPM 2150 PSI	.35 GPM 1700 PSI	.46 GPM 1200 PSI	.65 GPM 1050 PSI	.84 GPM 850 PSI	1.1 GPM 650 PSI	1.3 GPM 500 PSI	1.7 GPM 400 PSI	2.2 GPM 300 PSI	2.8 GPM 200 PSI	3.5 GPM 100 PSI
	1.1 LPM 150 BAR	1.4 LPM 120 BAR	1.8 LPM 100 BAR	2.5 LPM 75 BAR	3.3 LPM 60 BAR	4.2 LPM 45 BAR	5.2 LPM 35 BAR	6.7 LPM 25 BAR	8.5 LPM 20 BAR	11 LPM 14 BAR	14 LPM 7 BAR
KMC24 1HP 1725 RPM, 3PH 230/460v 60Hz	.22 GPM 4300 PSI	.26 GPM 3450 PSI	.38 GPM 2850 PSI	.59 GPM 2150 PSI	.80 GPM 1700 PSI	1.0 GPM 1350 PSI	1.3 GPM 1100 PSI	1.7 GPM 800 PSI	2.2 GPM 650 PSI	2.7 GPM 450 PSI	3.5 GPM 300 PSI
	0.9 LPM 300 BAR	1.0 LPM 240 BAR	1.5 LPM 200 BAR	2.3 LPM 150BAR	3.1 LPM 115 BAR	4.0 LPM 95 BAR	5.0 LPM 75 BAR	6.5 LPM 55 BAR	8.3 LPM 45 BAR	11 LPM 30 BAR	14 LPM 20 BAR

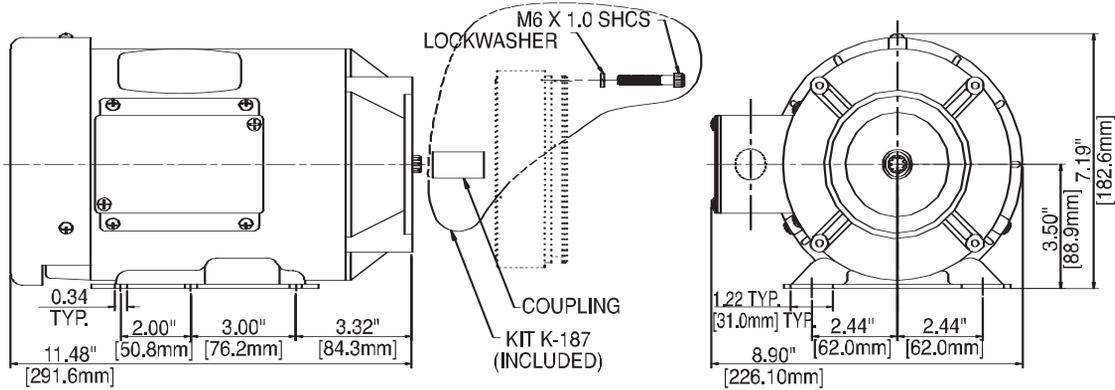
Performance at 45 CST (200 SSU) and 90% mechanical efficiency. GPM's are U.S. values.

Motors are continuous duty but cannot be used above their rated kilowatts, regardless of duty cycle and must have full voltage to achieve rated kilowatts.

For flows over 3 U.S. GPM (11 LPM), use 1413-AA filter.

Note: Stone uses a network of qualified suppliers to ensure availability. There are minor dimensional and cosmetic differences between vendor's products.

CONTINUOUS DUTY 3 PH AC MOTORS



Motor/Pump	KP08	KP10	KP12	KP16	KP20	KP25	KP31	KP40	KP50	KP63	KP80
KMC29 3HP 3450 RPM, 3PH 575v 60Hz	.56 GPM 5000 PSI	.62 GPM 5000 PSI	.83 GPM 4300 PSI	1.2 GPM 3200 PSI	1.6 GPM 2550 PSI	2.1 GPM 2000 PSI	2.6 GPM 1600 PSI	3.4 GPM 1200 PSI	4.3 GPM 900 PSI	Not Recommended	
	2.2 LPM 350 BAR	2.4 LPM 350 BAR	3.2 LPM 300 BAR	4.8 LPM 225 BAR	6.4 LPM 175 BAR	8.2 LPM 140 BAR	10 LPM 110 BAR	13 LPM 80 BAR	17 LPM 60 BAR		

Performance at 45 CST (200 SSU) and 90% mechanical efficiency. GPM's are U.S. values.

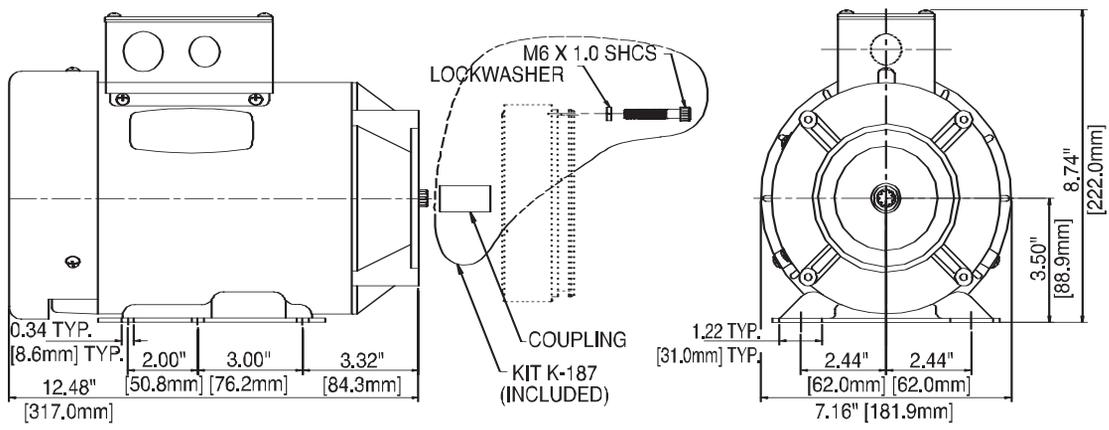
Motors are continuous duty but cannot be used above their rated kilowatts, regardless of duty cycle and must have full voltage to achieve rated kilowatts.

For flows over 3 U.S. GPM (11 LPM), use 1413-AA filter.

Note: Stone uses a network of qualified suppliers to ensure availability. There are minor dimensional and cosmetic differences between vendor's products.

KMC30

CONTINUOUS DUTY 3 PH AC MOTORS



Motor/Pump	KP08	KP10	KP12	KP16	KP20	KP25	KP31	KP40	KP50	KP63	KP80
KMC30 5HP 3450 RPM, 5PH 575v 60Hz	.56 GPM 5000 PSI	.62 GPM 5000 PSI	.79 GPM 5000 PSI	1.2 GPM 5000 PSI	1.5 GPM 4300 PSI	2.0 GPM 3400 PSI	2.5 GPM 2700 PSI	3.3 GPM 2050 PSI	4.2 GPM 1600 PSI	Not Recommended	
	2.2 LPM 350 BAR	2.4 LPM 350 BAR	3.1 LPM 350 BAR	4.5 LPM 350 BAR	6.0 LPM 295 BAR	7.9 LPM 235 BAR	9.8 LPM 185 BAR	13 LPM 140 BAR	16 LPM 110 BAR		

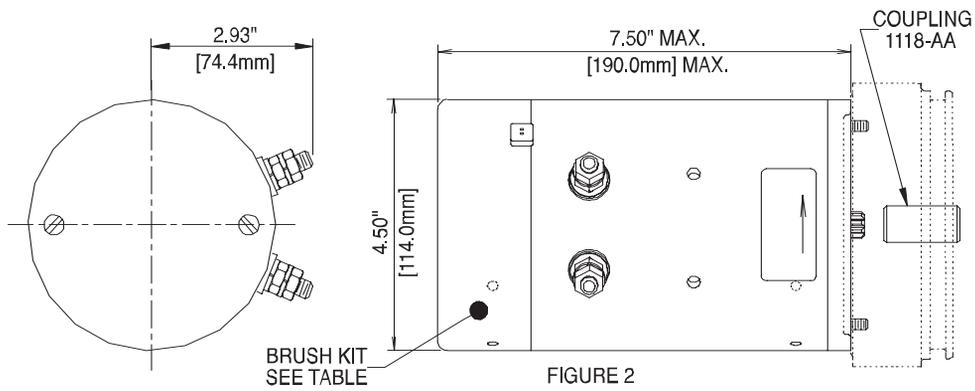
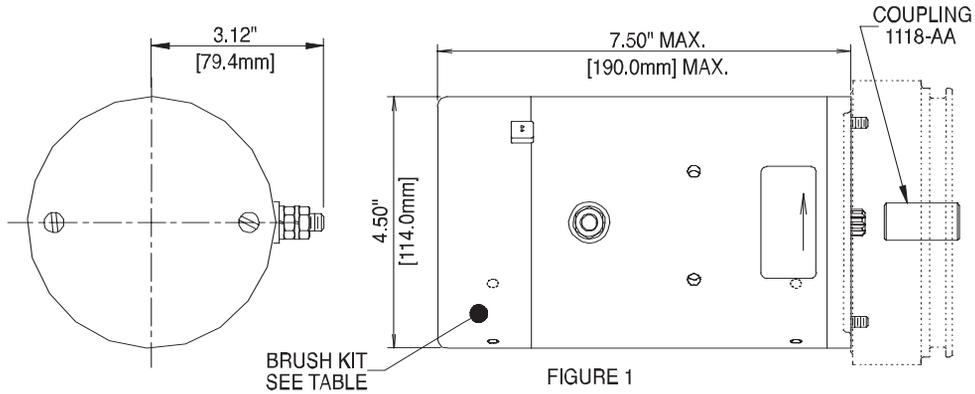
Performance at 45 CST (200 SSU) and 90% mechanical efficiency. GPM's are U.S. values.

Motors are continuous duty but cannot be used above their rated kilowatts, regardless of duty cycle and must have full voltage to achieve rated kilowatts.

For flows over 3 U.S. GPM (11 LPM), use 1413-AA filter.

Note: Stone uses a network of qualified suppliers to ensure availability. There are minor dimensional and cosmetic differences between vendor's products.

4.5" FIELD WOUND DC MOTORS

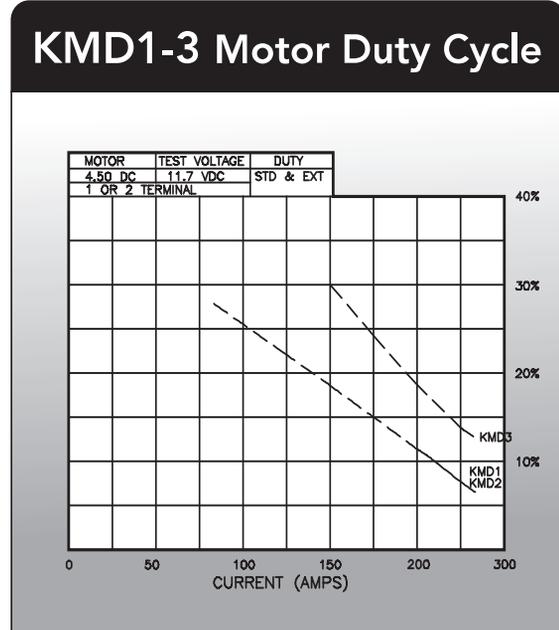
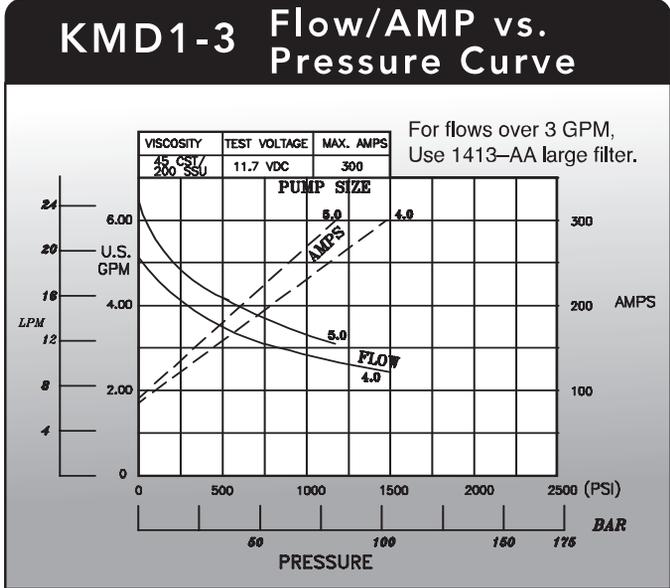
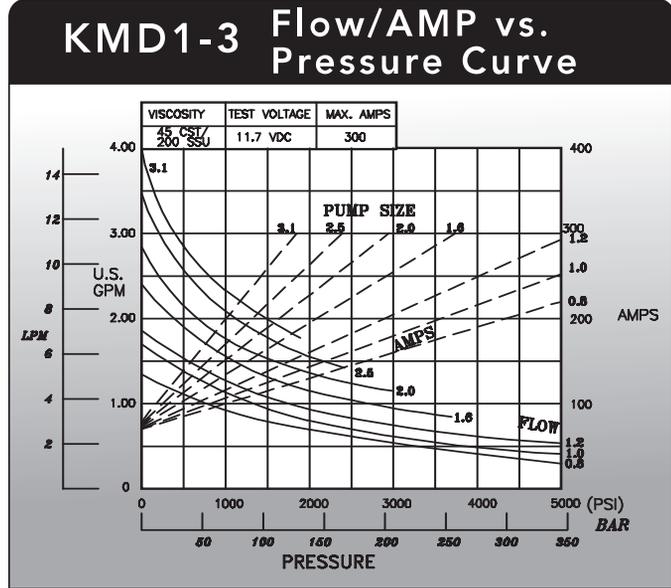


KIT NO.	VOLTAGE	DUTY	CONFIG.	UL RECOGNIZED	BRUSH KIT
KMD1	12V	STD	FIG. 1	NO	K-90
KMD2	12V	STD	FIG. 2	YES	K-97
KMD3	12V	EXT	FIG. 1	NO	K-91
KMD4	24V	EXT	FIG. 1	NO	K-98
KMD5	24V	STD	FIG. 2	YES	K-92
KMD6	24V	STD	FIG. 1	NO	K-92

Note: Stone uses a network of qualified suppliers to ensure availability. There are minor dimensional and cosmetic differences between vendor's products.

KMD1-3

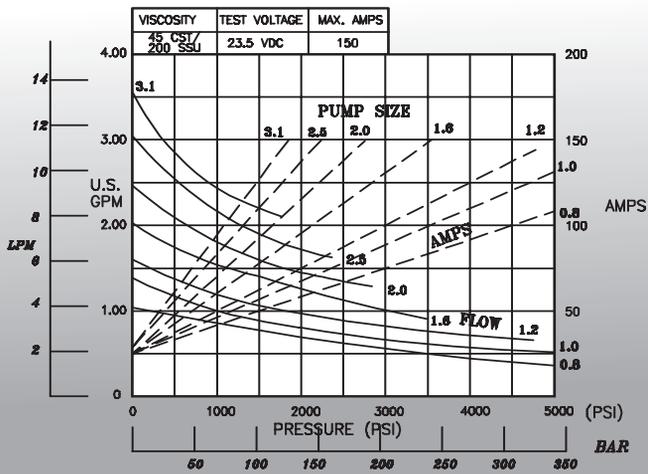
**4.5" 12V DC MOTOR (STD. & EXT. DUTY)
PERFORMANCE & DUTY CYCLE**



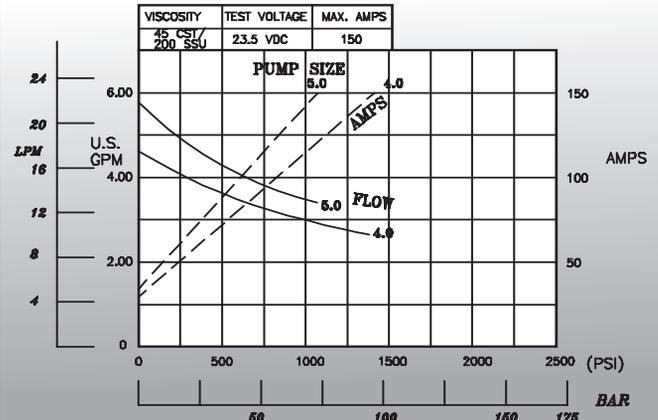
S3 Duty Rating on time. (% of 5 minutes)

4.5" 24V DC MOTOR (STD. & EXT. DUTY) PERFORMANCE & DUTY CYCLE

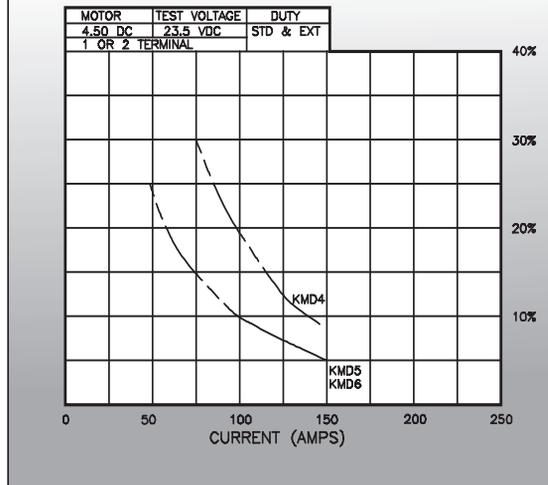
KMD4-6 Flow/AMP vs. Pressure Curve



KMD4-6 Flow/AMP vs. Pressure Curve



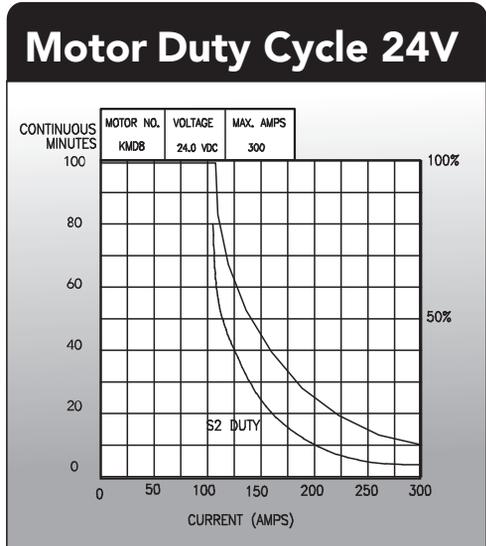
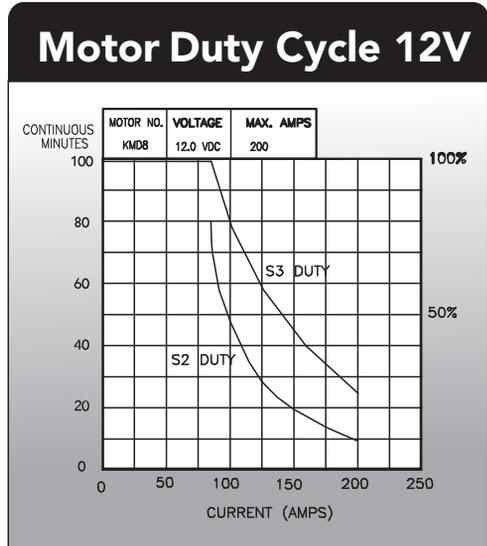
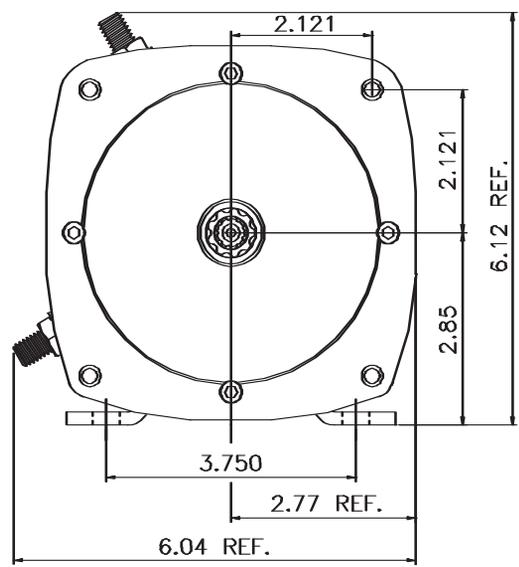
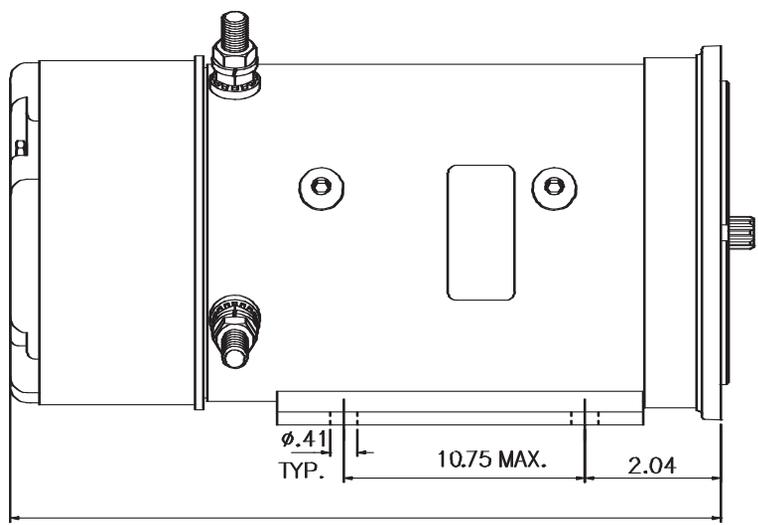
KMD4-6 Motor Duty Cycle



S3 Duty Rating on time. (% of 5 minutes)

KMD8

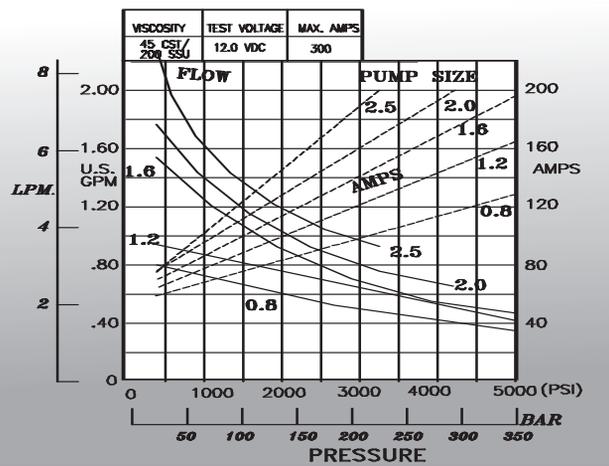
5.0" 12/24V DC HEAVY DUTY MOTOR



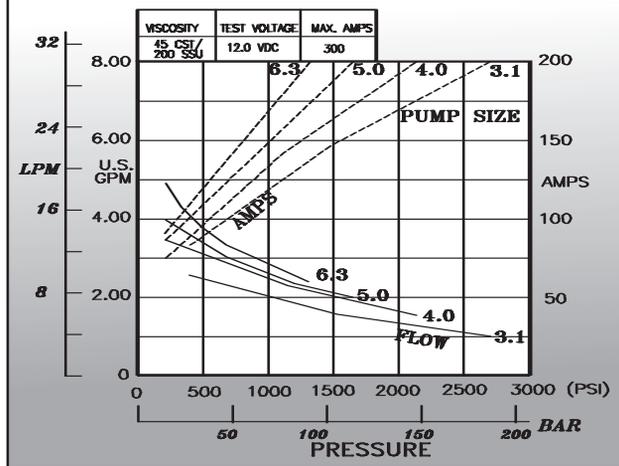
S3 Duty Rating on time. (% of 5 minutes)

5.0" 12/24V DC HEAVY DUTY MOTOR PERFORMANCE

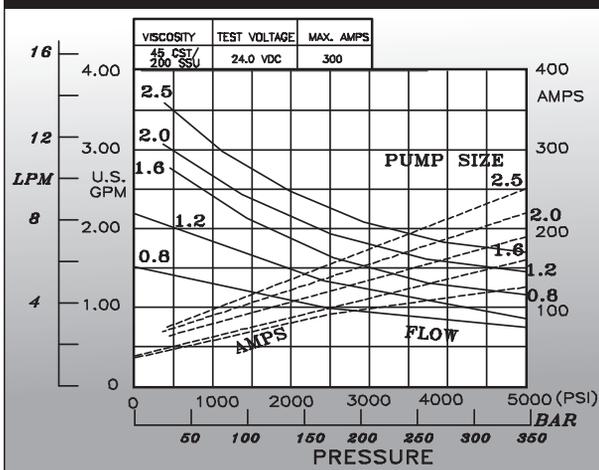
KMD8 12V Flow/Amp vs. Pressure Curve



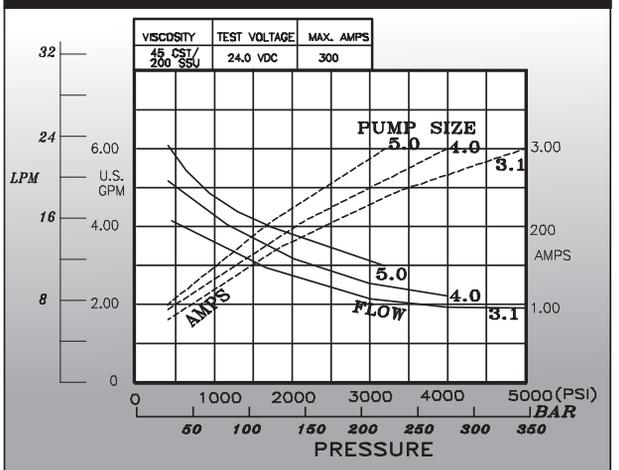
KMD8 12V Flow/Amp vs. Pressure Curve



KMD8 24V Flow/Amp vs. Pressure Curve



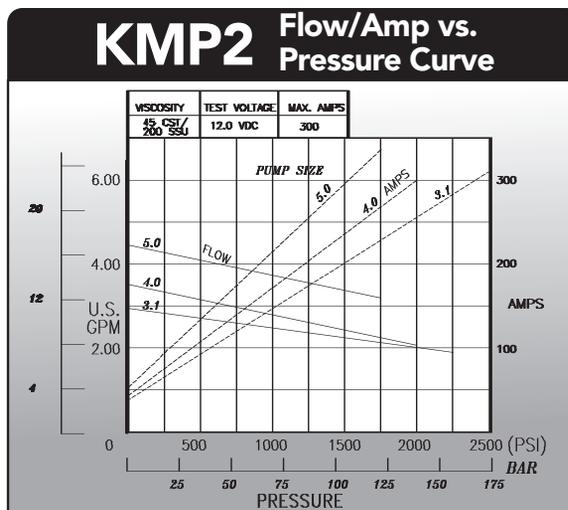
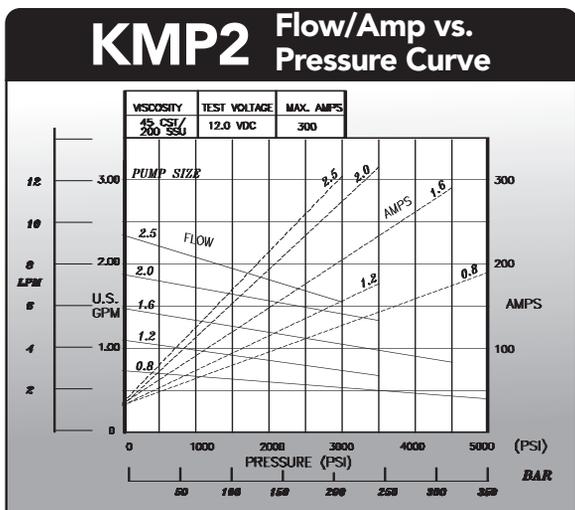
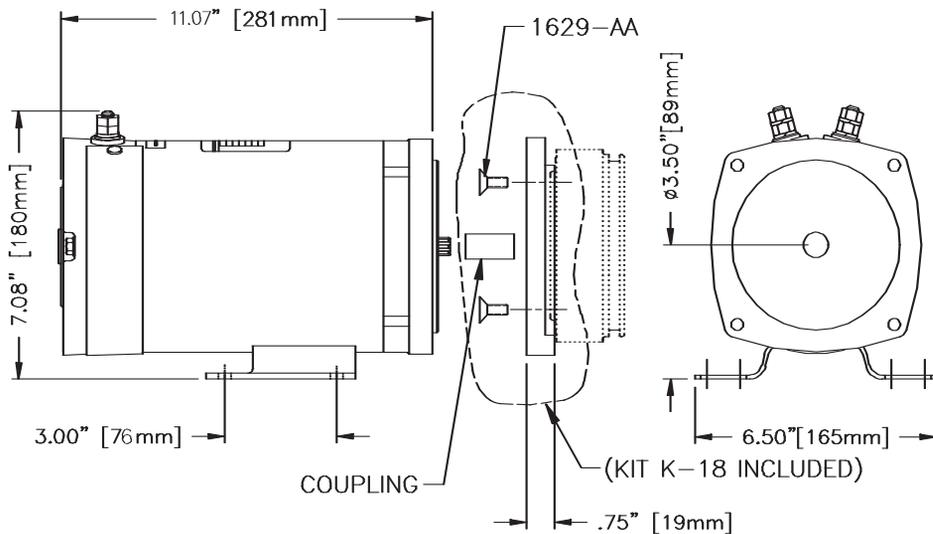
KMD8 24V Flow/Amp vs. Pressure Curve



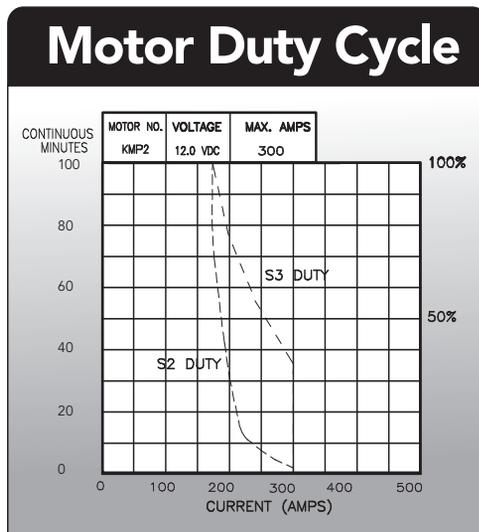
For flows over 3 U.S. GPM (11 LPM), use 1413-AA filter

KMP2

HI-POWER 12V DC 50 IN-LB PERMANENT MAGNET MOTOR

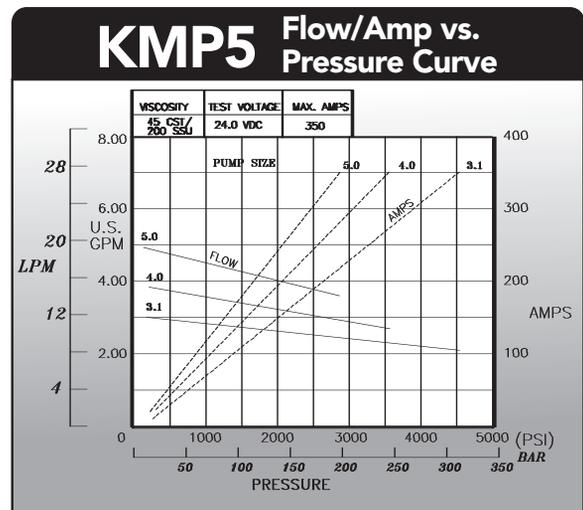
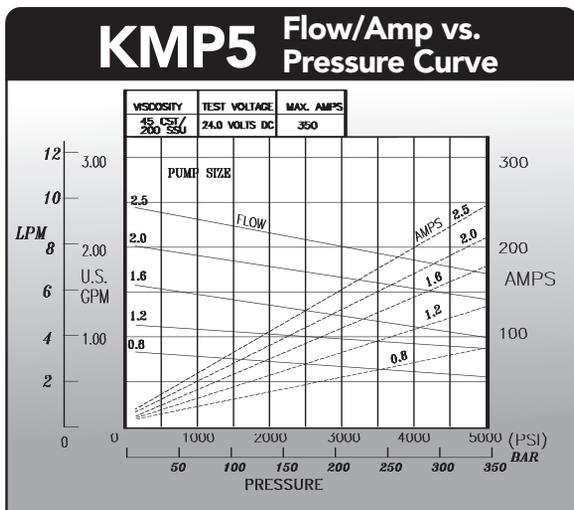
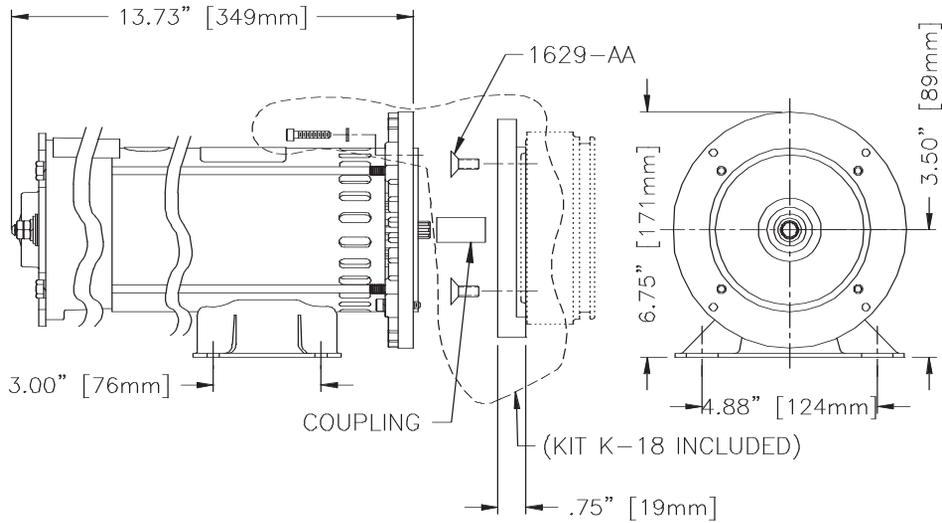


For flows over 3 U.S. GPM (11 LPM) use 1413-AA filter

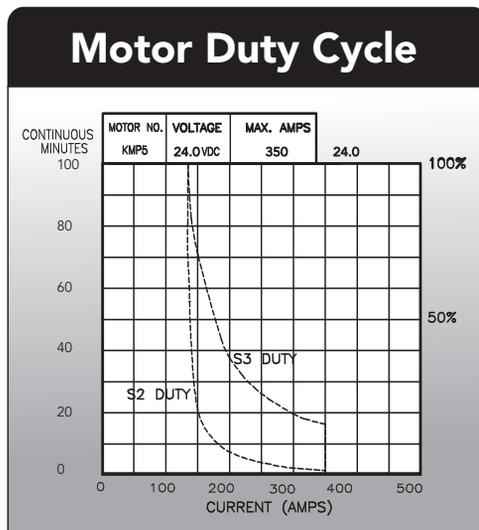


S3 Duty Rating On Time (% of 5 minutes)

HI-POWER 24V DC 80 IN-LB PERMANENT MAGNET MOTOR



For flows over 3 U.S. GPM (11 LPM) use 1413-AA filter



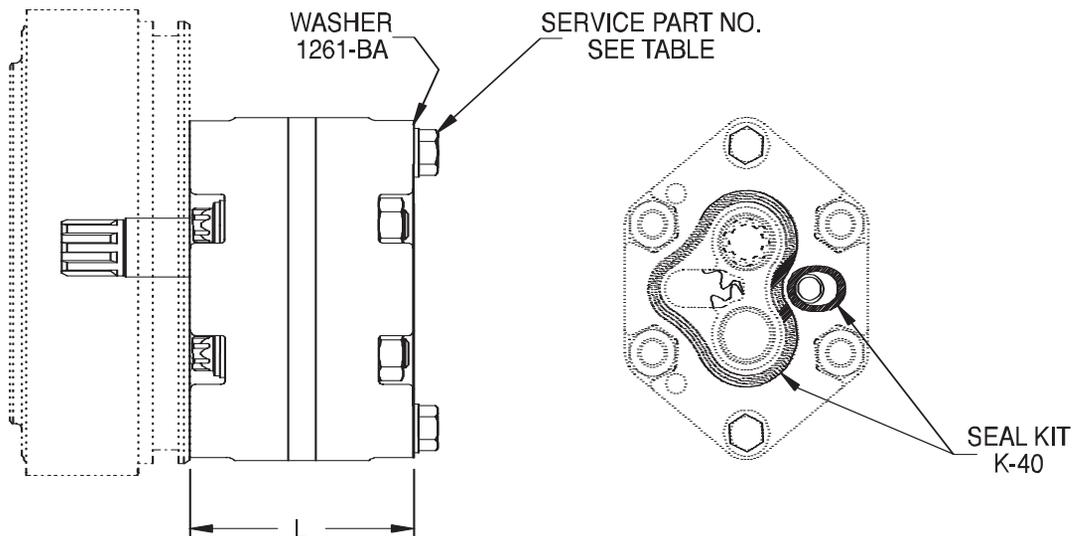
S3 Duty Rating On Time (% of 5 minutes)

Pumps

Kit Number	Description	Page Number
KP08-80	Pump Kits AFC Series	Pages 47
KPJ08-80	Pump Kits AFC Series	Page 49
KU2-4	Unload Assembly	Page 50

E-Series Externally Mounted Version PG Pumps are available. For more information, contact Stone Technical Service.

