



# STONE™

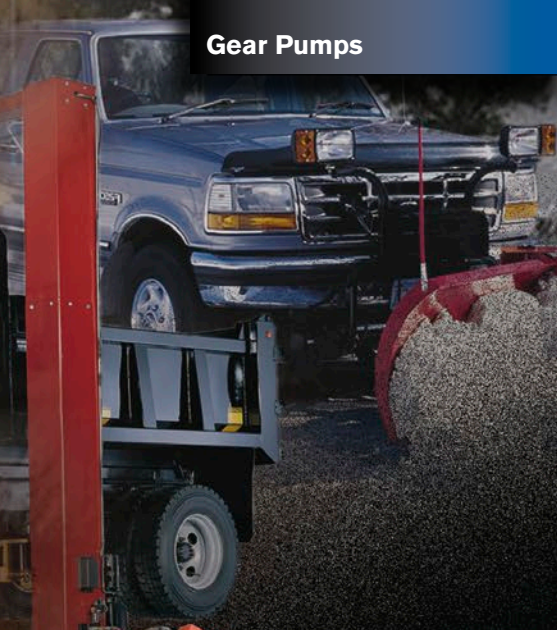
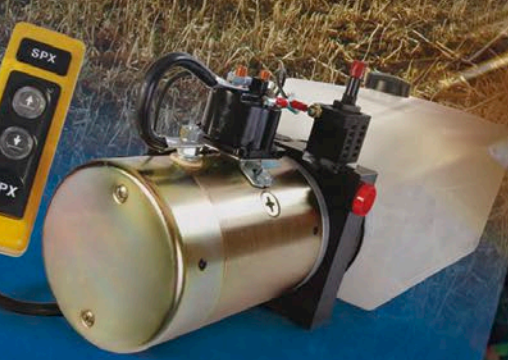
COMMITMENT  
COMMITMENT  
COMMITMENT

AC Power Units

DC Power Units

Motor Pump Assemblies

Gear Pumps



*Dedication to engineering since 1968*



**IN OUR PRODUCTS  
BECAUSE OF OUR PEOPLE**

**STONE**

**PERFORMANCE  
COMMITMENT  
SOLUTIONS**

FOR OVER 40 YEARS, STONE'S CONTINUING PRIORITY IS TO BUILD A SOLID FOUNDATION OF PRODUCING QUALITY PRODUCTS WITH A GLOBAL DISTRIBUTOR NETWORK AND SERVICE CENTERS TO COMPLEMENT. NOW THAT WE ACCOMPLISHED THAT, LET'S SEE WHAT OUR PRODUCTS CAN DO FOR YOU. WHEN YOU HAVE QUALITY AND DEPENDABILITY COVERED, *It's time to unleash the*

Gear Pumps  
AC/DC Power Units  
Motor Pump Assemblies

1-866-729-4104  
www.stonehydraulics.com

**BECAUSE WE'RE  
PEOPLE THAT CARE.**

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AND OUR PRODUCTS**

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**PICS... SOMETHING WE SAY  
SOMETHING WE MEAN!**

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# AC/DC Hydraulic Power Unit

## General Applications



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**Material Handling** .....Page 15

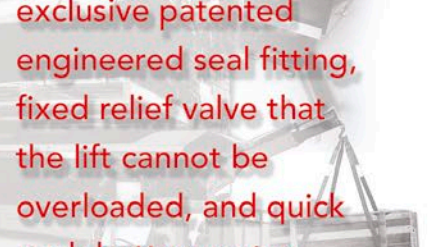
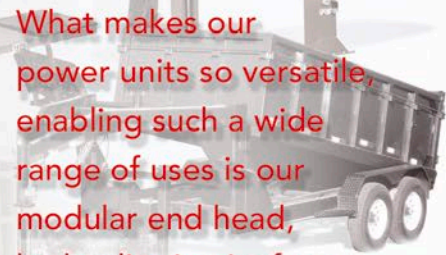


**Auxiliary Power Unit** .....Page 16



**Filter Crusher/Compactor** .....Page 17

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.



# General Applications

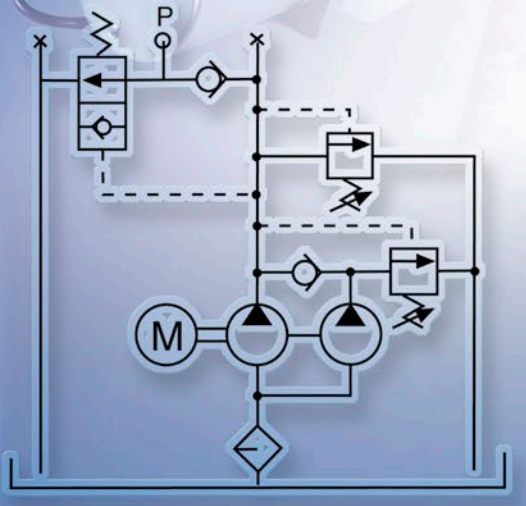
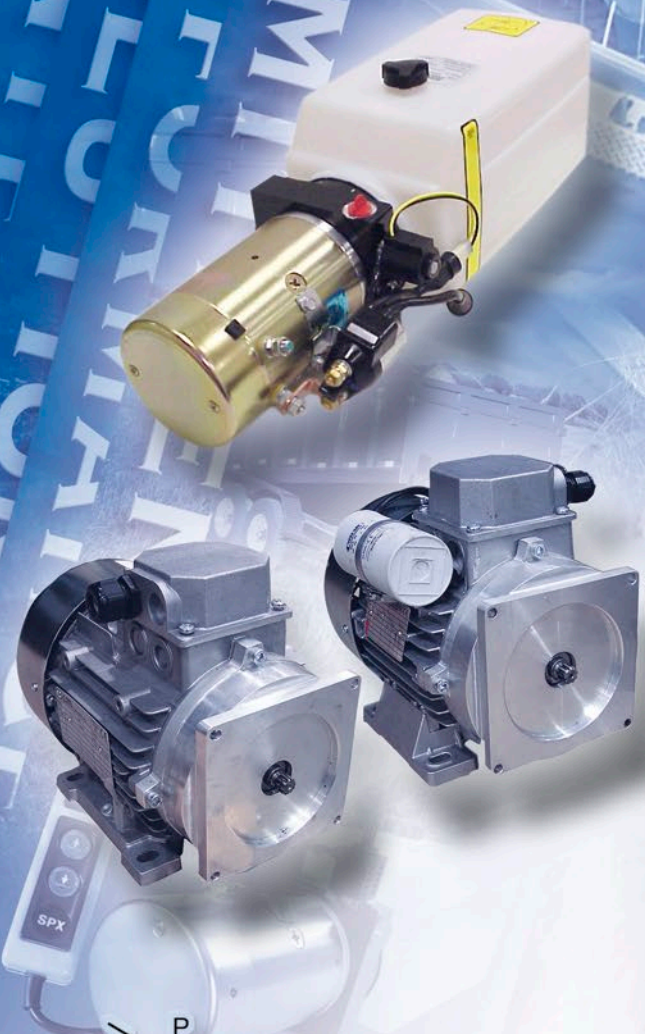
# AC/DC Hydraulic Power Unit Applications

# Hose Crimper

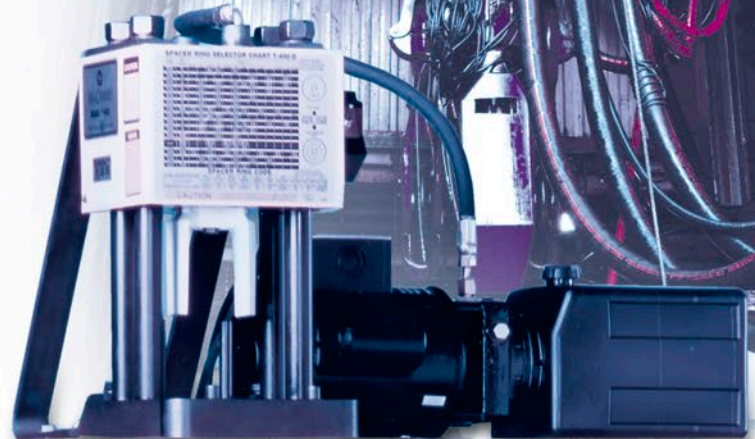
Typical units for this application:

•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.



TYPICAL HYDRAULIC CIRCUIT



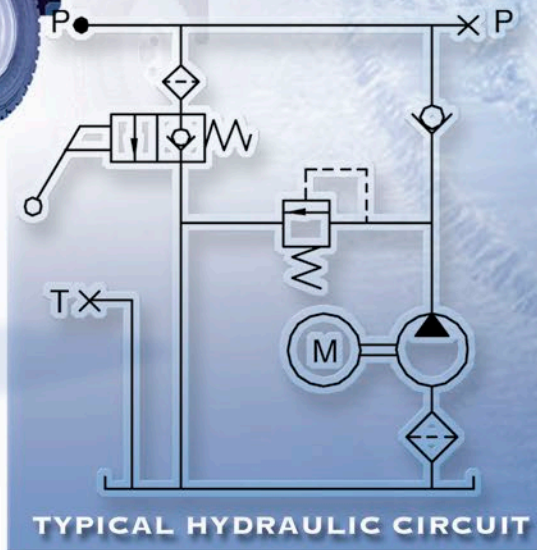
Power Unit shown is a representation of a typical unit. Actual unit may vary.

# 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. A push-button 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 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



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

# General Applications

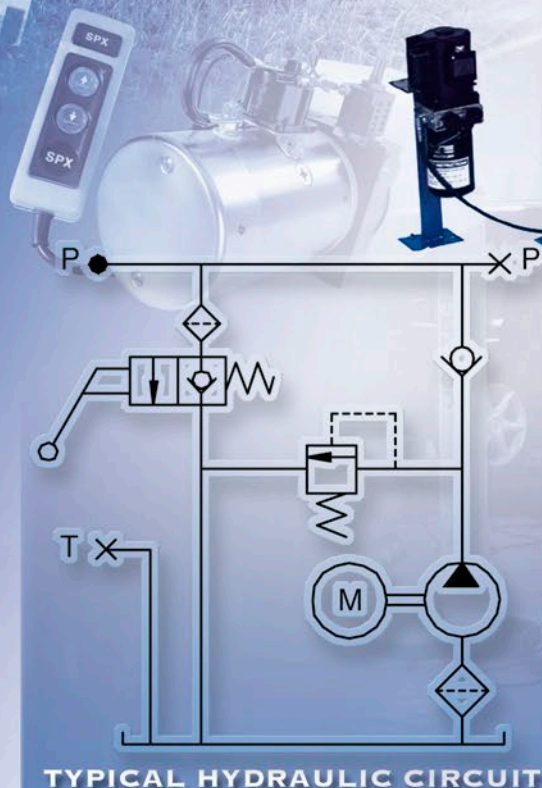
# AC/DC Hydraulic Power Unit Applications

# 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 fingertip control of lowering speed.



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

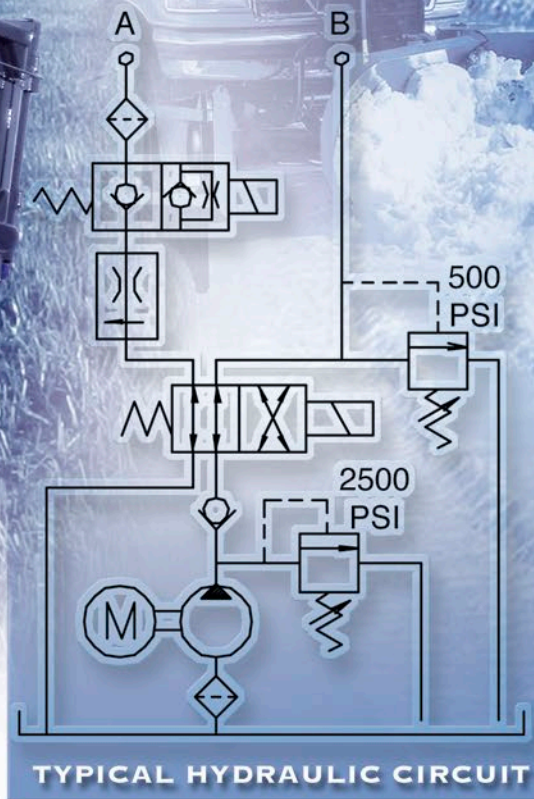


# AC/DC Hydraulic Power Unit Applications

## Tipping Trailer

This power unit is designed for use on a tipping trailer applications. The unit provides for power lift, hold and gravity down operation. Two models are available with or without a hand pump. A two button corded hand controller is optional.

Typical units for this application:  
• DC-40DT • DC-40DTC



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

# General Applications

# AC/DC Hydraulic Power Unit Applications

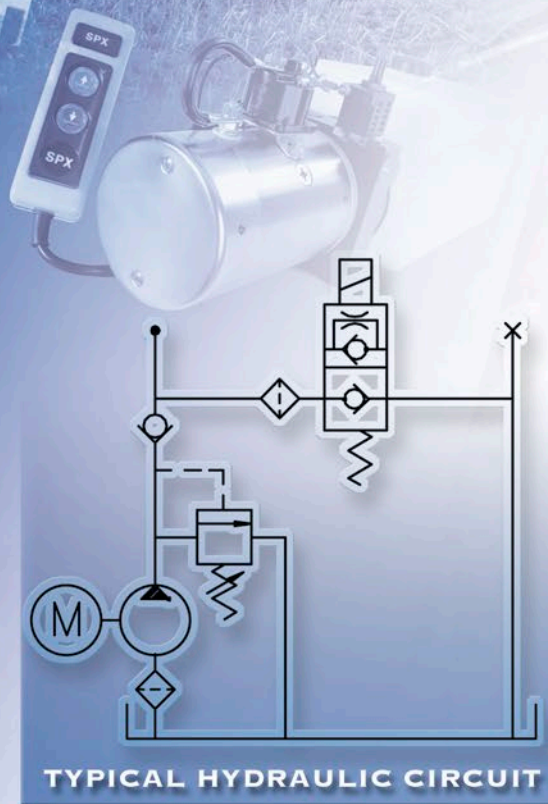
# Tail Lift

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.



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

# AC/DC Hydraulic Power Unit Applications

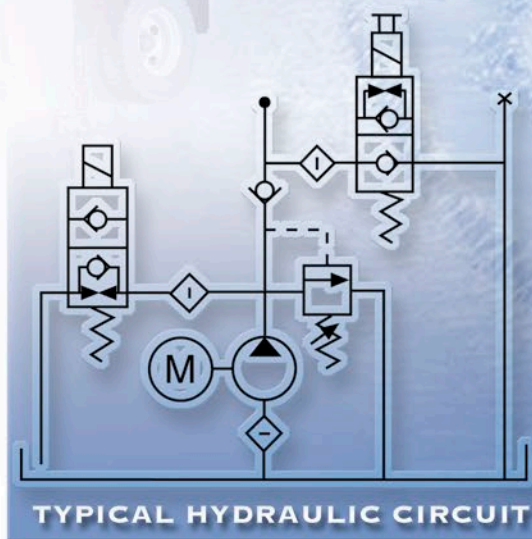
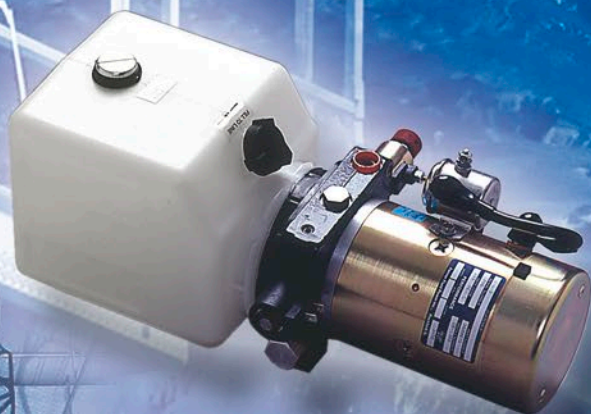
## Man Lift AC & DC

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



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



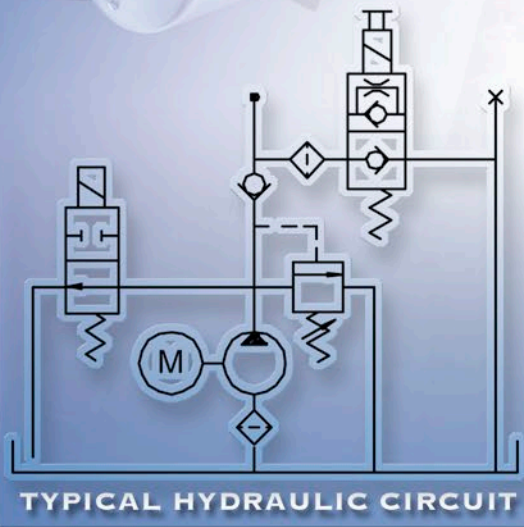
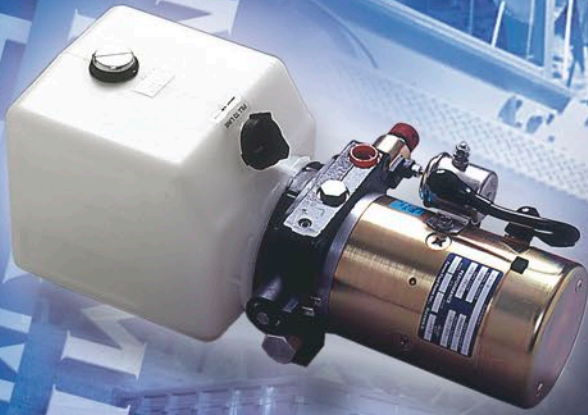
# General Applications

# 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.



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

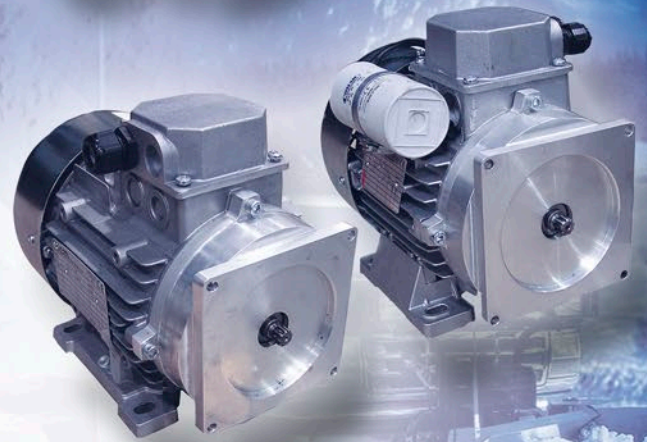
# AC/DC Hydraulic Power Unit Applications

## 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.

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



# General Applications

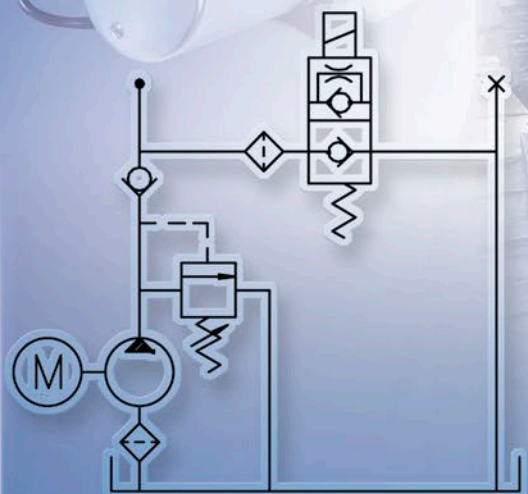
# AC/DC Hydraulic Power Unit Applications

## Truck Mounted Crane

Typical units for this application:

- DC-20SF

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 HYDRAULIC CIRCUIT

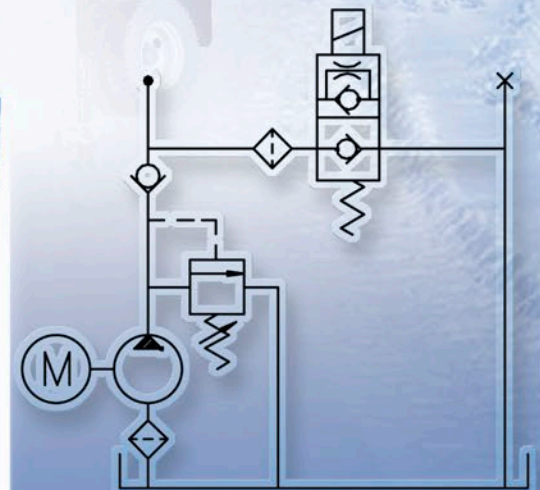
Power Unit shown is a representation of a typical unit. Actual unit may vary.