PUMP KITS AFC SERIES



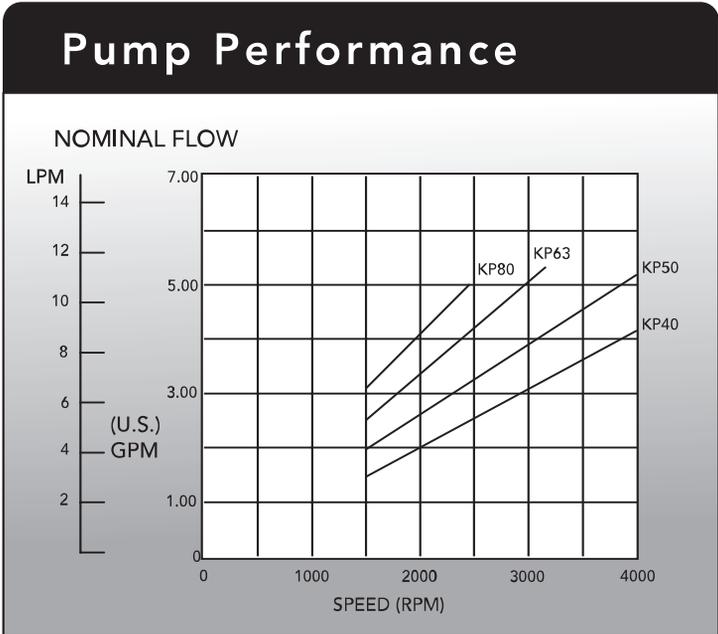
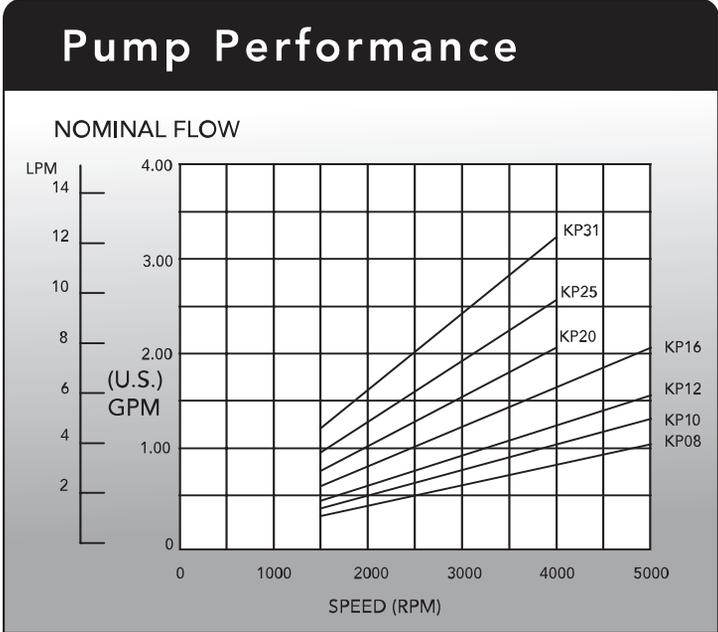
Current Endhead Design Uses 5/16-24 Mounting Thread. Older Endhead Design Used M8 Mounting Thread. Pump Kits Include Both Imperial And Metric Mounting Bolts.

KIT NO.	DISPLACEMENT		LENGTH		MAXIMUM PRESS			INCLUDED IN KIT KP_	
	CC REV	CIPR	MM	INCH	MAX. RPM	CONT. PSI / BAR	INTERMIT. PSI/BAR	SERVICE BOLT PART NO.	SERVICE BOLT PART NO.
KP08	0.8	0.049	57	2.25	5000	5000/350	5000/350	2824-AA METRIC	F1-1052-75 IMPERIAL
KP10	1.0	0.061	58	2.28	5000	5000/350	5000/350	2824-AA METRIC	F1-1052-75 IMPERIAL
KP12	1.2	0.073	59	2.32	5000	5000/350	5000/350	2825-AA METRIC	F1-1052-75 IMPERIAL
KP16	1.6	0.098	60	2.38	5000	5000/350	5000/350	2825-AA METRIC	F1-1052-75 IMPERIAL
KP20	2.0	0.122	62	2.44	4000	5000/350	5000/350	2825-AA METRIC	F1-1053-00 IMPERIAL
KP25	2.5	0.153	64	2.52	4000	4600/320	5000/350	2826-AA METRIC	F1-1053-00 IMPERIAL
KP31	3.1	0.189	67	2.62	4000	3600/250	5000/350	2826-AA METRIC	F1-1053-00 IMPERIAL
KP40	4.0	0.244	70	2.75	4000	3000/200	4000/280	2826-AA METRIC	F1-1053-25 IMPERIAL
KP50	5.0	0.305	74	2.90	4000	2300/160	3200/220	2827-AA METRIC	F1-1053-50 IMPERIAL
KP63	6.3	0.384	79	3.11	3200	1800/125	2500/175	2827-AA METRIC	F1-1053-50 IMPERIAL
KP80	8.0	0.488	86	3.37	2400	1500/100	2000/140	2828-AA METRIC	F1-1053-75 IMPERIAL

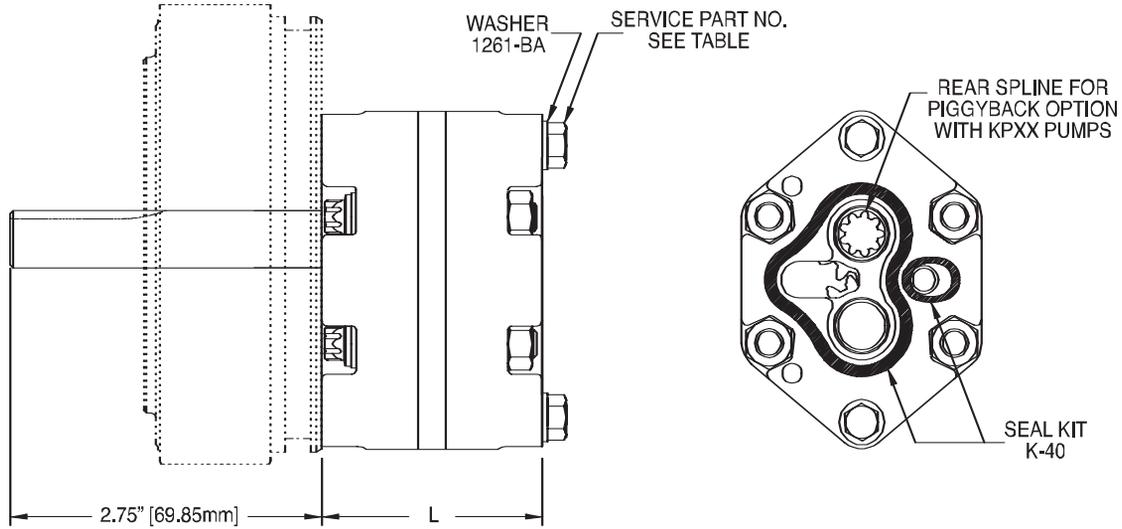
Kit includes washers and mounting bolts. Use all washers. Mounting bolts are grade 5. **Do not substitute.**

KP10 cannot be used in duplex pump applications.

PUMP KITS AFC SERIES



PUMP KITS AFC SERIES



Current Endhead Design Uses 5/16-24 Mounting Thread. Older Endhead Design Used M8 Mounting Thread. Pump Kits Include Both Imperial And Metric Mounting Bolts.

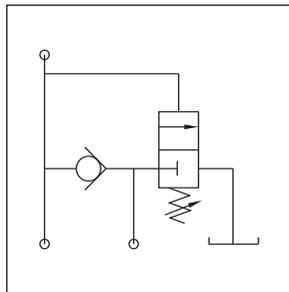
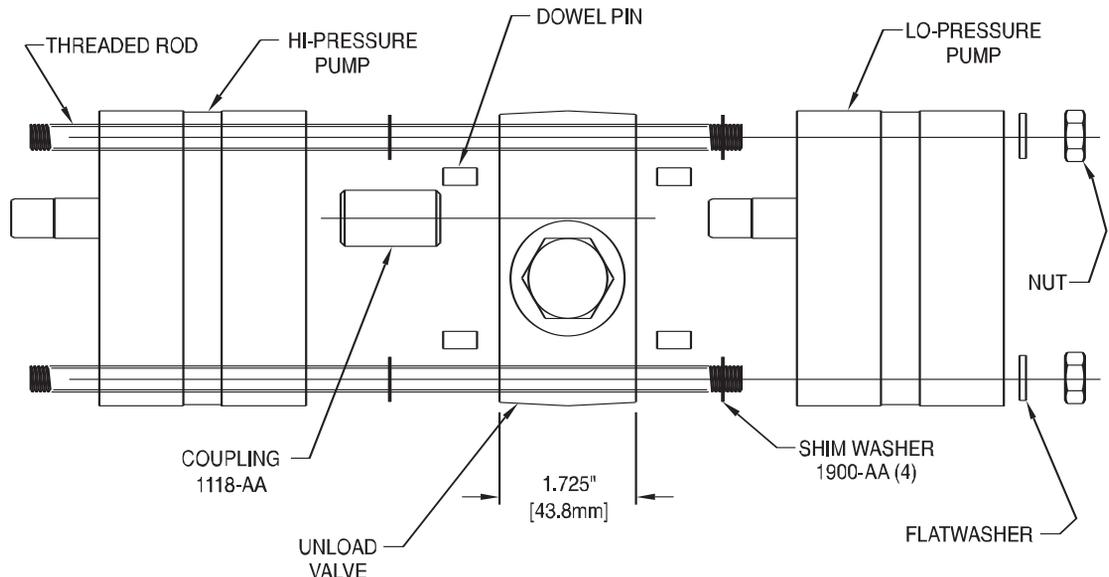
KIT NO.	DISPLACEMENT		LENGTH		MAXIMUM PRESS			INCLUDED IN KIT KPJ__	
	CC REV	CIPR	MM	INCH	MAX. RPM	CONT. PSI / BAR	INTERMIT. PSI/BAR	SERVICE BOLT PART NO.	SERVICE BOLT PART NO.
KPJ08	0.8	0.049	57	2.25	5000	5000/350	5000/350	2824-AA METRIC	F1-1052-75 IMPERIAL
KPJ10	1.0	0.061	58	2.28	5000	5000/350	5000/350	2824-AA METRIC	F1-1052-75 IMPERIAL
KPJ12	1.2	0.073	59	2.32	5000	5000/350	5000/350	2825-AA METRIC	F1-1052-75 IMPERIAL
KPJ16	1.6	0.098	60	2.38	5000	5000/350	5000/350	2825-AA METRIC	F1-1052-75 IMPERIAL
KPJ20	2.0	0.122	62	2.44	4000	5000/350	5000/350	2825-AA METRIC	F1-1053-00 IMPERIAL
KPJ25	2.5	0.153	64	2.52	4000	4600/320	5000/350	2826-AA METRIC	F1-1053-00 IMPERIAL
KPJ31	3.1	0.189	67	2.62	4000	3600/250	5000/350	2826-AA METRIC	F1-1053-00 IMPERIAL
KPJ40	4.0	0.244	70	2.75	4000	3000/200	4000/280	2826-AA METRIC	F1-1053-25 IMPERIAL
KPJ50	5.0	0.305	74	2.90	4000	2300/160	3200/220	2827-AA METRIC	F1-1053-50 IMPERIAL
KPJ63	6.3	0.384	79	3.11	3200	1800/125	2500/175	2827-AA METRIC	F1-1053-50 IMPERIAL
KPJ80	8.0	0.488	86	3.37	2400	1500/100	2000/140	2828-AA METRIC	F1-1053-75 IMPERIAL

Kit includes washers and metric mounting bolts. Use all washers. Mounting bolts are grade 5. **Do not substitute.**

KPJ pumps can not be used as rear pump in hi-lo or duplex pumps.

KU2-4

UNLOAD ASSEMBLY



Current Endhead Design Uses 5/16-24 Mounting Thread. Older Endhead Design Used M8 Mounting Thread. Pump Kits Include Both Imperial And Metric Mounting Bolts.

Kit No.	Unload Setting	Adjustment Range
KU2	300 PSI	300-450 PSI (20-30 BAR)
KU4	600 PSI	500-1000 PSI (35-70 BAR)

Any 2 AFC pumps (except KP10) may be piggybacked with an unload valve between them to create a duplex (or hi-lo) pump.

Metric and imperial threaded rod, nuts and washers provided.

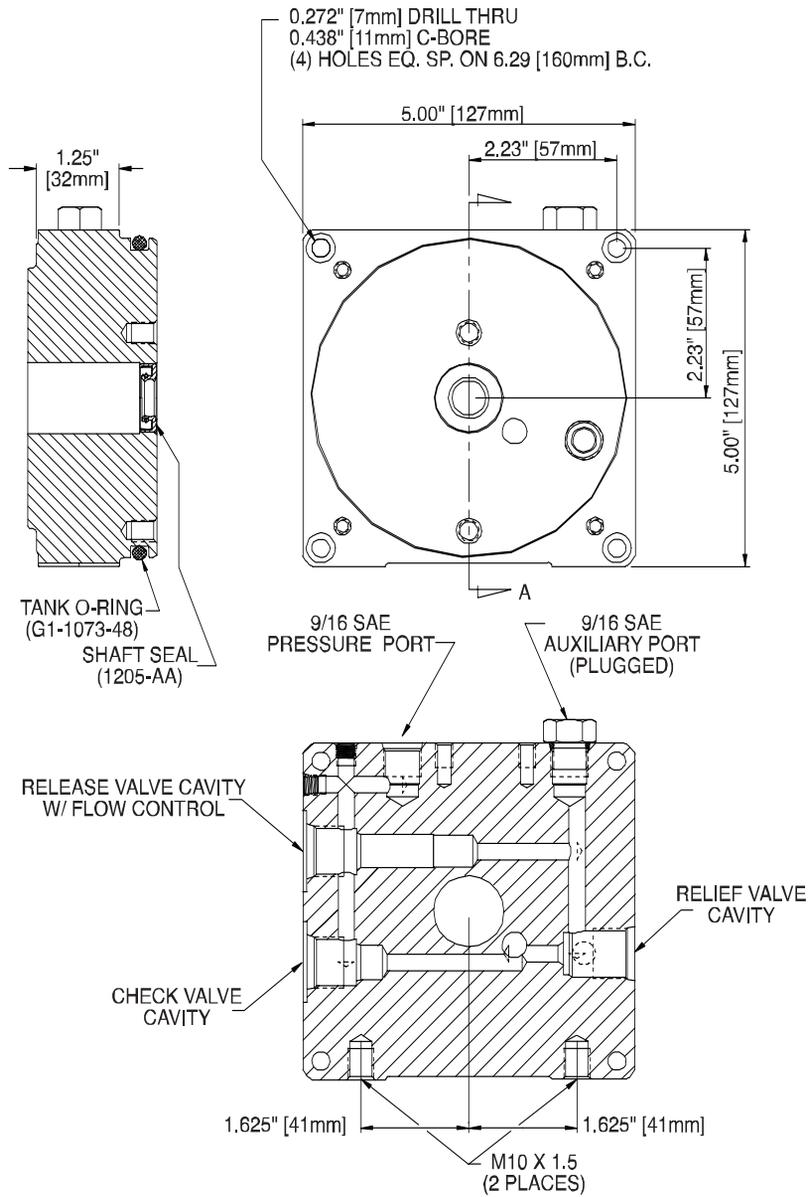
Unload setting can be adjusted in range shown.

Endheads

Kit Number	Description	Page Number
KN09	Endhead Metric Footmounts SAE Ports	Page 52
KN10	Endhead Metric Footmounts BSPP Ports	Page 53
KN11	Endhead UNC Footmounts NPT Ports	Page 54
KN12	Endhead UNC Footmounts SAE Ports	Page 55

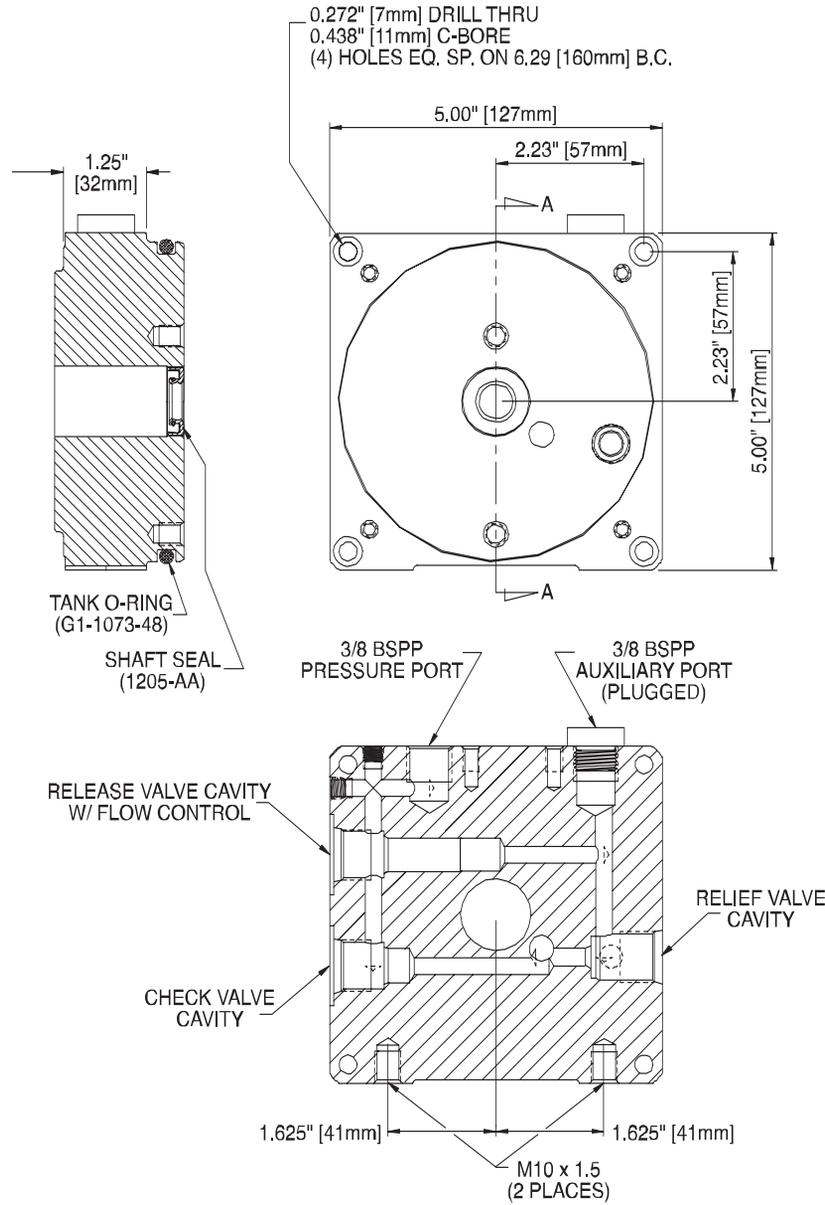
KN09

ENDHEAD METRIC FOOTMOUNTS SAE PORTS



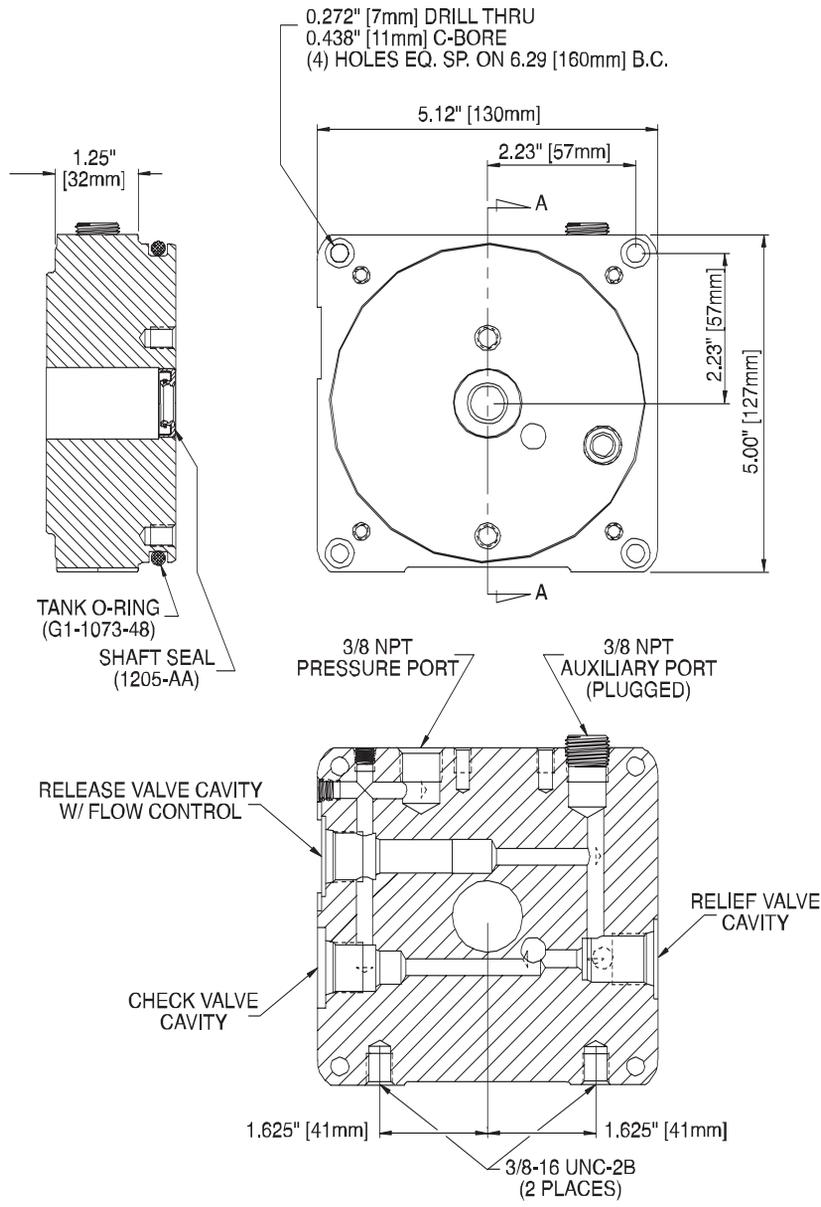
Endhead cannot be used with manifold valves.

ENDHEAD METRIC FOOTMOUNTS BSPP PORTS

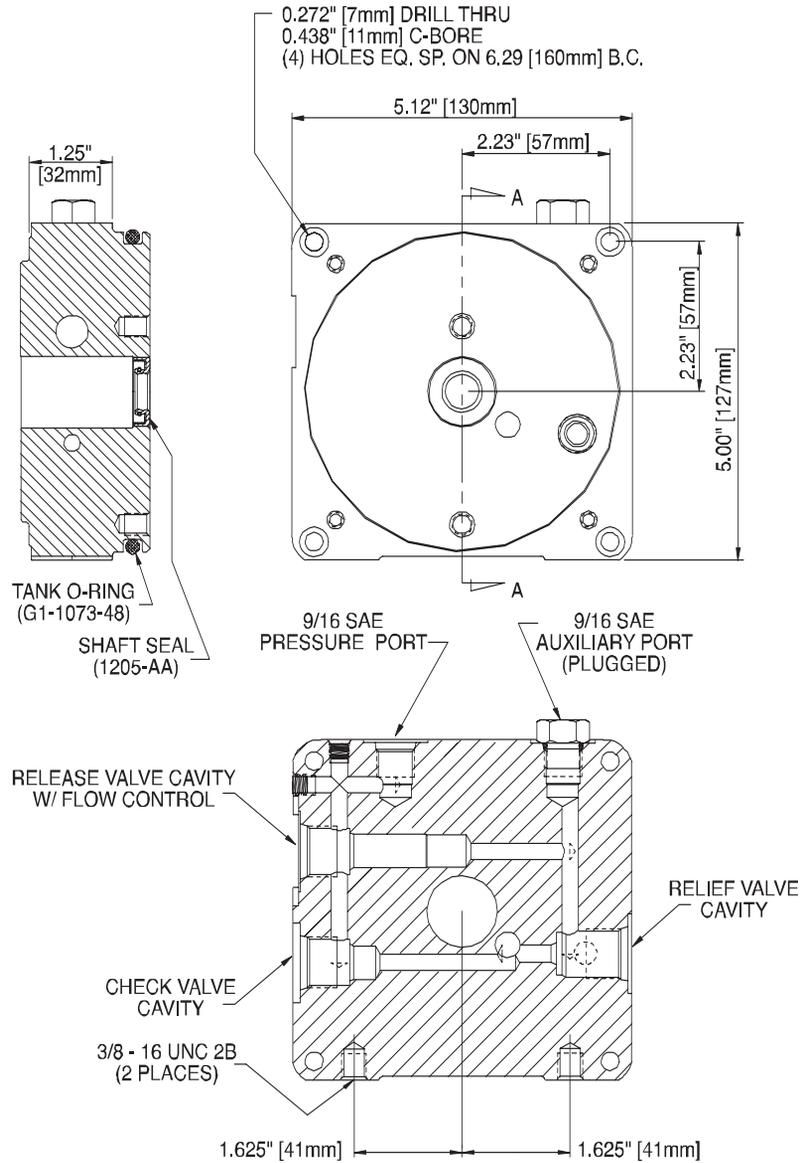


KN11

ENDHEAD UNC FOOTMOUNTS NPT PORTS



ENDHEAD UNC FOOTMOUNTS SAE PORTS

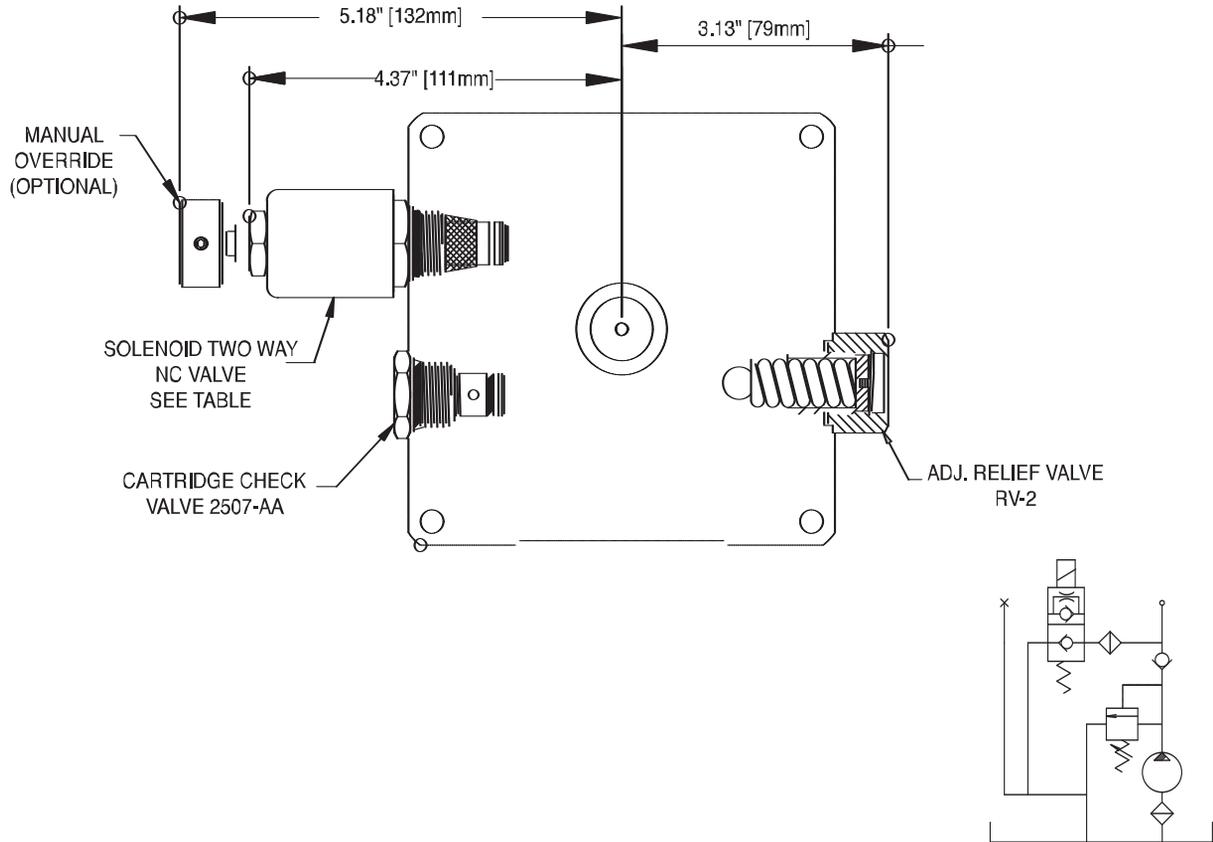


Endhead cannot be used with manifold valves.

Integral Valves

Kit Number	Description	Page Number
KC01A-L	Relief, Check, Solenoid Release Valve Kit	Page 57
KC03	Relief, Check, Manual Release Valve Kit Direct Acting	Page 58
KC05	Relief, Check, Manual Release Valve Kit With Micro-Switch	Page 59
KC07	Relief & Check Valve Kit	Page 60
KC08	Relief Valve Kit	Page 61
KC14	Relief, Check Pneumatic Release Valve Kit	Page 62
KC15	Relief, Check Manual Release Valve Kit	Page 63
KC18	Relief, Check & Lever Release Valve Kit	Page 64
KFC2-8	Pressure Compensated Flow Control	Page 65

RELIEF, CHECK, SOLENOID RELEASE VALVE KIT



INTEGRAL VALVES

KIT NO.	COIL VOLTAGE	CONNECTION STYLE	HANDSETS	KIT NO.	COIL VOLTAGE	CONNECTION STYLE	HANDSETS
KC01A	12V DC	DIN/Hirschmann		KC01G	24V AC	DIN/Hirschmann	
KC01B	12V DC	Dual 1/4" Spade		KC01H	230V AC	DIN/Hirschmann	
KC01C	12V DC	Single # 10 UNF Stud	*	KC01J	115V AC	DIN/Hirschmann	
KC01D	24V DC	DIN/Hirschmann		KC01K	12V DC	Smart Start	**
KC01E	24V DC	Dual 1/4" Spade		KC01L	24V DC	Smart Start	**
KC01F	24V DC	Single # 10 UNF Stud	*				

Kit includes 4 color-coded relief springs as follows: Blue (300-599 PSI) [20.7-41.3 Bar], Green (600-1299 PSI)[41.4-89.6 Bar], Red (1300-1999 PSI)[89.6-137.8 Bar], Black (2000-4199 PSI) [137.9-289.5 Bar].

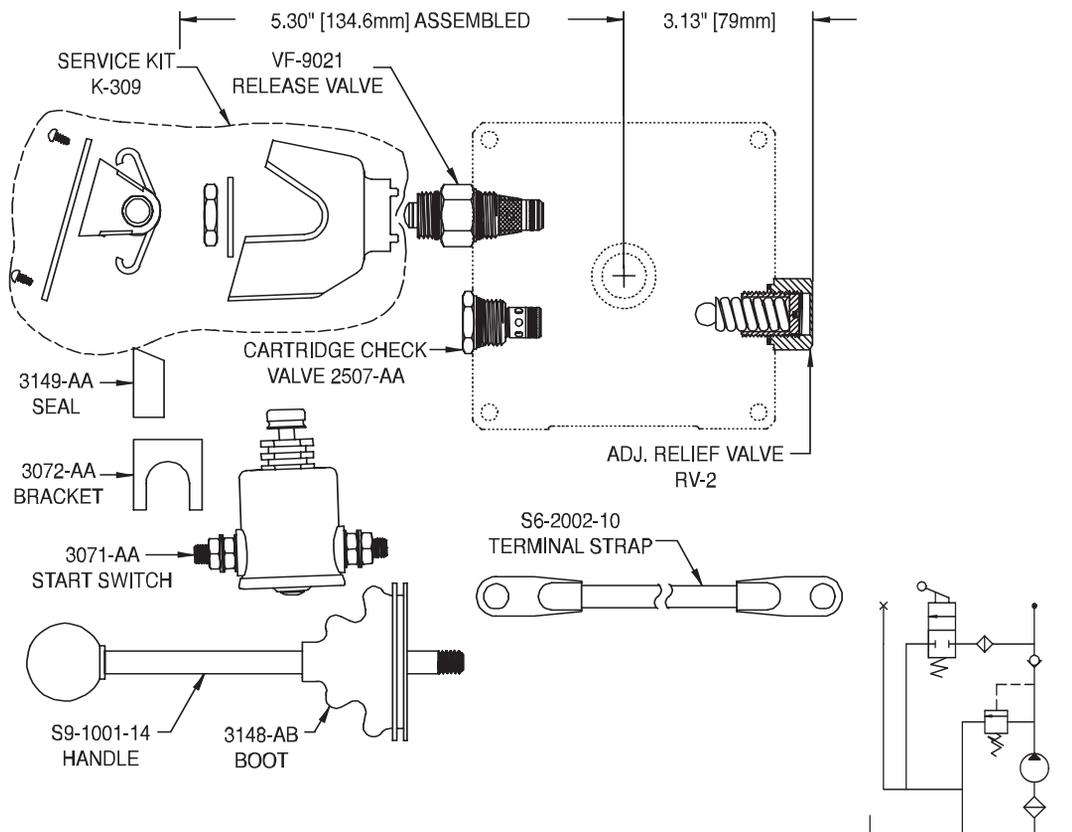
Optional: (4200-5000 PSI) [289.6-345 Bar] Relief valve kit available, order part no. K-175.

Optional: Order JF-0048 spring locator when using the blue (300-599 PSI) [20.7-41.3 Bar] spring.

Remote cord set available, for styles: * Order KG11 ** Order KG11A.