# AC/DC Hydraulic Power Unit Applications

## Tipper Truck

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 units for this application:  
•DC-20SF •UD2431



TYPICAL HYDRAULIC CIRCUIT



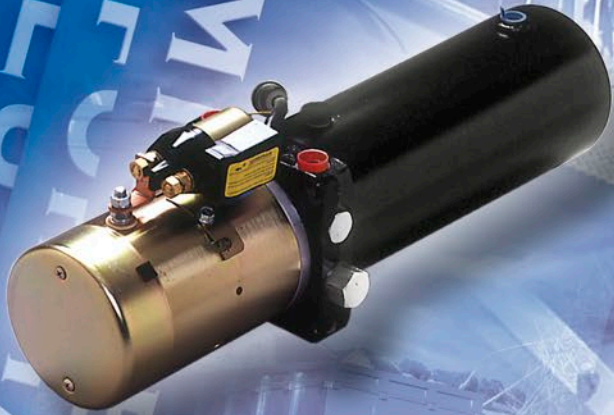
Power Unit shown is a representation of a typical unit. Actual unit may vary.

# General Applications

# 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

Typical units for this application:  
•DC-20MH

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.



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

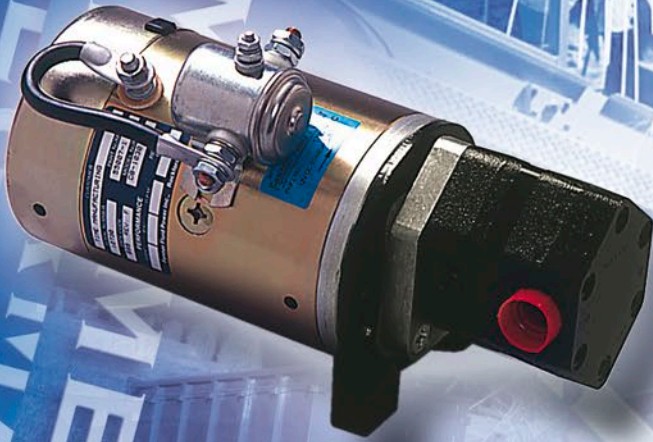
# General Applications

# AC/DC Hydraulic Power Unit Applications

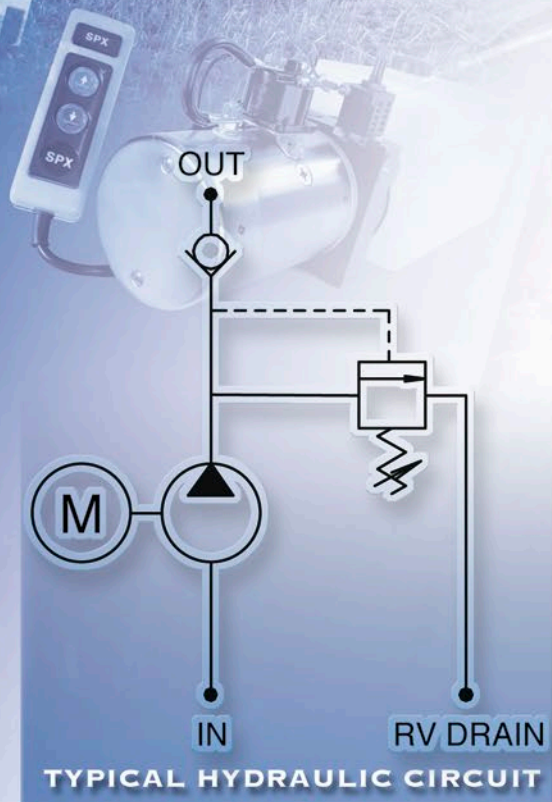
## Auxiliary Power Unit

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.

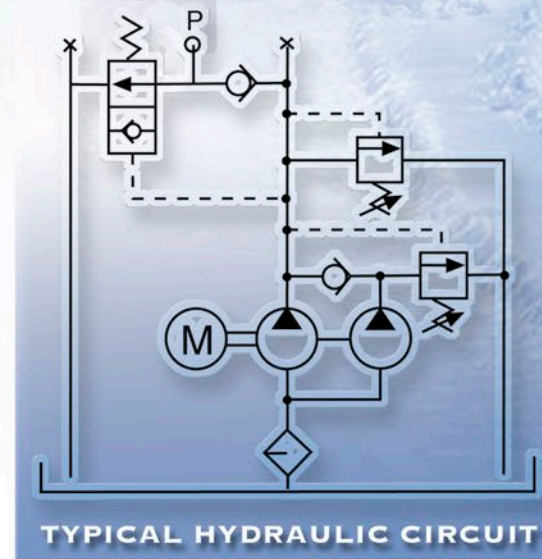
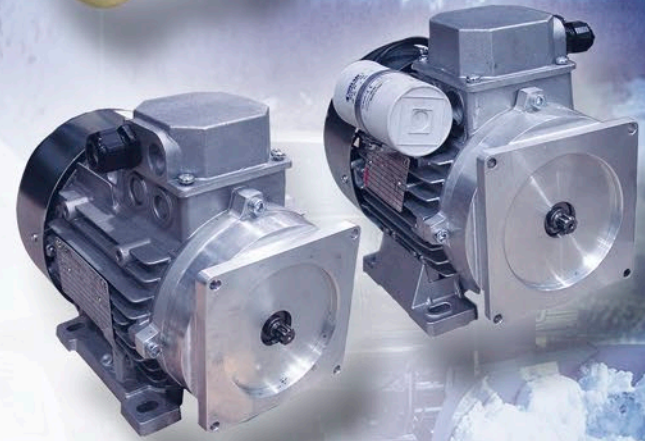


Power Unit shown is a representation of a typical unit. Actual unit may vary.

# AC/DC Hydraulic Power Unit Applications Filter Crusher/Compactor

Typical units for this application:  
•AC-40FC

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.



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

## General Applications

# Pick-A-Pack

The Stone Pick-A-Pack product range is based on a system of modular construction which was pioneered by Stone Hydraulics when the company was founded in 1968. This concept and the components utilized have been continuously refined and improved through the years. Today, Stone applies the most advanced manufacturing technologies and the highest quality materials and components available to provide this unique and extremely flexible product range.

## **International Distributor Pick-A-Pack Product Range**

This section is designed to aid the user in selecting a combination of pump, motor, reservoir, and valves which will precisely suit their needs.

All of the components in the Pick-A-Pack product range are designed to be interchangeable with mating components. All components are modular in design and the "International" endhead is the key component of this interchangeable system. Any desired combination of drive motor, pump, reservoir, and control valving can be either assembled into or manifolded onto this endhead. This is available in three configurations, with either NPTF, SAE or G3/8 porting.

## **How to Select Pump and DC Motor Combinations:**

The following section contains pump/motor curves for various combinations of pumps and motors used on Stone hydraulic power units. It is important to select the correct motor and pump for a given application so proper pressure, flow and electrical amp draws can be accounted for appropriately in the design circuit. Proper selection also ensures the motor does not overheat and become inoperable.

There are motor curves for both S2 and S3 duty cycle categories.

- S2- Absolute Continuous On-time. Indicates how long a motor can be run continuously before it must be allowed to cool back to ambient temperature.
- S3- Percentage On-time. Based on a 5 minute duty cycle, it indicates the duty cycle (percent on vs percent off) the motor can be run continuously without overheating the motor.

# Pick-A-Pack

**The following is an example of how to select a motor and pump based on specific application criteria:**

Assume the given application parameters require a flow rate of 5.5 LPM at 140 Bar, intermittent operation and 12 VDC supplied power.

(If continuous operation is needed, a Hi-Power 12V motor needs to be selected). Referring to the 12 VDC pump/motor graphs show that a KP-2.5 pump (2.5 cc/rev) is required and will draw 260 amps with this combination.

- Since the application dictates that the motor needs to be run intermittently, the S3 graph indicates how long the motor can operate as a percentage of 5 minute (300 second) intervals without needing to cool back to ambient temperature. Referring to the S3 graph shows that the standard duty motor (KMD1 and KMD2) can operate with a 8% on-time, or for 24seconds on, 276 seconds off continuously. If an extended duty motor is selected (KMD3), it can operate with a 13% on-time, or for 39 seconds on, 261 seconds off continuously.

Relief valves are extremely important in that they limit the amount of pressure the power unit can generate. Stone AFC pumps can potentially generate in excess of 340 Bar. If the pressure is not limited by the use of relief valves, the excess pressure could damage the mechanical components used in the hydraulic circuit, resulting in potential injury or death. Always ensure that the mechanical components selected in the application design can handle the working pressure needed. Once the working pressure is determined, select the relief valve that will allow full flow at the working pressure. Relief valves "crack" at about 80% of their pressure rating, opening to full "dump" to tank once the rated pressure is obtained (typically referred to as "full bypass pressure and flow").

The working pressure in the application should be 80% or less than the rated relief valve pressure. For example, if the working pressure needed is 160 Bar, a relief valve rated at 200 Bar should be selected. (160 divided by 0.8).

# Distributor Power

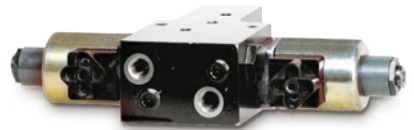


3" DC MOTOR

K-19 adaptor kit needed to mount to endhead



4.5" DC MOTOR



DIRECTIONAL CONTROL U VALVE



HIGH POWER DC MOTOR

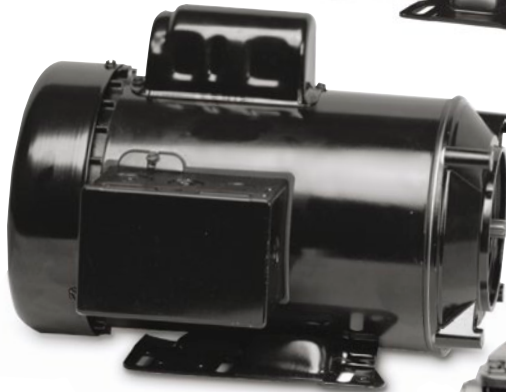
K-18 adaptor kit needed to mount to endhead



NEMA C-FACE

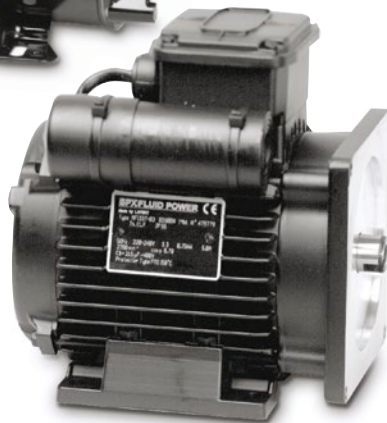
AC MOTOR (US)

KM96 or KM97 adaptor kit needed to mount to endhead



AC MOTOR

K-187 adaptor kit needed to mount to endhead



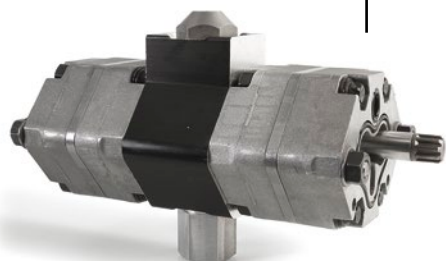
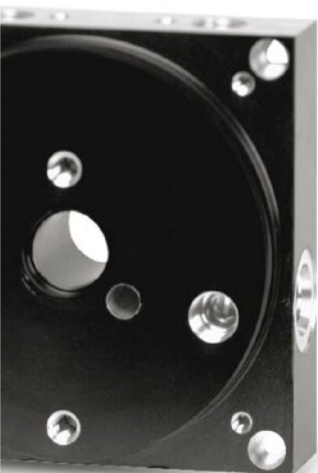
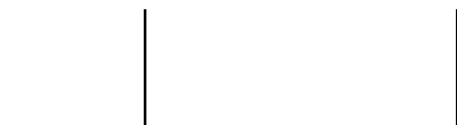
ISO AC MOTOR

KM98-XX adaptor kit needed to mount to endhead



SINGLE-STAGE PUMP

# er Unit Program



STEEL RESERVOIR

4.75" (120mm) Diameter



STEEL RESERVOIR

6.7" (170mm) Offset



PLASTIC RESERVOIR

5.0" (127mm) Square



PLASTIC RESERVOIR

6.7" (170mm) Offset



INDUSTRIAL RESERVOIR



OIL PICK-UP



PICK-A-PACK



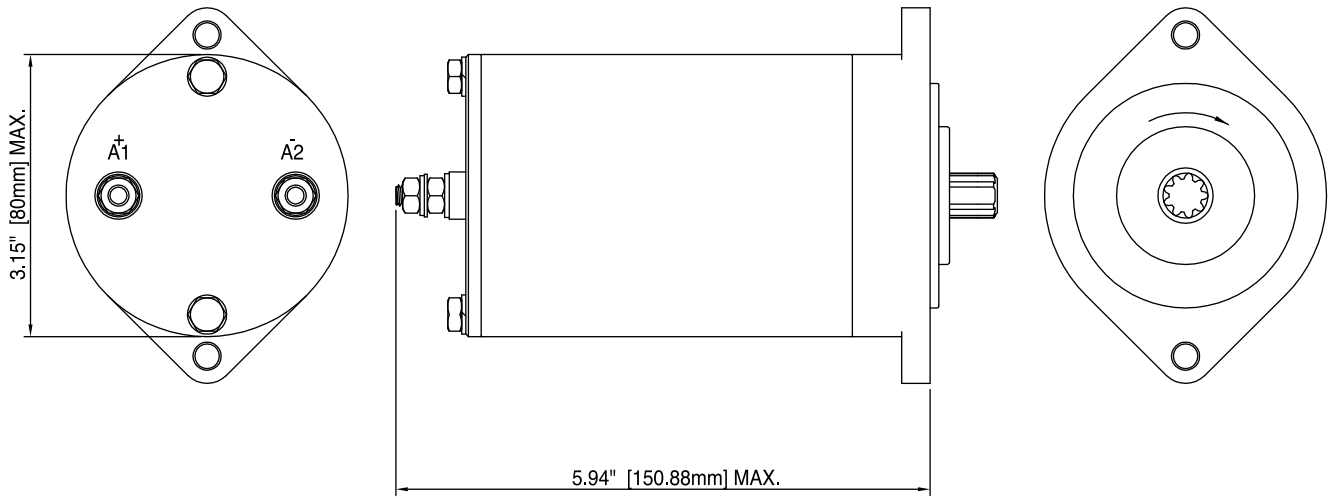
Pick-A-Pack

# Motors

| <b>Kit Number</b> | <b>Description</b>  | <b>Page Number</b> |
|-------------------|---|--------------------|
| KM05-09           | 3.0" 12-24V DC Motor Performance                              | Page 23            |
| KM05+08           | 3.0" 12V DC Motor Performance                                 | Page 24            |
| KM06+09           | 3.0" 12-24V DC Motor Performance                              | Page 25            |
| KM98-80           | Motor Adaptor IEC Motors 80 Frame 80 C Face                   | Page 26            |
| KM98-90           | Motor Adaptor IEC Motors 90 Frame 95 C Face                   | Page 27            |
| KM98-100          | Motor Adaptor IEC Motors 100 Frame 100 C Face                 | Page 28            |
| KM44-48           | Continuous Duty 1PH 2 Pole AC Motors                          | Page 29            |
| KM54-58           | Continuous Duty 3 PH AC Motors                                | Page 30            |
| KM64-68           | Continuous Duty 3 PH 4 Pole AC Motors                         | Page 31            |
| KM74-78           | Continuous Duty 1 PH 4 Pole AC Motors                         | Page 32            |
| KMD2+5            | 4.5" Field Wound DC Motors                                    | Page 33            |
| KMD2              | 4.5" 12V DC Motor (Std. & Ext. Duty) Performance & Duty Cycle | Page 34            |
| KMD5              | 4.5" 24V DC Motor (Std. & Ext. Duty) Performance & Duty Cycle | Page 35            |
| KMP2              | Hi-Power 12V DC 50 in-lb Permanent Magnet Motor               | Page 36            |
| KMP5              | Hi-Power 24V DC 80 in-lb Permanent Magnet Motor               | Page 37            |



# 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      |

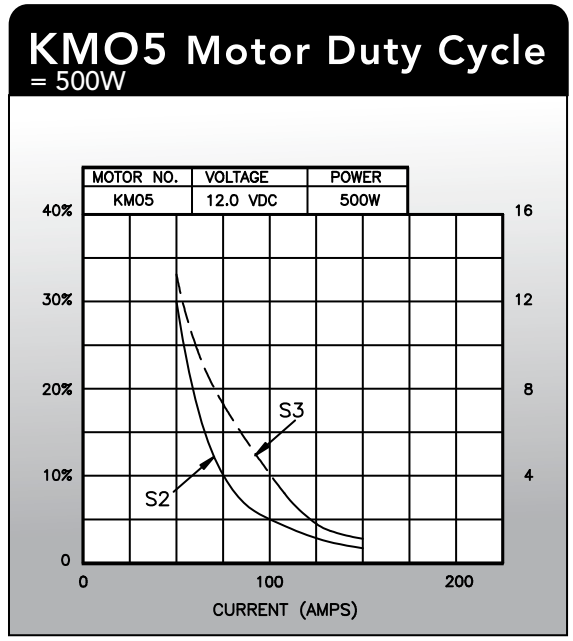
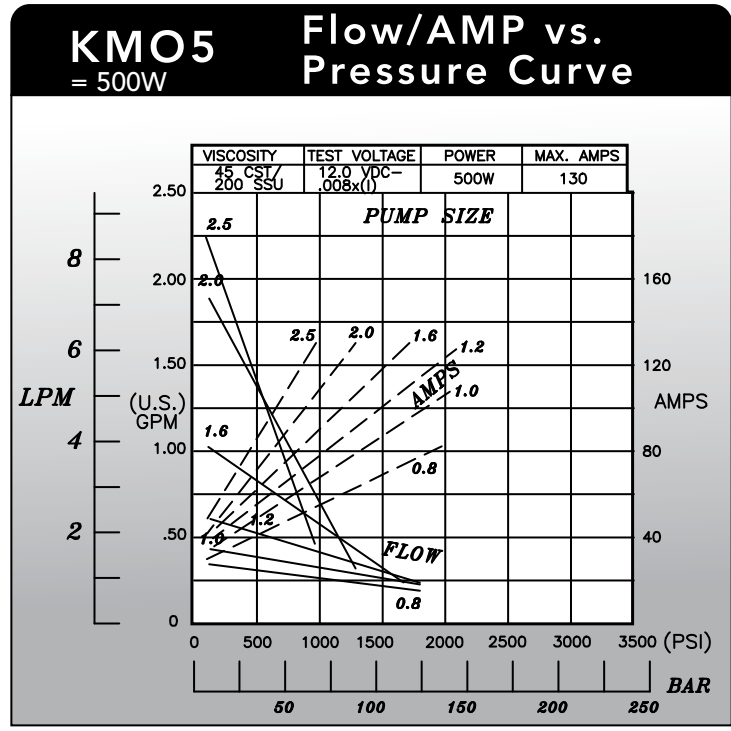
If using KS5 Smart Start, you must order K-104 and 5199-AA.