If using smart start with stud terminal coil, order 4088-AB.

RELIEF, CHECK, MANUAL RELEASE VALVE KIT DIRECT ACTING



Kit includes 4 color-coded relief springs as follows: Blue (300-599 PSI) [20.7-41.3 Bar], Green (600-1299 PSI) [41.4-89.6 Bar], Red (1300-1999 PSI) [89.6-137.8 Bar], Black (2000-4199 PSI) [137.9-289.5 Bar].

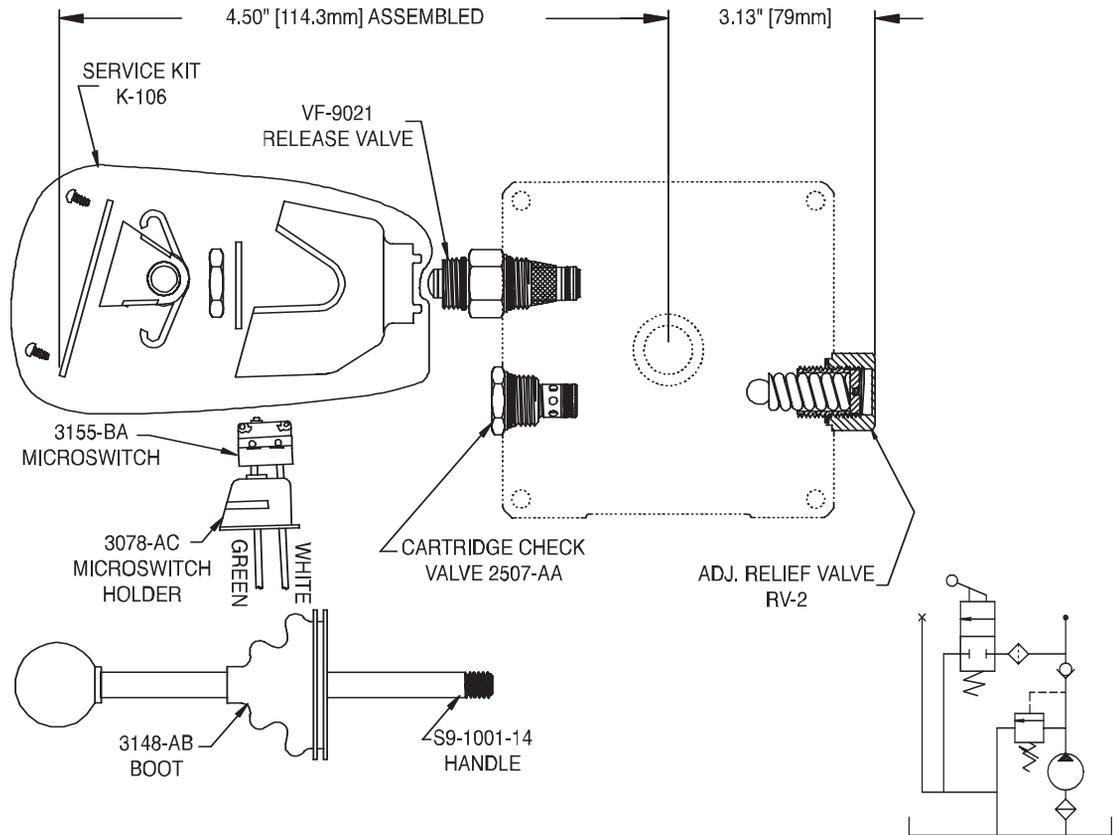
Optional: (4200-5000 PSI) [289.6-345 Bar] Relief valve kit available, order part no. K-175.

Optional: Order JF-0048 spring locator when using the blue (300-599 PSI) [20.7-41.3 Bar] spring.

Release bracket may be rotated in 90° Increments at assembly.

Can be used with 12V or 24V DC power units.

RELIEF, CHECK, MANUAL RELEASE VALVE KIT WITH MICRO-SWITCH



INTEGRAL VALVES

Kit includes 4 color-coded relief springs as follows: Blue (300-599 PSI) [20.7-41.3 Bar], Green (600-1299 PSI)[41.4-89.6 Bar], Red (1300-1999 PSI)[89.6-137.8 Bar], Black (2000-4199 PSI) [137.9-289.5 Bar].

Optional: (4200-5000 PSI) [289.6-345 Bar] Relief valve kit available, order part no. K-175.

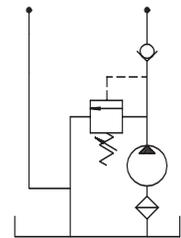
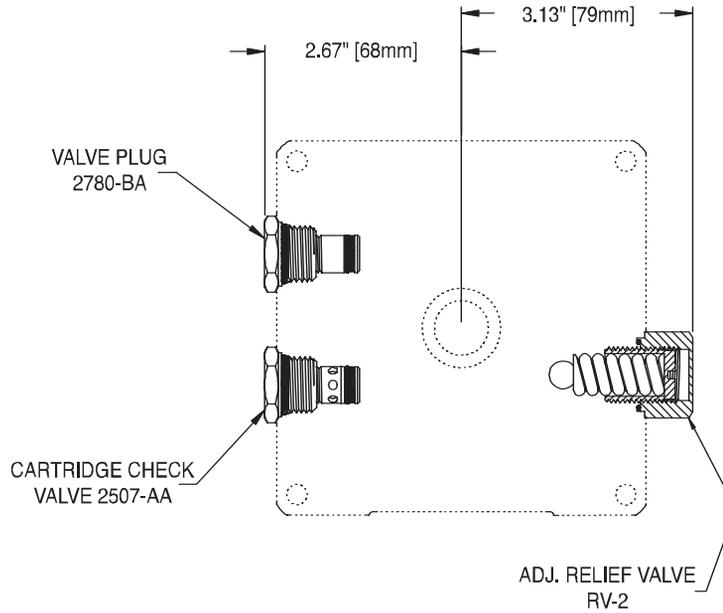
Optional: Order JF-0048 spring locator when using the blue (300-599 PSI) [20.7-41.3 Bar] spring.

Release bracket may be rotated in 90° increments at assembly.

For use with KS_ (DC application) or customer applied motor contactor (AC application).

KC07

RELIEF & CHECK VALVE KIT

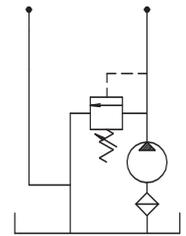
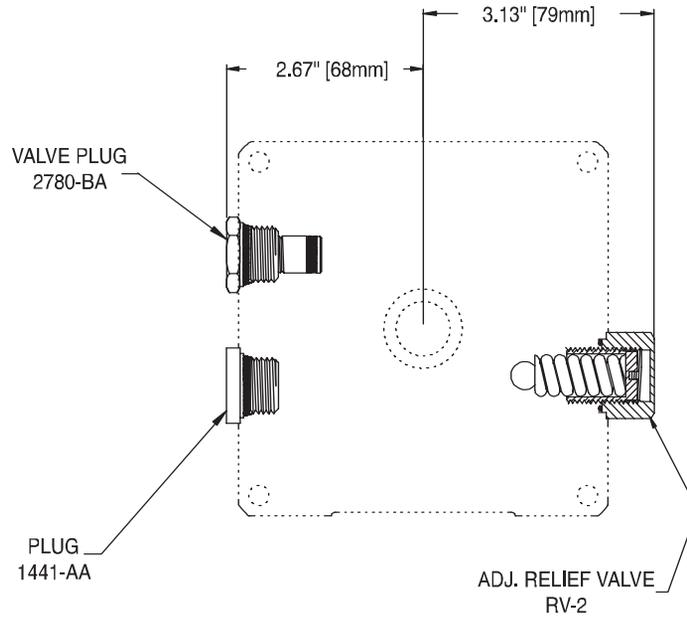


Kit includes 4 color-coded relief springs as follows: Blue (300-599 PSI) [20.7-41.3 Bar], Green (600-1299 PSI)[41.4-89.6 Bar], Red (1300-1999 PSI)[89.6-137.8 Bar], Black (2000-4199 PSI) [137.9-289.5 Bar].

Optional: (4200-5000 PSI) [289.6-345 Bar] Relief valve kit available, order part no. K-175.

Optional: Order JF-0048 spring locator when using the blue (300-599 PSI) [20.7-41.3 Bar] spring.

RELIEF VALVE KIT

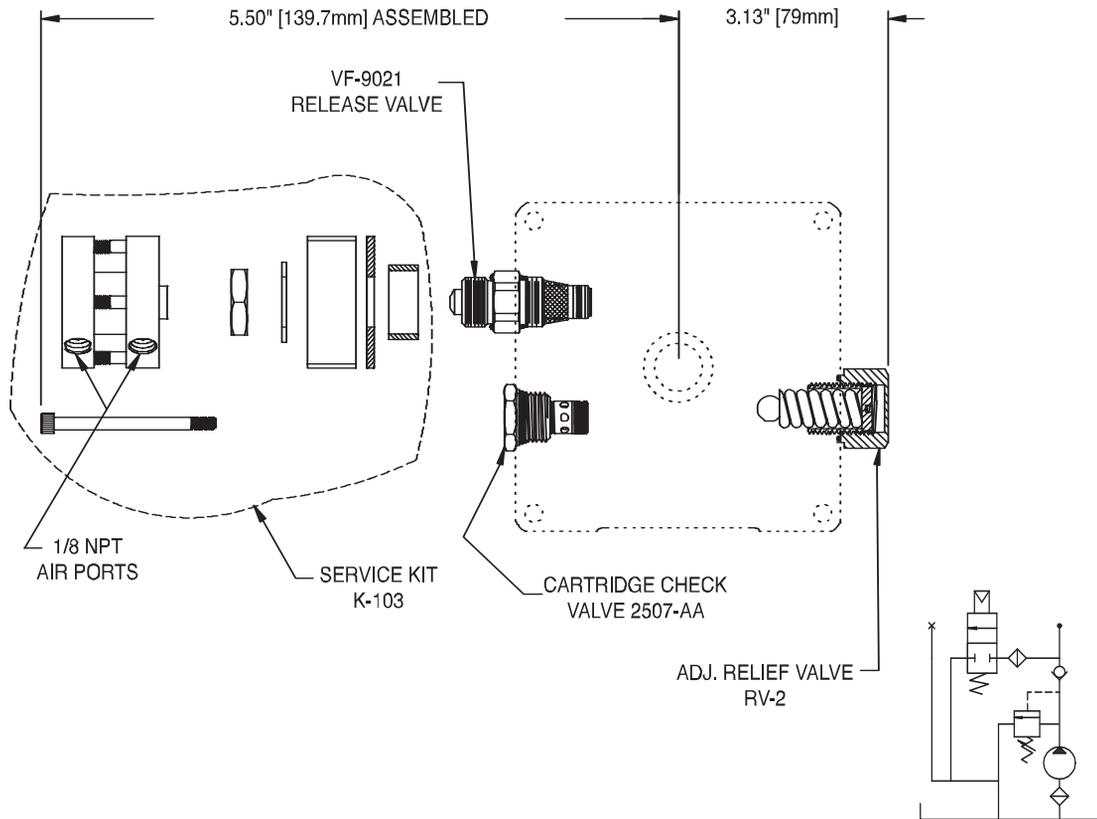


Kit includes 4 color-coded relief springs as follows: Blue (300-599 PSI) [20.7-41.3 Bar], Green (600-1299 PSI)[41.4-89.6 Bar], Red (1300-1999 PSI)[89.6-137.8 Bar], Black (2000-4199 PSI) [137.9-289.5 Bar].

Optional: (4200-5000 PSI) [289.6-345 Bar] Relief valve kit available, order part no. K-175.

Optional: Order JF-0048 spring locator when using the blue (300-599 PSI) [20.7-41.3 Bar] spring.

RELIEF, CHECK PNEUMATIC RELEASE VALVE KIT



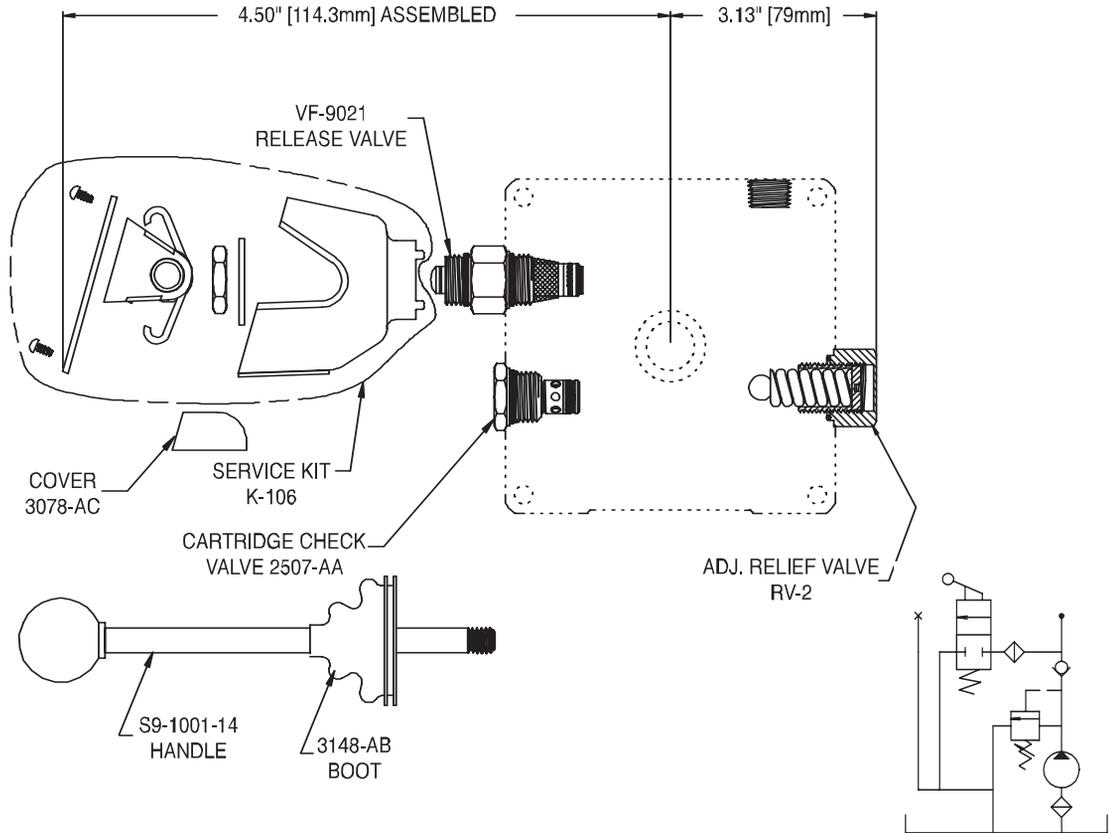
Kit includes 4 color-coded relief springs as follows: Blue (300-599 PSI) [20.7-41.3 Bar], Green (600-1299 PSI)[41.4-89.6 Bar], Red (1300-1999 PSI)[89.6-137.8 Bar], Black (2000-4199 PSI) [137.9-289.5 Bar].

Optional: (4200-5000 PSI) [289.6-345 Bar] Relief valve kit available, order part no. K-175.

Optional: Order JF-0048 spring locator when using the blue (300-599 PSI) [20.7-41.3 Bar] spring.

Valve is rated to release at 3000 PSI. Max. at 90 PSI air pressure.

RELIEF, CHECK MANUAL RELEASE VALVE KIT



INTEGRAL VALVES

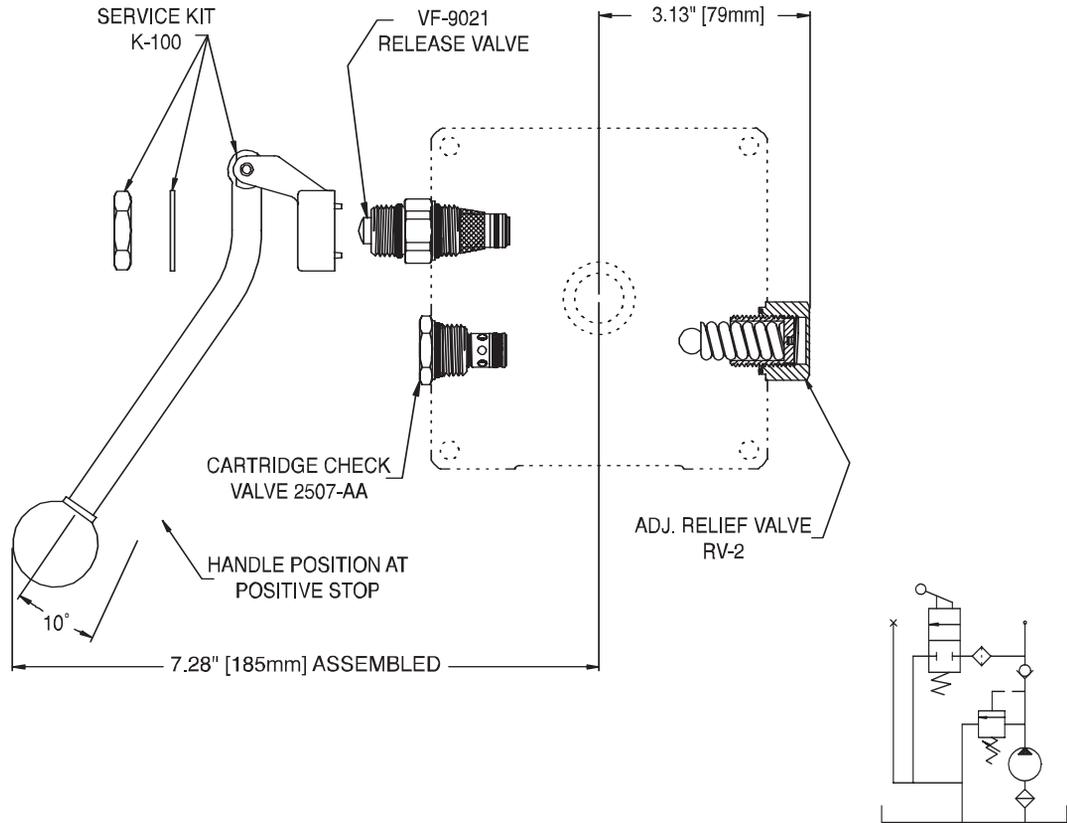
Kit includes 4 color-coded relief springs as follows: Blue (300-599 PSI) [20.7-41.3 Bar], Green (600-1299 PSI)[41.4-89.6 Bar], Red (1300-1999 PSI)[89.6-137.8 Bar], Black (2000-4199 PSI) [137.9-289.5 Bar].

Optional: (4200-5000 PSI) [289.6-345 Bar] Relief valve kit available, order part no. K-175.

Optional: Order JF-0048 spring locator when using the blue (300-599 PSI) [20.7-41.3 Bar] spring.

Release bracket may be rotated in 90° increments at assembly.

RELIEF, CHECK & LEVER RELEASE VALVE KIT



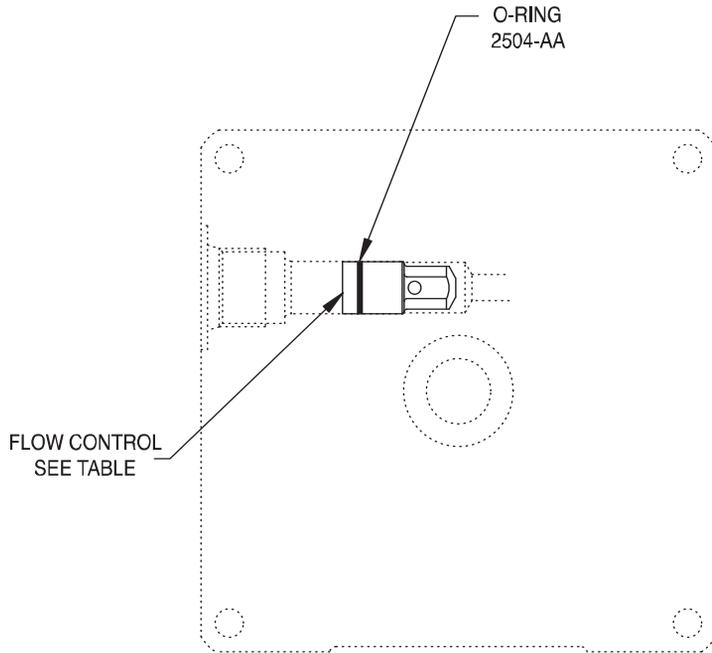
Kit includes 4 color-coded relief springs as follows: Blue (300-599 PSI) [20.7-41.3 Bar], Green (600-1299 PSI)[41.4-89.6 Bar], Red (1300-1999 PSI)[89.6-137.8 Bar], Black (2000-4199 PSI) [137.9-289.5 Bar].

Optional: (4200-5000 PSI) [289.6-345 Bar] Relief valve kit available, order part no. K-175.

Optional: Order JF-0048 spring locator when using the blue (300-599 PSI) [20.7-41.3 Bar] spring.

Release bracket may be rotated in 90° increments at assembly.

PRESSURE COMPENSATED FLOW CONTROL



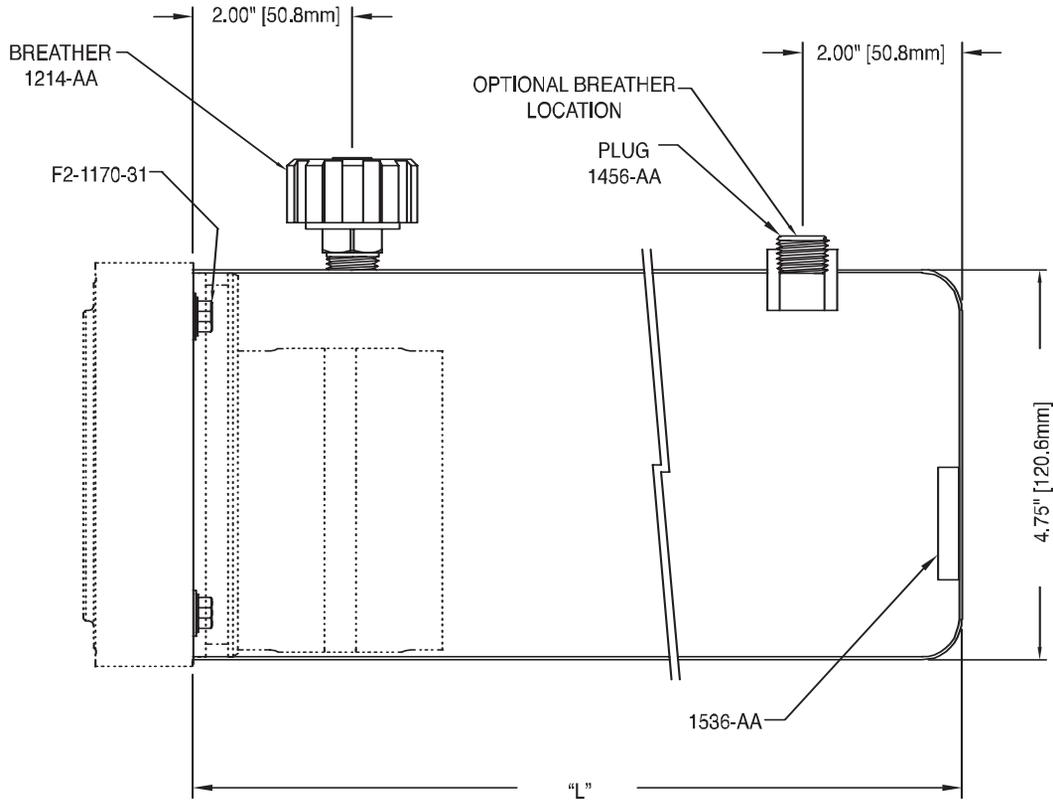
Part No.	Nominal Flow	
	US GPM	LPM
KFC2	.5	1.9
KFC4	1.0	3.8
KFC6	1.5	5.7
KFC8	2.0	7.6

Metering accuracy typically $\pm 10\%$ of nominal flow.
 May be used with any KC control valve except KC07 and KC08.
 May be added to DC10 or DC20 Power Units.
 For additional GPM requirements, contact Stone technical service.

Reservoirs

Kit Number	Description	Page Number
KR12-15	4.75"/120mm Diameter Round Steel	Page 67
KR22-25	5.0"/127mm Square Plastic	Page 68
KR40-46	6.7"/170mm Diameter Transition Style Steel	Page 69
KR50-56	6.7"/170mm Offset Plastic	Page 70
KR71	7 Gallon Floor Mount	Page 71
KR72	Tank Neck-Ring Kit	Page 72
KR73	14 Gallon Vertical Floor Mount	Page 73
K-140	Industrial Reservoir Cover Kit	Page 74
KH	Plumbing Kit Horizontally Mounted Units	Page 75
KV	Plumbing Kit Vertically Mounted Units	Page 76

4.75"/120MM ROUND STEEL



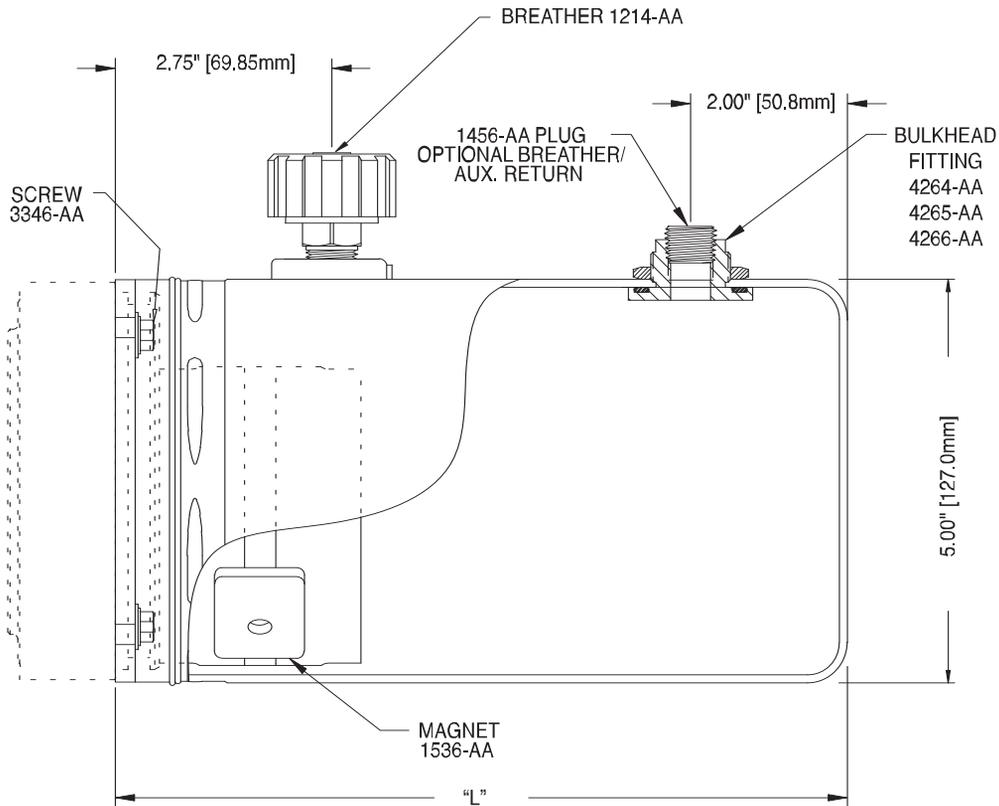
RESERVOIRS

KIT NO.	NOM. CAP. (QT.)	TANK LENGTH		USEABLE OIL CAPACITY			
		MM	INCH	LITRE	VERTICAL CUBIC IN.	LITRE	HORIZONTAL CUBIC IN.
KR12	2	216	8.50	1.4	85	1.6	90
KR14	3	305	12.00	2.4	138	2.2	135
KR15	4	368	14.50	2.6	165	2.6	161

Do not use KR12 with Duplex pump units.

KR22-25

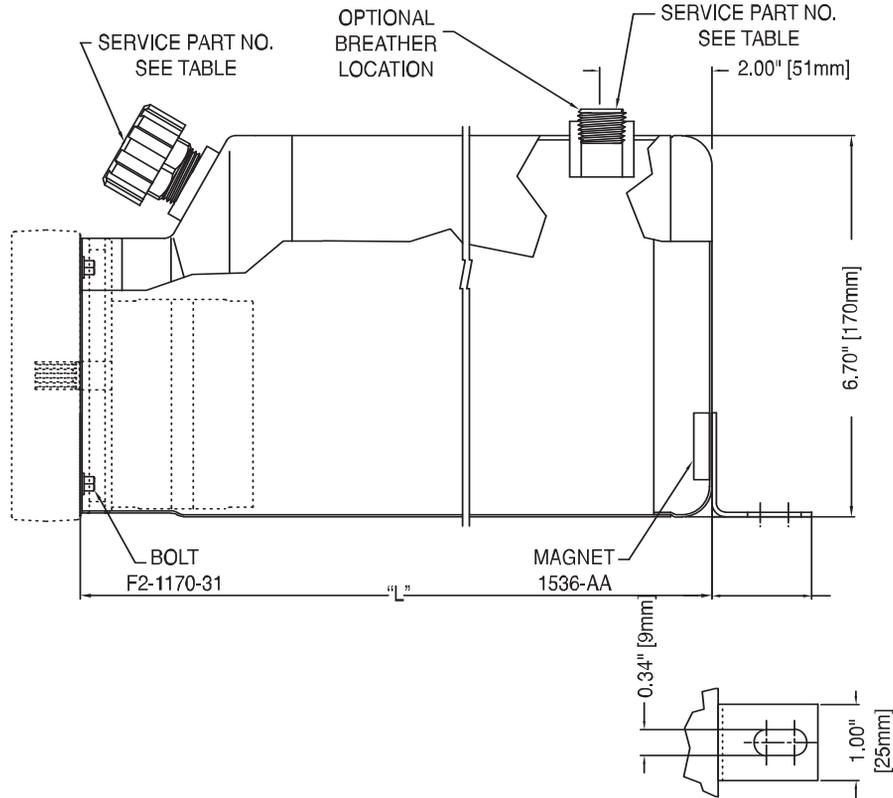
5.0"/127MM SQUARE PLASTIC



KIT NO.	NOM. CAP. (QT.)	TANK LENGTH		USEABLE OIL CAPACITY			
		MM	INCH	LITRE	VERTICAL CUBIC IN.	LITRE	HORIZONTAL CUBIC IN.
KR22	2	216	8.50	1.4	83	1.6	100
KR24	3	280	11.00	2.3	138	2.2	130
KR25	4	356	14.00	3.3	200	2.9	175

- Do not use KR22 with Duplex pump units.
- Use K-29 if mounting KDV_ valves.

6.7"/170MM TRANSITION STYLE STEEL

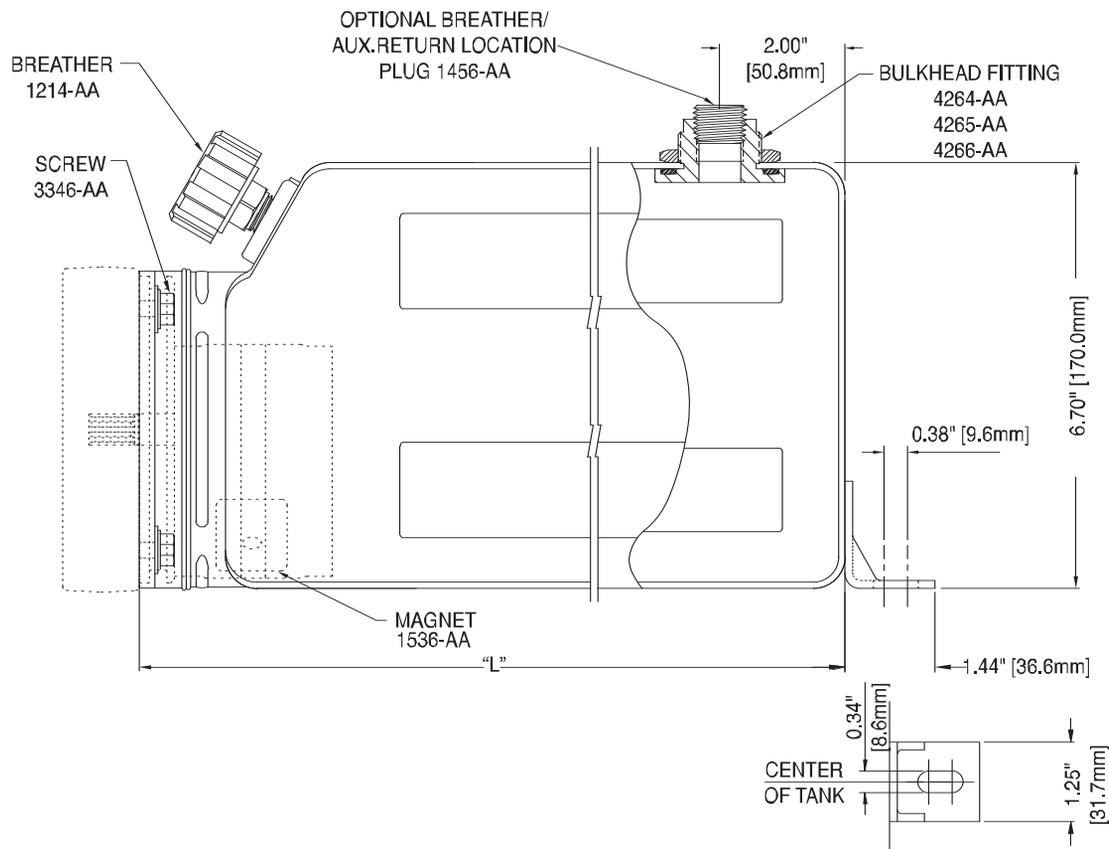


KIT NO.	NOM. CAP. (GAL.)	TANK LENGTH		USEABLE OIL CAPACITY				BREATHER PART NO.	PLUG PART NO.
		MM	INCH	VERTICAL LITRE	VERTICAL CUBIC IN.	HORIZONTAL LITRE	HORIZONTAL CUBIC IN.		
KR40	1.0	200	7.88	1.6	100	2.8	170	1214-AA	1465-AA
KR45	1.2	250	9.84	2.6	160	3.6	220	1214-AA	1465-AA
KR41	1.5	300	11.81	3.6	220	4.4	270	1683-AB	1896-AA
KR42	2.0	400	15.75	5.6	340	5.9	360	1683-AB	1896-AA
KR46	2.5	432	17.00	6.2	380	6.4	390	1683-AB	1896-AA
KR43	3.0	550	21.65	8.5	520	8.2	500	1683-AB	1896-AA
KR44	4.0	660	26.00	10.6	650	9.8	600	1683-AB	1896-AA

Foot included on 1.5 gallon and larger.
 Shimming may be required at installation.
 Do not use KR40 with duplex pump units.