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

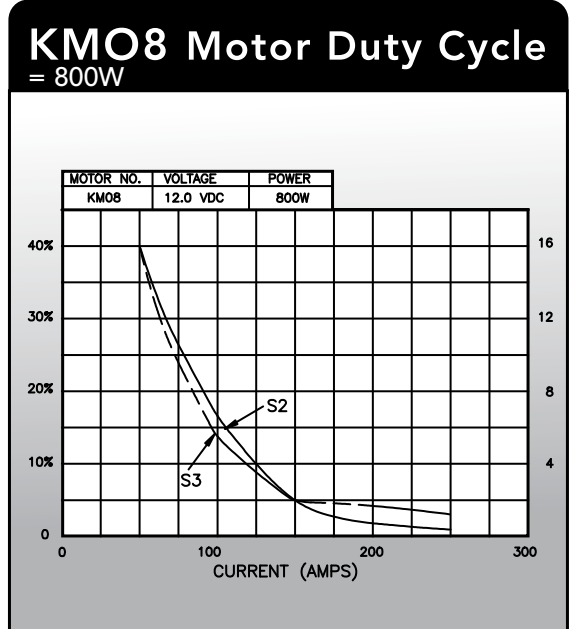
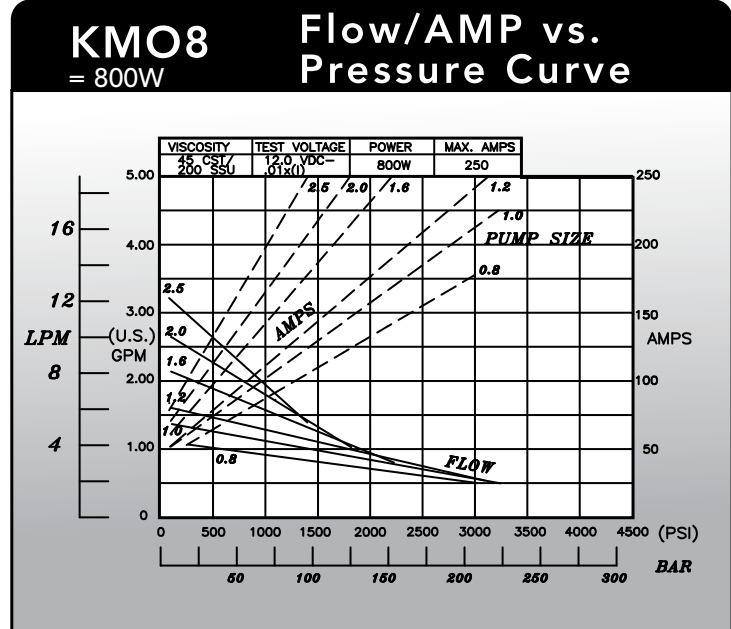
Please contact factory for KM05 and KM06

**KM05+08**

# 3.0" 12V DC MOTOR PERFORMANCE

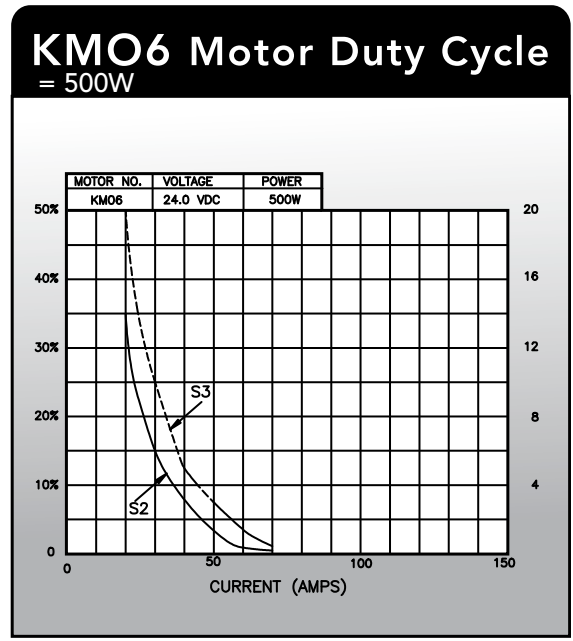
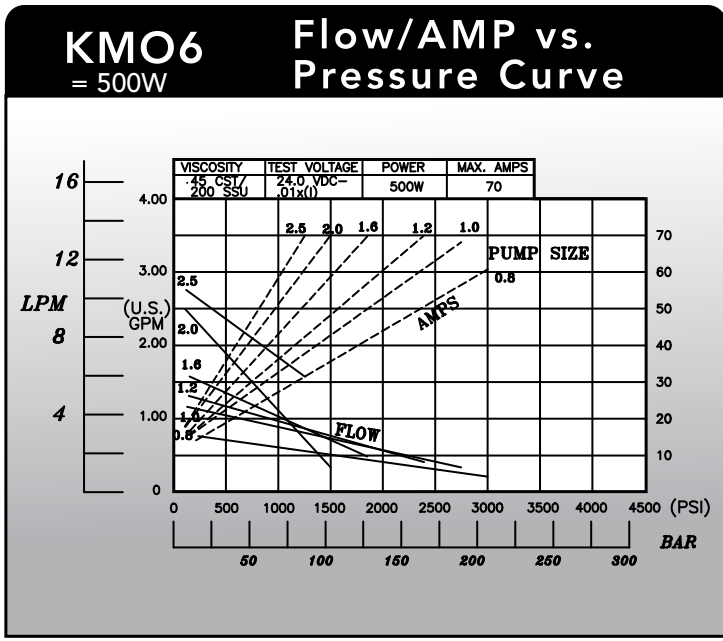


S2 Duty Rating in minutes.  
S3 Duty Rating on time. (% of 5 minutes)  
Please contact factory for KM05 and KM06

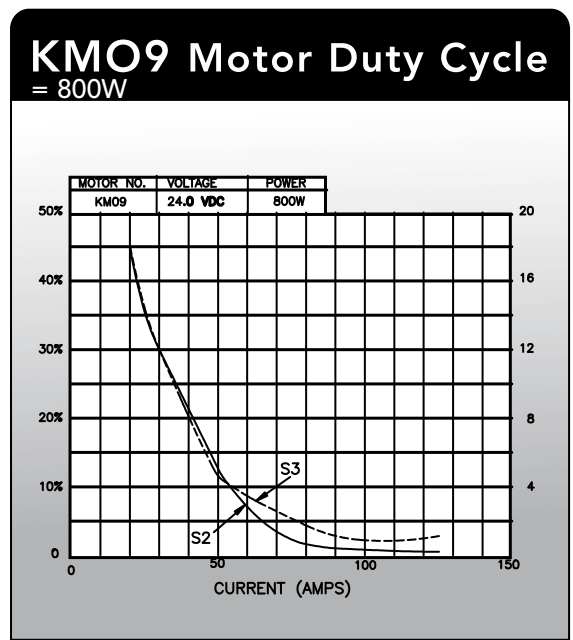
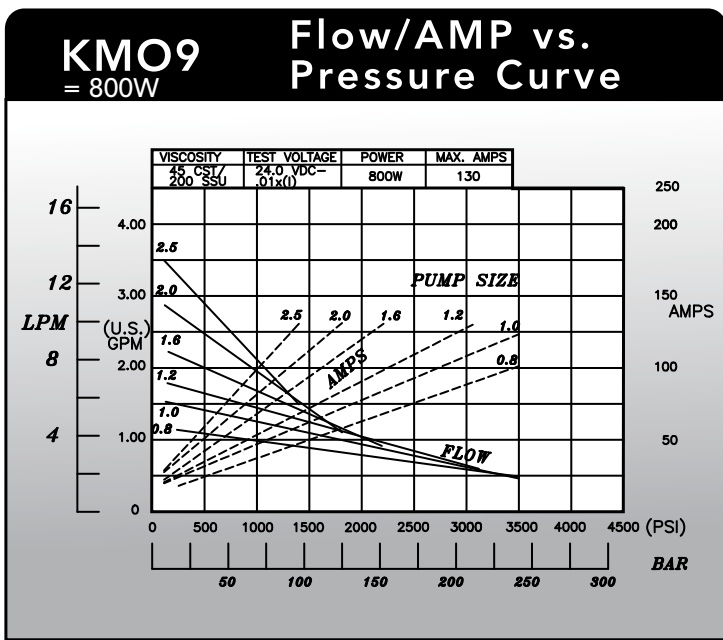


# 3.0" 12-24V DC MOTOR PERFORMANCE

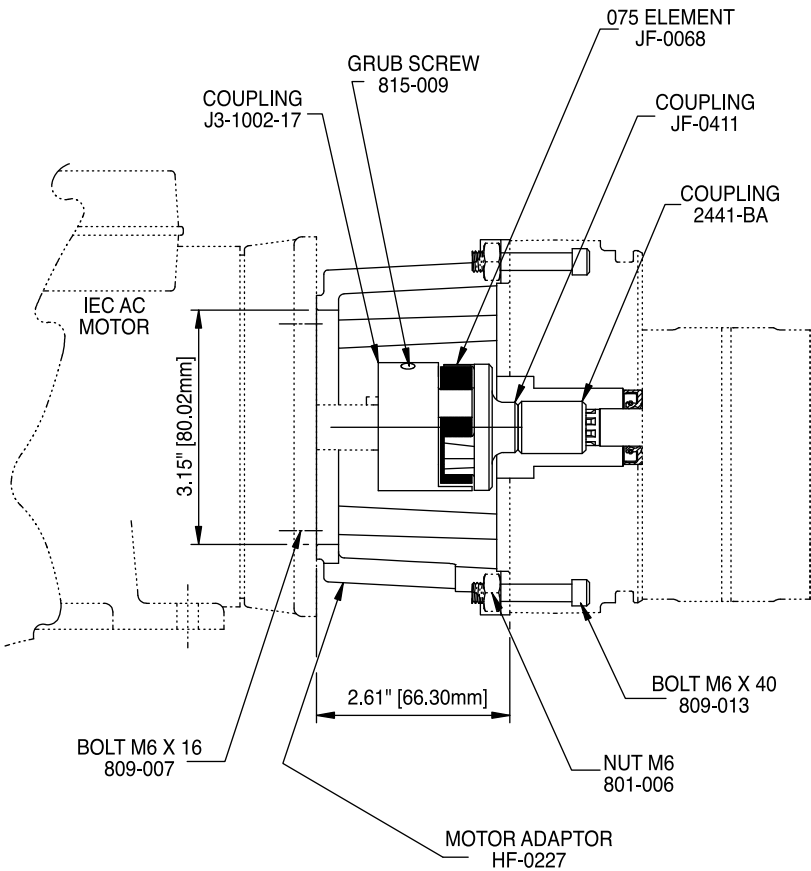
MOTORS



S2 Duty Rating in minutes.  
S3 Duty Rating on time. (% of 5 minutes)  
Please contact factory for KM05 and KM06

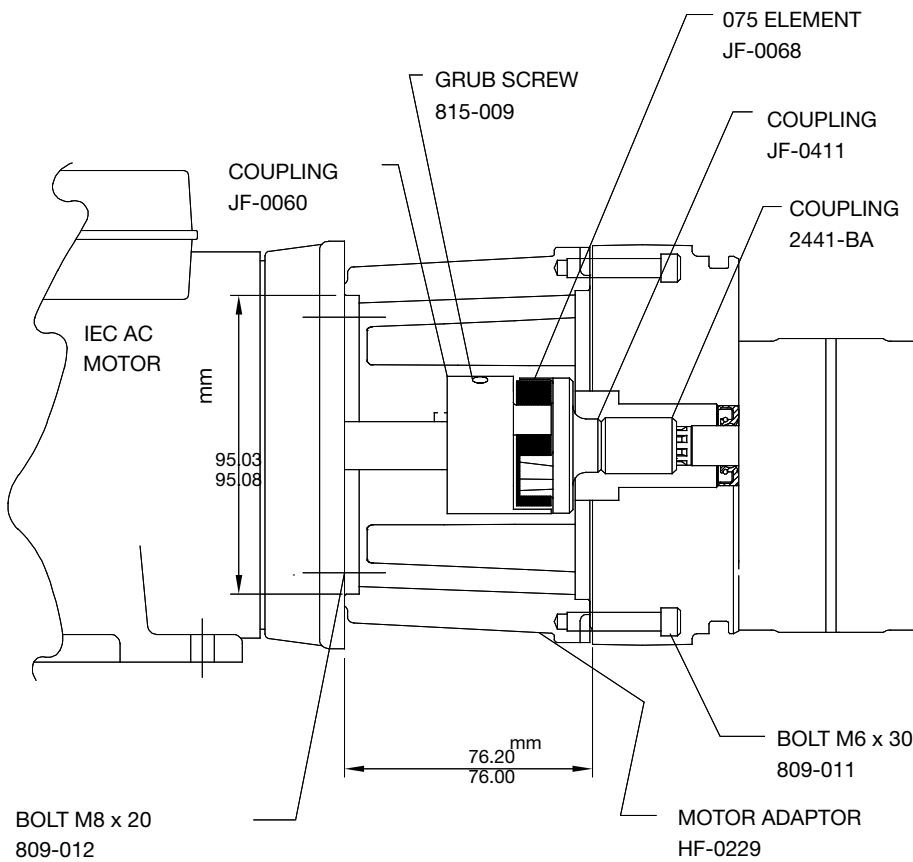


# MOTOR ADAPTOR IEC MOTORS 80 FRAME 80 C FACE



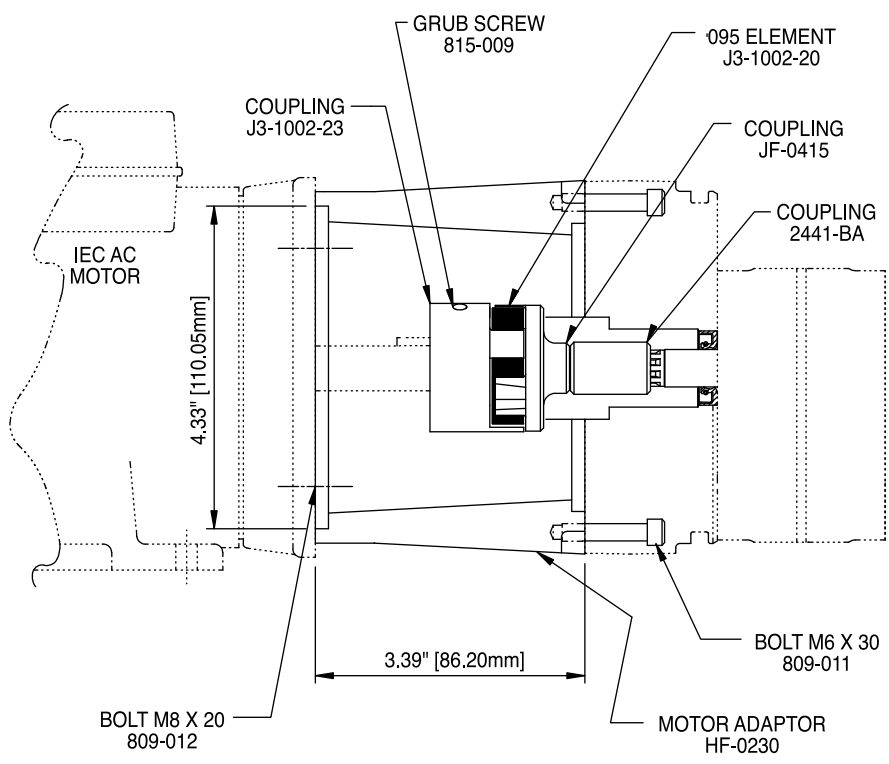
Suitable for use with IEC 80 Frame motors with an 80C (B14) interface and a 19mm diameter shaft, measuring 40mm long from mounting face.

# MOTOR ADAPTOR IEC MOTORS 90 FRAME 95 C FACE



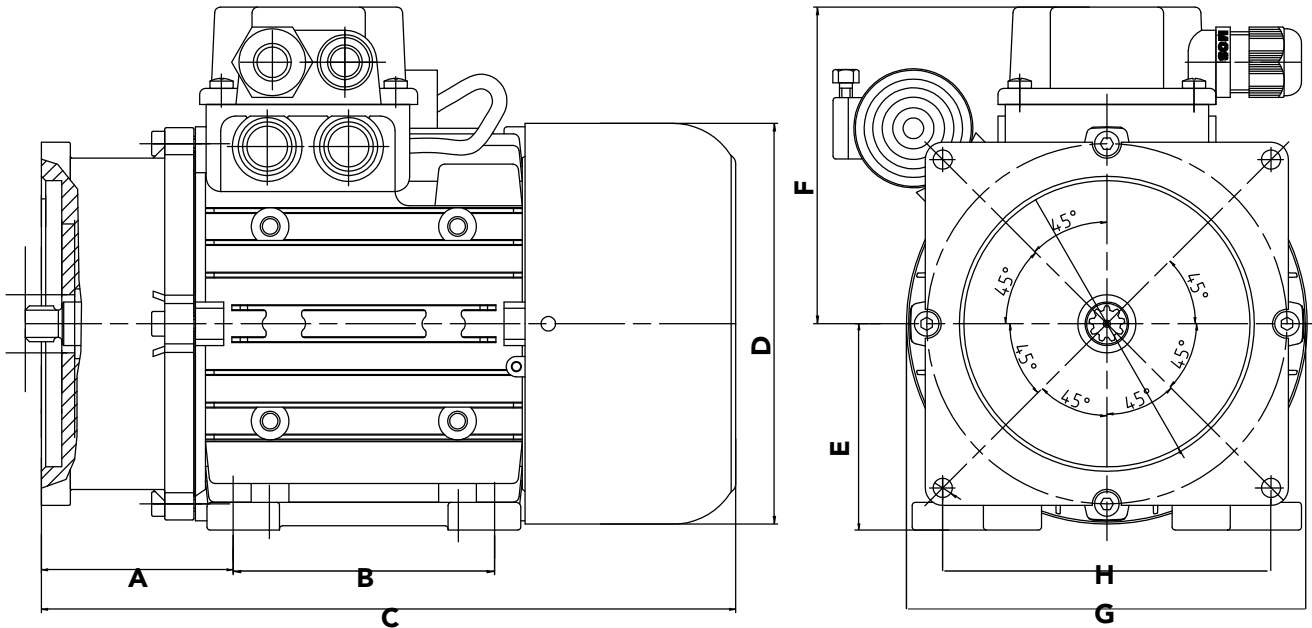
Suitable for use with IEC 90 Frame motors with an 95C (B14) interface and a 24mm diameter shaft, measuring 50mm long from mounting face.

# 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 2 POLE AC MOTORS



| Motor | A     | B      | C      | D      | E     | F      | G      | H      |
|-------|-------|--------|--------|--------|-------|--------|--------|--------|
| KM44  | 66 mm | 90 mm  | 239 mm | 138 mm | 71 mm | 109 mm | 163 mm | 112 mm |
| KM45  | 66 mm | 90 mm  | 239 mm | 138 mm | 71 mm | 109 mm | 163 mm | 112 mm |
| KM46  | 65 mm | 100 mm | 266 mm | 176 mm | 90 mm | 128 mm | 195 mm | 140 mm |
| KM47  | 65 mm | 100 mm | 266 mm | 176 mm | 90 mm | 128 mm | 195 mm | 140 mm |
| KM48  | 65 mm | 125 mm | 295 mm | 176 mm | 90 mm | 128 mm | 202 mm | 140 mm |

| Motor/Pump  | KP08               | KP10               | KP12               | KP16               | KP20               | KP25               | KP31               | KP40                | KP50             | KP 63            | KP 80            |
|---|--------------------|--------------------|--------------------|--------------------|--------------------|--------------------|--------------------|---------------------|------------------|------------------|------------------|
| <b>KM44 0,375Kw</b><br>2850 RPM, 1PH<br>220/240v 50Hz | 2.0 LPM<br>95 BAR  | 2.5 LPM<br>75 BAR  | 3.0 LPM<br>65 BAR  | 4.0 LPM<br>48 BAR  | 5.0 LPM<br>38 BAR  | 7.0 LPM<br>30 BAR  | 8.0 LPM<br>25 BAR  |                     |                  |                  |                  |
| <b>KM45 0,75Kw</b><br>2850 RPM, 1PH<br>220/240v 50Hz  | 2.0 LPM<br>190 BAR | 2.5 LPM<br>150 BAR | 3.0 LPM<br>130 BAR | 4.0 LPM<br>90 BAR  | 5.0 LPM<br>75 BAR  | 7.0 LPM<br>60 BAR  | 8.0 LPM<br>50 BAR  | 11.0 LPM<br>35 BAR  | 13 LPM<br>30 BAR |                  |                  |
| <b>KM46 1,1Kw</b><br>2850 RPM, 1PH<br>220/240v 50Hz   |                    | 2.5 LPM<br>230 BAR | 3.0 LPM<br>130 BAR | 4.0 LPM<br>140 BAR | 5.0 LPM<br>110 BAR | 7.0 LPM<br>90 BAR  | 8.0 LPM<br>70 BAR  | 11.0 LPM<br>55 BAR  | 13 LPM<br>45 BAR | 16 LPM<br>35 BAR |                  |
| <b>KM47 1,5Kw</b><br>2850 RPM, 1PH<br>220/240v 50Hz   |                    | 2.5 LPM<br>250 BAR | 3.0 LPM<br>250 BAR | 4.0 LPM<br>190 BAR | 5.0 LPM<br>150 BAR | 7.0 LPM<br>120 BAR | 8.0 LPM<br>100 BAR | 11.0 LPM<br>75 BAR  | 13 LPM<br>60 BAR | 16 LPM<br>45 BAR | 20 LPM<br>35 BAR |
| <b>KM48 2,2Kw</b><br>2850 RPM, 1PH<br>220/240v 50Hz   |                    |                    |                    | 4.0 LPM<br>250 BAR | 5.0 LPM<br>230 BAR | 7.0 LPM<br>180 BAR | 8.0 LPM<br>140 BAR | 11.0 LPM<br>110 BAR | 13 LPM<br>90 BAR | 16 LPM<br>65 BAR | 20 LPM<br>50 BAR |

Performance at 45 CST (200 SSU) and 90% mechanical efficiency. 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.

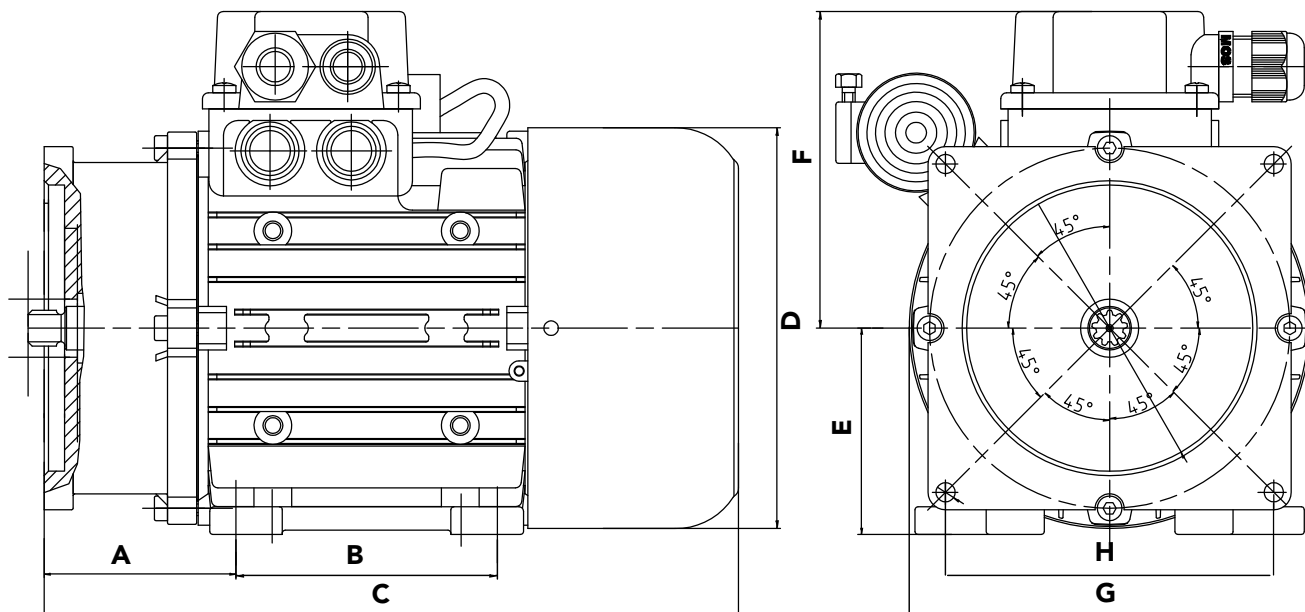
For flows over 11 LPM, use a 1413-AA filter.

**Note:** Stone uses a network of qualified suppliers to ensure availability. There are minor dimensional and cosmetic differences between vendor's products. KM 78 duty cycle S3-30%, Class F insulation, B3 form, Cap Start only.



**KM54-58**

**CONTINUOUS DUTY  
3 PH 2 POLE AC MOTORS**



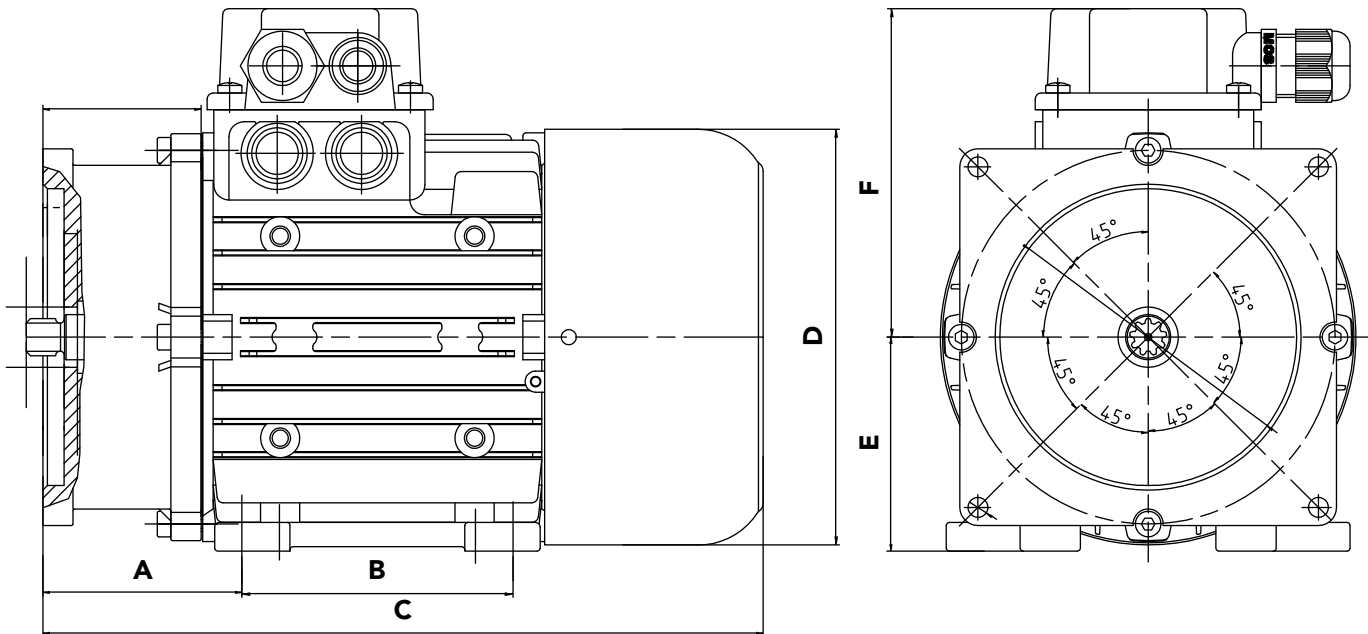
| Motor | A     | B      | C      | D      | E     | F      | G      | H      |
|-------|-------|--------|--------|--------|-------|--------|--------|--------|
| KM54  | 66 mm | 90 mm  | 239 mm | 138 mm | 71 mm | 109 mm | 137 mm | 112 mm |
| KM55  | 66 mm | 90 mm  | 239 mm | 138 mm | 71 mm | 109 mm | 137 mm | 112 mm |
| KM56  | 65 mm | 100 mm | 266 mm | 176 mm | 90 mm | 128 mm | 182 mm | 140 mm |
| KM57  | 65 mm | 100 mm | 266 mm | 176 mm | 90 mm | 128 mm | 182 mm | 140 mm |
| KM58  | 65 mm | 125 mm | 290 mm | 176 mm | 90 mm | 128 mm | 181 mm | 140 mm |

| Motor/Pump  | KP08               | KP10               | KP12               | KP16               | KP20               | KP35               | KP31               | KP40                | KP50               | KP 63              | KP 80              |
|---|--------------------|--------------------|--------------------|--------------------|--------------------|--------------------|--------------------|---------------------|--------------------|--------------------|--------------------|
| <b>KM54 0,375Kw</b><br>2850 RPM, 3PH<br>230/400v 50Hz | 2.0 LPM<br>95 BAR  | 2.5 LPM<br>75 BAR  | 3.0 LPM<br>65 BAR  | 4.0 LPM<br>48 BAR  | 5.0 LPM<br>38 BAR  | 7.0 LPM<br>30 BAR  | 8.0 LPM<br>25 BAR  |                     |                    |                    |                    |
| <b>KM55 0,75Kw</b><br>2850 RPM, 3PH<br>230/400v 50Hz  | 2.0 LPM<br>190 BAR | 2.5 LPM<br>150 BAR | 3.0 LPM<br>130 BAR | 4.0 LPM<br>98 BAR  | 5.0 LPM<br>78 BAR  | 7.0 LPM<br>60 BAR  | 8.0 LPM<br>50 BAR  | 11.0 LPM<br>35 BAR  | 13.0 LPM<br>30 BAR |                    |                    |
| <b>KM56 1,1Kw</b><br>2850 RPM, 3PH<br>230/400v 50Hz   |                    | 2,5 LPM<br>230 BAR | 3.0 LPM<br>190 BAR | 4.0 LPM<br>140 BAR | 5.0 LPM<br>110 BAR | 7.0 LPM<br>90 BAR  | 8.0 LPM<br>70 BAR  | 11.0 LPM<br>55 BAR  | 13.0 LPM<br>45 BAR | 16.0 LPM<br>35 BAR |                    |
| <b>KM57 1,5Kw</b><br>2850 RPM, 3PH<br>230/400v 50Hz   |                    | 2,5 LPM<br>250 BAR | 3.0 LPM<br>250 BAR | 4.0 LPM<br>190 BAR | 5.0 LPM<br>150 BAR | 7.0 LPM<br>120 BAR | 8.0 LPM<br>100 BAR | 11.0 LPM<br>75 BAR  | 13.0 LPM<br>60 BAR | 16.0 LPM<br>45 BAR | 20.0 LPM<br>35 BAR |
| <b>KM58 2,2Kw</b><br>2850 RPM, 3PH<br>230/400v 50Hz   |                    |                    |                    | 4.0 LPM<br>250 BAR | 5.0 LPM<br>230 BAR | 7.0 LPM<br>180 BAR | 8.0 LPM<br>140 BAR | 11.0 LPM<br>110 BAR | 13.0 LPM<br>90 BAR | 16.0 LPM<br>65 BAR | 20.0 LPM<br>50 BAR |

Performance at 45 CST (200 SSU) and 90% mechanical efficiency. 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 11 LPM, use a 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.  
 KM 78 duty cycle 53-30%, Class F insulation, B3 form, Cap Start only.



# CONTINUOUS DUTY 3 PH 4 POLE AC MOTORS



| Motor | A     | B      | C      | D      | E     | F      | G      | H      |
|-------|-------|--------|--------|--------|-------|--------|--------|--------|
| KM64  | 66 mm | 90 mm  | 239 mm | 138 mm | 71 mm | 109 mm | 137 mm | 112 mm |
| KM65  | 66 mm | 90 mm  | 239 mm | 138 mm | 71 mm | 109 mm | 137 mm | 112 mm |
| KM66  | 65 mm | 100 mm | 266 mm | 176 mm | 90 mm | 128 mm | 182 mm | 140 mm |
| KM67  | 65 mm | 125 mm | 290 mm | 176 mm | 90 mm | 128 mm | 181 mm | 140 mm |
| KM68  | 65 mm | 125 mm | 290 mm | 176 mm | 90 mm | 128 mm | 181 mm | 140 mm |

| Motor/Pump  | KP08               | KP10               | KP12               | KP16               | KP20               | KP35               | KP31               | KP40               | KP50               | KP 63              | KP 80               |
|---|--------------------|--------------------|--------------------|--------------------|--------------------|--------------------|--------------------|--------------------|--------------------|--------------------|---------------------|
| <b>KM64 0,375Kw</b><br>1450 RPM, 3PH<br>230/400v 50Hz | 1.0 LPM<br>175 BAR | 1.3 LPM<br>140 BAR | 1.6 LPM<br>120 BAR | 2.1 LPM<br>90 BAR  | 2.6 LPM<br>70 BAR  | 3.3 LPM<br>60 BAR  | 4.0 LPM<br>45 BAR  | 5.2 LPM<br>35 BAR  | 6.5 LPM<br>30 BAR  | 8.2 LPM<br>25 BAR  |                     |
| <b>KM65 0,75Kw</b><br>1450 RPM, 3PH<br>230/400v 50Hz  | 1.0 LPM<br>350 BAR | 1.3 LPM<br>280 BAR | 1.6 LPM<br>230 BAR | 2.1 LPM<br>175 BAR | 2.6 LPM<br>140 BAR | 3.3 LPM<br>110 BAR | 4.0 LPM<br>90 BAR  | 5.2 LPM<br>70 BAR  | 6.5 LPM<br>60 BAR  | 8.2 LPM<br>45 BAR  | 10.4 LPM<br>35 BAR  |
| <b>KM66 1,1Kw</b><br>1450 RPM, 3PH<br>230/400v 50Hz   |                    |                    | 1.6 LPM<br>340 BAR | 2.1 LPM<br>255 BAR | 2.6 LPM<br>205 BAR | 3.3 LPM<br>160 BAR | 4.0 LPM<br>130 BAR | 5.2 LPM<br>100 BAR | 6.5 LPM<br>80 BAR  | 8.2 LPM<br>65 BAR  | 10.4 LPM<br>50 BAR  |
| <b>KM67 1,5Kw</b><br>1450 RPM, 3PH<br>230/400v 50Hz   |                    |                    |                    | 2.1 LPM<br>350 BAR | 2.6 LPM<br>280 BAR | 3.3 LPM<br>225 BAR | 4.0 LPM<br>180 BAR | 5.2 LPM<br>140 BAR | 6.5 LPM<br>110 BAR | 8.2 LPM<br>90 BAR  | 10.4 LPM<br>70 BAR  |
| <b>KM68 2,2Kw</b><br>1450 RPM, 3PH<br>230/400v 50Hz   |                    |                    |                    |                    |                    | 3.3 LPM<br>325 BAR | 4.0 LPM<br>265 BAR | 5.2 LPM<br>205 BAR | 6.5 LPM<br>165 BAR | 8.2 LPM<br>130 BAR | 10.4 LPM<br>100 BAR |

Performance at 45 CST (200 SSU) and 90% mechanical efficiency. 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.

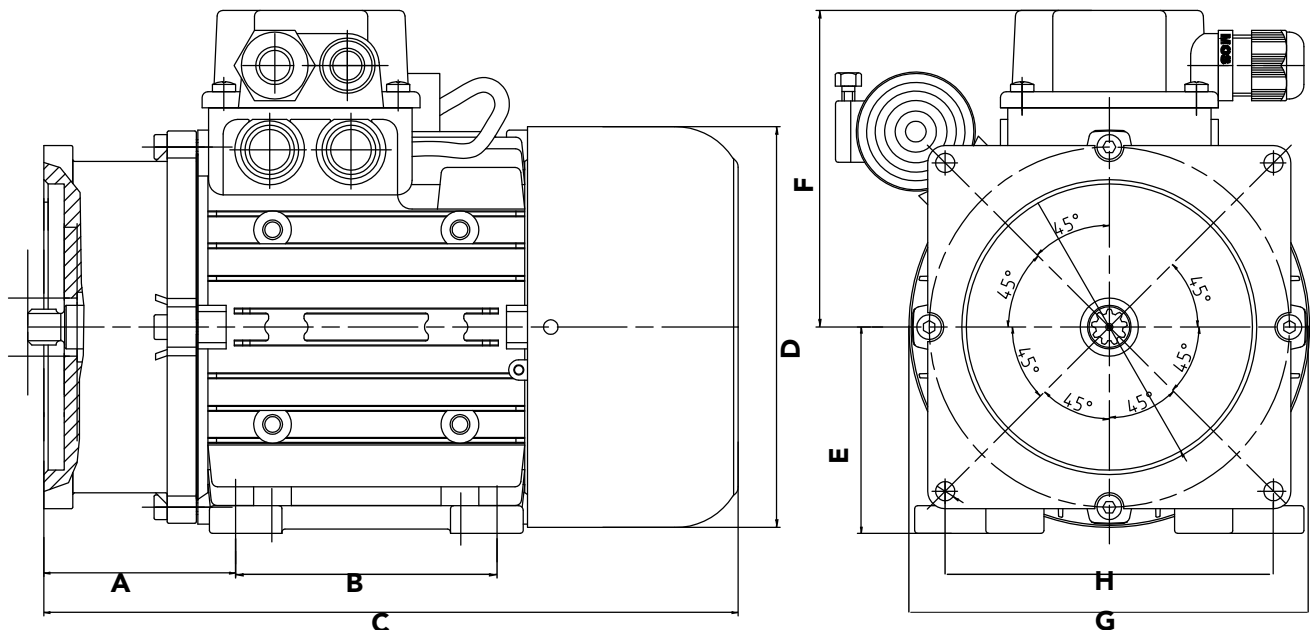
For flows over 11 LPM, use a 1413-AA filter.

**Note:** Stone uses a network of qualified suppliers to ensure availability. There are minor dimensional and cosmetic differences between vendor's products. KM 78 duty cycle S3-30%, Class F insulation, B3 form, Cap Start only.



**KM74-78**

**CONTINUOUS DUTY  
1PH 4 POLE AC MOTORS**

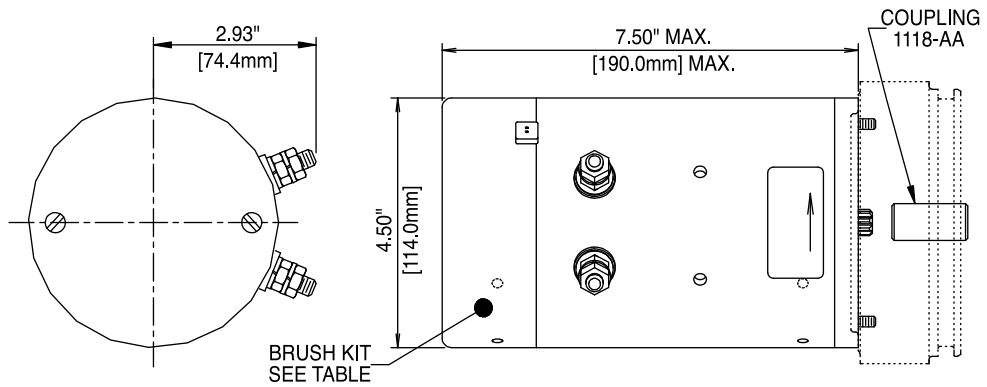


| Motor | A     | B      | C      | D      | E     | F      | G      | H      |
|-------|-------|--------|--------|--------|-------|--------|--------|--------|
| KM74  | 66 mm | 90 mm  | 239 mm | 138 mm | 71 mm | 109 mm | 163 mm | 112 mm |
| KM75  | 65 mm | 100 mm | 266 mm | 176 mm | 90 mm | 128 mm | 195 mm | 140 mm |
| KM76  | 65 mm | 100 mm | 266 mm | 176 mm | 90 mm | 128 mm | 195 mm | 140 mm |
| KM77  | 65 mm | 125 mm | 290 mm | 176 mm | 90 mm | 128 mm | 202 mm | 140 mm |
| KM78  | 65 mm | 125 mm | 290 mm | 176 mm | 90 mm | 128 mm | 202 mm | 140 mm |

| Motor/Pump  | KP08               | KP10               | KP12               | KP16               | KP20               | KP35               | KP31               | KP40               | KP50               | KP 63              | KP 80               |
|---|--------------------|--------------------|--------------------|--------------------|--------------------|--------------------|--------------------|--------------------|--------------------|--------------------|---------------------|
| <b>KM74 0,375Kw</b><br>1450 RPM, 1PH<br>220/240v 50Hz | 1.0 LPM<br>175 BAR | 1.3 LPM<br>140 BAR | 1.6 LPM<br>120 BAR | 2.1 LPM<br>90 BAR  | 2.6 LPM<br>70 BAR  | 3.3 LPM<br>60 BAR  | 4.0 LPM<br>45 BAR  | 5.2 LPM<br>35 BAR  | 6.5 LPM<br>30 BAR  | 8.2 LPM<br>25 BAR  |                     |
| <b>KM75 0,75Kw</b><br>1450 RPM, 1PH<br>220/240v 50Hz  | 1.0 LPM<br>350 BAR | 1.3 LPM<br>280 BAR | 1.6 LPM<br>230 BAR | 2.1 LPM<br>175 BAR | 2.6 LPM<br>140 BAR | 3.3 LPM<br>110 BAR | 4.0 LPM<br>90 BAR  | 5.2 LPM<br>70 BAR  | 6.5 LPM<br>60 BAR  | 8.2 LPM<br>45 BAR  | 10.4 LPM<br>35 BAR  |
| <b>KM76 1,1Kw</b><br>1450 RPM, 1PH<br>220/240v 50Hz   |                    |                    | 1.6 LPM<br>340 BAR | 2.1 LPM<br>255 BAR | 2.6 LPM<br>205 BAR | 3.3 LPM<br>160 BAR | 4.0 LPM<br>130 BAR | 5.2 LPM<br>100 BAR | 6.5 LPM<br>80 BAR  | 8.2 LPM<br>65 BAR  | 10.4 LPM<br>50 BAR  |
| <b>KM77 1,5Kw</b><br>1450 RPM, 1PH<br>220/240v 50Hz   |                    |                    |                    | 2.1 LPM<br>350 BAR | 2.6 LPM<br>280 BAR | 3.3 LPM<br>225 BAR | 4.0 LPM<br>180 BAR | 5.2 LPM<br>140 BAR | 6.5 LPM<br>110 BAR | 8.2 LPM<br>90 BAR  | 10.4 LPM<br>70 BAR  |
| <b>KM78 2,2Kw</b><br>1450 RPM, 1PH<br>220/240v 50Hz   |                    |                    |                    |                    |                    | 3.3 LPM<br>325 BAR | 4.0 LPM<br>265 BAR | 5.2 LPM<br>205 BAR | 6.5 LPM<br>165 BAR | 8.2 LPM<br>130 BAR | 10.4 LPM<br>100 BAR |

Performance at 45 CST (200 SSU) and 90% mechanical efficiency. 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 11 LPM, use a 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.  
 KM 78 duty cycle S3-30%, Class F insulation, B3 form, Cap Start only.