KR50-56

6.7"/170MM OFFSET PLASTIC



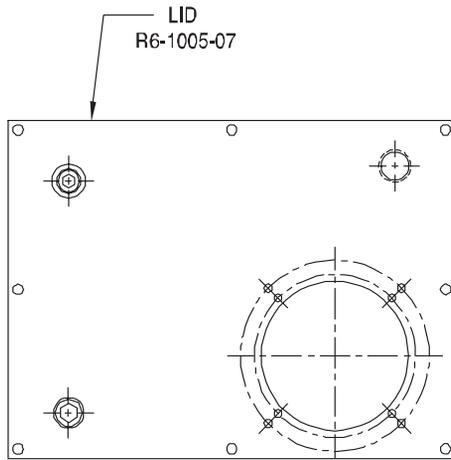
KIT NO.	NOM. CAP. (GAL.)	TANK LENGTH		USEABLE OIL CAPACITY			
		MM	INCH	LITRE	VERTICAL CUBIC IN.	HORIZONTAL LITRE	CUBIC IN.
KR50	1.0	190	7.50	1.9	120	3.1	186
KR55	1.2	288	9.00	2.9	180	3.8	230
KR51	1.5	279	11.00	4.3	260	4.7	286
KR52	2.0	330	13.00	5.6	340	5.6	345
KR56	2.5	381	15.00	6.9	420	6.6	400
KR53	3.0	508	20.00	10.2	620	8.8	540
KR54	4.0	660	26.00	14.1	860	11.7	715

Foot included on 1.5 gallon and larger.

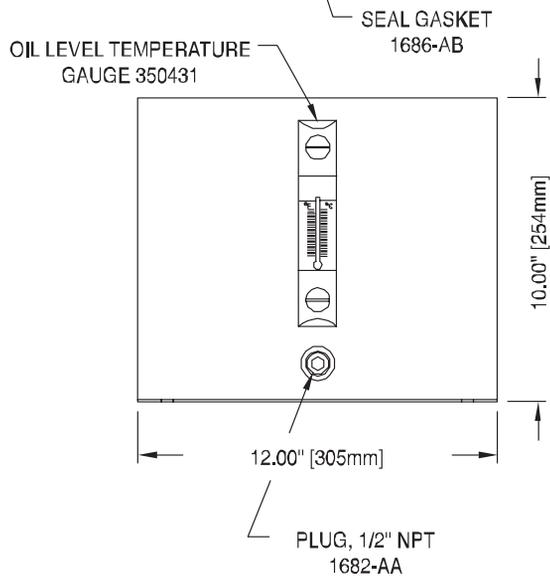
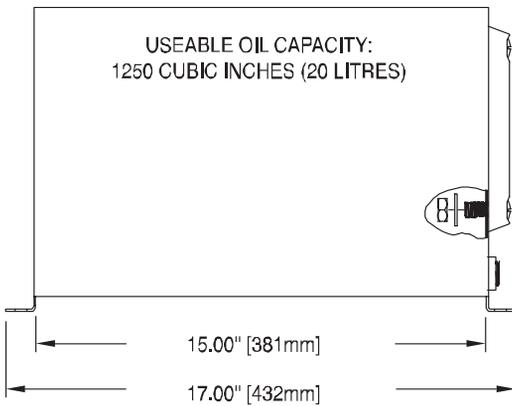
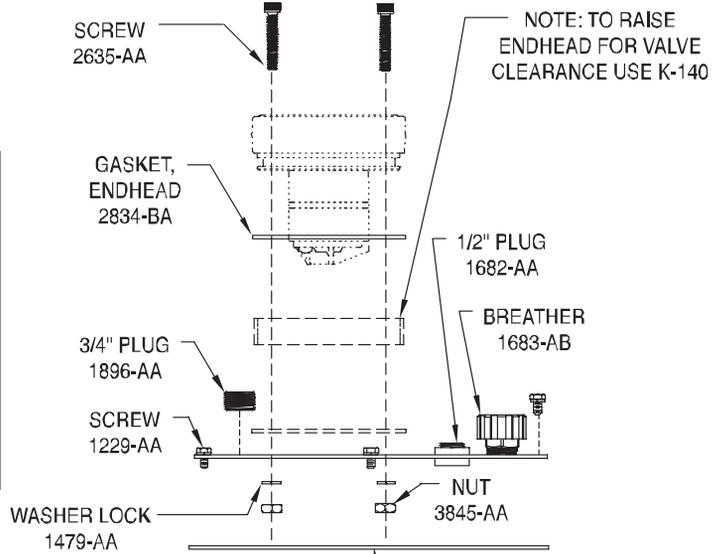
Shimming may be required at installation.

Do not use KR50 or KR55 with duplex pump units.

7 GALLON FLOOR MOUNT

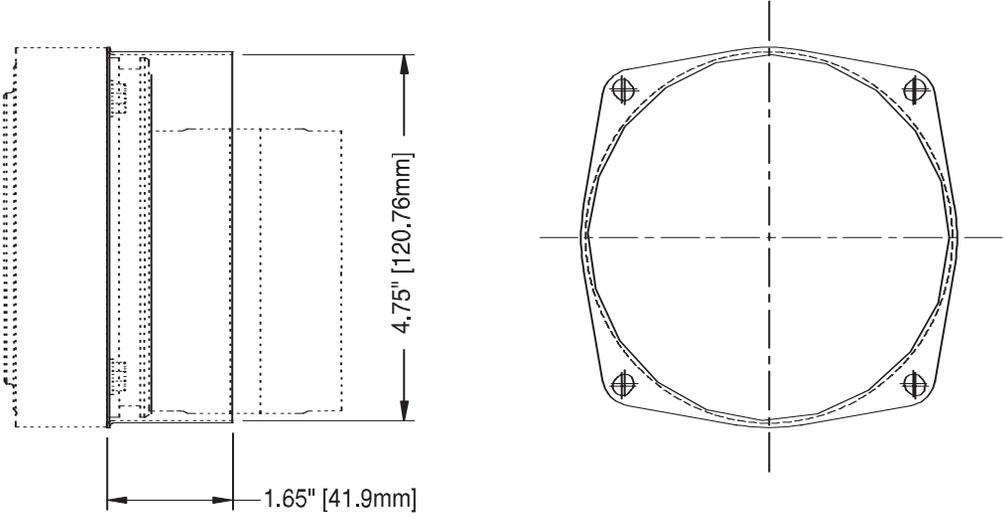


LID CAN BE ROTATED AND/OR REVERSED FOR FLEXIBILITY OF ENDHEAD/BREATHER POSITION



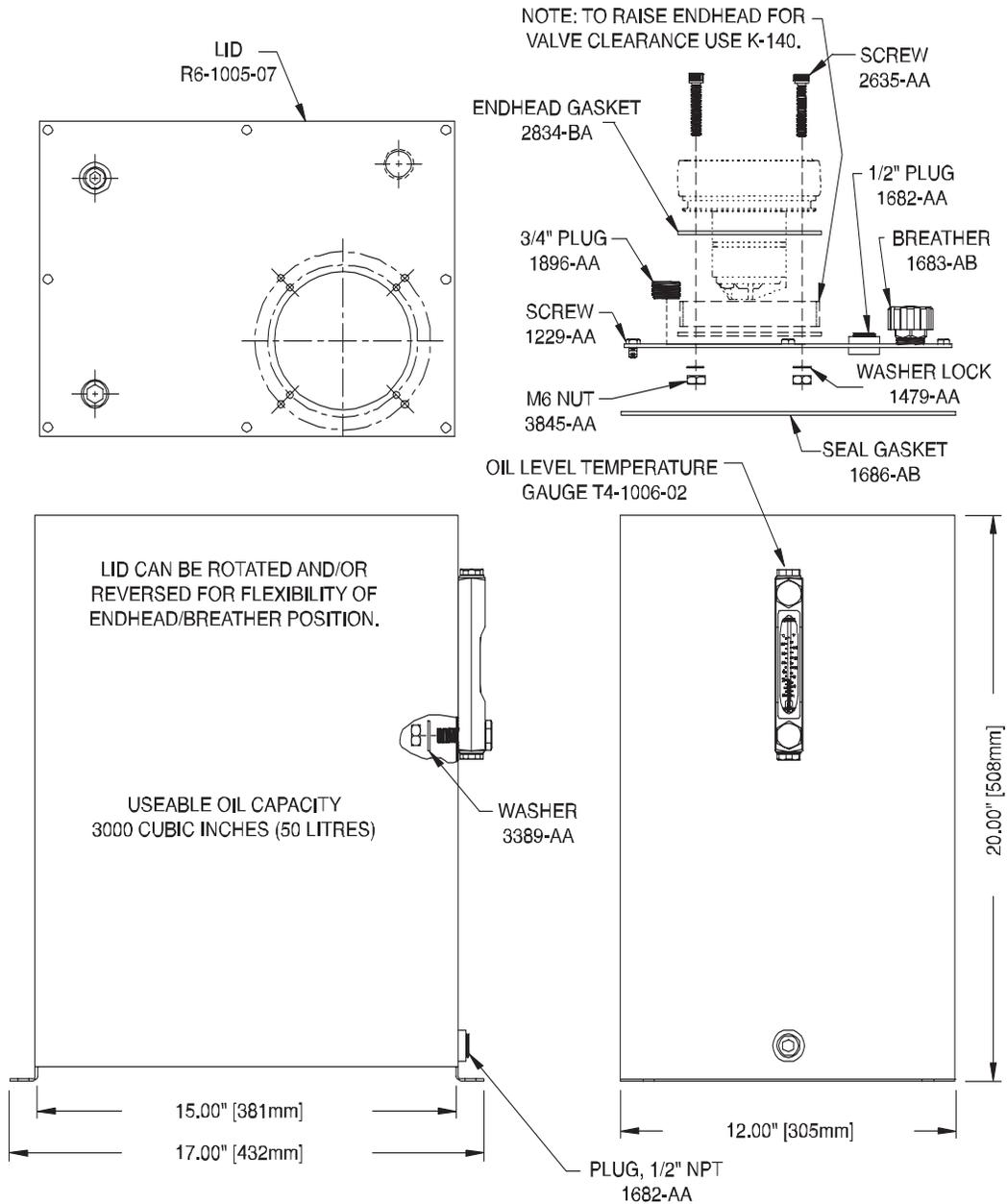
KR72

TANK NECK-RING KIT



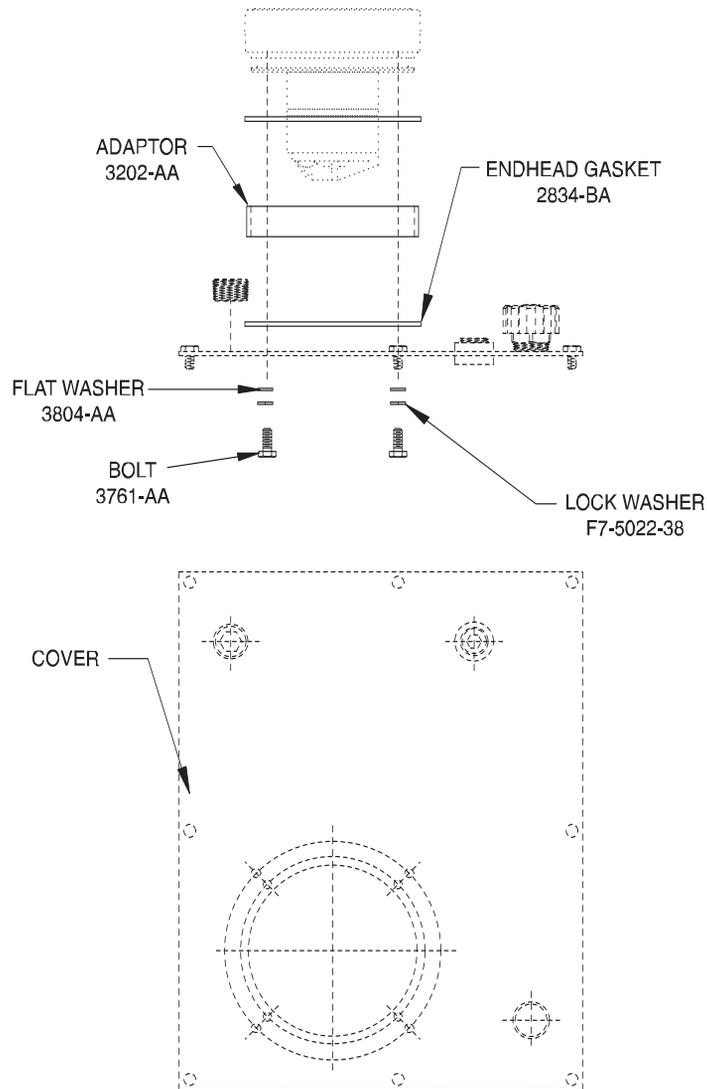
For use with self-manufactured steel reservoirs.

14 GALLON VERTICAL FLOOR MOUNT



K-140

INDUSTRIAL RESERVOIR COVER KIT

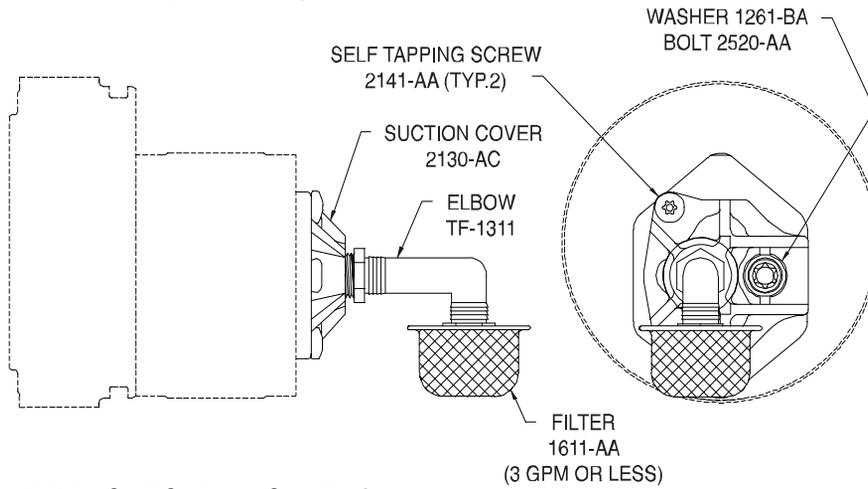


For use with KR71 and KR73 tanks to give additional clearance for valve coil.

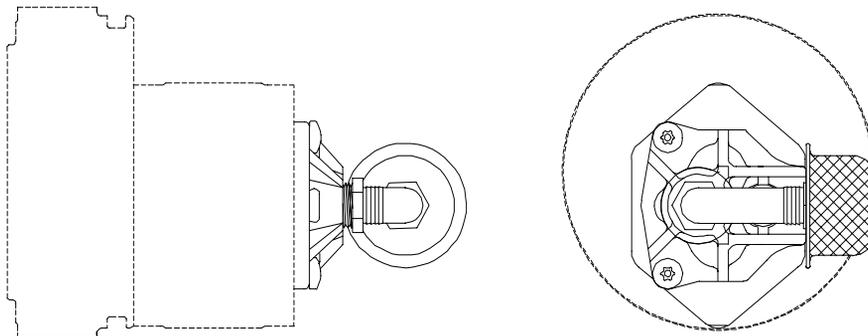
PLUMBING KIT

HORIZONTALLY MOUNTED UNITS

HORIZONTAL MOUNTING



SIDE HORIZONTAL MOUNTING

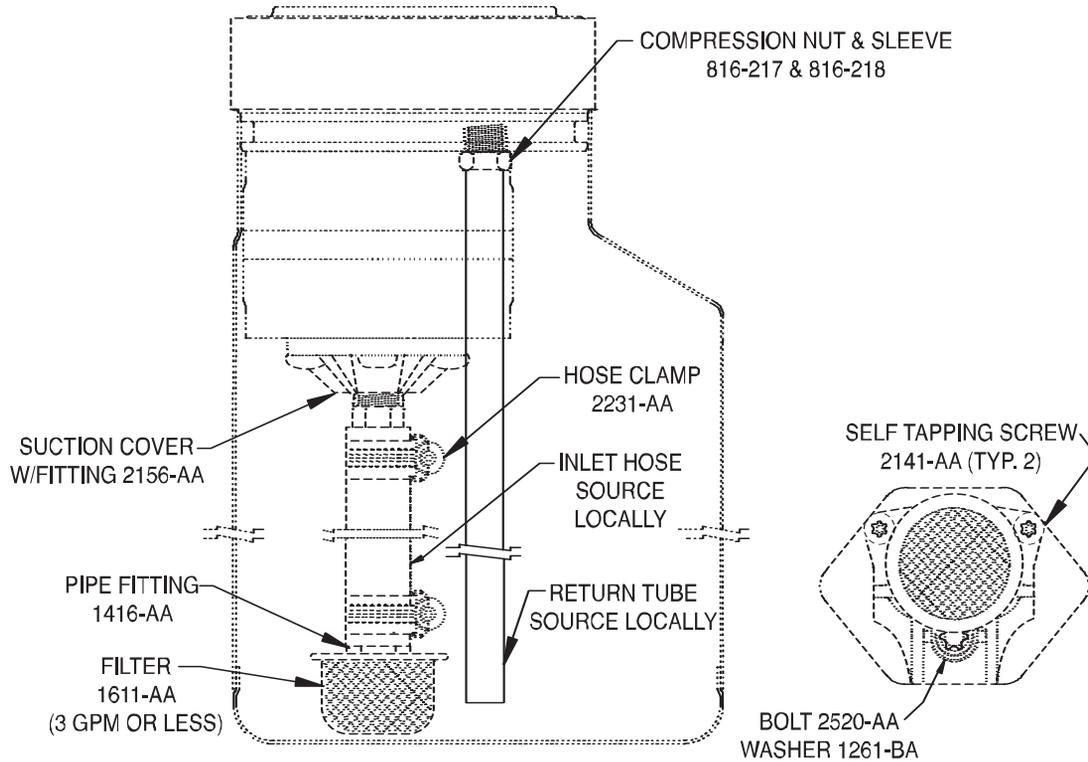


Parts may be assembled in either orientation depending on mounting of power unit.

For flows over 3 GPM use 1413-AA large filter.

KV

PLUMBING KIT VERTICALLY MOUNTED UNITS



Parts may be assembled in either orientation depending on mounting of power unit.

For flows over 3 GPM use 1413-AA large filter.

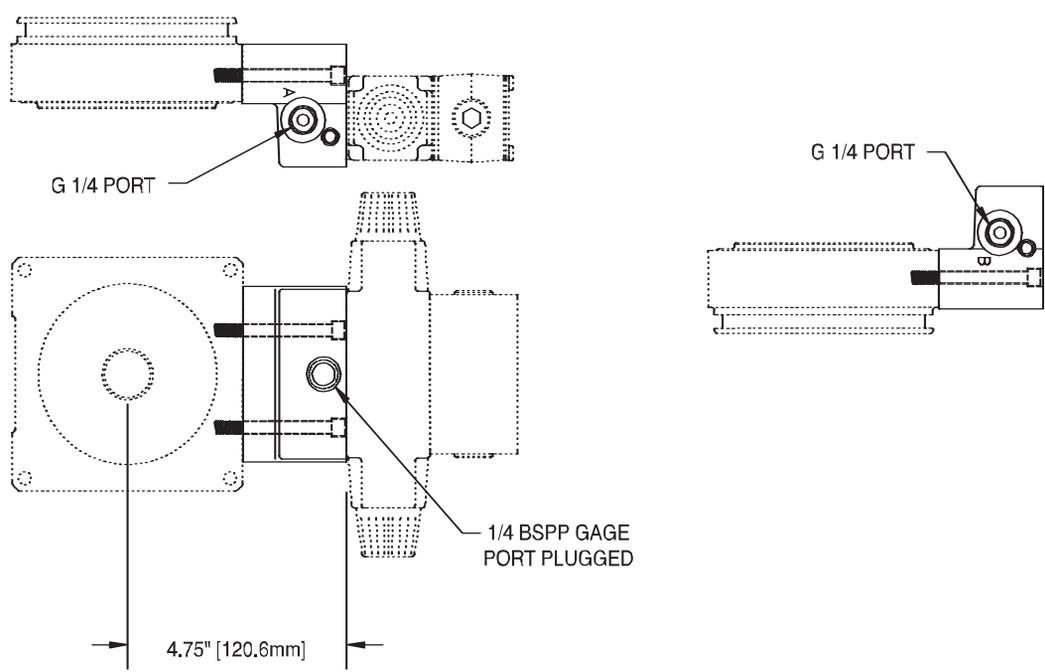
Manifolds

Kit Number	Description	Page Number
KB10	Single Manifold Block For D03 CETOP Valve/BSPP Ports	Page 78
KB11	Single Manifold Block For D03 CETOP Valve/SAE Ports	Page 79
KCV1	12V DC Manifold Valve	Page 80
KDV1	12V DC Solenoid Direct Control Bottom Valve	Page 81
KDV2	Manual Directional Control Bottom Valve With DC Switch	Page 82
KDV3	Manual Directional Control Valve With DC Switch	Page 83
KDV4	12V DC Solenoid Directional Control Valve	Page 84

Note: Manifold valves cannot be used on KN12 endheads.

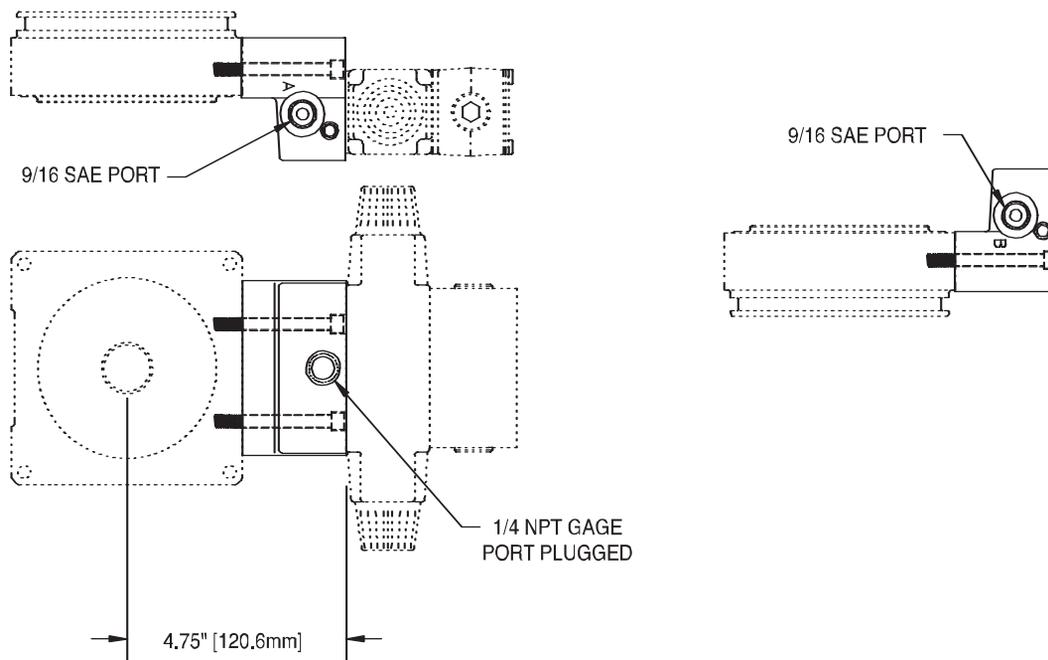
KB10

**SINGLE MANIFOLD BLOCK FOR
D03 CETOP VALVE/BSPP PORTS**



- Kit includes all seals and mounting hardware.
- CETOP valve not included.
- Use M5 thread mounting bolts for valve.
- Will allow only single D03 valve (not intended for multiple valve stacking) .
- Use K-29 adaptor if needed for motor or tank clearance.

SINGLE MANIFOLD BLOCK FOR D03 CETOP VALVE/SAE PORTS



Kit includes all seals and mounting hardware.

CETOP valve not included.

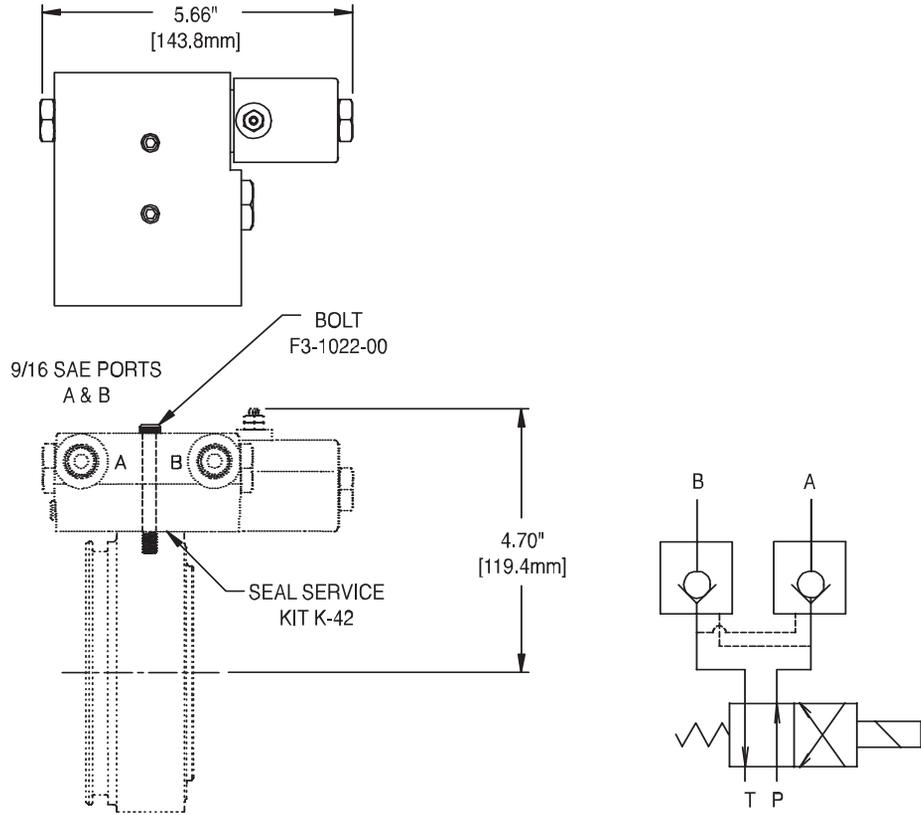
Use M5 thread mounting bolts for valve.

Will allow only single D03 valve (not intended for multiple valve stacking) .

Use K-29 adaptor if needed for motor or tank clearance.

KCV1

12V DC MANIFOLD VALVE

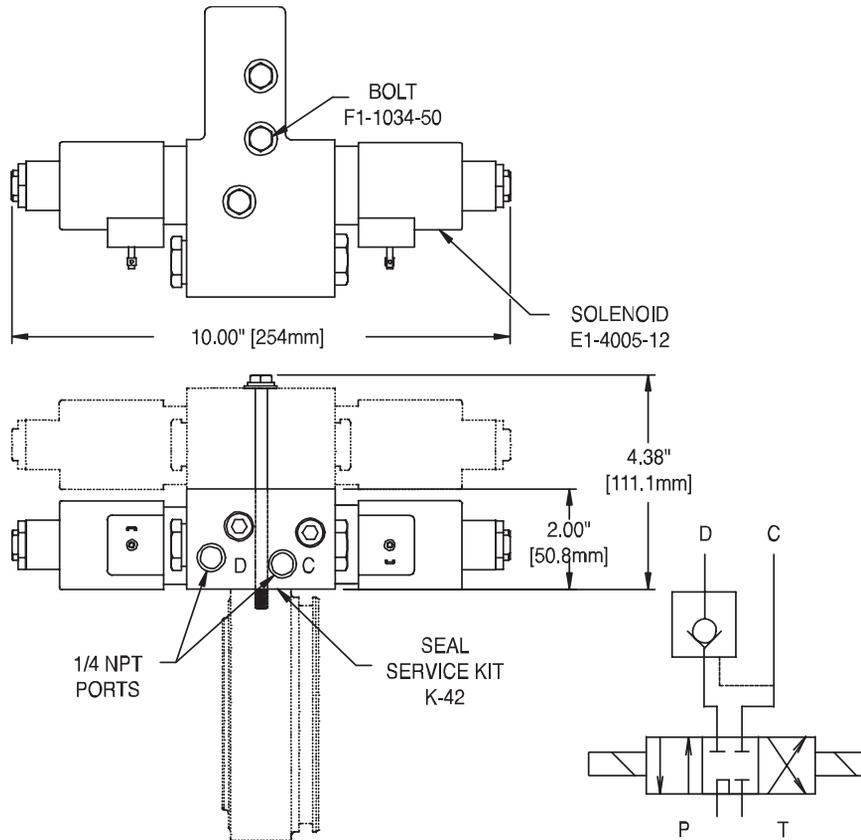


Kit includes all seals and mounting hardware.

If used with large motor, KR4_, KR5_ or KR7_ tanks, order valve spacer K-29.

Remote cordset available, use KG12 with KS1.

12V DC SOLENOID DIRECT CONTROL BOTTOM VALVE



To convert to double P.O. check, order S8-9006-00.

Kit includes all seals and mounting hardware.

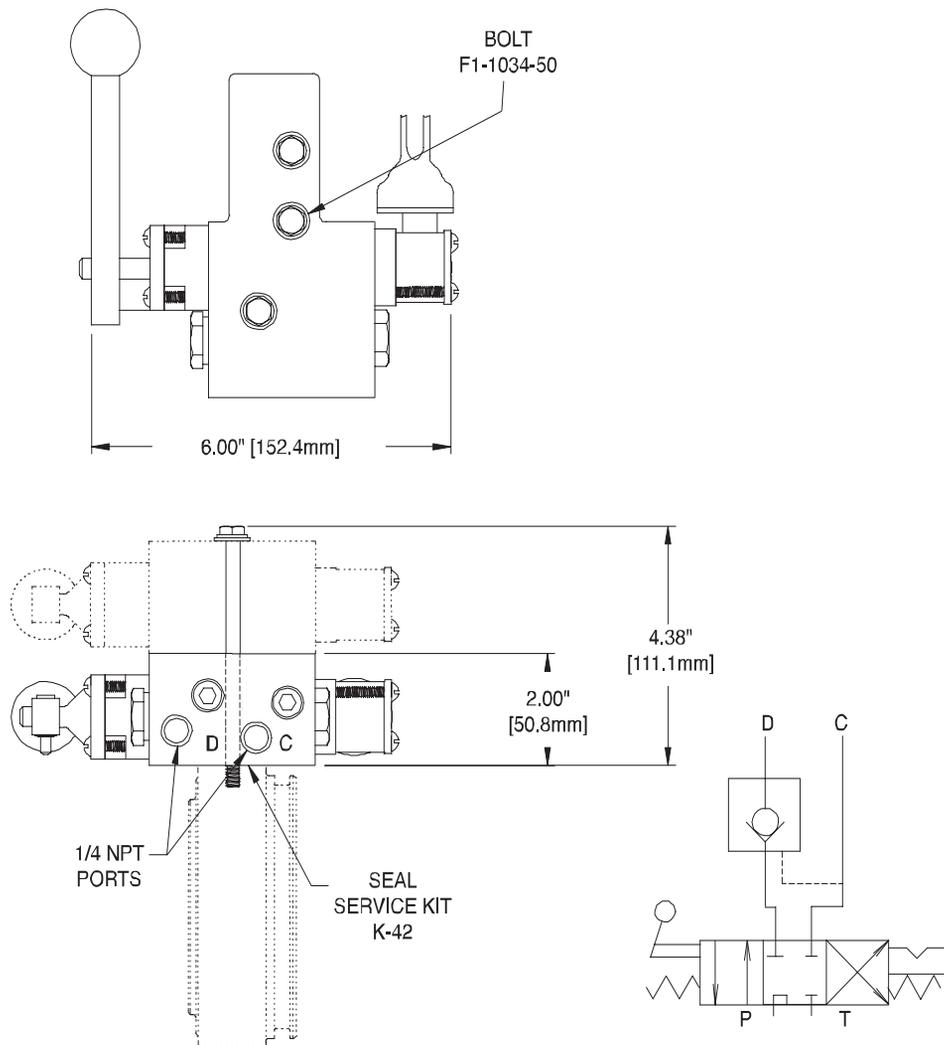
If used with large motor, KR4_, KR5_ or KR7_ tanks, order valve spacer K-29.

Remote cordset available, use KG13 with KS1, use KG13A with KS5.

To be used as a bottom valve with KDV4, or to modify DC-60 into DC-62.

KDV2

MANUAL DIRECTIONAL CONTROL BOTTOM VALVE WITH DC SWITCH



To convert to double P.O. check, order S8-9006-00.

Kit includes all seals and mounting hardware.

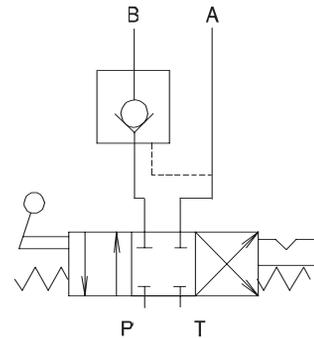
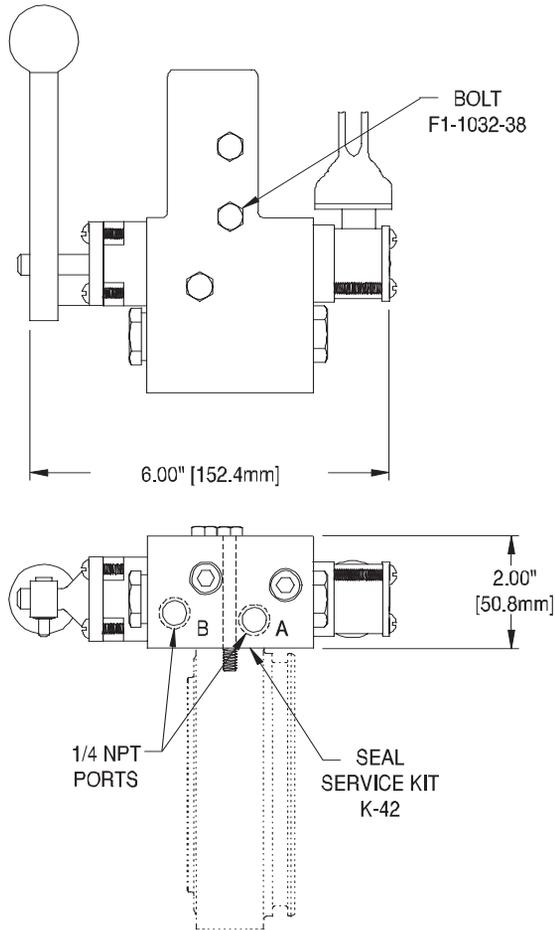
If used with large motor, KR4_, KR5_ or KR7_ tanks, order valve spacer K-29.

To be used as a bottom valve with KDV3, or to add a second 4-way function to DC-50.

Switch can be used at 12V or 24V DC.

Wire switch to KS_ start solenoid.

MANUAL DIRECTIONAL CONTROL VALVE WITH DC SWITCH



To convert to double P.O. check, order S8-9006-00.

Kit includes all seals and mounting hardware.