# 4.5" FIELD WOUND DC MOTORS

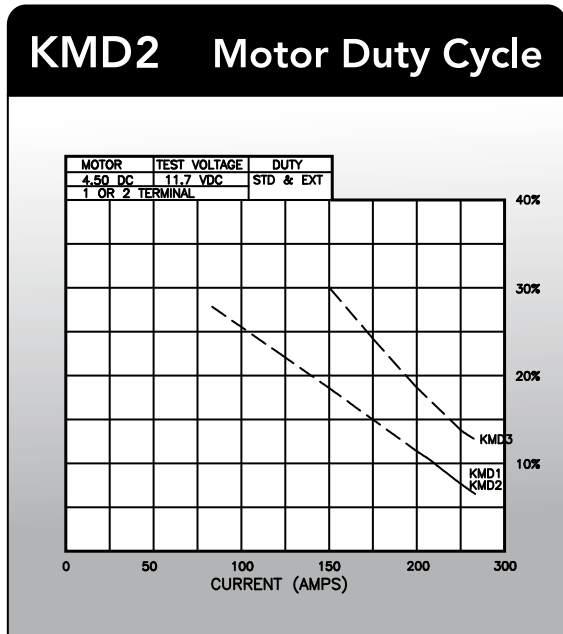
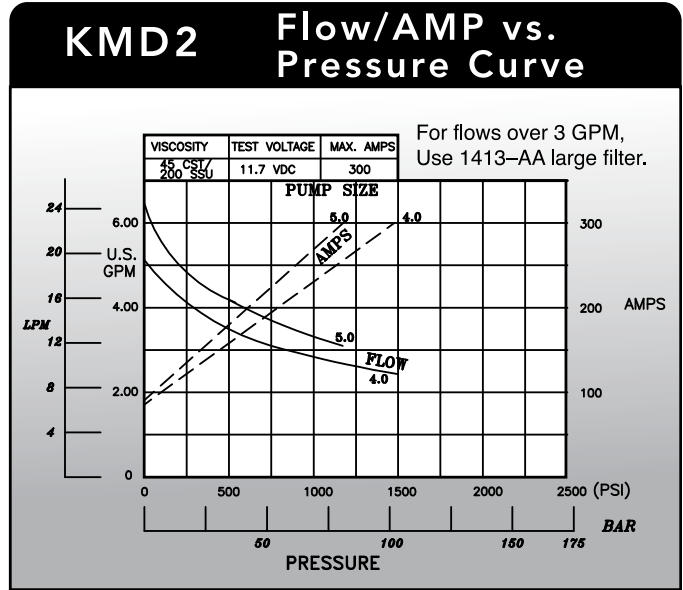
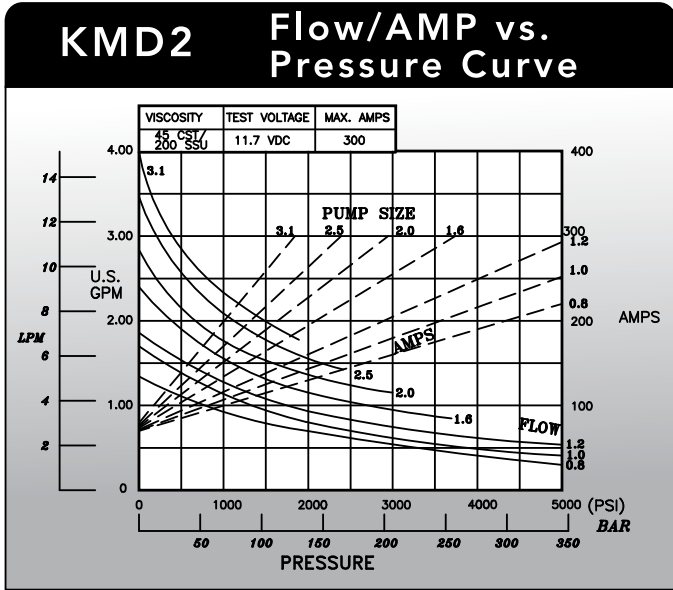


| KIT NO. | VOLTAGE | DUTY | UL RECOGNIZED | BRUSH KIT |
|---------|---------|------|---------------|-----------|
| KMD2    | 12V     | STD  | YES           | K-97      |
| KMD5    | 24V     | STD  | YES           | K-92      |

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

**KMD2**

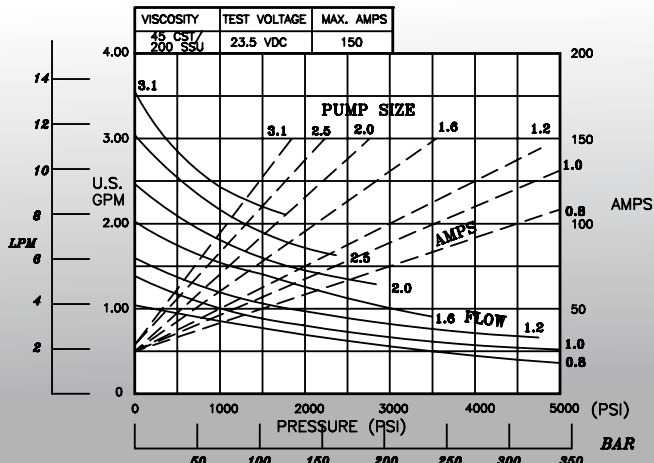
**4.5" 12V DC MOTOR (STD. & EXT. DUTY)  
PERFORMANCE & DUTY CYCLE**



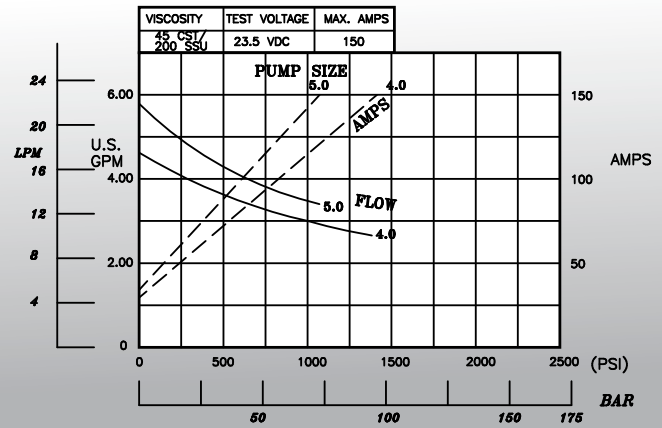
S3 Duty Rating on time. (% of 5 minutes)

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

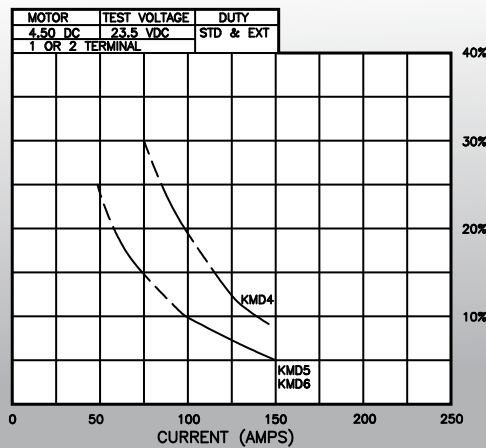
**KMD5 Flow/AMP vs. Pressure Curve**



**KMD5 Flow/AMP vs. Pressure Curve**



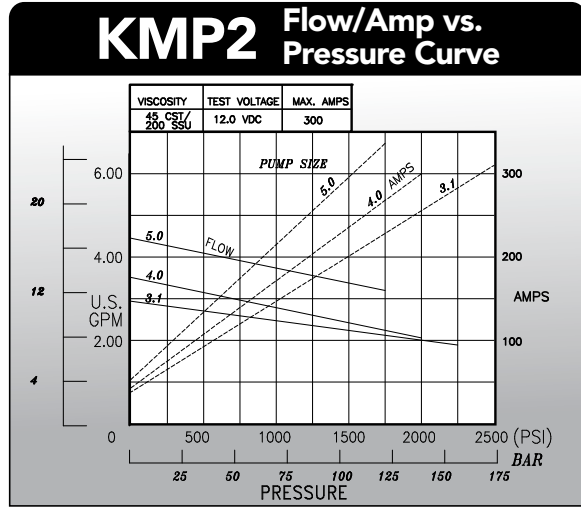
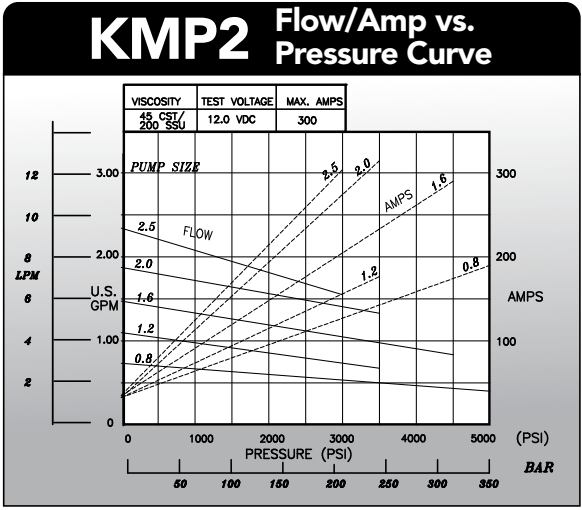
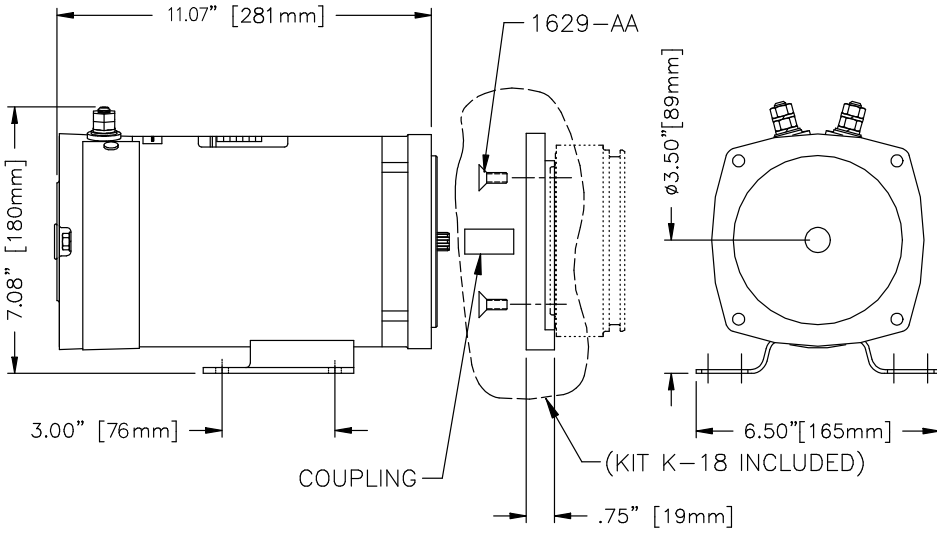
**KMD5 Motor Duty Cycle**



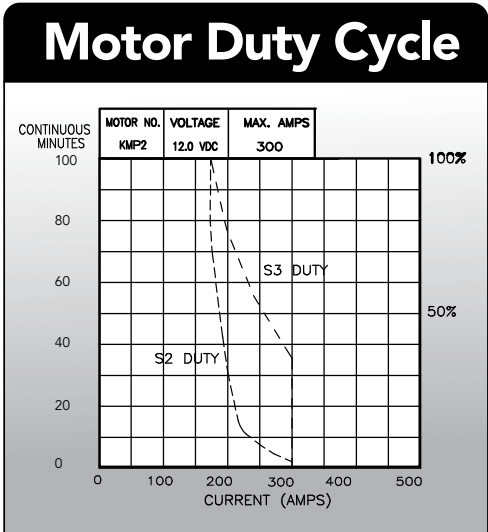
S3 Duty Rating on time. (% of 5 minutes)

**KMP2**

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

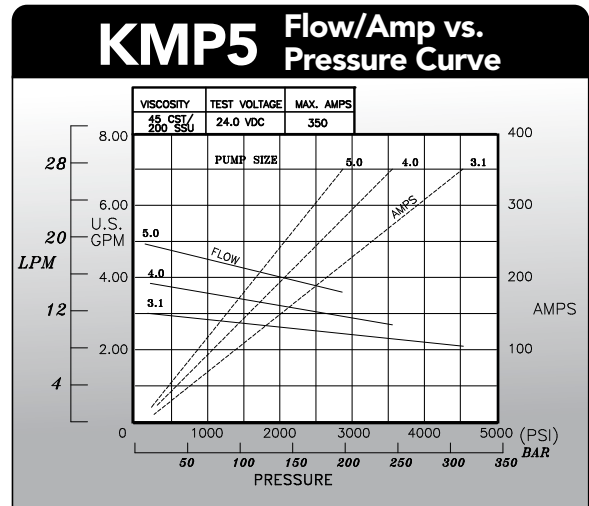
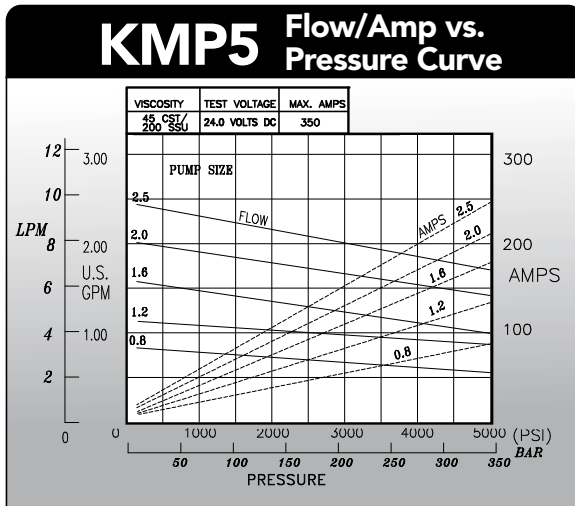
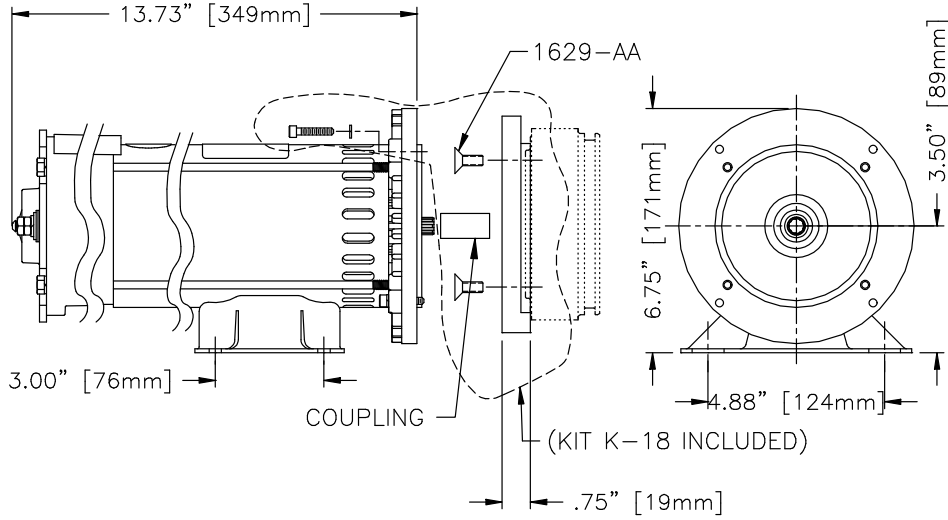


For flows over 3 U.S. GPM (11 LPM) use 1413-AA filter

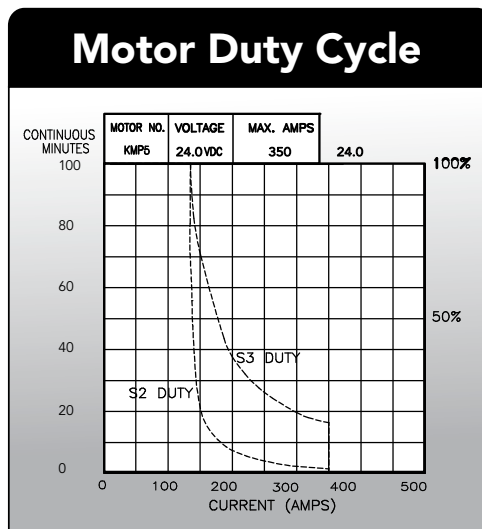


S3 Duty Rating On Time (% of 5 minutes)

# 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)

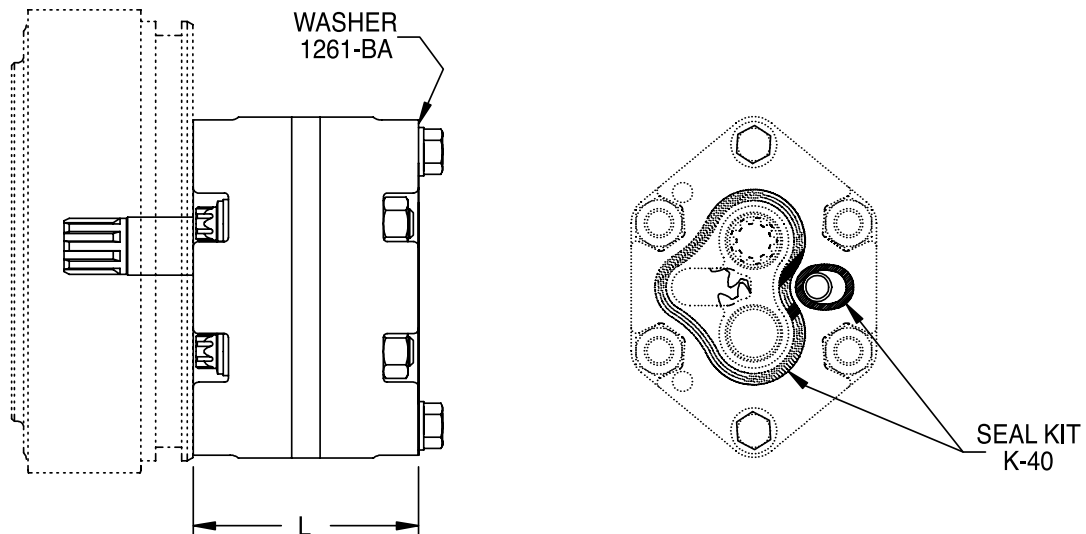
# Pumps

| <b>Kit Number</b> | <b>Description</b>   | <b>Page Number</b> |
|-------------------|----------------------|--------------------|
| KP08-80           | Pump Kits AFC Series | Pages 39-40        |
| KU2-4             | Unload Assembly      | Page 41            |

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



# PUMP KITS AFC SERIES



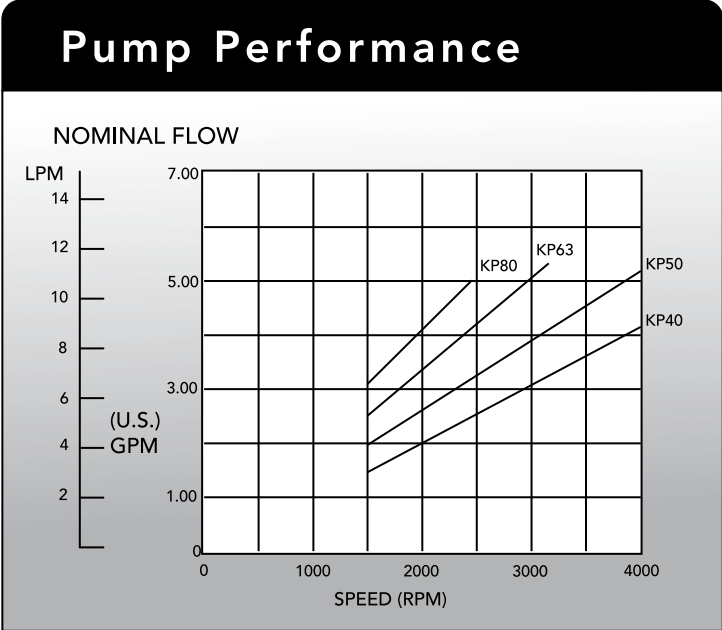
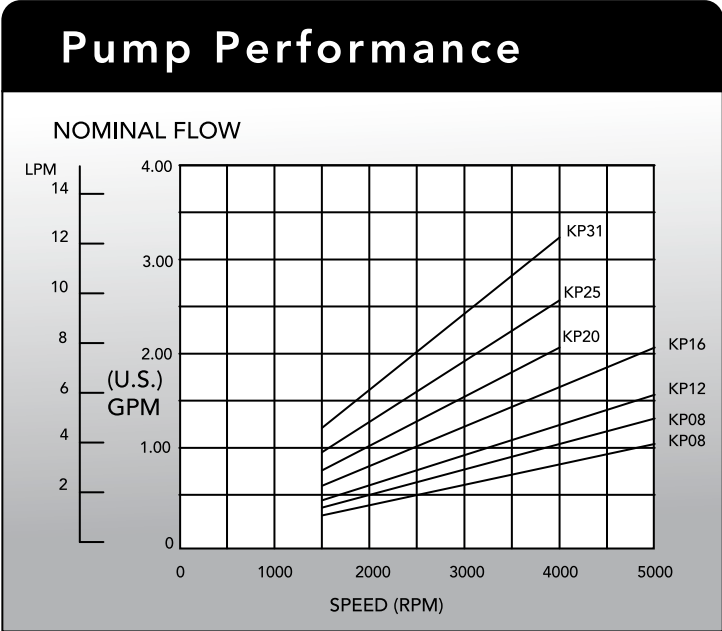
Current Endhead Design Uses 5/16-24 Mounting Thread. Older Endhead Design Used M8 Mounting Thread. Pump Kits Include Both Imperial And Metric Mounting Bolts.

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

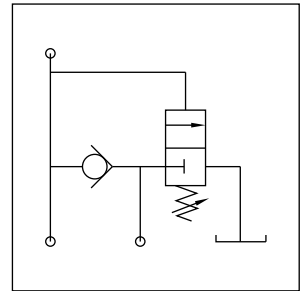
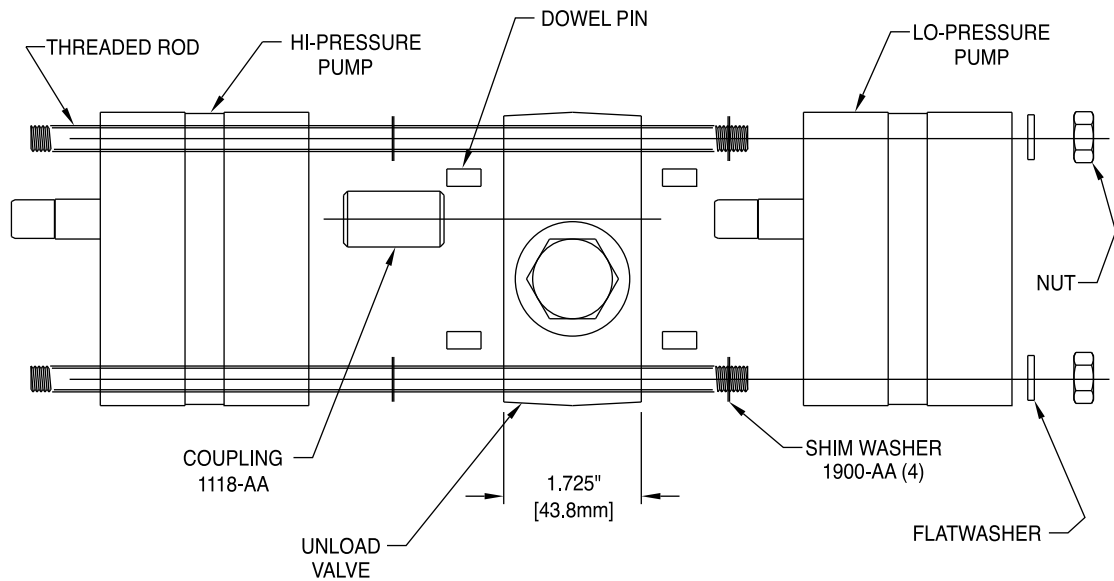
Kit includes washers and mounting bolts. Use all washers. Mounting bolts are grade 5. **Do not substitute.**

KP10 cannot be used in duplex pump applications.

# PUMP KITS AFC SERIES



# 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.

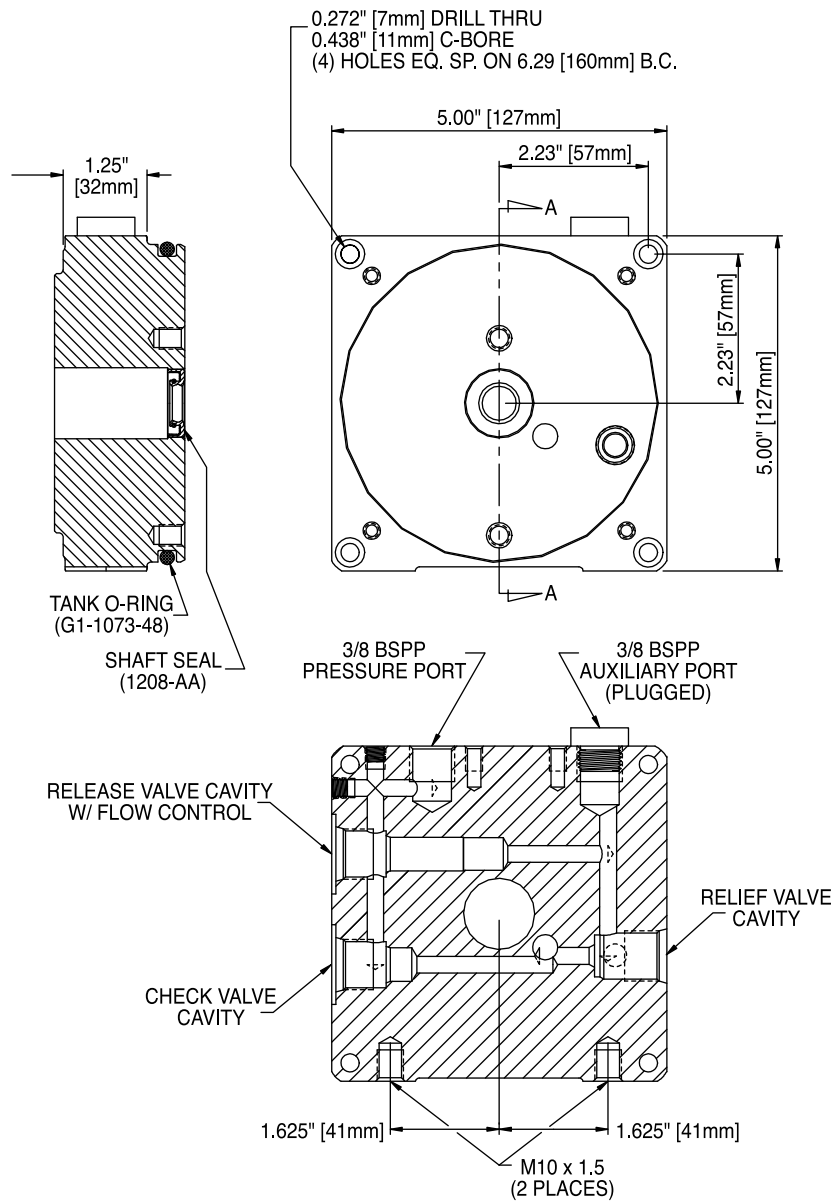
Metric and imperial threaded rod, nuts and washers provided.

Unload setting can be adjusted in range shown.

# Endheads

| <b>Kit Number</b> | <b>Description</b>                   | <b>Page Number</b> |
|-------------------|--------------------------------------|--------------------|
| KN10              | Endhead Metric Footmounts BSPP Ports | Page 43            |

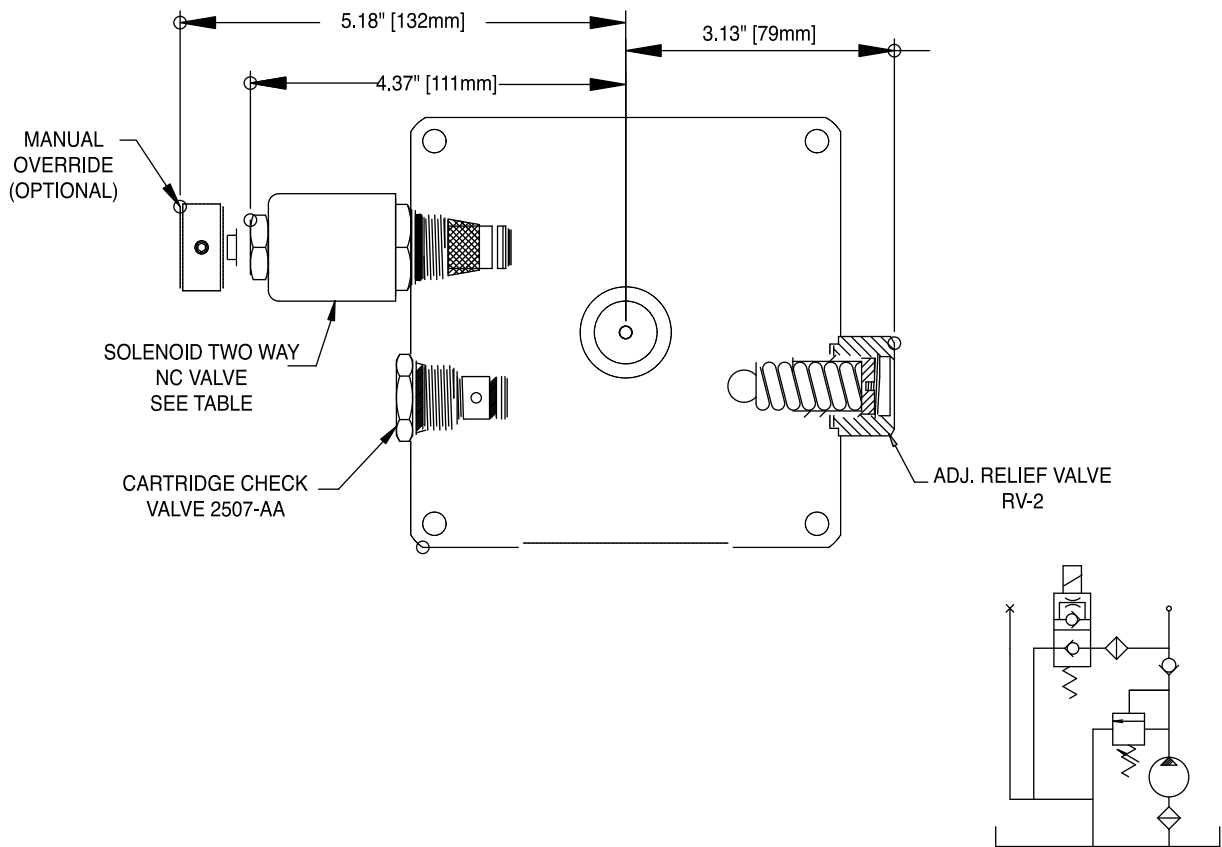
# ENDHEAD METRIC FOOTMOUNTS BSPP PORTS



# Integral Valves

| <b>Kit Number</b> | <b>Description</b>  | <b>Page Number</b> |
|-------------------|---|--------------------|
| KC01A-L           | Relief, Check, Solenoid Release Valve Kit                 | Page 45            |
| KC03              | Relief, Check, Manual Release Valve Kit Direct Acting     | Page 46            |
| KC05              | Relief, Check, Manual Release Valve Kit With Micro-Switch | Page 47            |
| KC07              | Relief & Check Valve Kit                                  | Page 48            |
| KC08              | Relief Valve Kit  | Page 49            |
| KC14              | Relief, Check Pneumatic Release Valve Kit                 | Page 50            |
| KC15              | Relief, Check Manual Release Valve Kit                    | Page 51            |
| KC18              | Relief, Check & Lever Release Valve Kit                   | Page 52            |
| KFC2-8            | Pressure Compensated Flow Control                         | Page 53            |

# RELIEF, CHECK, SOLENOID RELEASE VALVE KIT



| KIT NO. | COIL VOLTAGE | CONNECTION STYLE     | HANDSETS |
|---------|--------------|----------------------|----------|
| KC01A   | 12V DC       | DIN/Hirschmann       |          |
| KC01B   | 12V DC       | Dual 1/4" Spade      |          |
| KC01C   | 12V DC       | Single # 10 UNF Stud | *        |
| KC01D   | 24V DC       | DIN/Hirschmann       |          |
| KC01E   | 24V DC       | Dual 1/4" Spade      |          |
| KC01F   | 24V DC       | Single # 10 UNF Stud | *        |

| KIT NO. | COIL VOLTAGE | CONNECTION STYLE | HANDSETS |
|---------|--------------|------------------|----------|
| KC01G   | 24V AC       | DIN/Hirschmann   |          |
| KC01H   | 230V AC      | DIN/Hirschmann   |          |
| KC01J   | 115V AC      | DIN/Hirschmann   |          |
| KC01K   | 12V DC       | Smart Start      | **       |
| KC01L   | 24V DC       | Smart Start      | **       |

Kit includes 4 color-coded relief springs as follows: Blue (500-1000 PSI) [34.5-69 Bar], Green (1000-2000 PSI)[69-138 Bar], Red (2000-3000 PSI)[138-207 Bar], Black (3000-4000 PSI)[207-276 Bar].

Optional: (4000-5000 PSI)[276-345 Bar] Relief valve kit available, order part no. K-175.

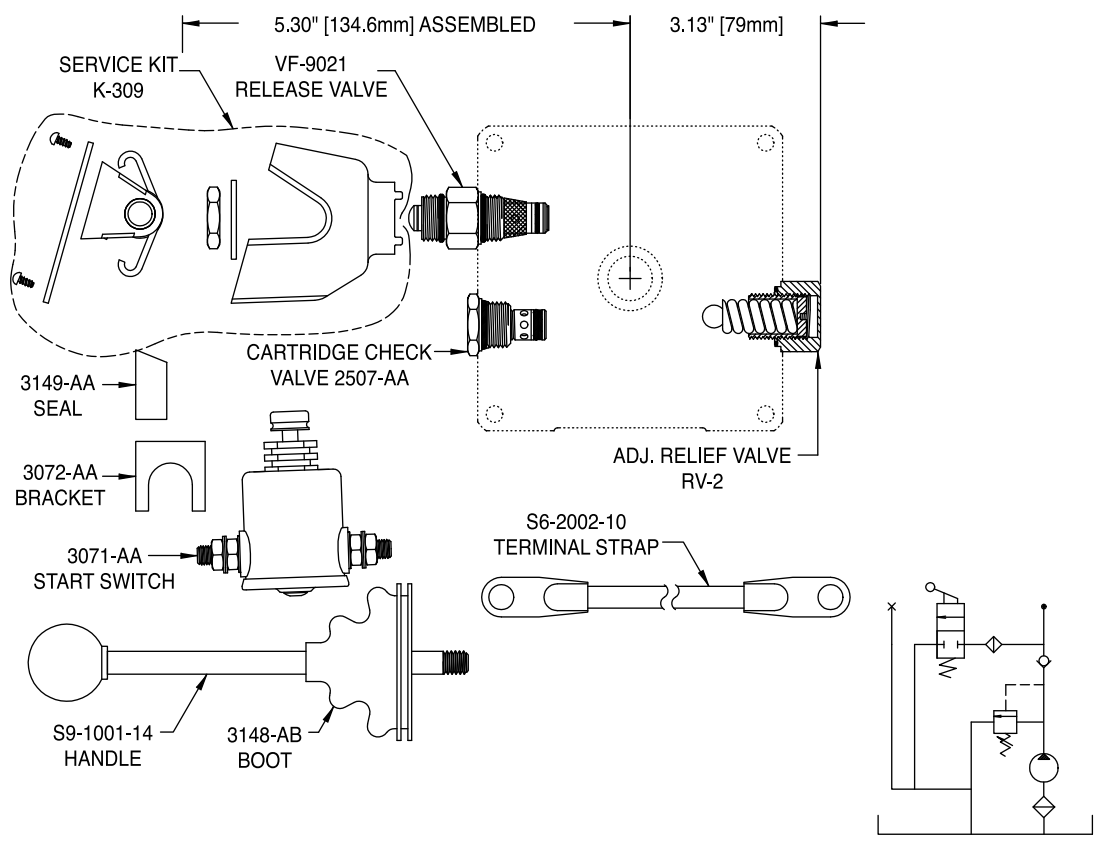
Optional: Order JF-0048 spring locator when using the blue (500-1000 PSI) [34.5-69 Bar] spring.

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

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

KC03

# RELIEF, CHECK, MANUAL RELEASE VALVE KIT DIRECT ACTING



Kit includes 4 color-coded relief springs as follows: Blue (500-1000 PSI) [34.5-69 Bar], Green (1000-2000 PSI)[69-138 Bar], Red (2000-3000 PSI)[138-207 Bar], Black (3000-4000 PSI)[207-276 Bar].

Optional: (4000-5000 PSI)[276-345 Bar] Relief valve kit available, order part no. K-175.

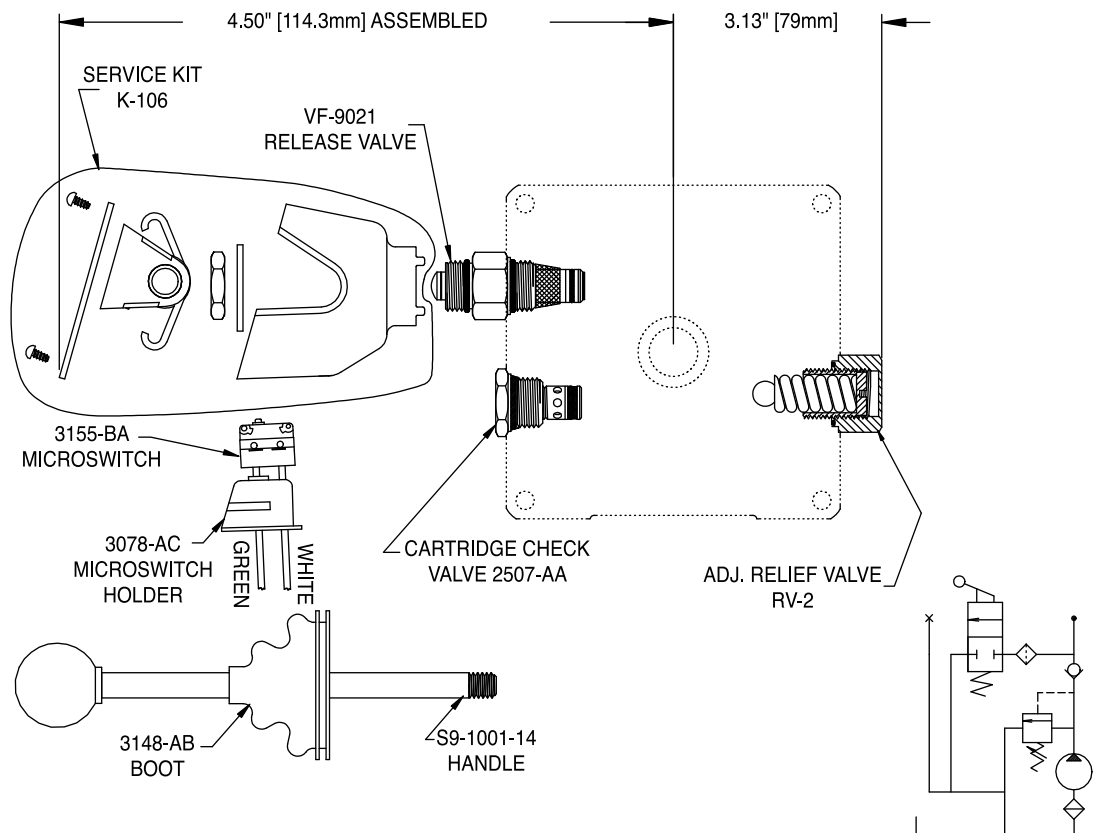
Optional: Order JF-0048 spring locator when using the blue (500-1000 PSI) [34.5-69 Bar] spring.

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



Kit includes 4 color-coded relief springs as follows: Blue (500-1000 PSI) [34.5-69 Bar], Green (1000-2000 PSI)[69-138 Bar], Red (2000-3000 PSI)[138-207 Bar], Black (3000-4000 PSI)[207-276 Bar].

Optional: (4000-5000 PSI)[276-345 Bar] Relief valve kit available, order part no. K-175.

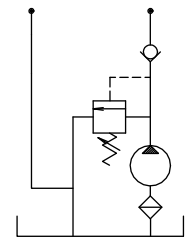
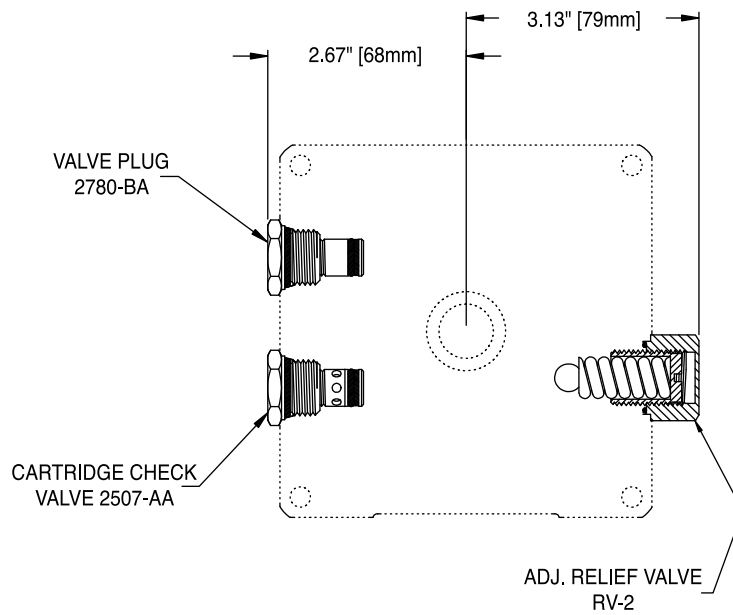
Optional: Order JF-0048 spring locator when using the blue (500-1000 PSI) [34.5-69 Bar] spring.