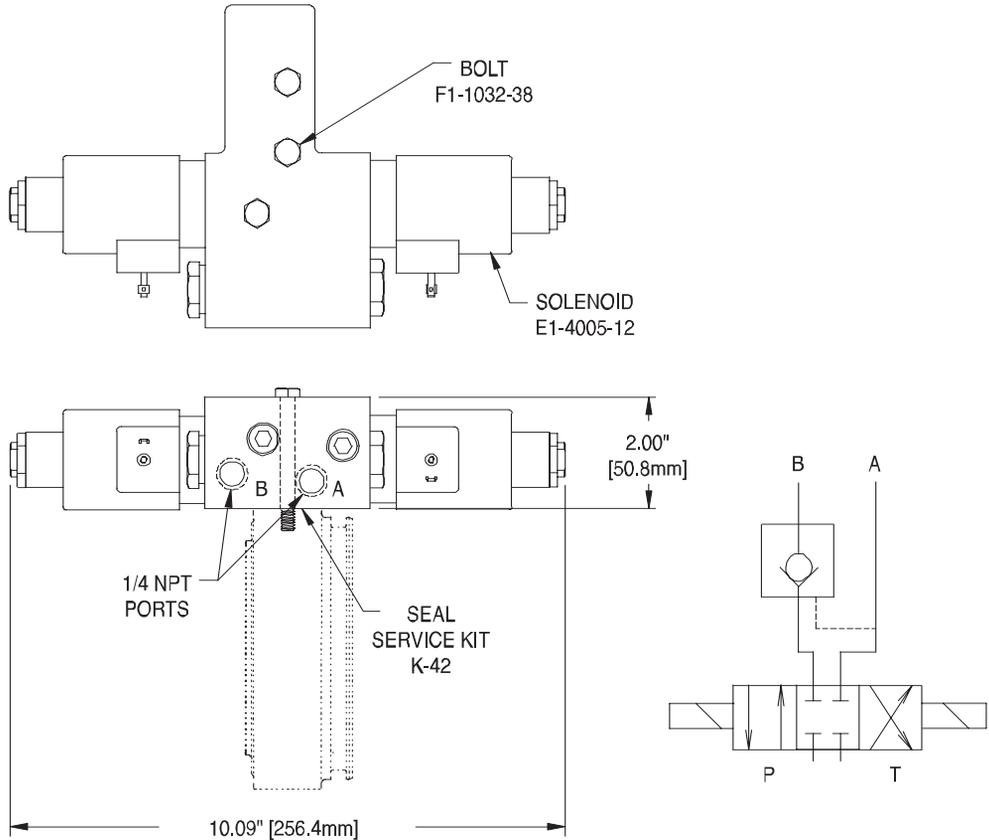
If used with large motor, KR4_, KR5_ or KR7_ tanks, order valve spacer K-29.

Switch will work at 12V or 24V DC.

Wire switch to KS_ start solenoid.

KDV4

**12V DC SOLENOID
DIRECTIONAL CONTROL VALVE**



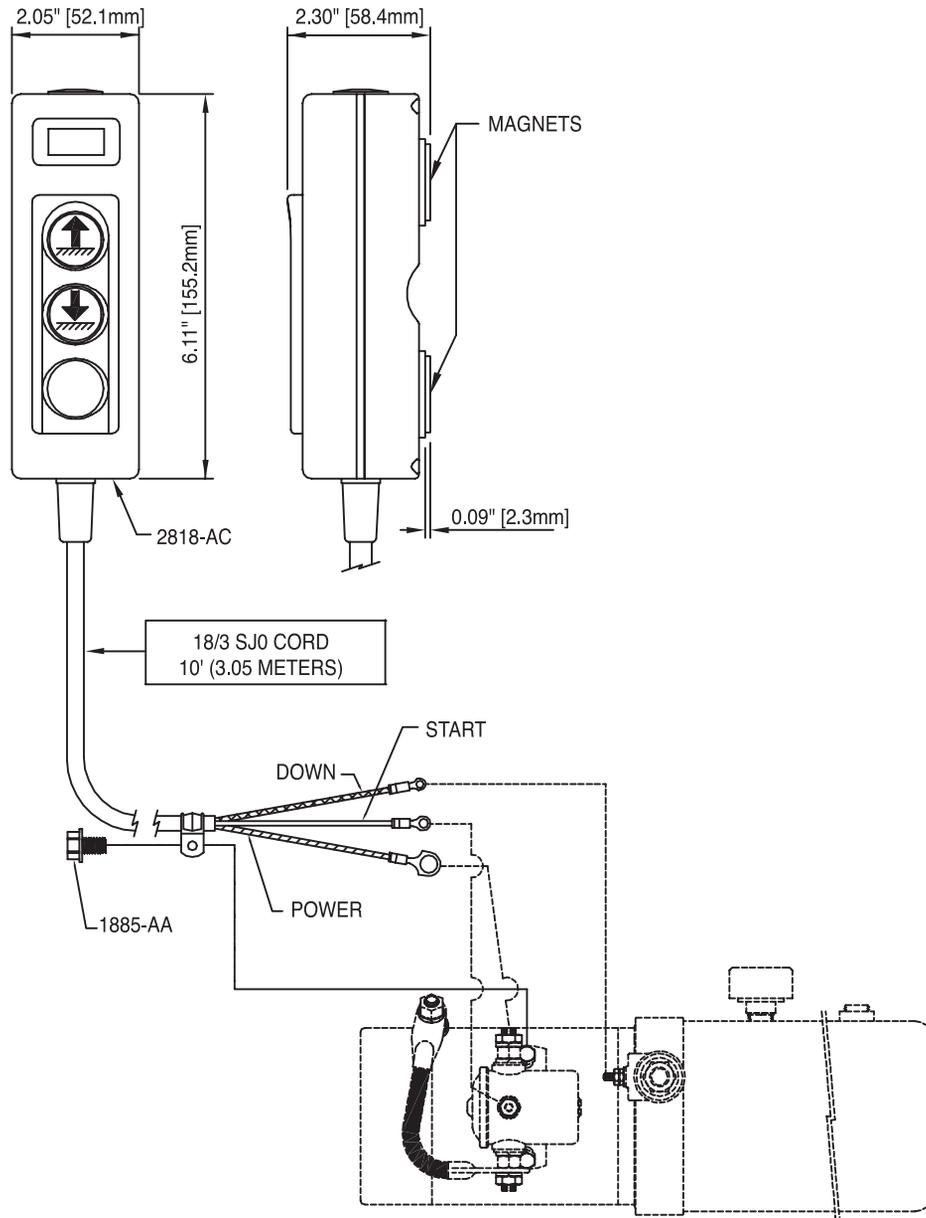
To convert to double P.O. check, order S8-9006-00.
 Kit includes all seals and mounting hardware.
 If used with large motor, KR4_, KR5_ or KR7_ tanks, order valve spacer K-29.
 Remote cordset available, use KG13 with KS1, use KG13A with KS5.
 Manual override also available, order S8-4000-02.

Electrical Accessories

Kit Number	Description	Page Number
KG11	Control Handset For Single-Acting Units	Page 86
KG11A	Control Handset For Single-Acting Units For Smart Start	Page 87
KG12	Control Handset For Double-Acting Units	Page 88
KG12A	Control Handset For Double-Acting Units For Smart Start	Page 89
KG13	Control Handset For Double-Acting Units	Page 90
KG13A	Control Handset For Double-Acting Units For Smart Start	Page 91
KS1-4	Intermittent Duty Start Solenoids	Page 92
KS5	Smart Start Solenoids Intermittent Duty	Page 93
TA-01-B	Pressure Alarm	Page 94

KG11

CONTROL HANDSET FOR SINGLE-ACTING UNITS



DC voltage only.

To be used with DC-20SF power units and KS- and KC01C or KC01F valve kit.

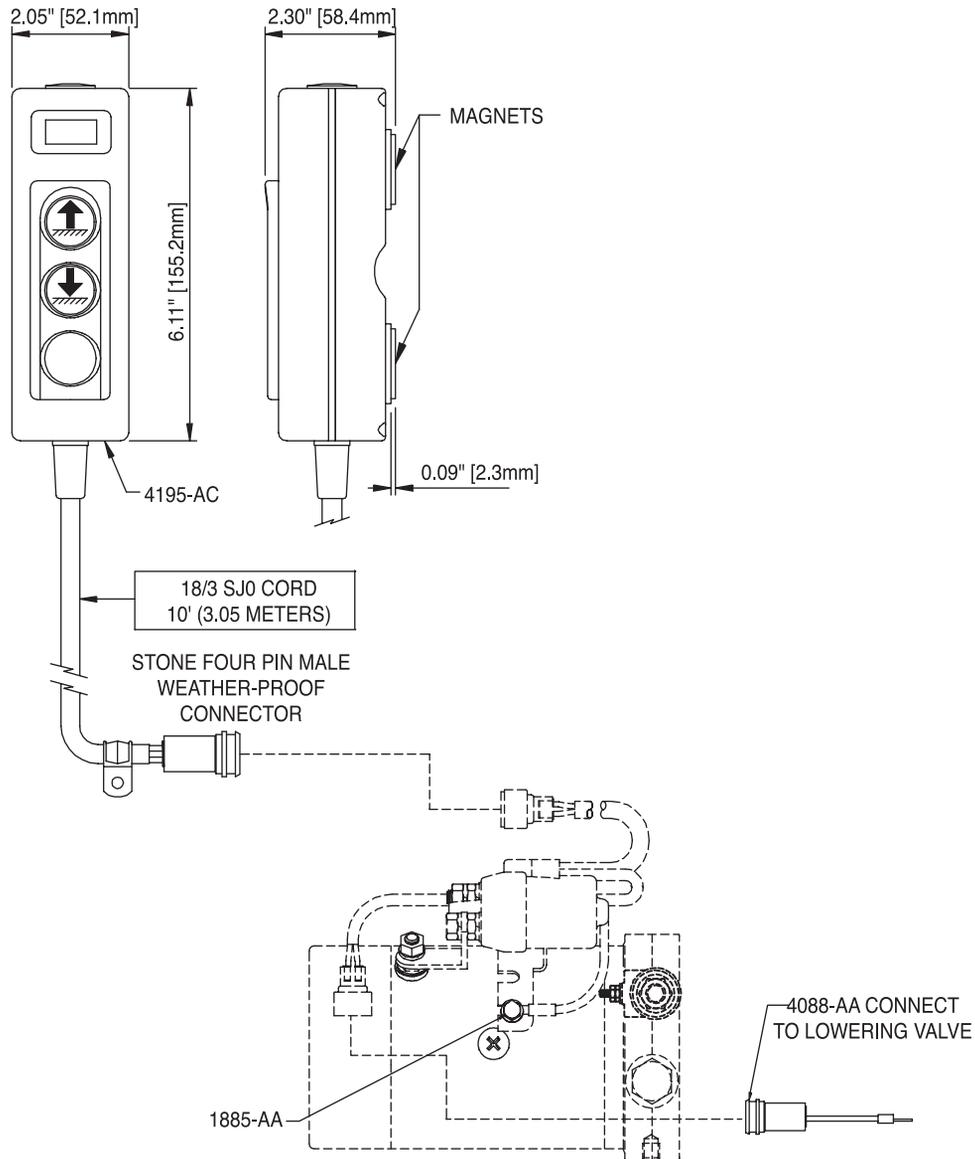
For bulkhead mounting, order holster 2817-AA.

For wall mounting, order bracket hook 2686-AA.

Magnets are intended for convenience during use. They are not intended to support the handset during motion.

WIRE COLOR CODE		
EUROPE	UNITED STATES	FUNCTION
BROWN	GREEN	POWER
BLUE	WHITE	START
GREEN/YELLOW	BLACK	DOWN

CONTROL HANDSET FOR SINGLE-ACTING UNITS FOR SMART START



DC voltage only.

To be used with DC-20SF power units and KC01C or KC01F valve kit, using KS5 start solenoid.

For bulkhead mounting, order holster 2817-AA.

For wall mounting, order bracket hook 2686-AA.

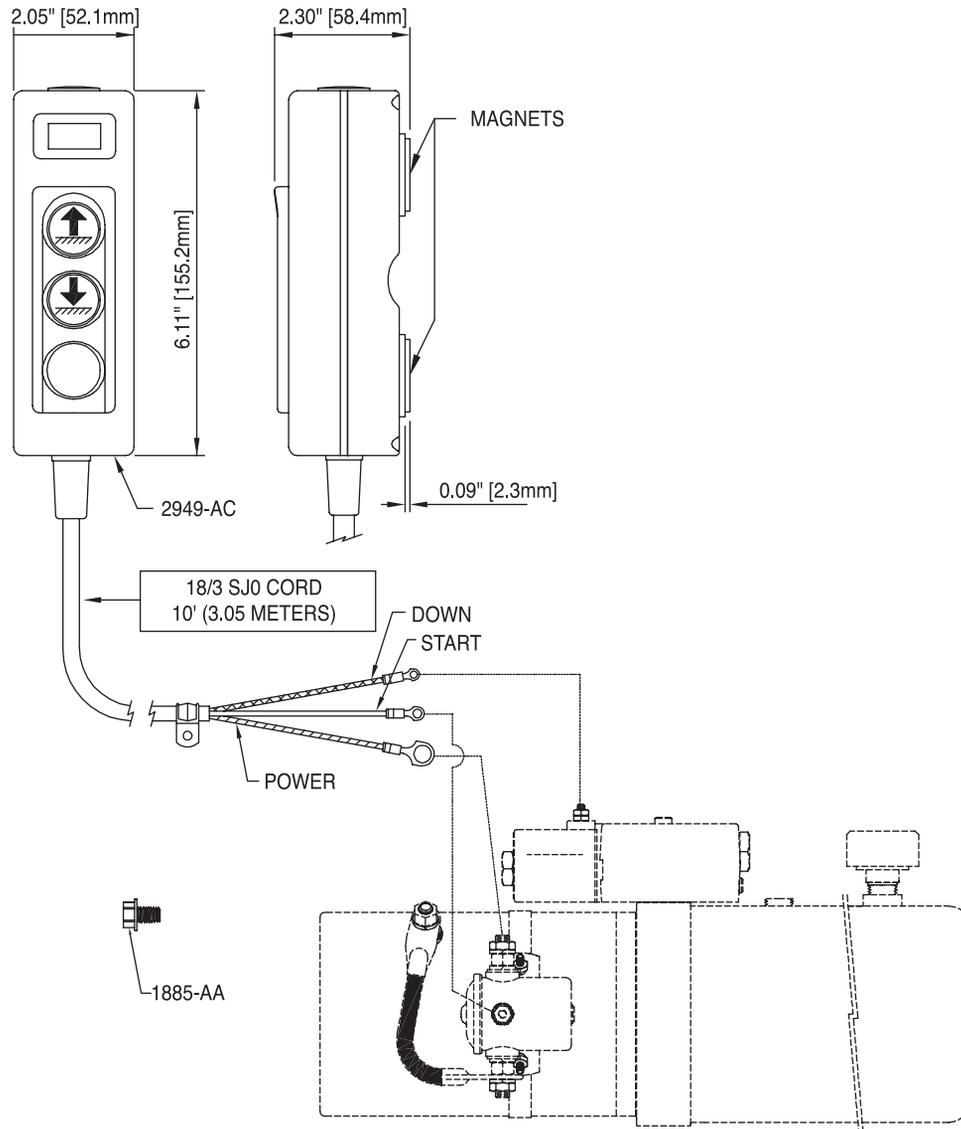
Magnets are intended for convenience during use. They are not intended to support the handset during motion.

Use 3467-AA jumper when using 24 volts.

Order 3553-AA when wiring smart start to other than Stone supplied cordset.

KG12

CONTROL HANDSET FOR DOUBLE-ACTING UNITS



DC voltage only.

To be used with DC-70SF, DC-70BS power units and SK_start solenoid.

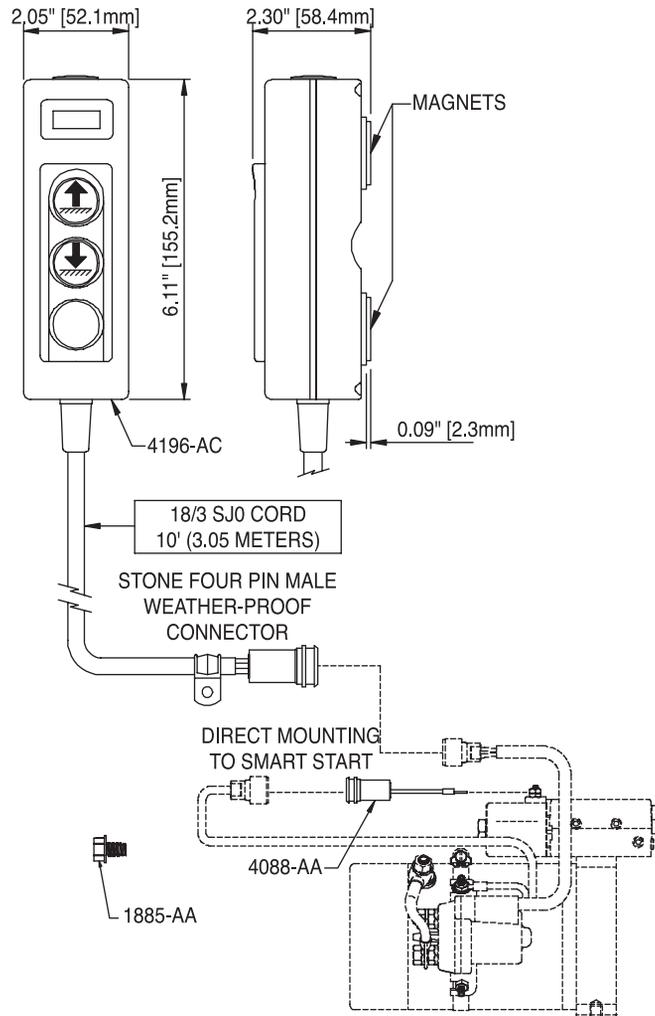
For bulkhead mounting, order holster 2817-AA.

For wall mounting, order bracket hook 2686-AA.

Magnets are intended for convenience during use. They are not intended to support the handset during motion.

EUROPE	WIRE COLOR CODE		FUNCTION
	UNITED STATES		
BROWN	GREEN		POWER
BLUE	WHITE		START
GREEN/YELLOW	BLACK		DOWN

CONTROL HANDSET FOR DOUBLE-ACTING UNITS FOR SMART START



DC voltage only.

To be used with DC-70SF and DC-70BS power units, using KS5 start solenoid.

For bulkhead mounting, order holster 2817-AA.

For wall mounting, order bracket hook 2686-AA.

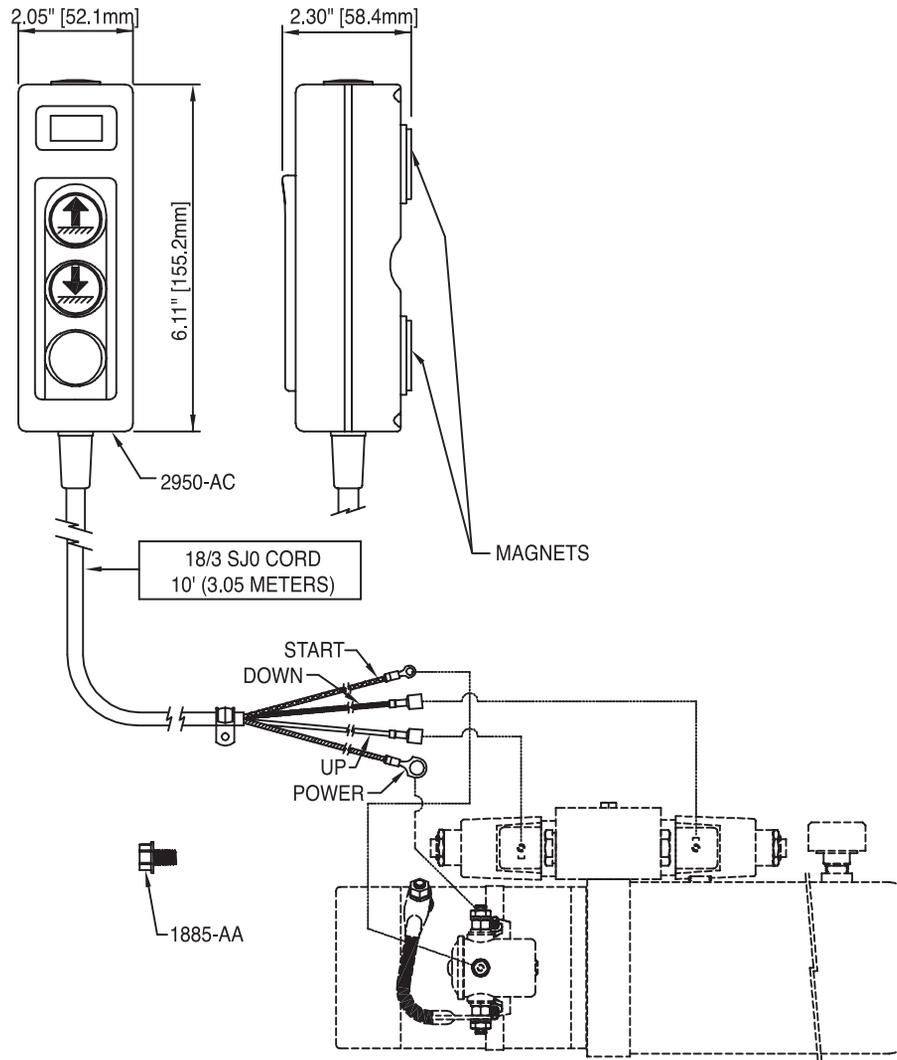
Magnets are intended for convenience during use. They are not intended to support the handset during motion.

Use 3467-AA jumper when using 24 volts.

Order 3553-AA when wiring smart start to other than Stone supplied cordset.

KG13

CONTROL HANDSET FOR DOUBLE-ACTING UNITS



DC voltage only.

To be used with DC-60SF power unit and KS_ start solenoid.

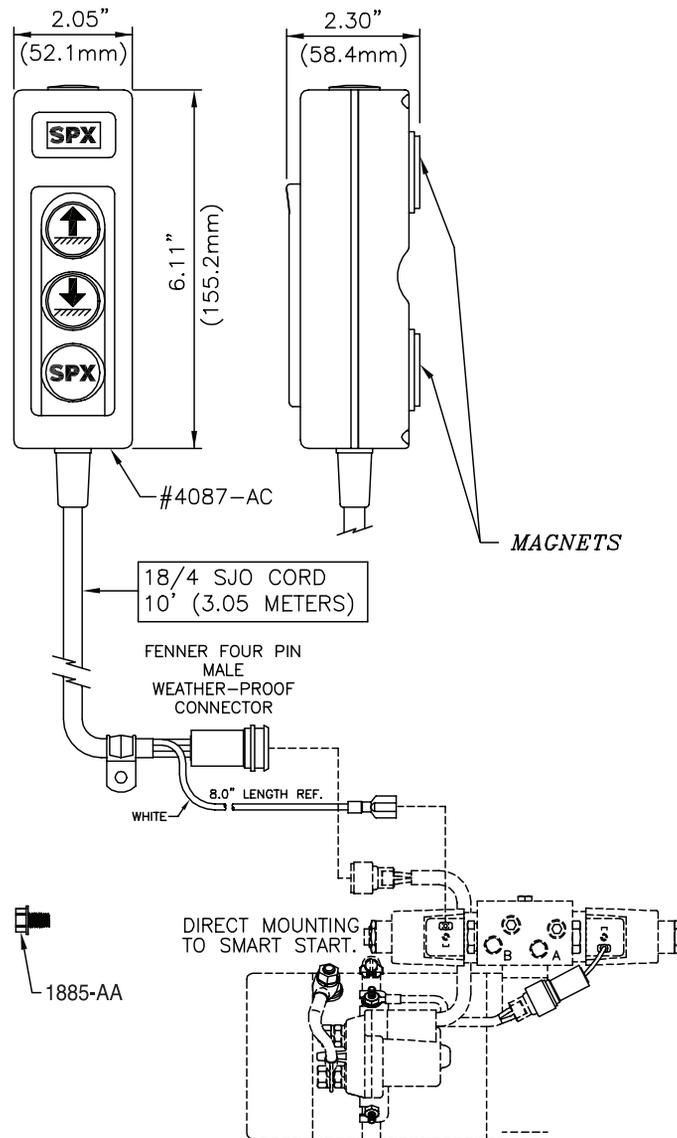
For bulkhead mounting, order holster 2817-AA.

For wall mounting, order bracket hook 2686-AA.

Magnets are intended for convenience during use. They are not intended to support the handset during motion.

EUROPE	WIRE COLOR CODE		FUNCTION
	UNITED STATES		
BROWN	GREEN		POWER
BLUE	WHITE		UP
GREEN/YELLOW	BLACK		DOWN
BLACK	RED		START

CONTROL HANDSET FOR DOUBLE-ACTING UNITS FOR SMART START



DC voltage only.

To be used with power units using KS5 start solenoid.

For bulkhead mounting, order holster 2817-AA.

For wall mounting, order bracket hook 2686-AA.

Magnets are intended for convenience during use. They are not intended to support the handset during motion.

Use 3467-AA jumper when using 24 volts.

Order 3553-AA when wiring smart start to other than Stone supplied cordset.

KS1-4

INTERMITTENT DUTY START SOLENOIDS

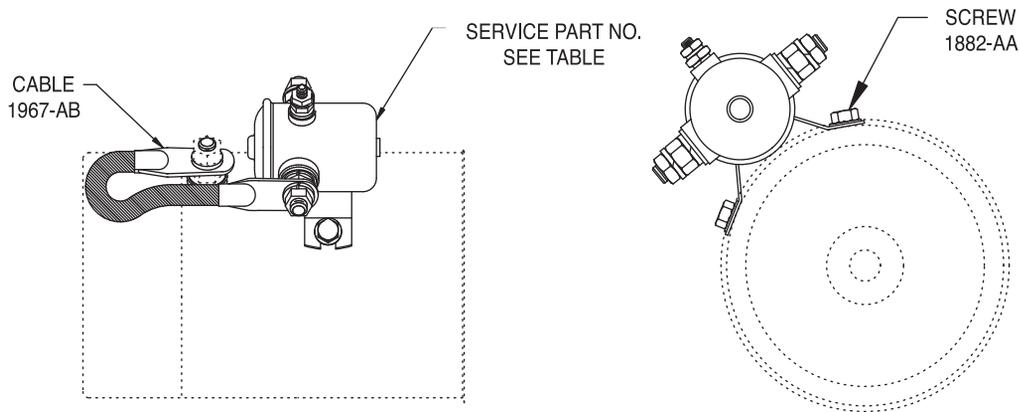


Figure 1 Internal Ground

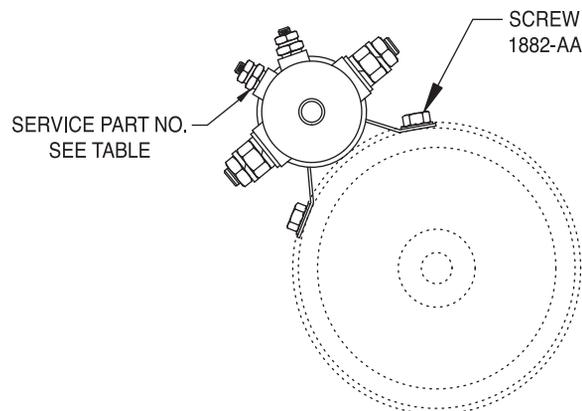


Figure 2 External Ground

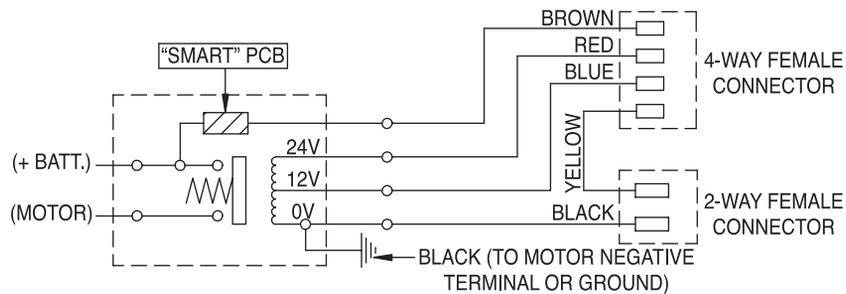
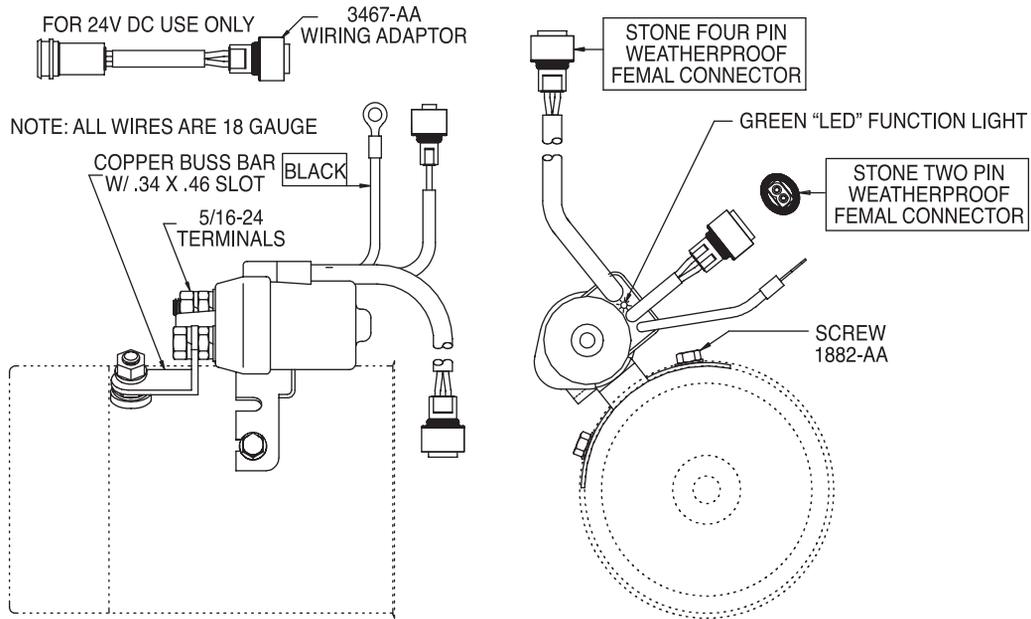
KIT NO.	VOLTAGE	SERVICE P/N	CONFIGURATION	UL RECOGNIZED
KS1	12 VDC	2145-AA	FIG. 1	NO
KS2	24 VDC	2151-AA	FIG. 1	NO
KS3	12 VDC	1866-CA	FIG. 2	YES
KS4	24 VDC	2150-AA	FIG. 2	YES

For mounting to 3.0" motors, order KS_ and K-104.

For flexibility of mounting position on 4.5" motors, order KS_ and K-105 (band clamp kit).

Note: Stone uses a network of qualified suppliers to ensure availability. There are minor dimensional and cosmetic differences between vendor's products.

SMART START SOLENOIDS INTERMITTENT DUTY



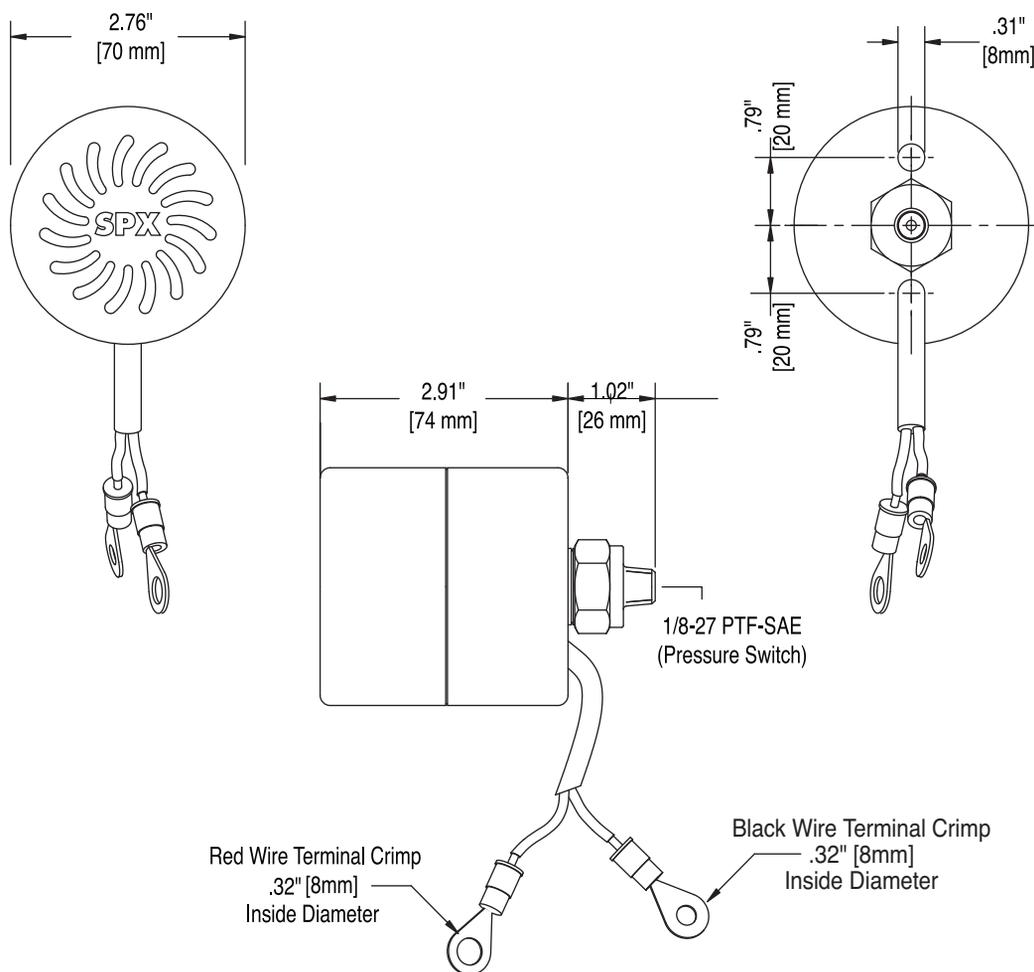
Rated for use up to 300 amps (intermittent), completely sealed construction eliminates need for circuit breakers, fuses or microswitches, dual voltage- 12 and 24 VDC, non-weldable contacts, interchangeable with current designs, neat one-plug wiring harness, terminals can not be over-tightened, covers single and double terminal applications, waterproofed to IP67, electronics suitable for use in ambient temperatures between -40° F(-40° C) and 185° F (86° C), world patents applied for.

Order with handset KG11A, KG12A, & KG13A.

For 24VDC, use 3467-AA wiring adaptor.

TA-01-B

PRESSURE ALARM



RED WIRE IS POSITIVE (+) BLACK WIRE IS NEGATIVE (-)

MODEL NO.	DESCRIPTION	LEAD LENGTH	AUDIBLE ALARM
TA-01-B	END HEAD MOUNT	304mm	BUZZER

Sounds when pressure is present, indicates that the lift is activated, operates at 12 and 24V DC, 2.5 W, alarm noise level 100 DB, 980 Hz, normally open switch closes at 2 to 4 bar, max pressure 344 bar, pressure washable.

AC & DC Power Units

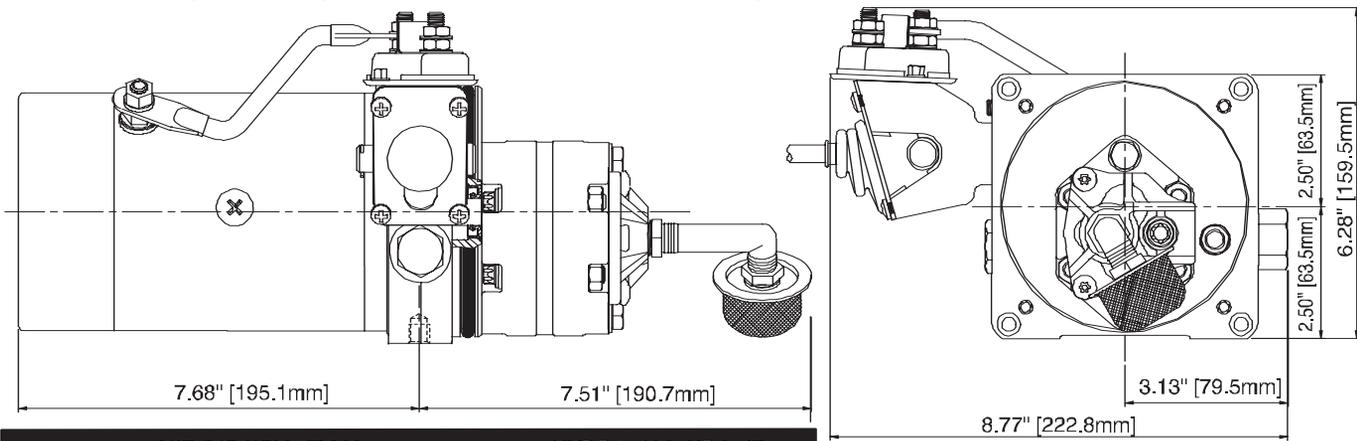
Kit Number	Description	Page Number
DC-10SF*	12V DC Manual Operated Power Up/Gravity Down	Page 96
DC-20SF*	12V DC Solenoid Operated Power Up/Gravity Down	Page 97
DC-30SF*	12V DC Check & Relief Valve Power Unit	Page 98
DC-41DT	12V DC Solenoid Operated Power Up/Power Down	Page 99
DC-50SF*	12V DC Manual Operated Power Up/Power Down	Page 100
DC-60SF*	12V DC Solenoid Operated Power Up/Power Down	Page 101
DC-62SF*	12V DC Solenoid Operated Dual Power Up/Power Down	Page 102
DC-70SF*	12V DC Solenoid Operated Power Up/Power Down	Page 103
DC-90SF*	12V DC Relief Valve Only	Page 104
AC-10AH	230V AC 1PH Auto Hoist 2-Post Lift Power Up/Gravity Down	Page 105
AC-10KS	230V AC 1PH Auto Hoist 2-Post Lift With Kill Switch Power Up/Gravity Down	Page 106
AC-10FP	230V AC 1PH Auto Hoist 4-Post Lift Power Up/Gravity Down	Page 107
AC-10TC	115V AC 1PH Tire Changer Power Up/Gravity Down	Page 108
AC-20ML	115V AC 1PH Man Lift Power Up/Gravity Down	Page 109
AC-40FC	115V AC 1ph Filter Crusher Power Extend/Gravity Return	Page 110
DC-20MH	12V DC Material Handling Solenoid Operated Power Up/Gravity Down	Page 111
DC-20ML	12V DC Man Lift Solenoid Operated Power Up/Gravity Down	Page 112
DC-24MH	24V DC Material Handling Solenoid Operated Power Up/Gravity Down	Page 113
DC-30APU	12V DC Auxiliary Power Unit Relief & Check Valve Only	Page 114
DC-70BS	12V DC Bale Spike Solenoid Operated Power Up/Power Down	Page 115
DC-80SP	12V DC Snow Plow Solenoid Operated Power Angle & Lift/Gravity Down	Page 116

* Can be assembled using standard Pick-A-Pack parts. Can be made into metric by using KN10 endhead.

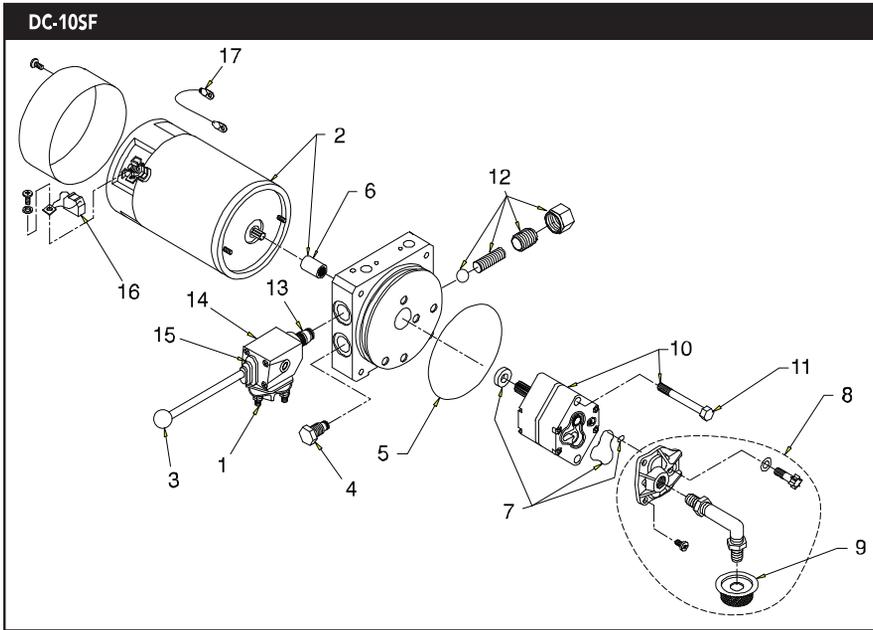
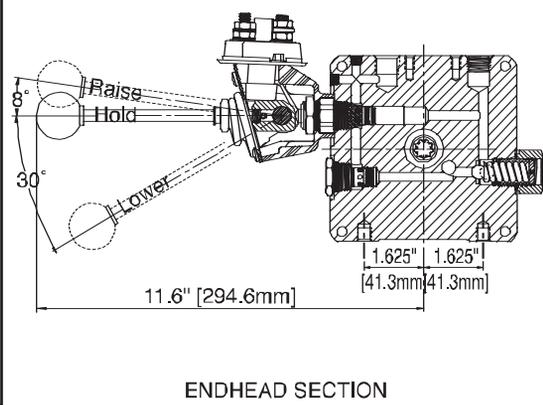
DC-10SF

12V DC MANUAL OPERATED POWER UP/GRAVITY DOWN

This unit is for power up-hold-gravity down applications. In one direction the manual handle starts unit to power up. In the other direction, the manual handle provides gravity down. In the neutral position, the unit holds steady. The unit features an adjustable relief valve, cartridge hold & lower valves, allowing for easy field service & interchangeability. A pressure compensated flow control for lower function is optional.



UNIT SPECIFICATION		HYDRAULIC CIRCUIT
Motor	12V DC 1 Terminal Std. Duty Corrosion Resistant Plate Finish	
Pump	AFC 2.0 CC/Rev. (.122 Cu. In/Rev.)	
Relief	Adj. Set At 2500 PSI (172.4 Bar)	
Endhead (KN11*)	3/8 NPTF Pressure-Return Port (2) 3/8-16 X .38 Deep Mtg. Hole	
Tank	None	
Valving	Check Valve - Manually Operated Release Valve	
Wiring	12V To Solenoid Start Switch	

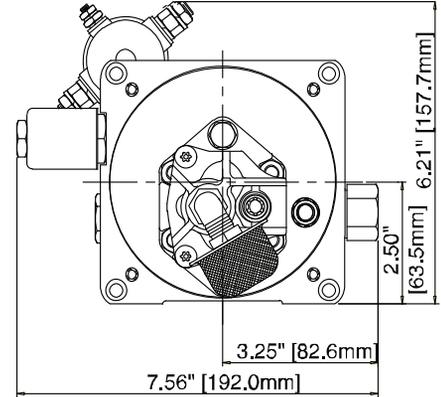
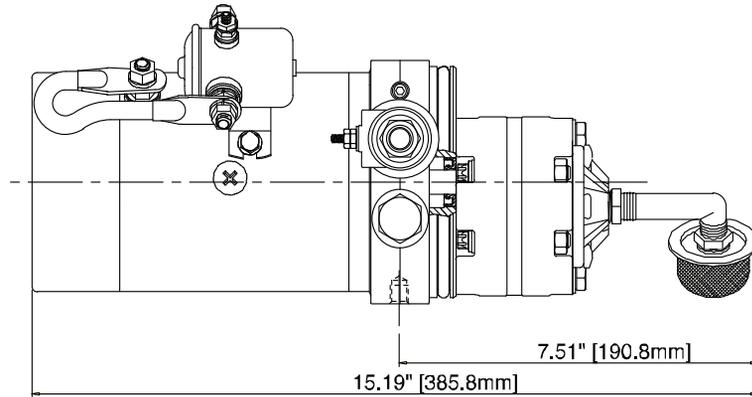


ITEM	DESCRIPTION	P/N	QTY.
1	Start Switch 12V DC	3865-AB	1
2	DC Motor 12V 1T Std Duty	KMD1	1
3	Handle Assembly	S9-1001-14	1
4	Valve Cartridge Check	2507-AA	1
5	Reservoir O-Ring	G1-1073-48	1
6	Coupling	1118-AA	1
7	Pump O-Ring Kit	K-40	1
8	Inlet Plumbing Kit	KH	1
9	Filter	1611-AA	1
10	Pump Assy.	KP20	1
11	Pump Mounting Bolt	F1-1053-00	2
12	Adj. Relief Valve Assy.	RV-2	1
13	Manual Release Valve	VF-9021	1
14	Bracket Assy. Finish	K-106	1
15	Start Switch Boot	3148-AB	1
16	Motor Brush Kit	K-90	1
17	Terminal Strap Electric	1967-AB	1

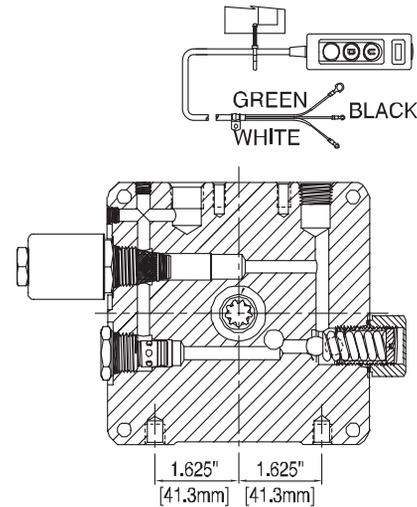
* Substitute KN10 for metric

12V DC SOLENOID OPERATED POWER UP/GRAVITY DOWN

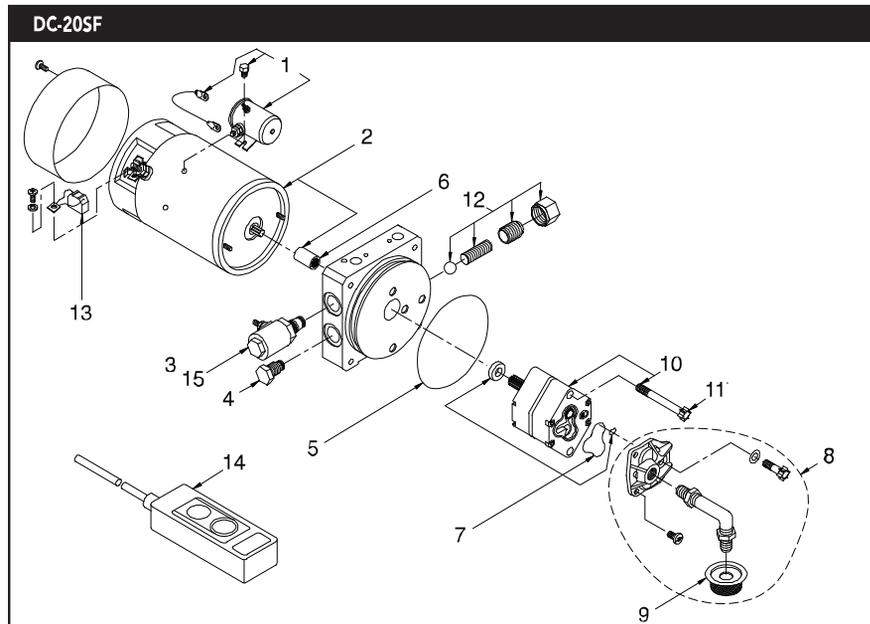
This unit is for power up-hold-gravity down applications. The remote controller allows an operator to power up & gravity down the unit. In the off position, the unit holds steady. The unit features an adjustable relief valve, cartridge hold & lower valves, allowing for easy field service & interchangeability. A pressure compensated flow control for lower function is optional.



UNIT SPECIFICATION		HYDRAULIC CIRCUIT
Motor	12V DC 1 Terminal Std. Duty Corrosion Resistant Plate Finish	
Pump	AFC 2.0 CC/Rev. (.122 Cu. In/Rev.)	
Relief	Adj. Set At 2500 PSI (172.4 Bar)	
Endhead	3/8 NPTF Pressure-ReturnPort (2) 3/8-16 X .38 Deep Mtg. Hole	
Tank	None	
Valving	Check Valve/12V DC Solenoid- Operated NC Valve	
Wiring	12V DC To Start Switch & To N.C. Valve Solenoid	



ENDHEAD SECTION

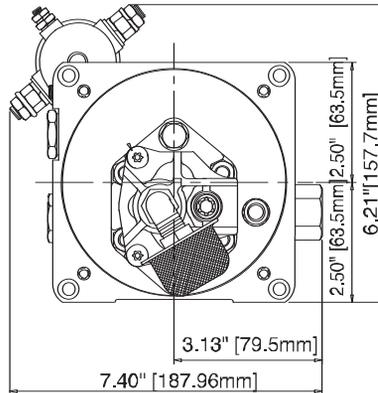
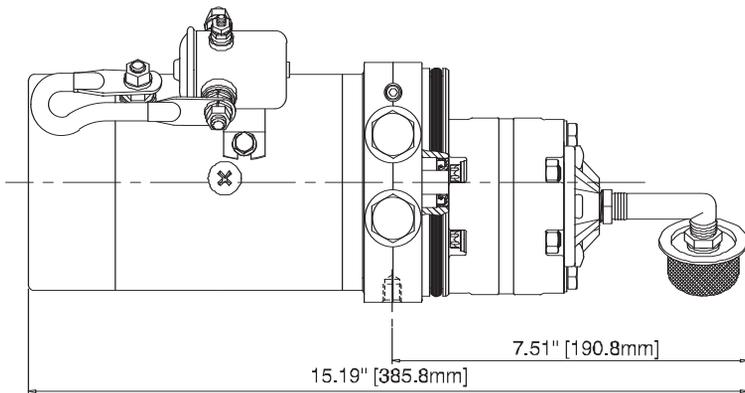


ITEM	DESCRIPTION	P/N	QTY.
1	Solenoid Starter 12V	KS1	1
2	DC Motor 12V	KMD1	1
3	Valve NC 12V DC	VF-4009	1
4	Valve Cartridge Check	2507-AA	1
5	Reservoir O-Ring	G1-1073-48	1
6	Coupling	1118-AA	1
7	Pump O-Ring Kit	K-40	1
8	Inlet Plumbing Kit	KH	1
9	Filter	1611-AA	1
10	Pump Assembly	KP20	1
11	Pump Mounting Bolt	F1-1053-00	2
12	Adj. Relief Valve Assy.	RV-2	1
13	Motor Brush Kit	K-90	1
14	Electric Switchbox	KG11	1
15	Solenoid Coil 12V DC	EF-1082	1

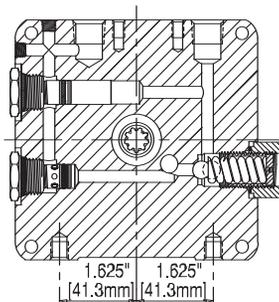
DC-30SF

12V DC CHECK & RELIEF VALVE POWER UNIT

This unit provides flow & pressure for customer specific applications. The unit can be used for power up-hold-gravity down, or power up-hold-power down applications, dependent on customer-supplied valving. Features include an adjustable relief valve & cartridge check valve.



UNIT SPECIFICATION		HYDRAULIC CIRCUIT
Motor	12V DC 1 Terminal Std. Duty Corrosion Resistant Plate Finish	
Pump	AFC 2.0 CC/Rev. (.122 Cu. In/Rev.)	
Relief	Adj. Set At 2500 PSI (172.4 Bar)	
Endhead	3/8 NPTF Pressure-Return Port (2) 3/8-16 X .38 Deep Mtg. Hole	
Tank	None	
Valving	Check Valve	
Wiring	12V To Solenoid Start Switch	



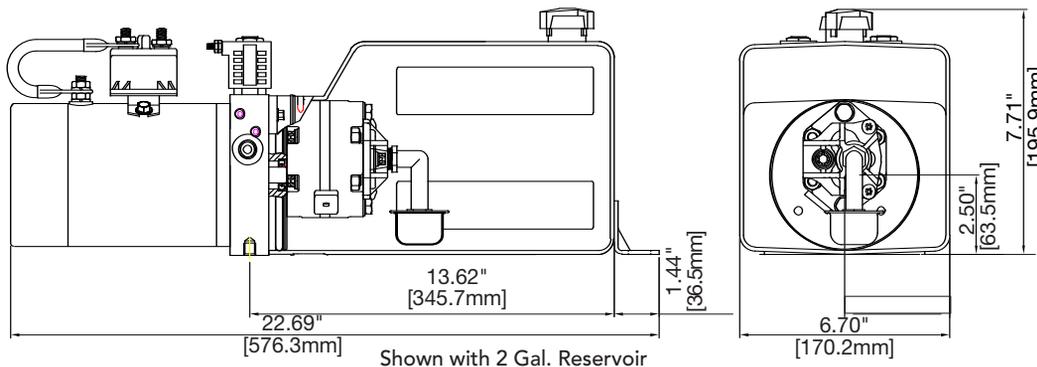
ENDHEAD SECTION

DC-30SF	ITEM	DESCRIPTION	P/N	QTY.
	1	Solenoid Starter 12V	KS1	1
	2	DC Motor 12V	KMD1	1
	3	Valve Plug Two Way	2780-BA	1
	4	Valve Cartridge Check	2507-AA	1
	5	Reservoir O-Ring	G1-1073-48	1
	6	Coupling	1118-AA	1
	7	Pump O-Ring Kit	K-40	1
	8	Inlet Plumbing Kit	KH	1
	9	Filter	1611-AA	1
	10	Pump Assy.	KP20	1
	11	Pump Mounting Bolt	F1-1053-00	2
	12	Adj. Relief Valve Assy.	RV-2	1
	13	Motor Brush Kit	K-90	1

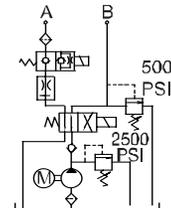
* Substitute KN10 for metric

12V DC SOLENOID OPERATED POWER UP/POWER DOWN

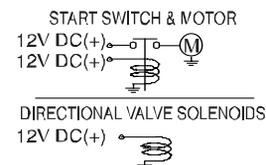
This unit is for power up-hold-power down applications. The controller (either customer-supplied or supplied with unit) will power the unit in both directions. The unit will hold load in the off position. Pressure compensated flow control allows smooth-running functions in both directions. Features include an adjustable relief valve & cartridge valves for easy field service & interchangeability.



HYDRAULIC CIRCUIT



ELECTRICAL CIRCUIT



DC-41DT		ORDERING GUIDE			
		Pump	Reservoir	Fixed Low Relief	Fixed High Relief
C	-	20	15P	5	20
Blank	No Controller	16	10P	1 = 100 PSI (6.9 Bar)	20 = 2000 PSI (137.6 Bar)
C	With Controller	20	10S	3 = 300 PSI (20.6 Bar)	25 = 2500 PSI (172 Bar)
Example listing: DC-41DTC-20-15P-5-20		25	15P	5 = 500 PSI (34.4 Bar)	30 = 3000 PSI (206.4 Bar)
Standard Features on DC-41DT family:		31	15S	8 = 800 PSI (55 Bar)	35 = 3500 PSI (240.9 Bar)
12V DC 1 Terminal Std Duty Motor		20P			
12V DC Int Duty Start Solenoid		20S			
10V DC 2P4W direction valving		Example: 25	25S	Low Relief can be set from 100 - 800 PSI	High Relief can be set from 2000 - 3500 PSI
10V DC 2P2W load hold valve		25 = 2.5 CC/Rev. (.153 Cu. In/Rev.)	30P	in increments of 100	in increments of 100
2.5 GPM Flow control		30S			
Horizontal mount plumbing SAE Ports		Example: 10P = 1 Gal. Plastic 25S = 2.5 Gal. Steel			

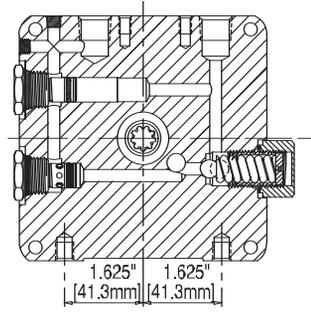
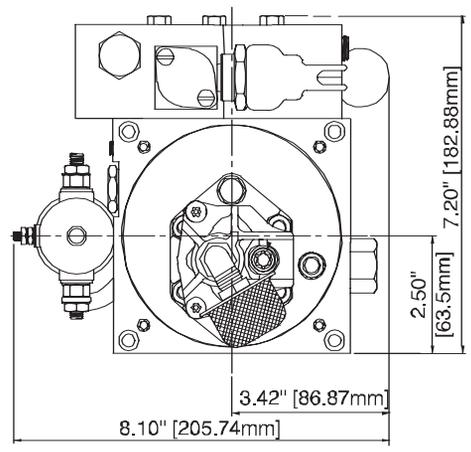
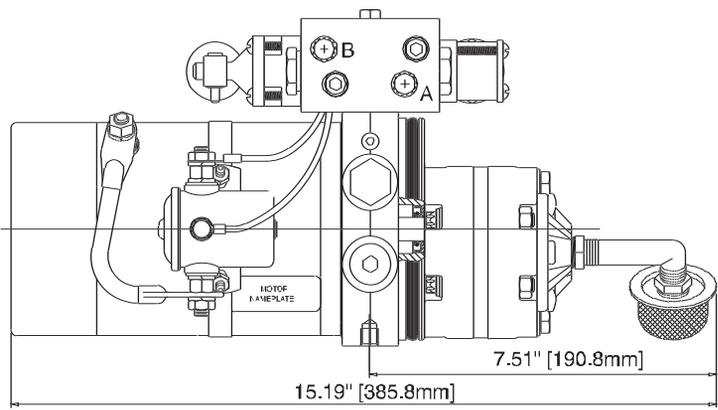
DC-41DT	ITEM	DESCRIPTION	P/N	QTY.
	1	Start Switch 12VDC	4795-AA	1
	2	DC Motor 12V	KMD1	1
	3	2P2W NC Valve	VF-4009	1
	4	Plug	T1-1019-05	2
	5	Battery Cable	1967-AB	1
	6	Low PSI Relief Kit	K-424	1
	7	Reservoir O-Ring	G1-1073-48	1
	8	Coupling	1118-AA	1
	9	Pump O-Ring Kit	K-40	1
	10	Inlet Plumbing Kit	KH	1
	11	Filter	1611-AA	1
	12 *	Pump Assy.	KP25	1
	13	Pump Mounting Bolt	F1-1053-00	2
	14 *	Reservoir	5310-AC	1
	15	Reservoir Screw	3346-AA	1
	16	Breather	8060-CC	1
	17	High PSI Relief Valve Kit	K-425	1
	18	Solenoid Coil 10VDC #8-32	EF-1142	2
	19	Motor Brush Kit	K-90	1
	20	Check Valve Kit	K-420	1
	21	Valve Body 2P4W	VF-6004	1
	22	Flow Control	FC-2.5	1
	23	Electric Switchbox †	3832-AC	1

* Will vary depending on model selection. † DC-41DTC only

DC-50SF

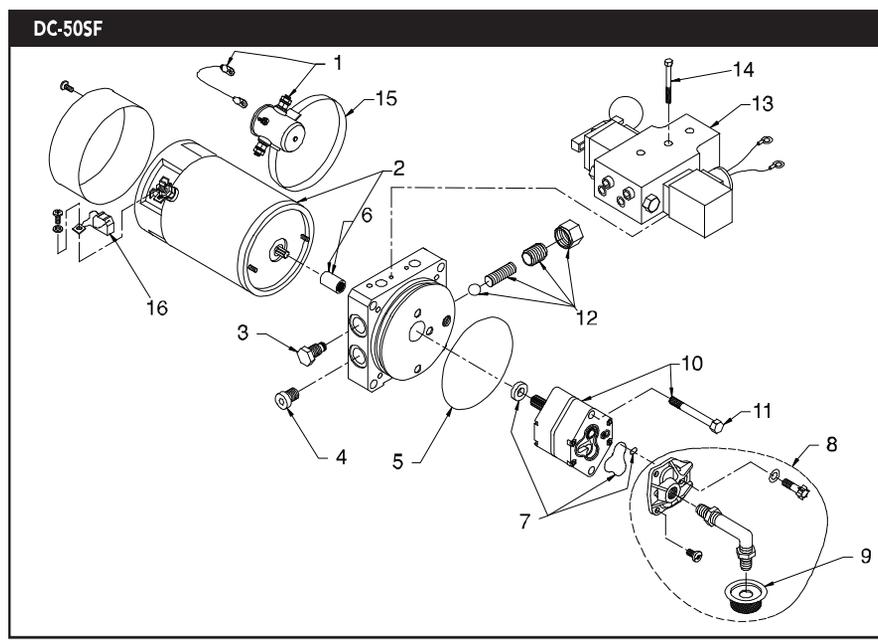
12V DC MANUAL OPERATED POWER UP/POWER DOWN

This unit is for power up-hold-power down applications. The manually operated directional valve powers the unit in both directions. In the neutral position the unit is off & holds steady. Features include an adjustable relief valve & load-holding P.O. check valve.



ENDHEAD SECTION

UNIT SPECIFICATION		HYDRAULIC CIRCUIT
Motor	12V DC 1 Terminal Std. Duty Corrosion Resistant Plate Finish	
Pump	AFC 2.0 CC/Rev. (.122 Cu. In/Rev.)	
Relief	Adj. Set At 2500 PSI (172.4 Bar)	
Endhead (KN11*)	1/4 NPTF PORTS "A" & "B" (2) 3/8-16 X .38 Deep Mtg. Hole	
Tank	None	
Valving	3P4W Manually Operated Valve W/Single PO Check Valve On Port "B"	
Wiring	12V To Solenoid Start Switch	

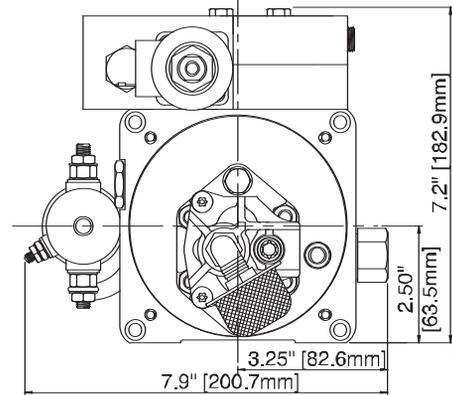
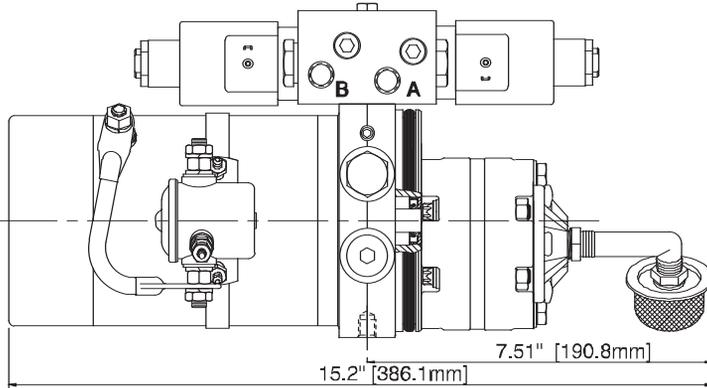


ITEM	DESCRIPTION	P/N	QTY.
1	Solenoid Starter 12V	KS1	1
2	DC Motor 12V	KMD1	1
3	Valve Plug, Two Way	2780-AA	1
4	Plug, 3/4-16 SAE	1441-AA	1
5	Reservoir O-Ring	G1-1073-48	1
6	Coupling	1118-AA	1
7	Pump O-Ring Kit	K-40	1
8	Inlet Plumbing Kit	KH	1
9	Filter	1611-AA	1
10	Pump Assy.	KP20	1
11	Pump Mounting Bolt	F1-1053-00	2
12	Adj. Relief Valve Assy.	RV-2	1
13	U-Valve 4W3P CCCP Manual	KDV3	1
14	Bolt 1/4-20X2.375 Hexhead	F2-1032-38	3
15	Solenoid Band Kit	K-105	1
16	Motor Brush Kit	K-90	1

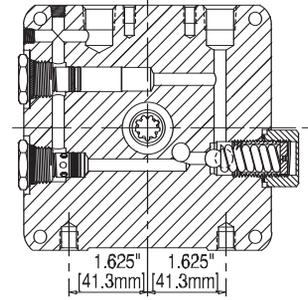
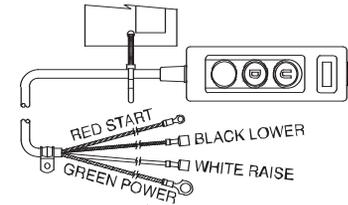
* Substitute KN10 for metric

12V DC SOLENOID OPERATED POWER UP/POWER DOWN

This unit is for power up-hold-power down applications. The controller allows an operator to power the unit in both directions. In the off position, the unit holds steady. Features include an adjustable relief valve & load-holding P.O. check valve.



UNIT SPECIFICATION		HYDRAULIC CIRCUIT
Motor	12V DC 1 Terminal Std. Duty Corrosion Resistant Plate Finish	
Pump	AFC 2.0 CC/Rev. (.122 Cu. In/Rev.)	
Relief	Adj. Set At 2500 PSI (172.4 Bar)	
Endhead (KN11*)	1/4 NPTF Ports "A" & "B" (2) 3/8-16 X .38 Deep Mtg. Hole	
Tank	None	
Valving	3P4W Solenoid Operated Valve W/Single PO Check Valve On Port "B"	
Wiring	12V DC To Start Switch & To U-Valve Solenoids	



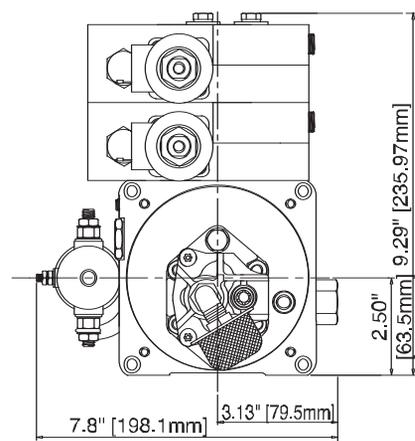
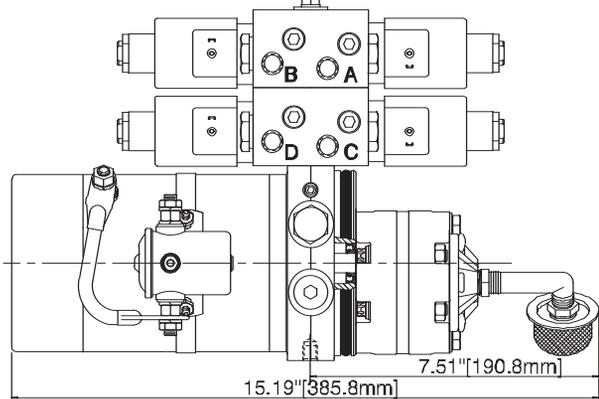
ENDHEAD SECTION

DC-60SF	ITEM	DESCRIPTION	P/N	QTY.
	1	Solenoid Starter Assy. 12V	KS1	1
	2	DC Motor 12V	KMD1	1
	3	Valve Plug, Two Way	2780-AA	1
	4	Plug, 3/4-16 SAE	1441-AA	1
	5	Reservoir O-Ring	G1-1073-48	1
	6	Coupling	1118-AA	1
	7	Pump O-Ring Kit	K-40	1
	8	Inlet Plumbing Kit	KH	1
	9	Filter	1611-AA	1
	10	Pump Assy.	KP20	1
	11	Pump Mounting Bolt	F1-1053-00**	2
	12	Adj. Relief Valve Assy.	RV-2	1
	13	U-Valve 4W3P CCCP	KDV4	1
	14	Bolt 1/4-20X2.375 Hexhead	F1-1032-50	3
	15	Solenoid Assy. DC	E1-4005-12	2
	16	Solenoid Band Kit	K-105	1
	17	Motor Brush Kit	K-90	1
	18	Electric Switchbox	KG13	1
		U-Valve O-Ring Kit	K-42	1

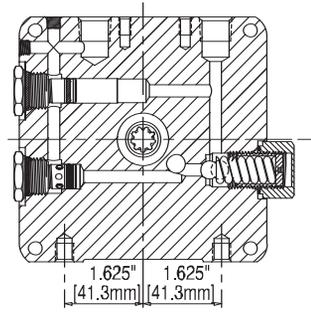
DC-62SF

12V DC SOLENOID OPERATED DUAL POWER UP/POWER DOWN

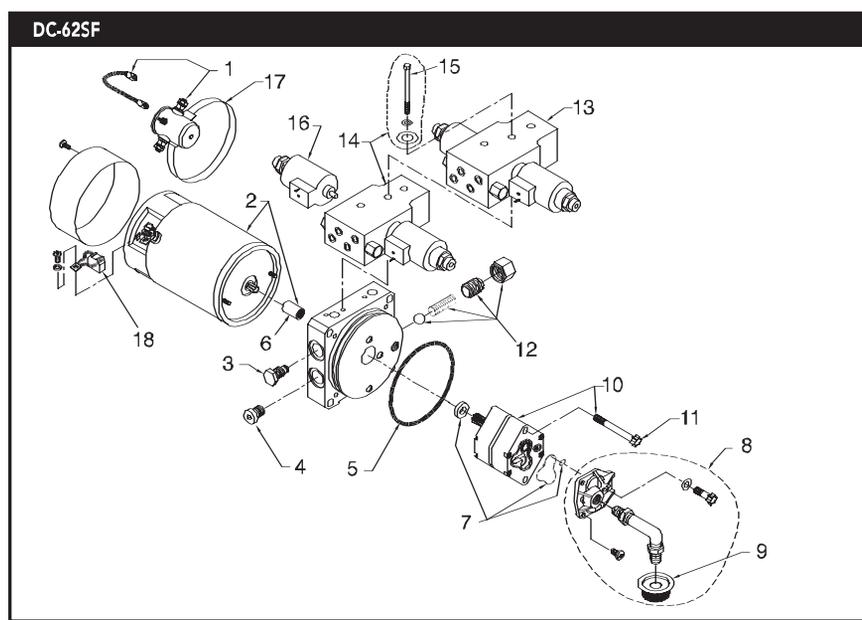
This unit is for dual power up-hold-power down applications. The customer-supplied controller will power the unit in both directions. In the off position, the unit holds steady. Directional valves run independently of each other, allowing for two separate system functions. Features include an adjustable relief valve & load-holding P.O. check valve.