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

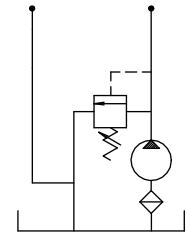
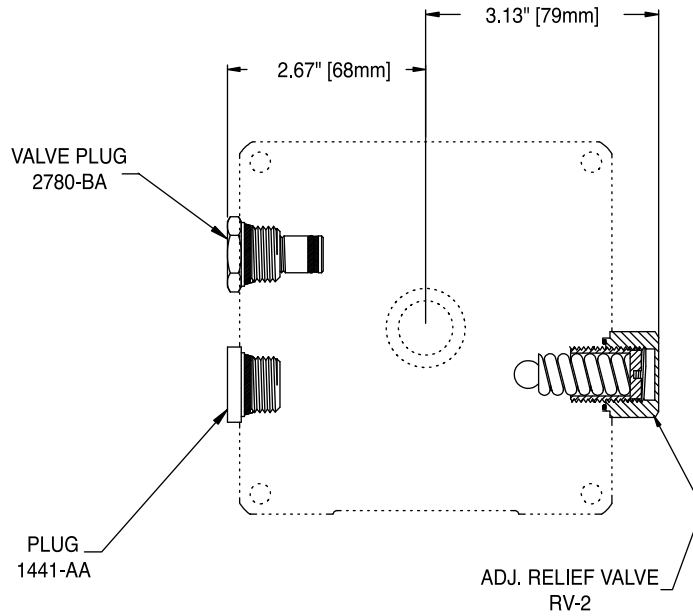


Kit includes 4 color-coded relief springs as follows: Blue (500-1000 PSI) [34.5-69 Bar], Green (1000-2000 PSI)[69-138 Bar], Red (2000-3000 PSI)[138-207 Bar], Black (3000-4000 PSI)[207-276 Bar].

Optional: (4000-5000 PSI)[276-345 Bar] Relief valve kit available, order part no. K-175.

Optional: order JF-0048 spring locator when using the blue (500-1000 PSI) [34.5-69 Bar] spring.

# RELIEF VALVE KIT



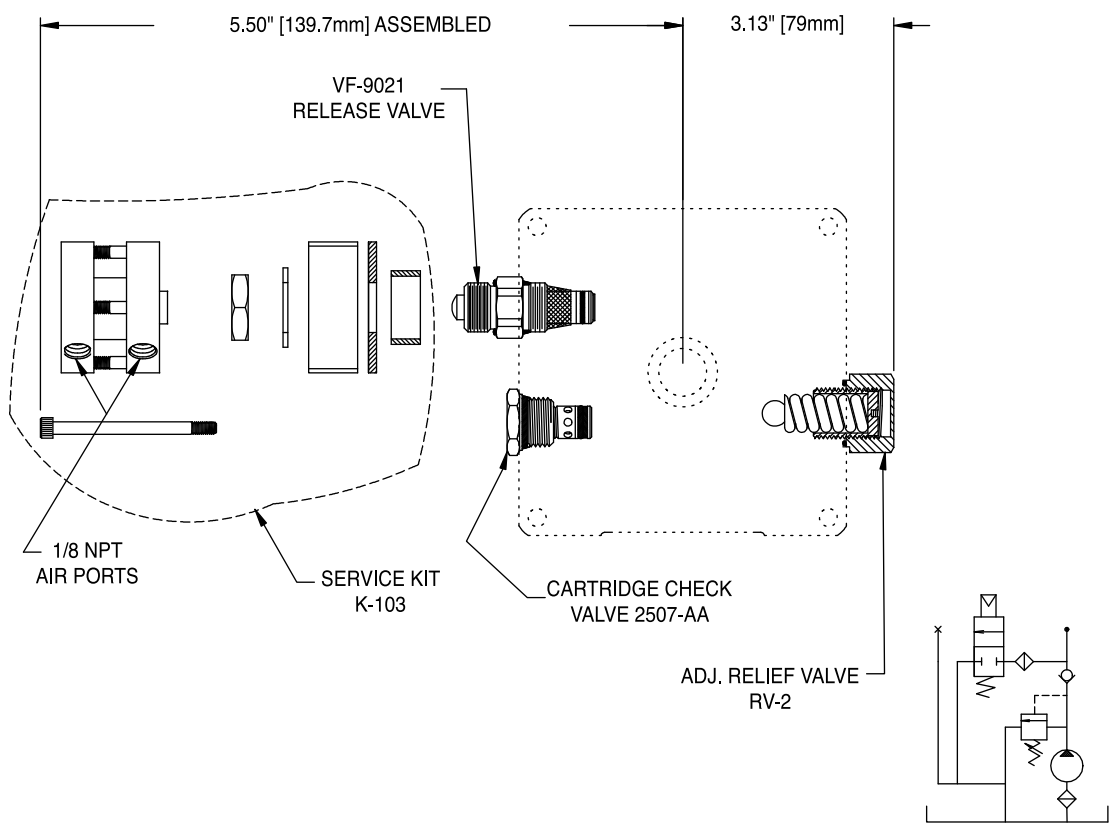
Kit includes 4 color-coded relief springs as follows: Blue (500-1000 PSI) [34.5-69 Bar], Green (1000-2000 PSI)[69-138 Bar], Red (2000-3000 PSI)[138-207 Bar], Black (3000-4000 PSI)[207-276 Bar].

Optional: (4000-5000 PSI)[276-345 Bar] Relief valve kit available, order part no. K-175.

Optional: order JF-0048 spring locator when using the blue (500-1000 PSI) [34.5-69 Bar] spring.

KC14

# RELIEF, CHECK PNEUMATIC RELEASE VALVE KIT



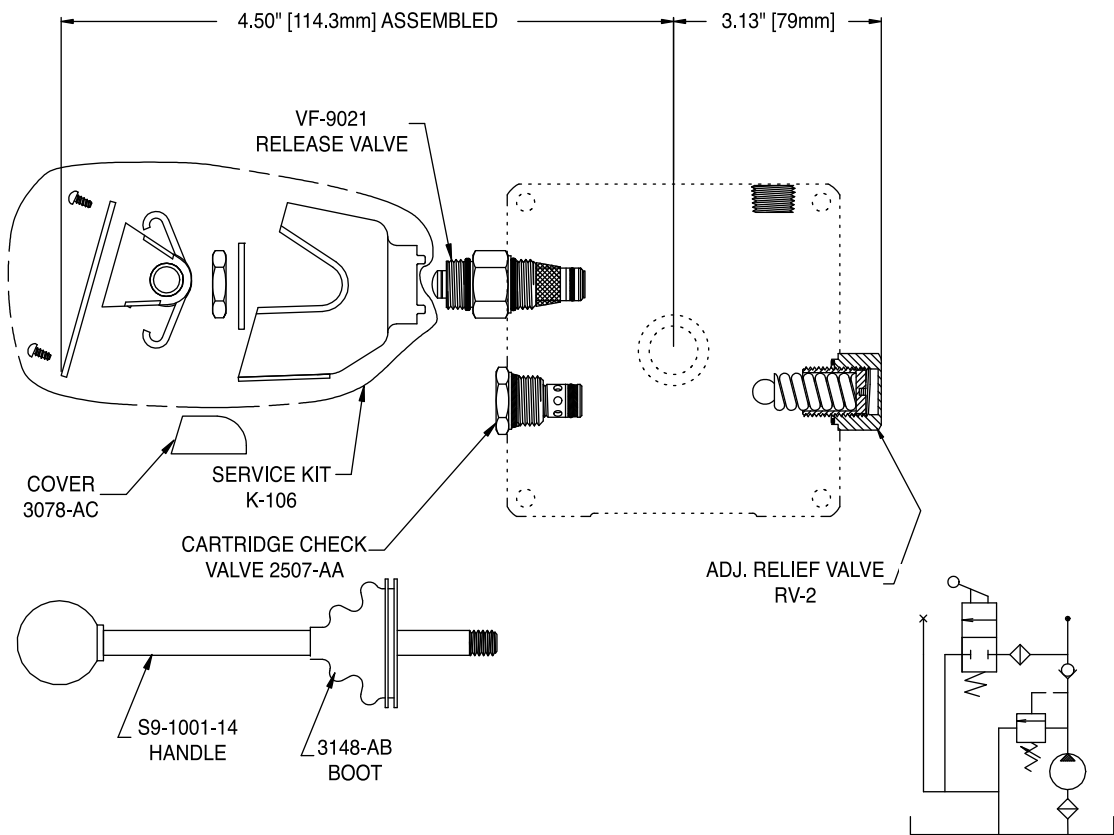
Kit includes 4 color-coded relief springs as follows: Blue (500-1000 PSI) [34.5-69 Bar], Green (1000-2000 PSI)[69-138 Bar], Red (2000-3000 PSI)[138-207 Bar], Black (3000-4000 PSI)[207-276 Bar].

Optional: (4000-5000 PSI)[276-345 Bar] Relief valve kit available, order part no. K-175.

Optional: order JF-0048 spring locator when using the blue (500-1000 PSI) [34.5-69 Bar] spring.

Valve is rated to release at 3000 PSI [207 Bar]. Max. at 90 PSI [6 Bar] air pressure.

# RELIEF, CHECK MANUAL RELEASE VALVE KIT



Kit includes 4 color-coded relief springs as follows: Blue (500-1000 PSI) [34.5-69 Bar], Green (1000-2000 PSI)[69-138 Bar], Red (2000-3000 PSI)[138-207 Bar], Black (3000-4000 PSI)[207-276 Bar].

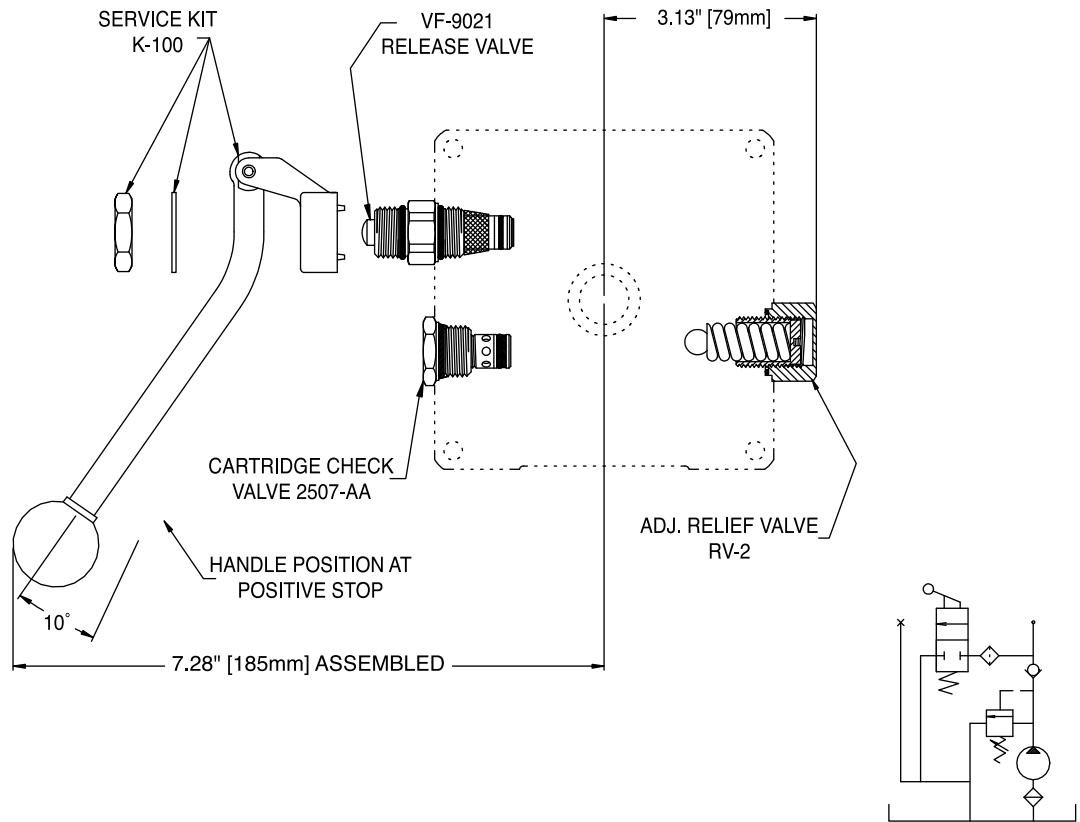
Optional: (4000-5000 PSI)[276-345 Bar] Relief valve kit available, order part no. K-175.

Optional: order JF-0048 spring locator when using the blue (500-1000 PSI) [34.5-69 Bar] spring.

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

KC18

# RELIEF, CHECK & LEVER RELEASE VALVE KIT



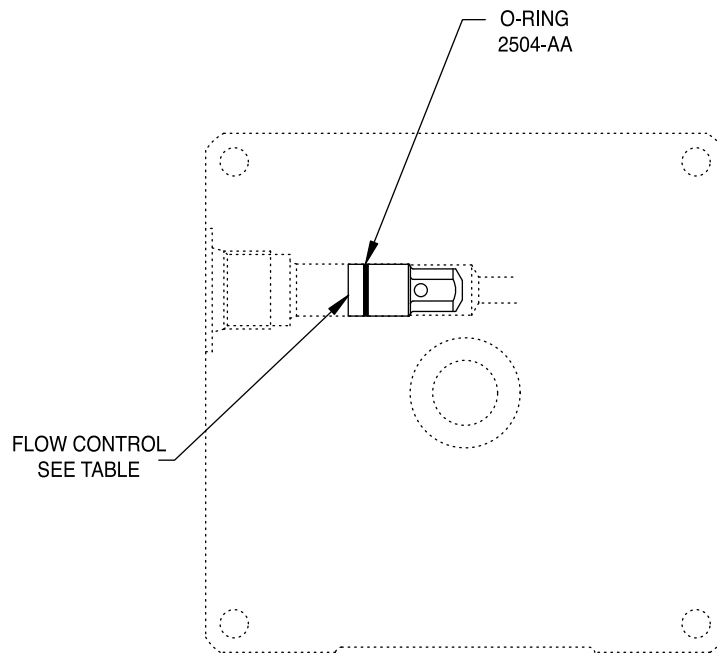
Kit includes 4 color-coded relief springs as follows: Blue (500-1000 PSI) [34.5-69 Bar], Green (1000-2000 PSI)[69-138 Bar], Red (2000-3000 PSI)[138-207 Bar], Black (3000-4000 PSI)[207-276 Bar].

Optional: (4000-5000 PSI)[276-345 Bar] Relief valve kit available, order part no. K-175.

Optional: order JF-0048 spring locator when using the blue (500-1000 PSI) [34.5-69 Bar] spring.

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

# PRESSURE COMPENSATED FLOW CONTROL



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

Metering accuracy typically  $\pm 10\%$  if nominal flow.

May be used with any KC control valve except KC07 and KC08.

May be added to DC10 or DC20 Power Units.

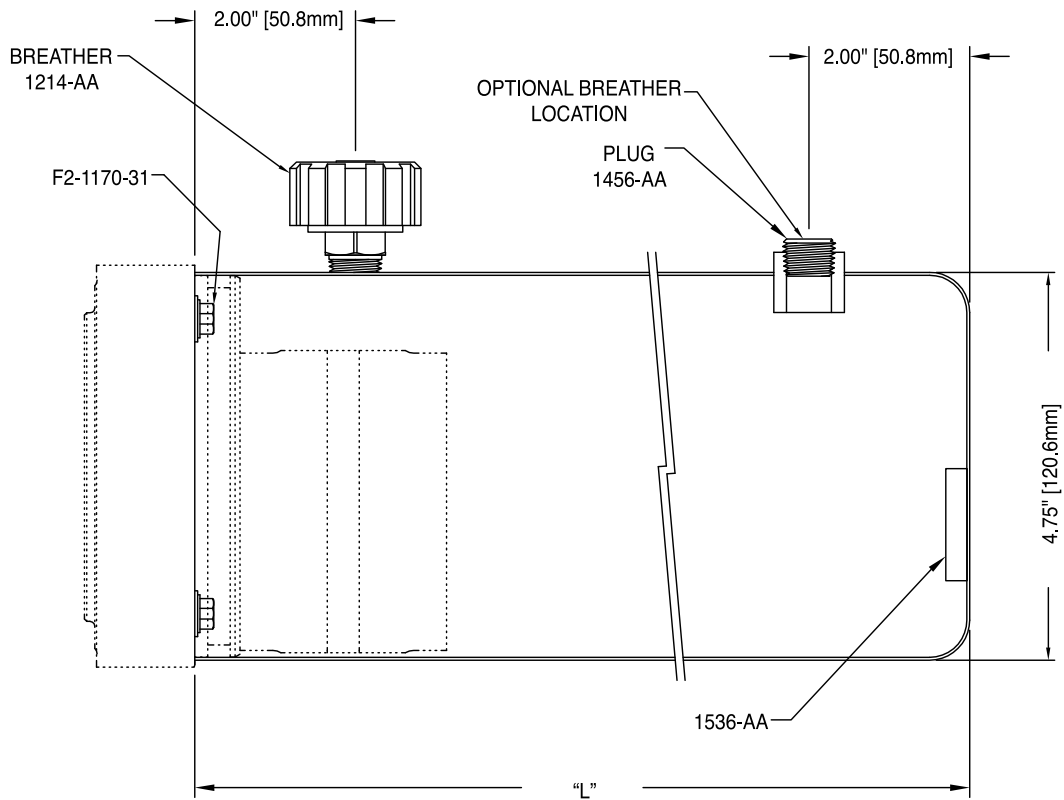
For additional GPM requirements, contact Stone technical service.