UNIT SPECIFICATION		HYDRAULIC CIRCUIT
Motor	12V DC 1 Terminal Std. Duty Corrosion Resistant Plate Finish	
Pump	AFC 2.0 CC/Rev. (.122 Cu. In/Rev.)	
Relief	Adj. Set At 2500 PSI (172.4 Bar)	
Endhead (KN11*)	1/4 NPTF Ports "A", "B", "C" & "D", (2) 3/8-16 X .38 Deep Mtg. Hole	
Tank	None	
Valving	(2) 3P4W Solenoid Operated Valve W/P.O. Check Valves On Port "B" & "D"	
Wiring	12V To Solenoid Start Switch & To U-Valve Solenoids	



ENDHEAD SECTION

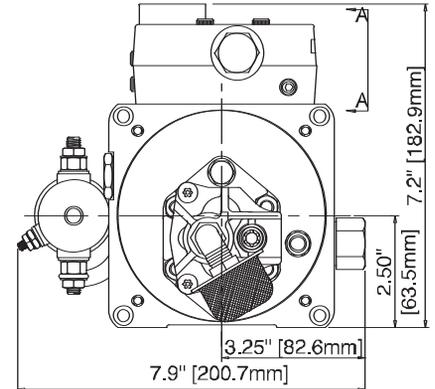
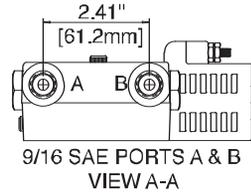
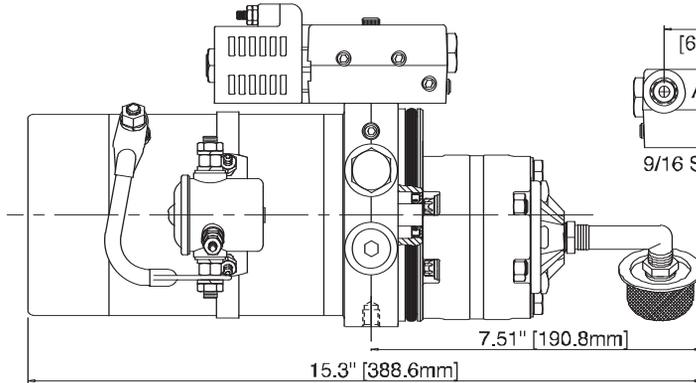


ITEM	DESCRIPTION	P/N	QTY.
1	Solenoid Starter 12V	KS1	1
2	DC Motor 12V	KMD1	1
3	Valve Plug, Two Way	2780-AA	1
4	Plug, 3/4-16 SAE	1441-AA	1
5	Reservoir O-Ring	G1-1073-48	1
6	Coupling	1118-AA	1
7	Pump O-Ring Kit	K-40	1
8	Inlet Plumbing Kit	KH	1
9	Filter	1611-AA	1
10	Pump Assy.	KP20	1
11	Pump Mounting Bolt	F1-1053-00	2
12	Adj. Relief Valve Assy.	RV-2	1
13	U-Valve 4W3P CCCP	KDV4	1
14	U-Valve 4W3P CCCP 12V Bot.	KDV1	1
15	Bolt 1/4-20X2.375 Hexhead	F1-1034-50	3
16	Solenoid Assy DC	E1-4005-12	4
17	Solenoid Band Kit	K-105	1
18	Motor Brush Kit	K-90	1
	U-Valve O-Ring Kit	K-42	1

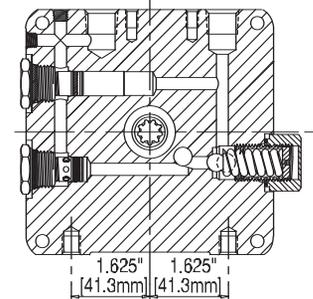
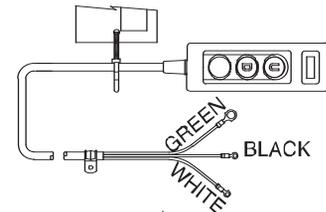
* Substitute KN10 for metric

12V DC SOLENOID OPERATED POWER UP/POWER DOWN

This unit is for power up-hold-power down applications. The controller allows an operator to power the unit in both directions. In the off position, the unit holds steady. Features include an adjustable relief valve & load-holding P.O. check valves. A cartridge directional valve is also included, for easy field service & interchangeability.



UNIT SPECIFICATION		HYDRAULIC CIRCUIT
Motor	12V DC 1 Terminal Std. Duty Corrosion Resistant Plate Finish	
Pump	AFC 2.0 CC/Rev. (.122 Cu. In/Rev.)	
Relief	Adj. Set At 2500 PSI (172.4 Bar)	
Endhead (KN11*)	9/16 SAE Ports "A" & "B" (On Valve), (2) 3/8-16 X .38 Deep Mtg. Hole	
Tank	None	
Valving	2P4W Solenoid Operated Cartridge Valve W/Double PO Checks	
Wiring	12V DC To Start Switch & To A-Valve Coil	



ENDHEAD SECTION

DC-70SF		ITEM	DESCRIPTION	P/N	QTY.
		1	Solenoid Starter 12V	KS1	1
		2	DC Motor 12V	KMD1	1
		3	Valve Plug, Two Way	2780-AA	1
		4	Plug 3/4-16 SAE	1441-AA	1
		5	Reservoir O-Ring	G1-1073-48	1
		6	Coupling	1118-AA	1
		7	Pump O-Ring Kit	K-40	1
		8	Inlet Plumbing Kit	KH	1
		9	Filter	1611-AA	1
		10	Pump Assy.	KP20	1
		11	Pump Mounting Bolt	F1-1053-00**	2
		12	Adj. Relief Valve Assy.	RV-2	1
		13	Valve Manifold Assy.	KCV1	1
		14	Capscrew Skt Hd 1/4-20x 2.0	5037-AA	2
		15	12V DC 2P4W Valve	E1-1021-00	1
		16	Solenoid Band Kit	K-105	1
		17	Motor Brush Kit	K-90	1
		18	U-Valve O-Ring Kit	K-42	1
		19	Switch Box Handset	KG12	1

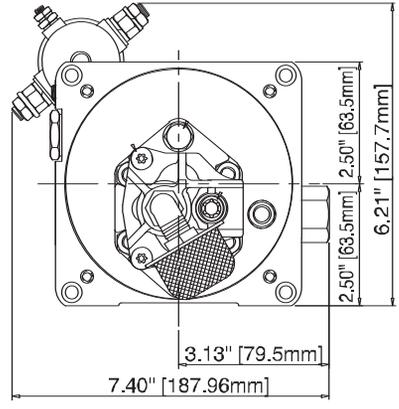
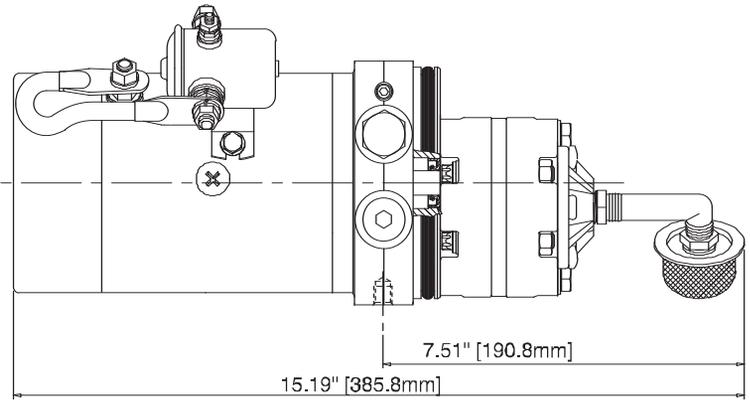
* Substitute KN10 for metric

** Older Endheads May Use M8 (Metric) Bolts Stone P/N 2825-AA

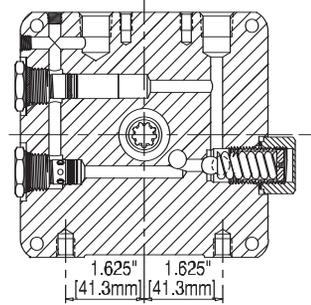
DC-90SF

12V DC RELIEF VALVE ONLY

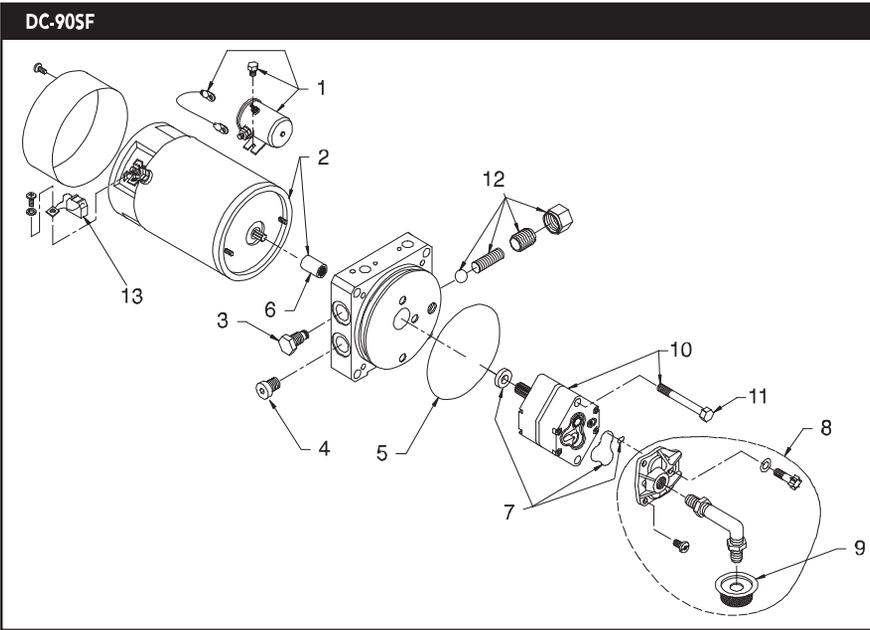
This unit provides flow & pressure for customer specific applications. The unit can be used on double acting applications. Features include an adjustable relief valve.



UNIT SPECIFICATION		HYDRAULIC CIRCUIT
Motor	12V DC 1 Terminal Std. Duty Corrosion Resistant Plate Finish	
Pump	AFC 2.0 CC/Rev. (.122 Cu. In/Rev.)	
Relief	Adj. Set At 2500 PSI (172.4 Bar)	
Endhead (KN11*)	3/8 NPTF Pressure & Return Ports (2) 3/8-16 X .38 Deep Mtg. Hole	
Tank	None	
Valving	Adj. Relief Valve	
Wiring	12V To Solenoid Start Switch	



ENDHEAD SECTION

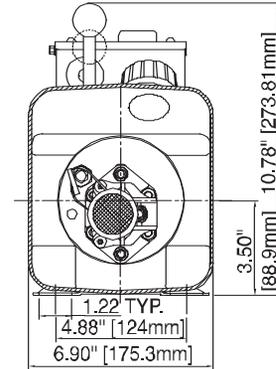
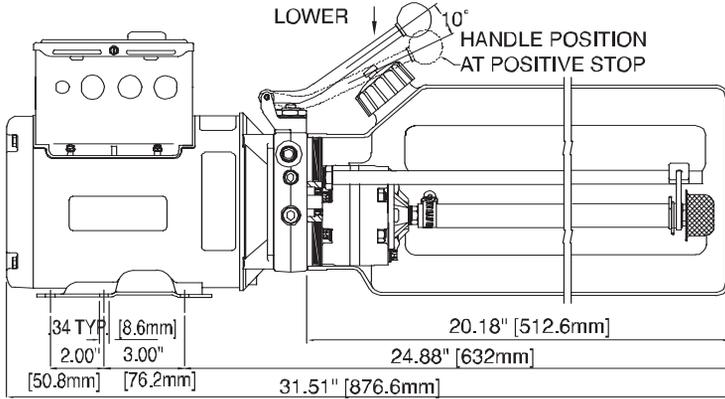


ITEM	DESCRIPTION	P/N	QTY.
1	Solenoid Starter 12V	KS1	1
2	DC Motor 12V	KMD1	1
3	Valve Plug, Two Way	2780-AA	1
4	Plug, 3/4-16 SAE	1441-AA	1
5	Reservoir O-Ring	G1-1073-48	1
6	Coupling	1118-AA	1
7	Pump O-Ring Kit	K-40	1
8	Inlet Plumbing Kit	KH	1
9	Filter	1611-AA	1
10	Pump Assy.	KP20	1
11	Pump Mounting Bolt	F1-1053-00	2
12	Adj. Relief Valve Assy.	RV-2	1
13	Motor Brush Kit	K-90	1

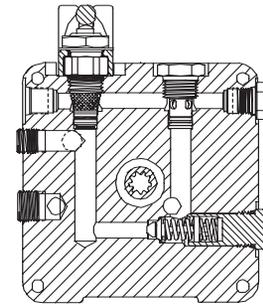
* Substitute KN10 for metric

230V AC 1PH AUTO HOIST 2-POST LIFT POWER UP/GRAVITY DOWN

This unit is for raise-hold-lower of the lift, with manual control of the lowering speed. A push-button starts the motor to raise the lift. The unit features a fixed relief valve. Cartridge valves are used, allowing easy field service & interchangeability.



UNIT SPECIFICATION		HYDRAULIC CIRCUIT
Motor	208-230V AC 3450 RPM 1PH 60 Hz.	
Pump	AFC 2.0 CC/Rev. (.122 Cu. In/Rev.)	
Relief	Fixed At 2750 PSI (191 Bar) Nominal	
Endhead	9/16-18 SAE Pressure-Return Port 3/8 NPTF Aux. Return Port (Plugged)	ELECTRICAL CIRCUIT COMMON RAISE-N.O.
Tank	4.0 U.S. Gallon Vertical Tank Down Mtg. 700 Cu. In. Useable	
Valving	Manual Release Valve (Cartridge-Style) Check Valve (Cartridge-Style)	
Wiring	230V AC To Motor Momentary "On" Switch	



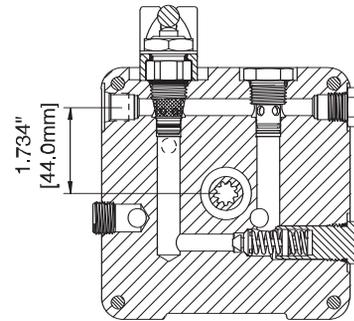
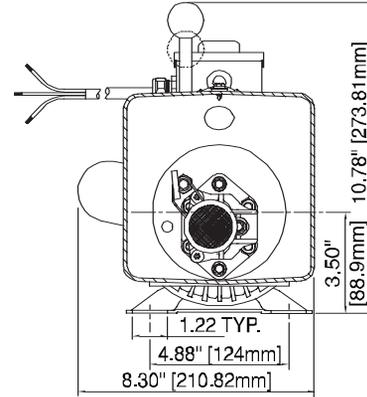
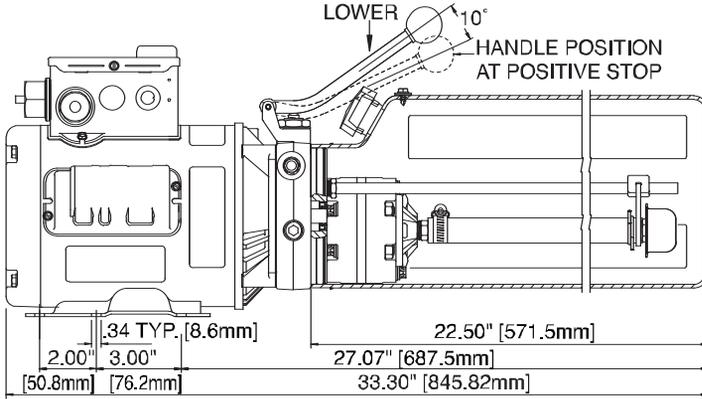
ENDHEAD SECTION

AC-10AH	ITEM	DESCRIPTION	P/N	QTY.
	1	Wiring Assy.	W-400-230	1
	2	AC Motor 208-230V 1PH	4763-AC	1
	3	M6X1.0 - 35mm SHCS	3009-AA	4
	4	Hi-Collar Lockwasher	3020-AA	4
	5	Coupling	1118-AA	1
	6	Manual Release Assy.	K-100	1
	7	Manual Release Valve	VF-9021	1
	8	Valve Cartridge Check	2507-AA	1
	9	Fixed Relief Valve	RV-19	1
	10	Relief Valve Cap	3729-AA	1
	11	Reservoir O-Ring	G1-1073-48	1
	12	Pump Assy.	KP20	1
	13	Pump Mounting Bolt	1112-AA	2
	14	Inlet Plumbing Kit	K-230	1
	15	Filter	1611-AA	1
	16	Pump O-Ring Kit	K-40	1
	17	Return Tube	5118-AA	1
	18	Breather	260185	1
	19	Reservoir	5141-AC	1
	20	Reservoir Screw	3346-AA	4
	21	Compression Tube Nut	5115-AA	1
	22	Compression Sleeve	5116-AA	1
	23	Plug Pipe 3/8 NPT	1456-AA	1
	24	Plumbing Plug	1170-AA	1
	25	Spring	4475-AA	1
	26	Plug 1/4 NPT	1215-AA	1

AC-10KS

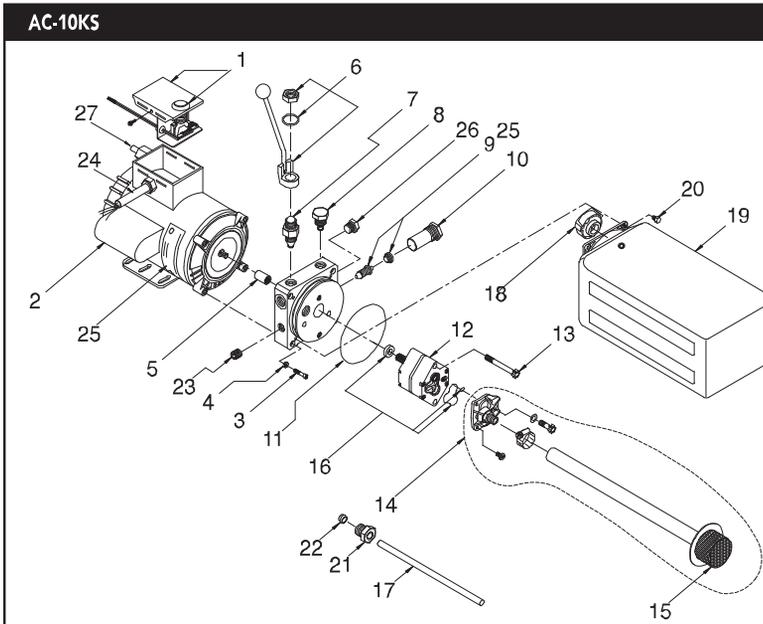
230V AC 1PH AUTO HOIST 2-POST LIFT WITH KILL SWITCH POWER UP/GRAVITY DOWN

This unit is for raise-hold-lower of the lift, with manual control of the lowering speed. A push-button starts the motor to raise the lift. The unit features a fixed relief valve. Cartridge valves are used, allowing easy field service & interchangeability.



ENDHEAD SECTION

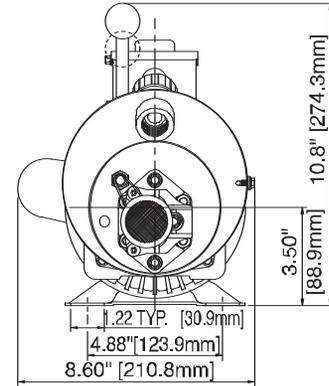
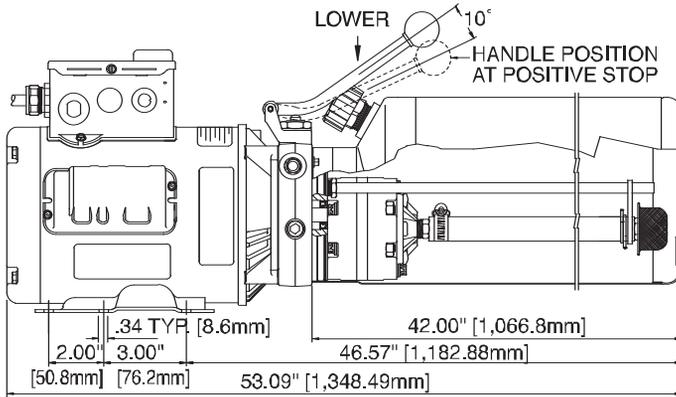
UNIT SPECIFICATION		HYDRAULIC CIRCUIT
Motor	208-230V AC 3450 RPM 1PH 60 Hz.	
Test	Dielectric Std. 2.16.15	
Pump	AFC 2.0 CC/Rev. (.122 Cu. In/Rev.)	
Relief	Fixed At 2750 PSI Nominal	
Endhead	3/8 NPT Aux. Port (Plugged), 9/16 SAE Pressure-Return Port	
Tank	Plastic 4.0 Gallon Vert. Tank Down Mtg. 700 Cu. In. Useable + Reserve & Vent Screw	
		ELECTRICAL CIRCUIT
Valving	Check Valve (Cartridge Style) Manual Release Valve (Cartridge Style)	
Wiring	230V AC Directly To Motor Momentary On & Pull-Type Actuating Sealed Limit Switch	



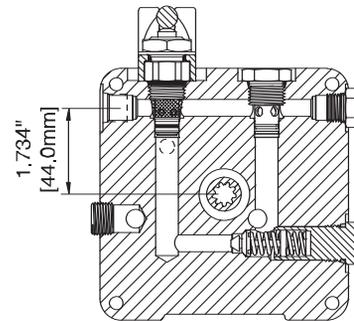
ITEM	DESCRIPTION	P/N	QTY.
1	Wiring Assy.	W-200	1
2	AC Motor 208-230V 1PH	4763-AC	1
3	M6X1.0 - 35mm SHCS	3009-AA	4
4	Hi-Collar Lockwasher	3020-AA	4
5	Coupling	1118-AA	1
6	Manual Release Assy.	K-100	1
7	Manual Release Valve	VF-9021	1
8	Valve Cartridge Check	2507-AA	1
9	Fixed Relief Valve	RV-19	1
10	Relief Valve Cap	3729-AA	1
11	Reservoir O-Ring	G1-1073-48	1
12	Pump Assy.	KP20	1
13	Pump Mounting Bolt	1112-AA	2
14	Inlet Plumbing Kit	K-230	1
15	Inlet Hose/Filter Assy.	3382-AA	1
16	Pump O-Ring Kit	K-40	1
17	Return Tube	4536-AA	1
18	Breather	3437-AA	1
19	Reservoir	3899-AC	1
20	Reservoir Screw	3346-AA	4
21	Compression Tube Nut	816-217	1
22	Compression Sleeve	816-218	1
23	Plug Pipe 3/8 NPT	1456-AA	1
24	Cord Set SJO 14/3	3080-AB	1
25	Spring	4475-AA	1
26	Plumbing Plug	1170-AA	1
27	Limit Switch Assy.	4043-AA	1

230V AC 1PH AUTO HOIST 4-POST LIFT POWER UP/GRAVITY DOWN

This unit is for raise-hold-lower of the lift, with manual control of the lowering speed. A push-button starts the motor to raise the lift. The unit features a fixed relief valve. Cartridge valves are used, allowing easy field service & interchangeability.



UNIT SPECIFICATION		HYDRAULIC CIRCUIT
Motor	208-230V AC 3450 RPM 1PH 60 Hz	
Test	Dielectric Std. 2.16.15	
Pump	AFC 3.1 CC/Rev. (.189 Cu. In/Rev.)	
Relief	Fixed At 2450 PSI Nominal	
Endhead	3/8 NPT Aux. Port (Plugged), 9/16 SAE Pressure-Return Port	
Tank	Steel 6.3 Gallon Vert. Tank Down Mtg. 1200 Cu. In. Useable + Reserve & Vent Screw	ELECTRICAL CIRCUIT
Valving	Check Valve (Cartridge Style) Manual Release Valve (Cartridge Style)	
Wiring	230V AC Directly To Motor	<p>GREEN BLACK WHITE</p> <p>T4 T1 (M)</p>



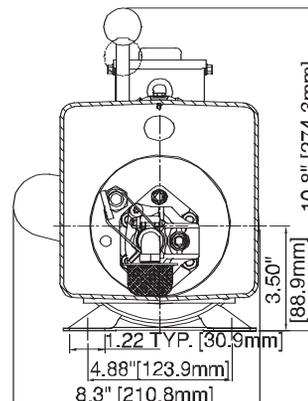
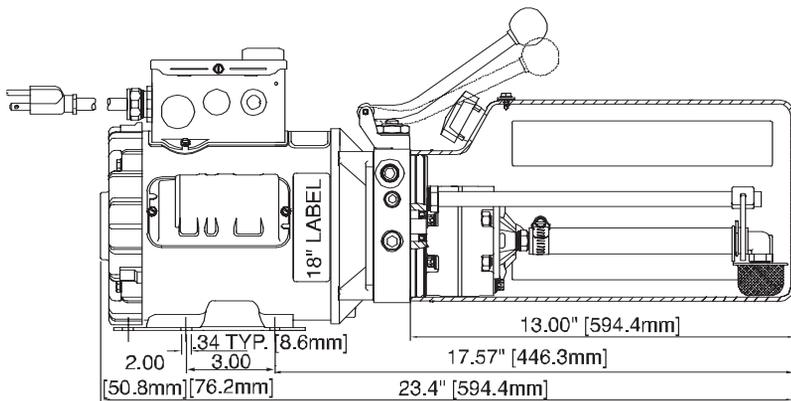
ENDHEAD SECTION

AC-10FP	ITEM	DESCRIPTION	P/N	QTY.
	1	Wiring Assy.	W-200-230	1
	2	AC Motor 208-230V 1PH	4350-AC	1
	3	M6X1.0 - 35mm SHCS	3009-AA	4
	4	Hi-Collar Lockwasher	3020-AA	4
	5	Coupling	1118-AA	1
	6	Manual Release Assy.	K-100	1
	7	Manual Release Valve	VF-9021	1
	8	Valve Cartridge Check	2507-AA	1
	9	Fixed Relief Valve	RV-17	1
	10	Relief Valve Cap	3729-AA	1
	11	Reservoir O-Ring	G1-1073-48	1
	12	Pump Assembly	KP31	1
	13	Pump Mounting Bol:	F1-1053-00	2
	14	Inlet: Plumbing Ki:	K-328	1
	15	Filter	1611-AA	1
	16	Pump O-Ring Ki:	K-40	1
	17	Return Hose	5214-AA	1
	18	Breather	1683-AB	1
	19	Reservoir	R1-6000-11	1
	20	Reservoir Screw	F2-1170-31	4
	21	Plumbing Plug	1456-AA	1
	22	Return Tube Fitting	5115-AA	1
	23	Return Tube Sleeve	5116-AA	1
	24	Plumbing Plug	1170-AA	1
	25	Cordset SJO 14/3	3080-AB	1
	26	Spring	4475-AA	1
	27	Plumbing Plug	1215-AA	1
	28	Washer	1261-BA	2

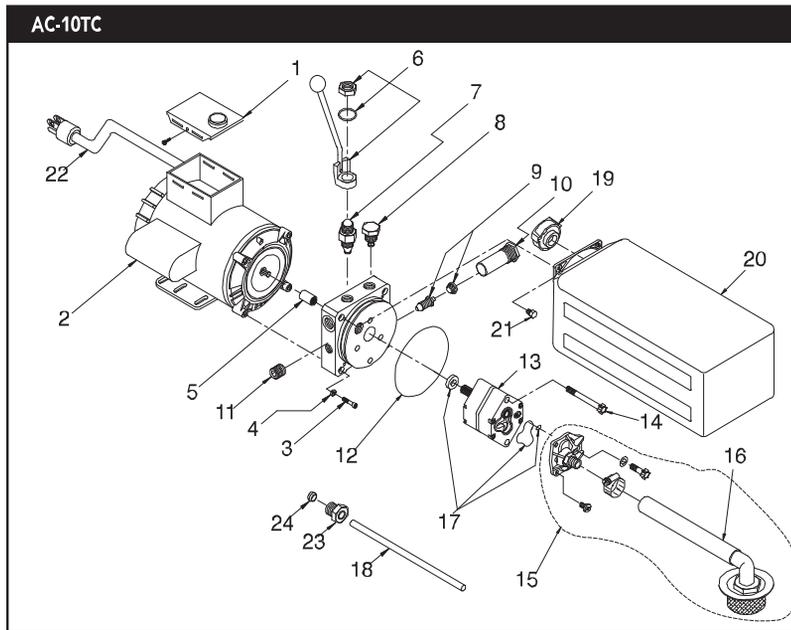
AC-10TC

115V AC 1PH TIRE CHANGER POWER UP/GRAVITY DOWN

Designed for smaller, low-rise auto hoists & can be mounted either horizontally or vertically. 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 finger-tip control of lowering speed.



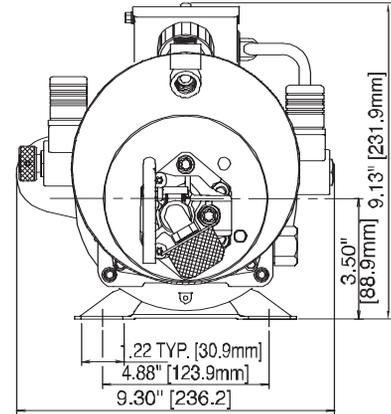
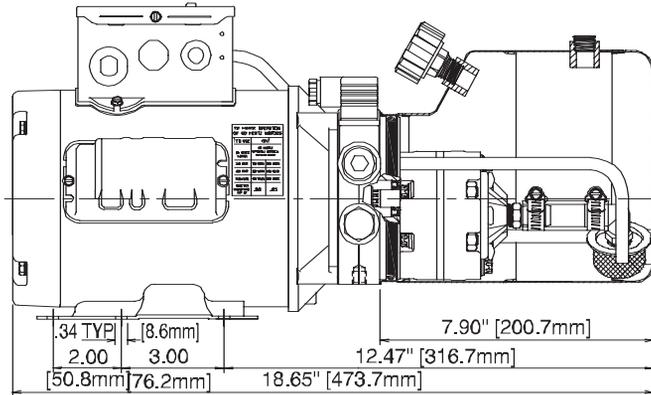
UNIT SPECIFICATION		HYDRAULIC CIRCUIT
Motor	115V AC 3450 RPM 1PH 60 Hz. 3/4 HP Int. Duty	
Test	Motor/Switch Dielectric Tested	
Pump	AFC 0.8 C.C./Rev. (.049 Cu. In/Rev.)	ELECTRICAL CIRCUIT
Relief	Fixed At 2300 SI Nominal	
Endhead	9/16-18 SAE Pressure-Return Port	ENDHEAD SECTION
Tank	Black Plastic 6.5 Qt. Horz. Or Vert. (Tank Down) Mtg. (370 Cu. In. Useable) W/Breather-Fill Port	
Valving	Check Valve (Cartridge Style) Manual Release Valve (Cartridge Style)	
Wiring	115V AC Directly To Motor Momentary On Switch/8 Ft. 16/3 SJO Cordset	



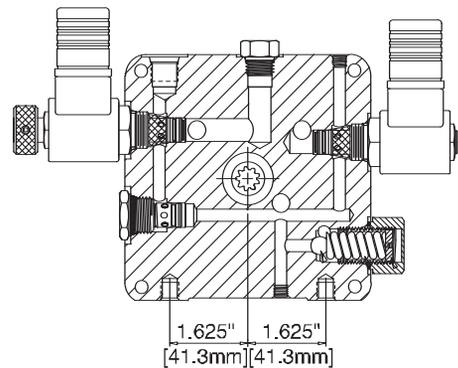
ITEM	DESCRIPTION	P/N	QTY.
1	Wiring Assy.	W-200-115	1
2	AC Motor 115/230V 1PH	2252-BC	1
3	M6X1.0 - 35mm Shcs	3009-AA	4
4	Hi-Collar Lockwasher	3020-AA	4
5	Coupling	1118-AA	1
6	Manual Release Assy.	K-100	1
7	Manual Release Valve	VF-9021	1
8	Valve Cartridge Check	2507-AA	1
9	Fixed Relief Valve	RV-17	1
10	Relief Valve Cap	3729-AA	1
11	Plug Pipe 3/8 NPT	1456-AA	1
12	Reservoir O-Ring	G1-1073-48	1
13	Pump Assy.	KP08	1
14	Pump Mounting Bolt	1111-AA	2
15	Inlet Plumbing Kit	K-108	1
16	Inlet Hose/Filter Assy.	2634-AA	1
17	Pump O-Ring Kit	K-40	1
18	Return Tube	5203-AA	1
19	Breather	3437-AA	1
20	Reservoir	3915-AC	1
21	Reservoir Screw	3346-AA	4
22	Cordset SO 16/3	5148-AB	1
23	Compression Tube Nut	5115-AA	1
24	Compression Sleeve	5116-AA	1

115V AC 1PH MAN LIFT POWER UP/GRAVITY DOWN

Designed for use on 115V AC operated, elevated work platforms using a raise-hold & gravity lower circuit.
Includes: • Normally open valve to protect operators from run-on • Manual override to allow the platform to be lowered in case of power failure • Electronic load delay for reliable operation in degraded voltage areas.



UNIT SPECIFICATION		HYDRAULIC CIRCUIT
Motor	115V AC 1 HP 3450 RPM 50/60 Hz. 1PH 56FR Int. Duty Tenv. Cwde. Rotation	
Pump	AFC 1.0 CC/Rev. (.061 Cu. In/rev.)	
Relief	Adj. Set At 2500 PSI (172.4 Bar)	
Endhead	9/16-18 SAE Pressure-Return Port 9/16-18 SAE Aux. Return Port (Plugged)	
Tank	1.0 U.S. Gallon Horiz.-Vert. Mtg. Steel Tank W/ 3/8 NPSC Breather-Fill Port	
Valving	Check Valve/115V AC N.O. 2-Way Valve/115V AC N.C. Valve W/Manual Override 115V AC To Motor/Electronic Time Delay	ELECTRICAL CIRCUIT
Wiring	Delay Wired To Motor & NO Valve Coil	<p>115 VOLT A.C. POWER SUPPLY</p>



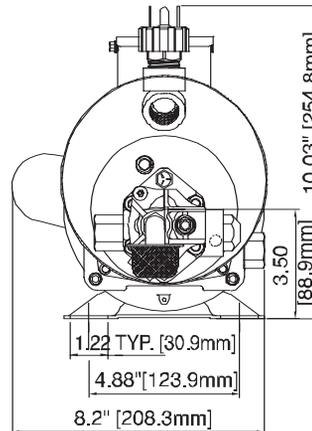
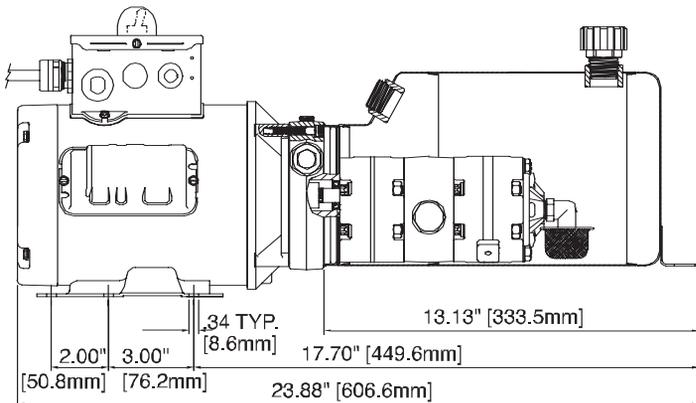
ENDHEAD SECTION

AC-20ML		ITEM	DESCRIPTION	P/N	QTY.
		1	Timer Delay Assy.	S6-2000-51	1
		2	AC Motor 115/230V 50/60Hz	2781-BC	1
		3	M6X1.0 - 35mm Shcs	3009-AA	4
		4	Hi-Collar Lockwasher	3020-AA	4
		5	Coupling	1118-AA	1
		6	Valve Body, NC	VF-4010	1
		7	Valve Cartridge Check	2507-AA	1
		8	Reservoir O-Ring	G1-1073-48	1
		9	Pump O-Ring Kit	K-40	1
		10	Return Tube	T2-1006-70	1
		11	Return Tube	T2-1006-97	1
		12	Inlet Plumbing Kit	KV	1
		13	Inlet Hose/Filter Assy.	2979-AA	1
		14	Pump Assy.	KP10	1
		15	Pump Mounting Bolt	1111-AA	2
		16	Reservoir	KR40	1
		17	Reservoir Screw	F2-1170-31	4
		18	Adj. Relief Valve Assy.	RV-2	1
		19	Breather	1214-AA	1
		20	Plug Pipe 3/8 NPT	1456-AA	1
		21	Hirschmann Connector	E0-1003-00	1
		22	Valve Body, NO	VF-4011	1
		23	Solenoid Coil, 115V AC	EF-1092	2
		24	Cordset W/Hirschman Conn.	S6-2400-00	1
		25	Plumbing Plug 9/16 SAE	1170-AA	1
		26	Filter	1611-AA	1

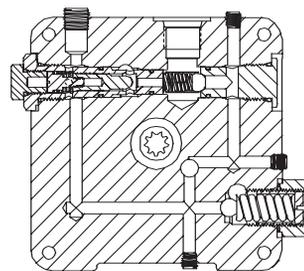
AC-40FC

115V AC 1PH FILTER CRUSHER POWER EXTEND/GRAVITY RETURN

Incorporates a high-low pump for maximum output of oil for a fast extension of the cylinder, as well as high pressure/low volume flow for the work portion of the cycle. Use with single-acting spring return cylinder.



UNIT SPECIFICATION		HYDRAULIC CIRCUIT	
Motor	115V AC, 1 HP, 3450 RPM, 1 PH, 60Hz, Tenv		
Pump	A.F.C. 0.8 & 2.0 CC/Rev. Duplex W/Unload Set At 60 Bar (900 PSI)		
Relief	Adj. Set At 4000 PSI (275.9 Bar)	<th>ELECTRICAL CIRCUIT</th>	ELECTRICAL CIRCUIT
Endhead	3/4-16 SAE Pressure-Return Port (2) 3/8-16 Tap X .50 Deep Mtg. Hole		
Tank	6 Qt. Horiz. Mounting Steel Tank W/ 3/8 NPT Breather-Filler Port		
Valving	Relief, Check & Pilot Operated Normally Open Shuttle Valve		
Wiring	Momentary On Switch 8 Ft. 115V Cord		

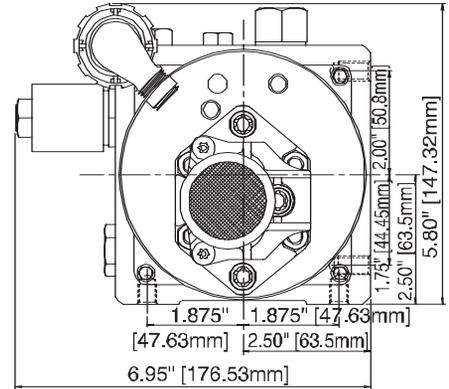
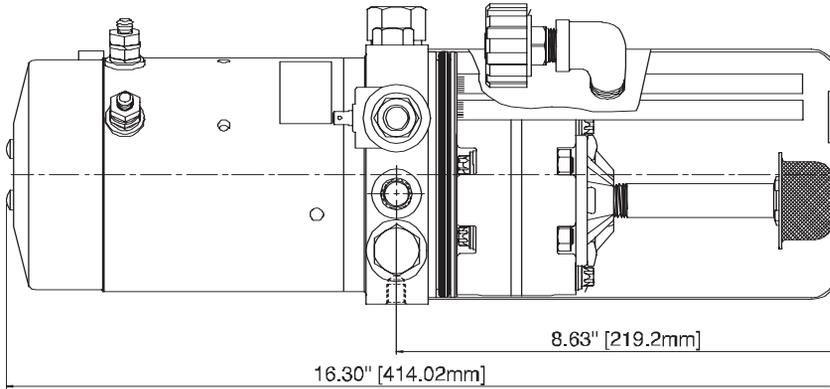


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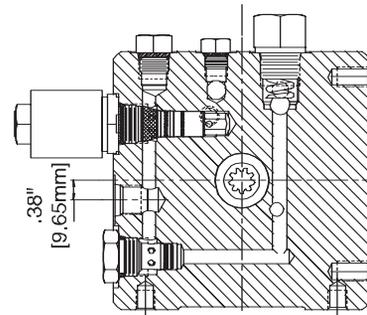
AC-40FC	ITEM	DESCRIPTION	P/N	QTY.
	1	Electric Switch Assy.	S6-2000-96	1
	2	Cord Assy.	E4-1005-54	1
	3	AC Motor 115/230V 50/60Hz.	2781-BC	1
	4	M6 x 1.0 - 35MM SHCS	3009-AA	4
	5	Hi-Collar Lockwasher	3020-AA	4
	6	Coupling	1118-AA	1
	7	Shuttle Valve Assy.	S3-1025-08	1
	8	Reservoir O-Ring	G1-1073-48	1
	9	Washer	1261-BA	2
	10	Bolt 5/16-24 x 7.00" Hex	F1-1057-00	2
	11	Pump O-Ring Kit	K-40	2
	12	Pump Assy.	KP08	1
	13	Pump Assy.	KP20	1
	14	Unload Assy.	U-06	1
	15	Reservoir	KR41	1
	16	Reservoir Screw	F2-1170-31	4
	17	Adj. Relief Valve Assy.	RV-2	1
	18	Breather	1683-AB	1
	19	Valve Assy. Check N3	2289-AA	1
	20	Spring & Ball	S1-1008-03	1
	21	Spring Retainer	W6-1001-02	1
	22	Plug 1/4 NPT	1215-AA	1
	23	Inlet Plumbing Kit	K-233	1
	24	Filter	1611-AA	1
	25	Plug 3/4 NPT	1896-AA	1

12V DC MATERIAL HANDLING SOLENOID OPERATED POWER UP/GRAVITY DOWN

Designed for low-lift pallet trucks. The units have a 3-way circuit for raise-hold-lower functions & are used with a single acting cylinder. This unit is plumbed for vertical mounting & is interchangeable with other manufacturer's power packs.



UNIT SPECIFICATION		HYDRAULIC CIRCUIT
Motor	12V DC 2 Terminal Std. Duty Corrosion Resistant Plate Finish	
Pump	AFC 1.6 CC/Rev. (.098 Cu. In/Rev.) CCW Rotation, Mesh Inlet Filter	
Relief	Adj. Relief At 2500 PSI	
Endhead	9/16-18 SAE Pressure-Return Port (4) 3/8-16 X .38 Deep Mtg. Hole	
Tank	2 Qt. Vert. Mtg. Steel Tank W/3/8 NPT Breather-Fill Port	
Valving	Check Valve/12V DC Solenoid Oper. NC Valve/Pressure-Compensated Flow Control Valve	
Wiring	12V DC To Motor Terminal 12V DC To NC Valve Solenoid	



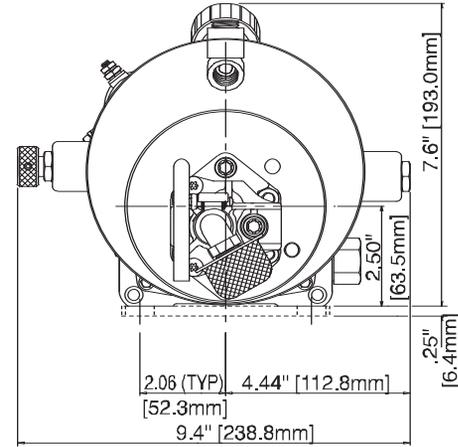
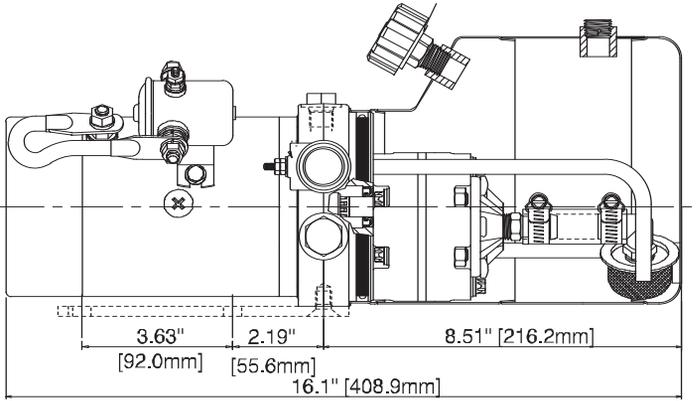
ENDHEAD SECTION

DC-20MH	ITEM	DESCRIPTION	P/N	QTY.
	1	Plug	1170-AA	1
	2	DC Motor 12V Std	KMD2	1
	3	Valve, NC 12V DC	EF-1081&VF-4009	1
	4	Valve Cartridge Check	2507-AA	1
	5	Reservoir O-Ring	G1-1073-48	1
	6	Coupling	1118-AA	1
	7	Pump O-Ring Kit	K-40	1
	8	Inlet Plumbing Kit	K-109	1
	9	Filter	1611-AA	1
	10	Pump Assy.	KP16	1
	11	Pump Mounting Bolt	1111-AA	2
	12	Reservoir	R1-1460-05	1
	13	Reservoir Screw	F2-1170-31	4
	14	Breather	1214-AA	1
	15	Adj. Relief Valve Assy.	RV-2	1
	16	Plug	W2-1004-00	1
	17	Elbow 90 Degrees	4495-AC	1
	18	Return Tube	T2-1006-70	2
	19	Motor Brush Kit	K-97	1
	20	Valve, Flow Control	FC-2.2	1

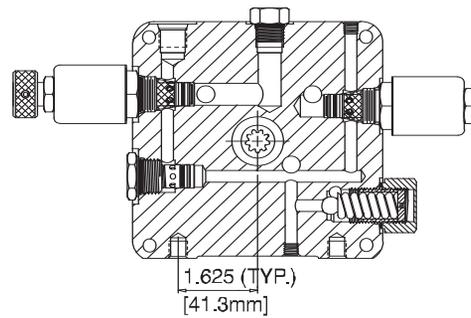
DC-20ML

12V DC MAN LIFT SOLENOID OPERATED POWER UP/GRAVITY DOWN

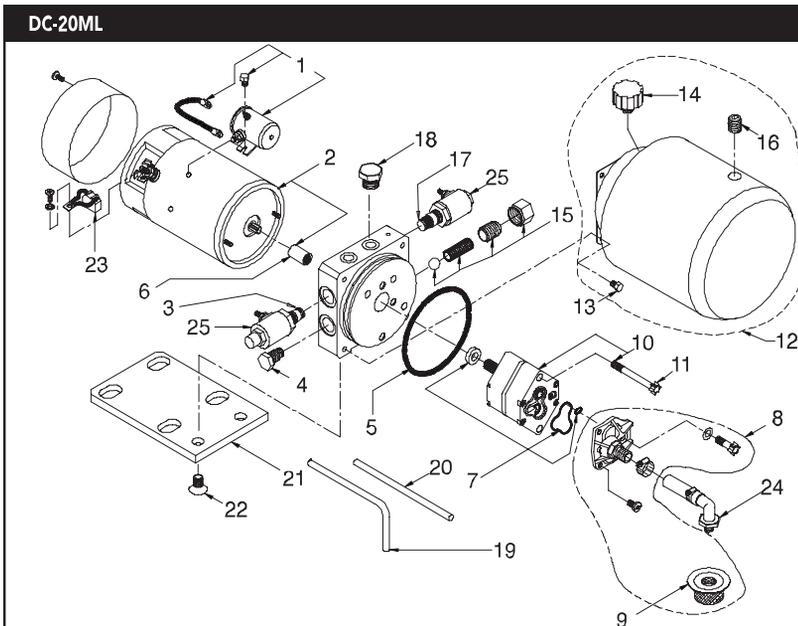
Designed for use on battery operated, elevated work platforms using a raise-hold & gravity lower circuit. Includes: • Normally open valve to protect operators from run-on • Manual override to allow the platform to be lowered in case of power failure.



UNIT SPECIFICATION		HYDRAULIC CIRCUIT
Motor	12 V DC 1 Terminal Std. Duty Corrosion Resistant Plate Finish	
Pump	AFC 1.0 CC/Rev. (.061 Cu. In./Rev.)	
Relief	Adjustable Relief At 2500 PSI	
Endhead	9/16-18 SAE Pressure-Return Port (2) 3/8-16 X .37 Deep Mtg. Holes	
Tank	1.0 Gallon Horiz.-Vert. Mtg. Steel Tank Tank W/3/8 NPSC Breather-Filler Port	
Valving	Check Valve/12V DC N.O. 2-Way Valve/12V DC NC 2-Way Valve W/Manual Override	
Wiring	12V DC To Start Switch	



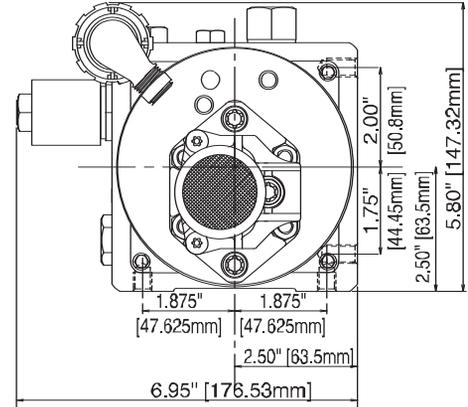
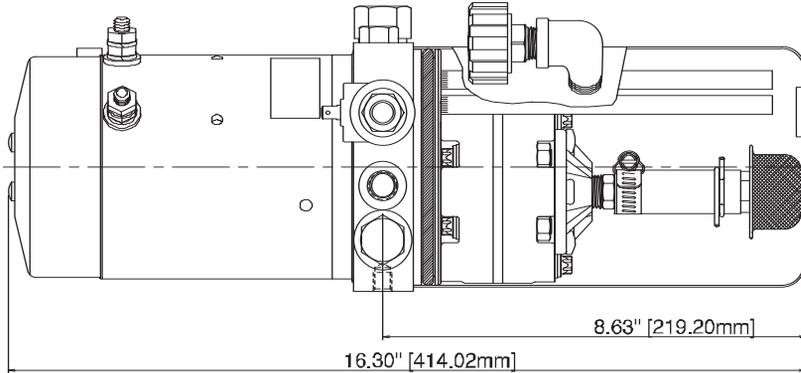
ENDHEAD SECTION



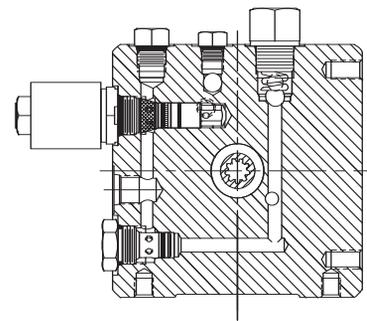
ITEM	DESCRIPTION	P/N	QTY.
1	Solenoid Starter Assy. 12v	KS1	1
2	DC Motor 12V	KMD1	1
3	Valve NC 12V DC	VF-4010	1
4	Valve Cartridge Check	2507-AA	1
5	Reservoir O-Ring	G1-1073-48	1
6	Coupling	1118-AA	1
7	Pump O-Ring Kit	K-40	1
8	Inlet Plumbing Kit	KV	1
9	Filter	1611-AA	1
10	Pump Assy.	KP 10	1
11	Pump Mounting Bolt	F1-1052-75	2
12	Reservoir	KR40	1
13	Reservoir Screw	F2-1170-31	4
14	Breather	1214-AA	1
15	Adj. Relief Valve Assy.	RV-2	1
16	Plug	1456-AA	1
17	Valve NO 12V DC	VF-4011	1
18	Plug	1170-AA	1
19	Return Tube 90° Bend	T2-1006-97	1
20	Return Tube	T2-1006-70	1
21	Bracket Mounting Unit	1910-AB	1
22	Bolt 3/8-16x .50 Phil Flt Hd	F2-1020-50	2
23	Motor Brush Kit	K-90	1
24	Plumbing Assy. Inlet	2979-AA	1
25	Solenoid Coil 12V DC	EF-1082	2

24V DC MATERIAL HANDLING SOLENOID OPERATED POWER UP/GRAVITY DOWN

Designed for low-lift pallet trucks. The units have a 3-way circuit for raise-hold-lower functions & are used with a single acting cylinder. This unit is plumbed for vertical mounting & is interchangeable with other manufacturer's power packs.



UNIT SPECIFICATION		HYDRAULIC CIRCUIT
Motor	24V DC Std. Duty 2-Terminal Corrosion Resistant Plate Finish	
Pump	AFC 1.6 CC/Rev. (.098 Cu. In/Rev.) CCW Rotation/Mesh Inlet Filter	
Relief	Adj. Relief At 2500 PSI	
Endhead	9/16-18 SAE Pressure-Return Port (4) 3/8-16 X .38 Dp. Mtg. Holes	
Tank	2 Qt. Vert. Motor Up Mtg. Steel Tank W/3/8 NPT Breather-Filler Port	
Valving	Check Valve/24V DC Solenoid Oper. NC Valve/Pressure-Compensated Flow Control Valve	
Wiring	24V DC To Motor Terminal/24V DC To NC Valve Solenoid	



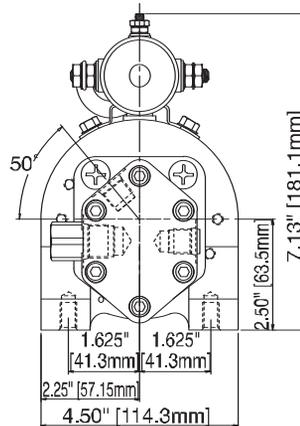
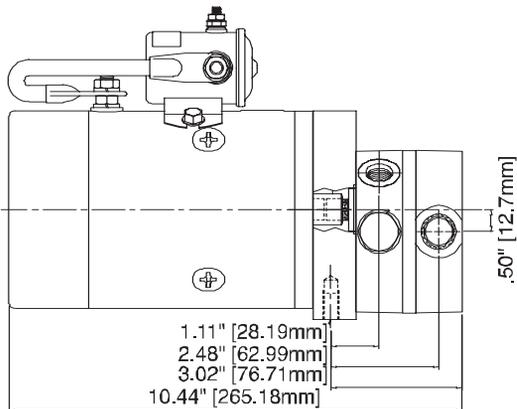
ENDHEAD SECTION

DC-24MH	ITEM	DESCRIPTION	P/N	QTY.
	1	Plug	1170-AA	1
	2	DC Motor 24V Std	KMD5	1
	3	Valve, NC 24V DC	EF-1085/VF-4009	1
	4	Valve Cartridge Check	2507-AA	1
	5	Reservoir O-Ring	G1-1073-48	1
	6	Coupling	1118-AA	1
	7	Pump O-Ring Kit	K-40	1
	8	Inlet Plumbing Kit	4223-AA	1
	9	Filter	1611-AA	1
	10	Pump Assy.	KP16	1
	11	Pump Mounting Bolt	1111-AA	2
	12	Reservoir	R1-1460-05	1
	13	Reservoir Screw	F2-1170-31	4
	14	Breather	1214-AA	1
	15	Adj. Relief Valve Assy.	RV-2	1
	16	Plug	W2-1004-00	1
	17	Elbow 90 Degrees	4495-AC	1
	18	Return Tube	T2-1006-70	2
	19	Motor Brush Kit	K-92	1
	20	Valve, Flow Control	FC-2.2	1
	21	Suction Cover	2156-AA	1
	22	Plumbing Clamp	2231-AA	1

DC-30APU

12V DC AUXILIARY POWER UNIT RELIEF & CHECK VALVE ONLY

Intended to be used with remote directional control valving & reservoir. This unit has an adjustable relief valve & outlet check valve. For applications such as back-up hydraulic power for truck mounted/mobile equipment. It can also be used to power material handling functions & other intermittent duty applications.

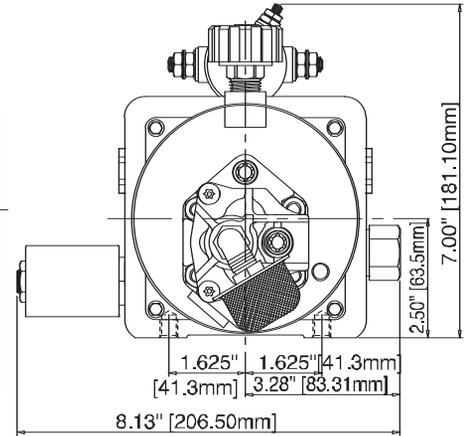
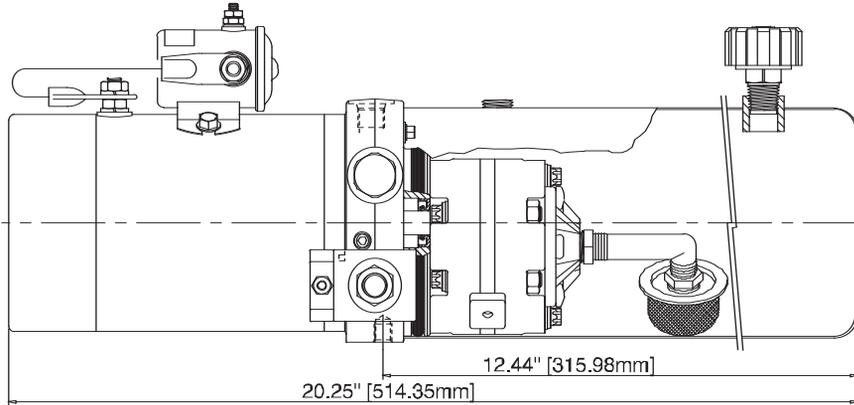


UNIT SPECIFICATION		HYDRAULIC CIRCUIT
Motor	12V DC 1T Std. Duty Corrosion Resistant Plate Finish	
Pump	2.0 CC/Rev.	
Relief	2500 PSI	
Valving	Check & Adj. Relief Valve	
Wiring	12V DC	
Ports	3/4 SAE Side Inlet 9/16 SAE Side Outlet & Relief Drain	

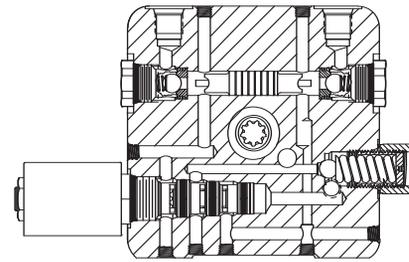
DC-30APU	ITEM	DESCRIPTION	P/N	QTY.
	1	Solenoid Starter 12V	KS1	1
	2	DC Motor 12V	KMD1	1
	3	Motor Adaptor	2000384	1
	4	Adj. Relief Valve Assy.	S8-6000-00	1
	5	Coupling	2441-BA	1
	6	Bolt	2458-AA	2
	7	Pump Assy.	PE-1063	1
	8	Seal	G2-1002-00	1
	9	Check Valve Kit	S8-6000-01	1
	10	Motor Brush Kit	K-90	1

12V DC BALE SPIKE SOLENOID OPERATED POWER UP/POWER DOWN

Designed primarily to operate tines which pick up round bales. Incorporates a 2 position, 4-way cartridge valve & double pilot-operated checks to control a double acting cylinder, to lift-hold-lower the bale.



UNIT SPECIFICATION		HYDRAULIC CIRCUIT
Motor	12V DC 1 Terminal Std. Duty Corrosion Resistant Plate Finish	
Pump	AFC 2.0 CC/Rev. (.122 Cu. In/Rev.)	
Relief	Adj. Set At 2500 PSI (172.4 Bar)	
Endhead	9/16 SAE Ports "A" & "B" (2) 3/8-16 X .38 Deep Mtg. Hole	
Tank	3 Qt. Capacity Horiz. Mount Steel Tank W/3/8 NPT Breather-Fill Port	
Valving	2P4W Cartridge Valve W/12V DC Coil/Double PO Checks & 9/16 SAE Ports	
Wiring	12V DC To Start Switch 12V DC To 2P4W Valve Coil	



ENDHEAD SECTION

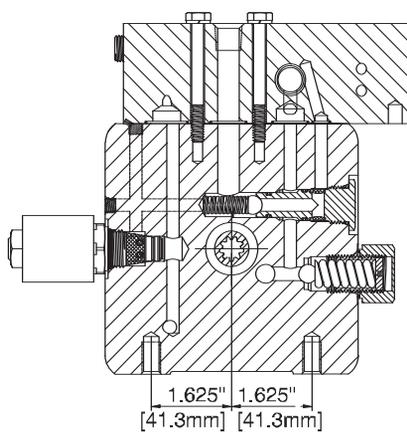
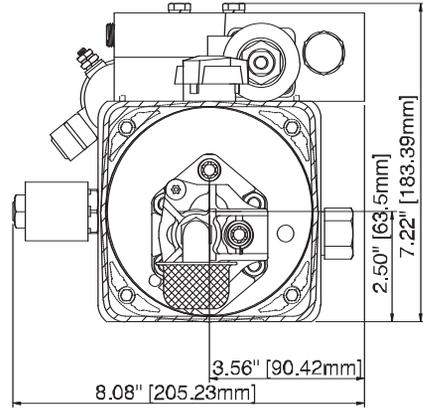
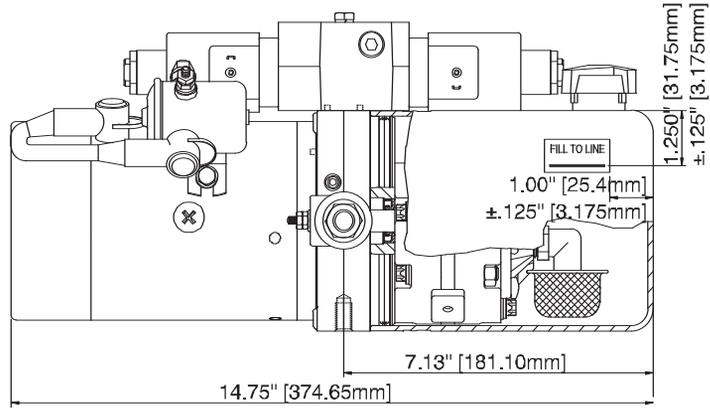
POWER UNITS

DC-70BS	ITEM	DESCRIPTION	P/N	QTY.
	1	Solenoid Starter 12V	KS1	1
	2	DC Motor 12V	KMD1	1
	3	Solenoid Coil 12V DC	EF-1126	1
	4	Reservoir O-Ring	G1-1073-48	1
	5	Coupling	1118-AA	1
	6	Pump O-Ring Kit	K-40	1
	7	Inlet Plumbing Kit	KH	1
	8	Filter	1611-AA	1
	9	Pump Assy.	KP20	1
	10	Pump Mounting Bolt	1112-AA	2
	11	Reservoir	KR14	1
	12	Reservoir Screw	F2-1170-31	4
	13	Breather	1214-AA	1
	14	Adj. Relief Valve Assy.	RV-2	1
	15	Plug 3/8 NPT	1456-AA	1
	16	PO Check Kit	S8-9000-00	2
	17	PO Spool	X2-1048-04	1
	18	Motor Brush Kit	K-90	1
	19	2P4W Solenoid Valve	VF-1060	1

DC-80SP

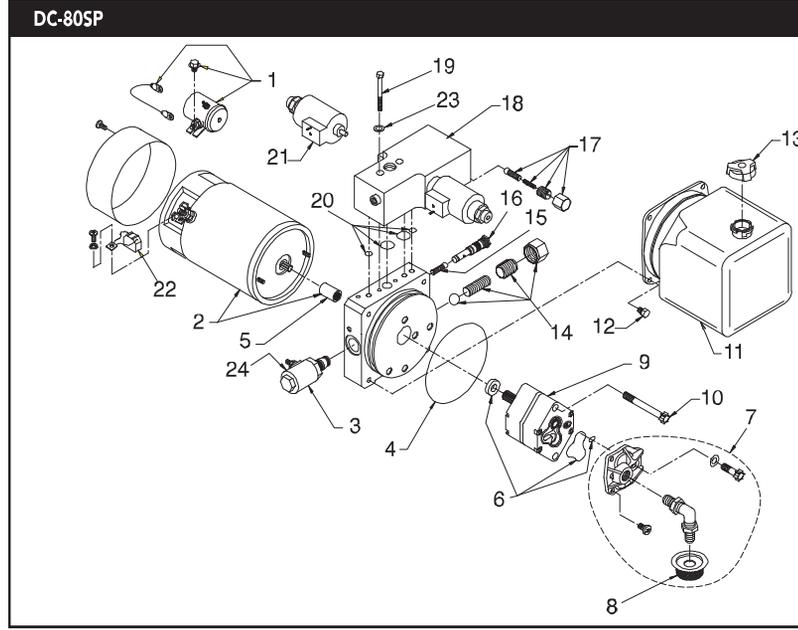
12V DC SNOW PLOW SOLENOID OPERATED POWER ANGLE & LIFT/GRAVITY DOWN

Designed to operate all functions of a power operated angling snow plow. The unit includes a lift-hold-gravity lower function for the blade, with a continuous "float" capability. A directional valve controls power angling of the blade, 2 cross-over reliefs protect the system from damage should the blade be obstructed while plowing.



ENDHEAD SECTION

UNIT SPECIFICATION		HYDRAULIC CIRCUIT
Motor	12V DC 1 Term Std. Extended Duty	
Pump	AFC 1.6 CC/Rev. (.098 Cu. In./Rev.)	
Relief	Adj. Relief Valve Set At 2000 PSI	
Endhead	1/4 NPTF Ports "A", "B" & "C" (On U-Valve) (2) 3/8-16 Tap X .62 Deep Mtg. Holes	
Tank	1.5 Qt. Capacity Horiz. Mount Plastic Tank W/Breather-Filler Port	
Valving	3P4W Solenoid Operated Directional Control Valve W/(2) 12V DC Solenoids/Crossover Relief Valves Set At 1500 PSI	
Wiring	12V DC To U-Valve Solenoids, Motor Solenoid & Release Solenoid	



ITEM	DESCRIPTION	P/N	QTY.
1	Start Switch Assy.	KS1	1
2	DC Motor 12V	KMD1	1
3	Valve NC 12V DC	VF-4009	1
4	Reservoir O-Ring	G1-1073-48	1
5	Coupling	1118-AA	1
6	Pump O-Ring Kit	K-40	1
7	Inlet Plumbing Kit	KH	1
8	Filter	1611-AA	1
9	Pump Assy.	KP16	1
10	Pump Mounting Bolt	F1-1052-75	2
11	Reservoir	3540-AC	1
12	Reservoir Screw	3346-AA	4
13	Breather	8060-CC	1
14	Adj. Relief Valve Assy.	RV-2	1
15	Spring And Ball Assy.	S1-1004-12	1
16	Valve Check Assy.	2290-BA	1
17	Crossover Relief Valve Kit	S8-6000-38	2
18	U-Valve 4W3P CCCP 12V N2	U1-6710-81	1
19	Bolt 1/4-20 X 2 1/2 Hex	F1-1032-50	2
20	U-Valve O-Ring Kit	K-42	1
21	Solenoid Assy. DC	E1-4005-12	2
22	Motor Brush Kit	K-90	1
23	Lock Washer	1479-AA	2
24	Coil Only	EF-1082	1

LIMITED WARRANTY

FOR A PERIOD OF TIME STATED BELOW, SPX FLUID POWER will repair or replace, free of charge, any products SPX Fluid Power has determined, upon inspection by SPX Fluid Power, to be faulty due to defective material and/or workmanship. SPX Fluid Power may, at its discretion, issue credit in lieu of repair or replacement.

This warranty shall not apply to any loss or damage resulting from: (i) normal wear and tear; (ii) alteration, misuse, abuse or improper installation, operation or maintenance by Buyer or a third party; (iii) accident, fire, flood or acts of God; or (iv) inaccurate or incomplete information or data supplied or approved by the Buyer. Buyer shall defend and indemnify SPX Fluid Power for any loss or damage of SPX Fluid Power arising out of (i) through (iv) above and any breach by Buyer of its covenants and obligations under the SPX Fluid Power Terms and Conditions of Purchase.

THIS WARRANTY IS LIMITED TO REPLACEMENT OR REPAIR AND IS IN LIEU OF AND EXCLUSIVE OF ALL OTHER REMEDIES. No claim by a Buyer, other than a demand for replacement or repair, shall be honored by SPX Fluid Power; and, SPX Fluid Power shall not be liable for contingent liabilities arising out of the improper function of any product, nor shall SPX Fluid Power be liable for any claims for labor or inconsequential damage or incidental damages resulting from, arising out of or in connection with the testing, use, operation, replacement or repair of any SPX Fluid Power product or part.

SPX FLUID POWER DOES NOT WARRANT THE PRODUCT FOR MERCHANTABILITY OR FITNESS FOR ANY PARTICULAR PURPOSE AND THERE IS NO WARRANTY, EXPRESSED OR IMPLIED, EXCEPT THAT THE PRODUCT SHALL BE OF THE KIND AND QUALITY DESCRIBED IN OUR SPECIFICATIONS. SPX Fluid Power has not authorized anyone to make representation of warranty other than the warranty contained herein. Under no circumstances shall SPX Fluid Power be liable for any special or consequential damages whether based upon lost goodwill, lost resale profits, work stoppage, impairment of other goods or otherwise and whether arising out of breach of warranty, breach of contract, negligence or otherwise, except only in the case of personal injury where applicable law requires such liability.

WARRANTY PERIOD

STONE® PRODUCTS, STANDARD AND OEM, a period of twelve (12) months from the date of manufacture.

STONE® PRODUCTS, AUTO HOIST POWER UNITS, a period of twenty-four (24) months from date of manufacture.

PRODUCTS NOT COVERED UNDER WARRANTY.

An inspection fee may be applied to all returns determined by SPX Fluid Power to be not under warranty. Charges for labor and applicable repair parts will be in addition to the aforementioned inspection fee. Repair estimates will be

communicated to the Buyer. SPX Fluid Power will allow a maximum of two weeks (10 working days) from the date of notification for the Buyer to advise SPX Fluid Power whether to: 1) Return, 2) Repair or 3) Scrap the product. If SPX Fluid Power does not receive written notification within this two-week period, SPX Fluid Power will, at its discretion, scrap the product in question.

RETURNS

Returns of product will be accepted only for the purpose set forth above and will not be accepted without a Return Authorization (RA) Number. An RA number can be obtained by calling Customer Service at 800-541-1418.

WARNINGS

- People who work on and around hydraulic systems of any kind without formal training expose themselves, and others, to serious safety hazards. An accident with a hydraulic system can result in severe injury, death, or substantial property damage.
- Always wear eye protection and protective clothing when working on and around hydraulic systems.
- Some hydraulic power units contain pumps that can generate pressures in excess of 5000 PSI (345 Bar). A pressure relief valve is used to set the pressure at the desired level. Tampering with, adjusting, modifying or removing the relief valve is extremely dangerous and is not recommended.
- Hydraulic fluid poses a fire hazard, and can cause skin irritation or burning if not properly handled.
- Never exhaust hydraulic fluid under pressure to atmosphere.
- Hydraulic fluid can reach high temperatures under normal operating conditions and can burn exposed skin.
- Fluid pressure (even as low as 100 PSI) can penetrate skin and cause death or serious injury.
- Hydraulic devices should be properly "Locked-Out" or "Tagged-Out" before being worked on, including the release of any stored energy and mechanically locking the device in place when appropriate.
- Remove any jewelry and/or objects that are electrical conductors before working on power units.
- Properly contain and dispose of fluids according to local codes and regulations.
- SPX Fluid Power is not responsible for misuse or misapplication of product.

SPX FLUID POWER QUALITY POLICY

At SPX FLUID POWER we are committed to meeting or exceeding Customer defined expectations by continuously improving the Quality of our Products, Processes, and Services.

SPX Fluid Power is an ISO 9001:2000 certified facility.





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