# Reservoirs

| <b>Kit Number</b> | <b>Description</b>                         | <b>Page Number</b> |
|-------------------|--|--------------------|
| KR12-15           | 4.75"/120mm Diameter Round Steel           | Page 55            |
| KR22-25           | 5.0"/127mm Square Plastic                  | Page 56            |
| KR40-46           | 6.7"/170mm Diameter Transition Style Steel | Page 57            |
| KR50-56           | 6.7"/170mm Offset Plastic                  | Page 58            |
| KR71              | 20 Litres Floor Mount                      | Page 59            |
| KR72              | Tank Neck-Ring Kit                         | Page 60            |
| KR73              | 50 Litres Vertical Floor Mount             | Page 61            |
| K-140             | Industrial Reservoir Cover Kit             | Page 62            |
| KH                | Plumbing Kit Horizontally Mounted Units    | Page 63            |
| KV                | Plumbing Kit Vertically Mounted Units      | Page 64            |



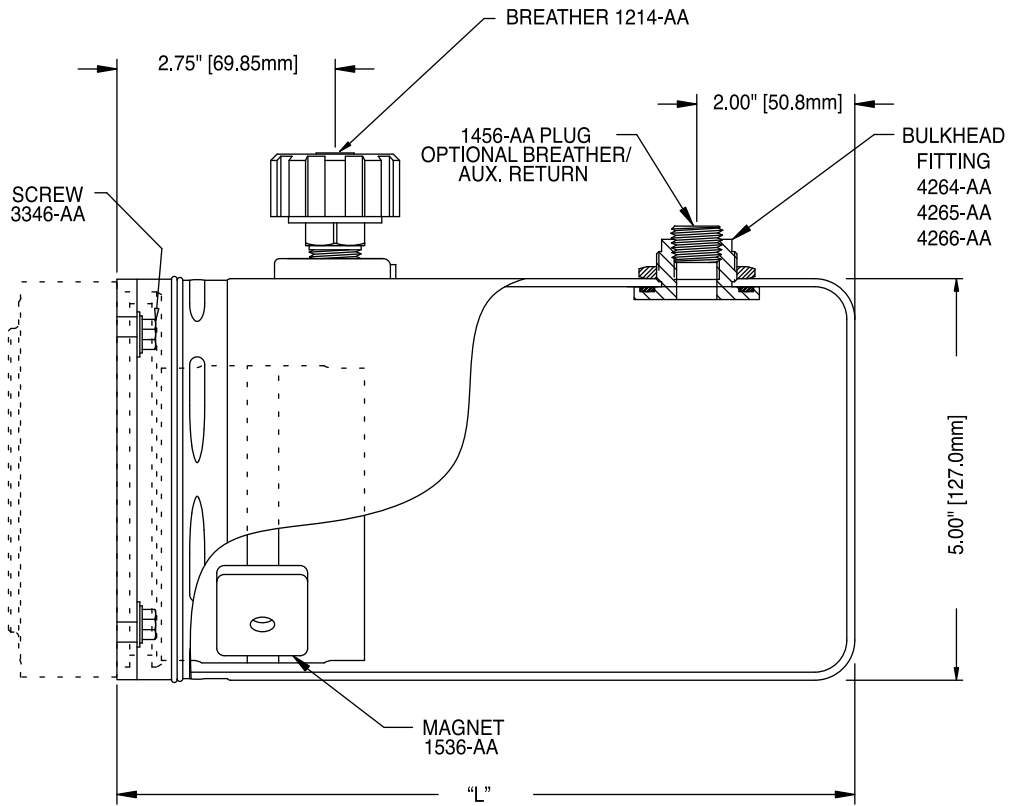
# 4.75"/120MM DIAMETER ROUND STEEL



| 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                  |

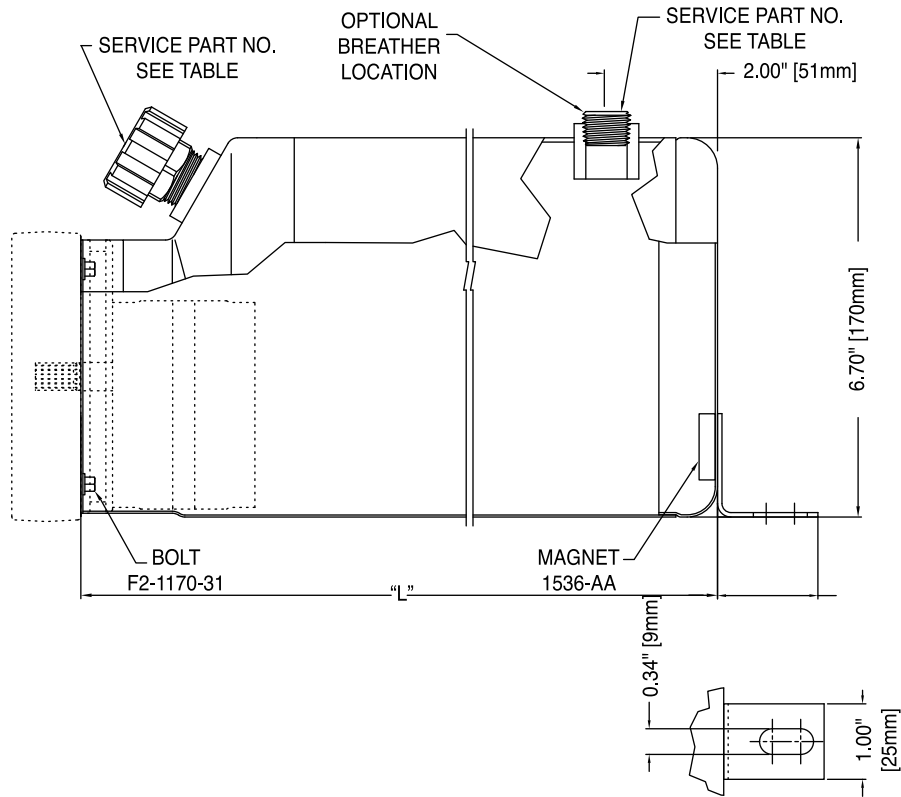
**KR22-25**

**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                  |

# 6.7"/170MM DIAMETER TRANSITION STYLE STEEL



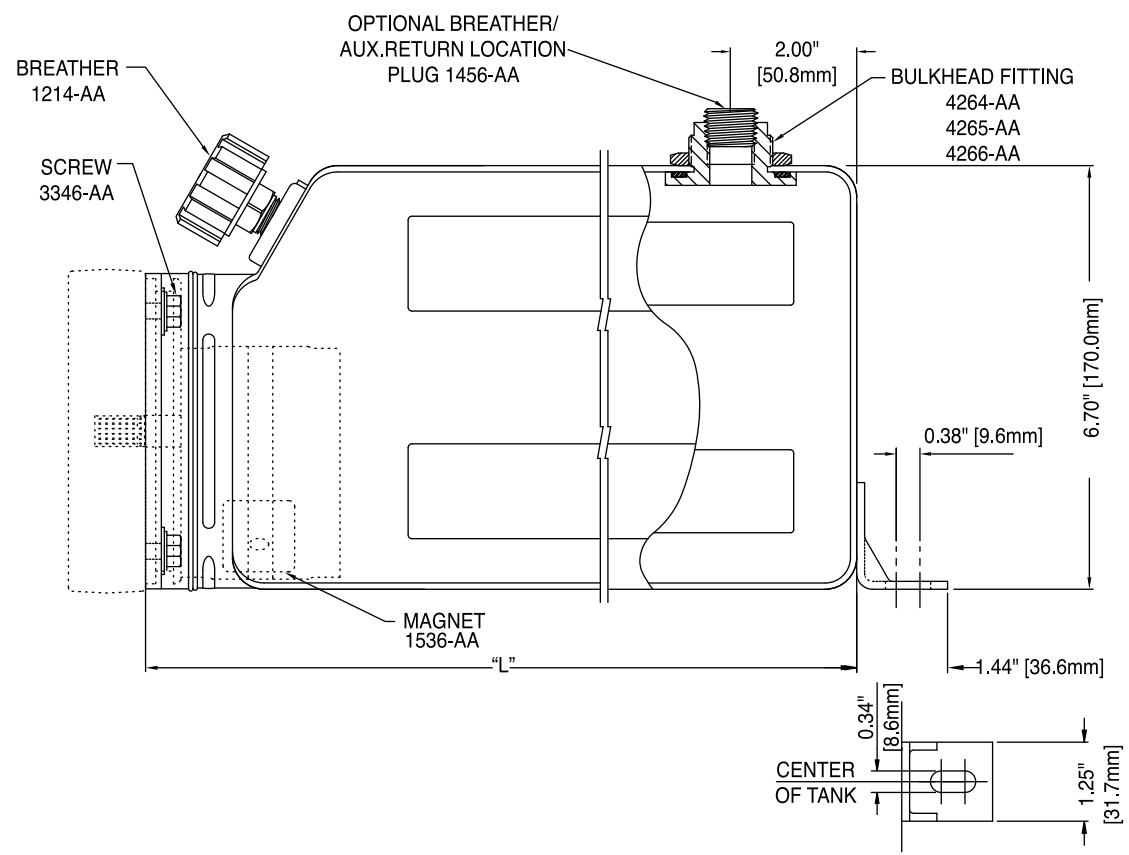
| KIT NO. | NOM. CAP. (QT.) | TANK LENGTH |       | USEABLE OIL CAPACITY |                    |                  |                      | BREATHER PART NO. | PLUG PART NO. |
|---------|-----------------|-------------|-------|----------------------|--------------------|------------------|----------------------|-------------------|---------------|
|         |                 | 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**



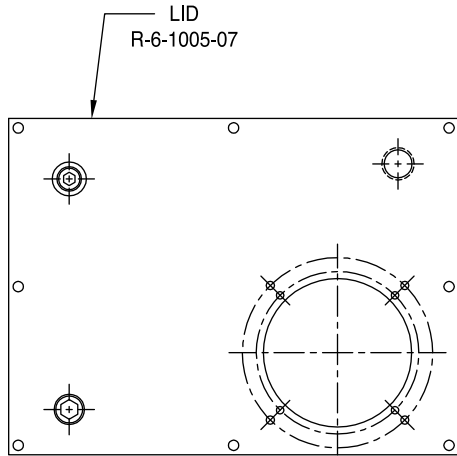
| KIT NO. | NOM. CAP. (QT.) | TANK LENGTH |       | USEABLE OIL CAPACITY |                    |       |                      |
|---------|-----------------|-------------|-------|----------------------|--------------------|-------|----------------------|
|         |                 | MM          | INCH  | LITRE                | VERTICAL CUBIC IN. | LITRE | HORIZONTAL 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.

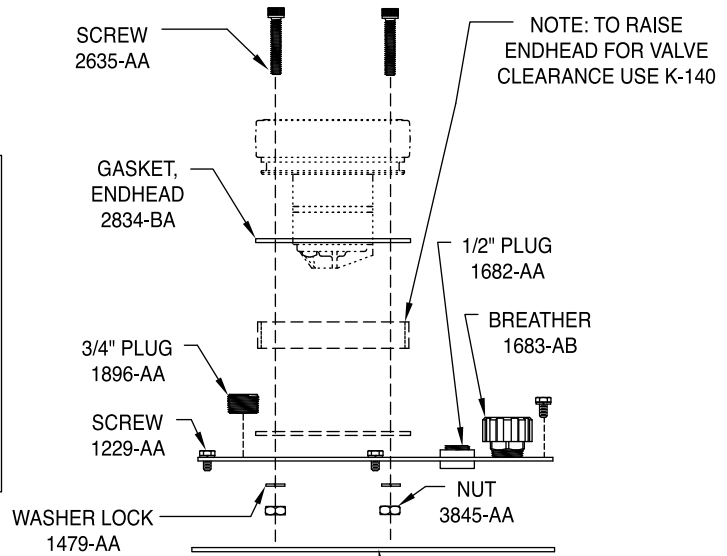
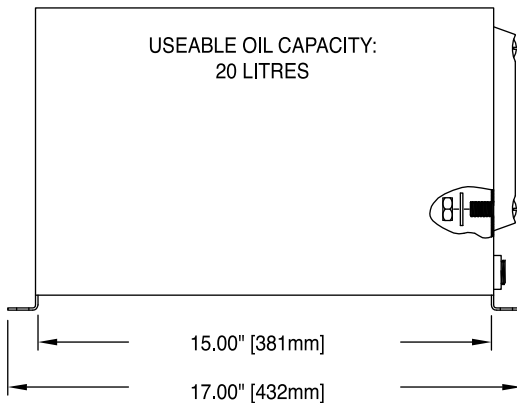
Shimming may be required at installation.

Do not use KR50 or KR55 with duplex pump units.

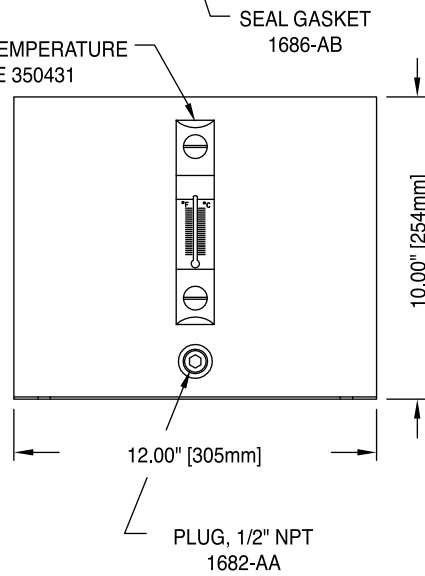
# 20 LITRES FLOOR MOUNT



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

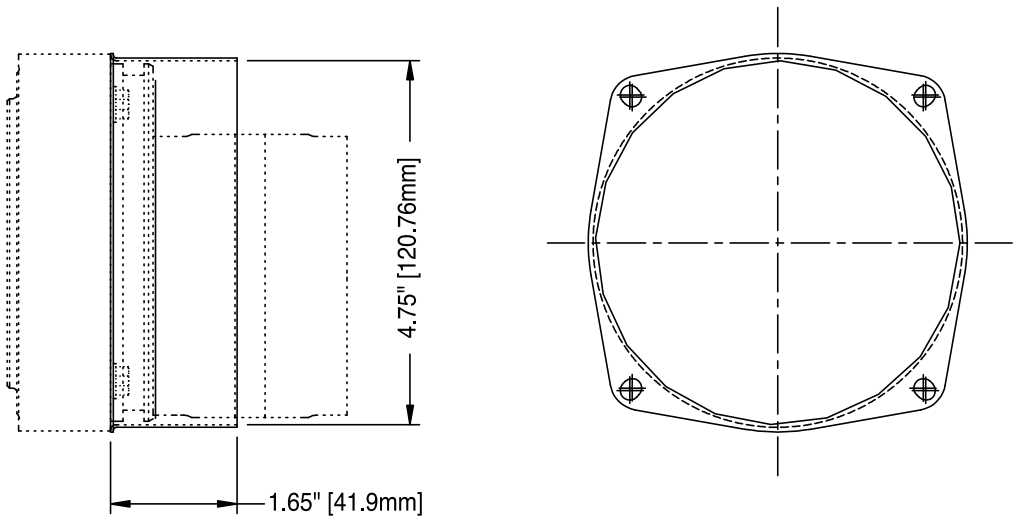


OIL LEVEL TEMPERATURE GAUGE 350431



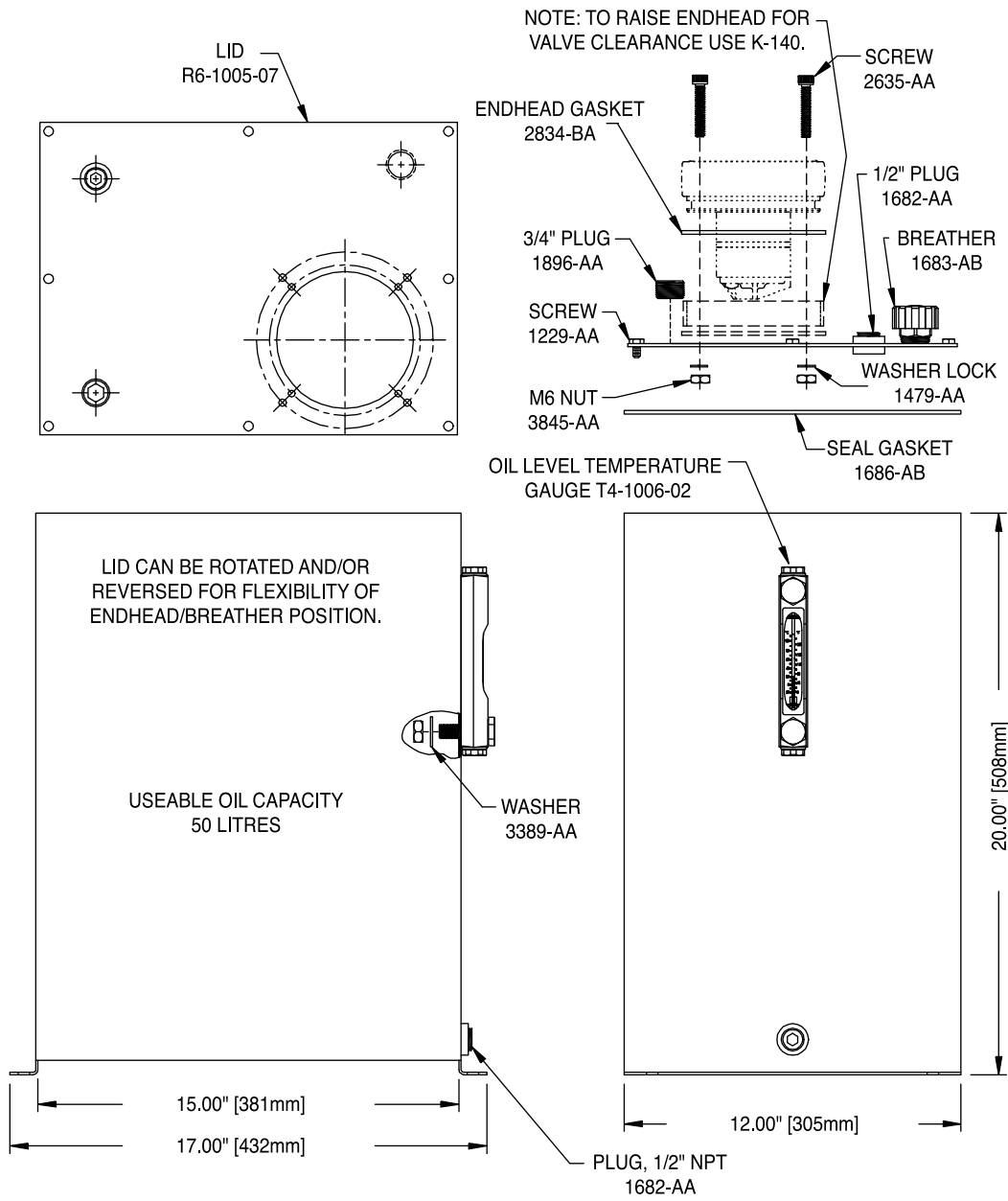
KR72

# TANK NECK-RING KIT



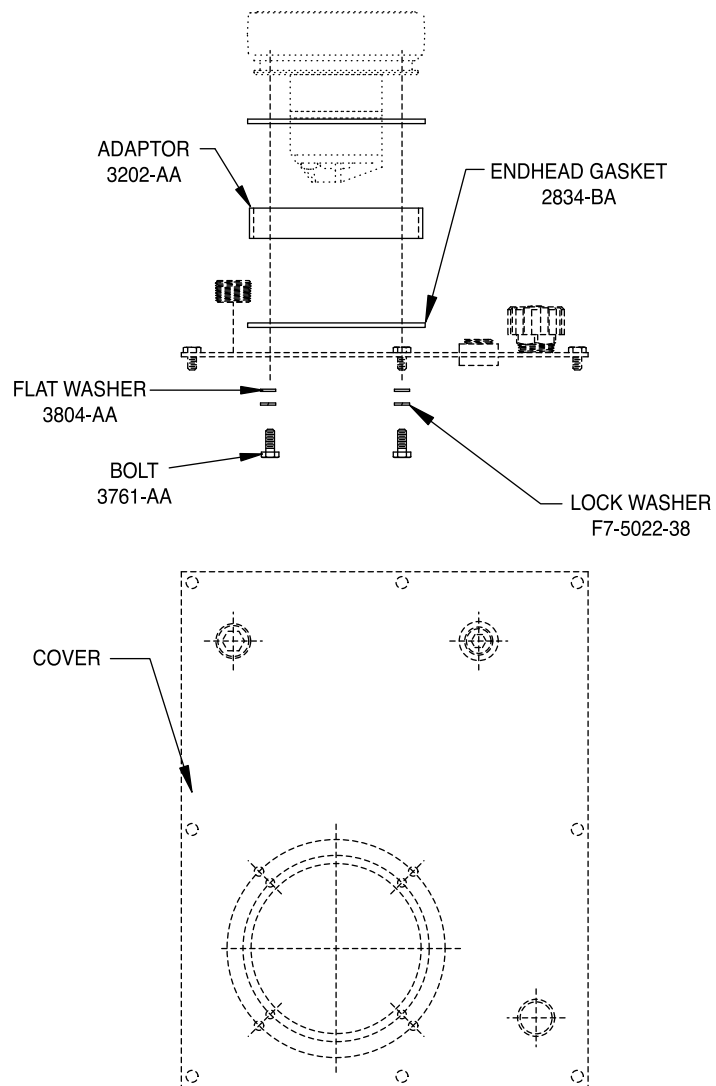
For use with self-manufactured steel reservoirs.

# 50 LITRES VERTICAL FLOOR MOUNT



K-140

# INDUSTRIAL RESERVOIR COVER KIT



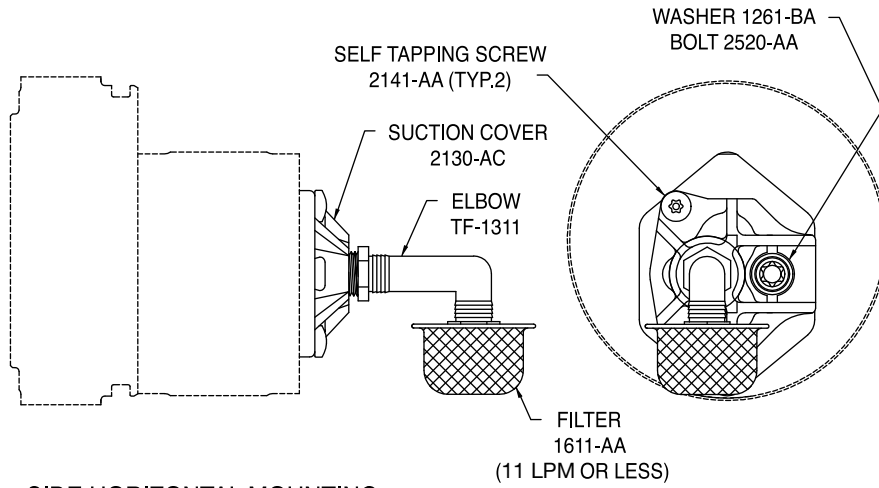
For use with KR71 and KR73 tanks to give additional clearance for valve coil.



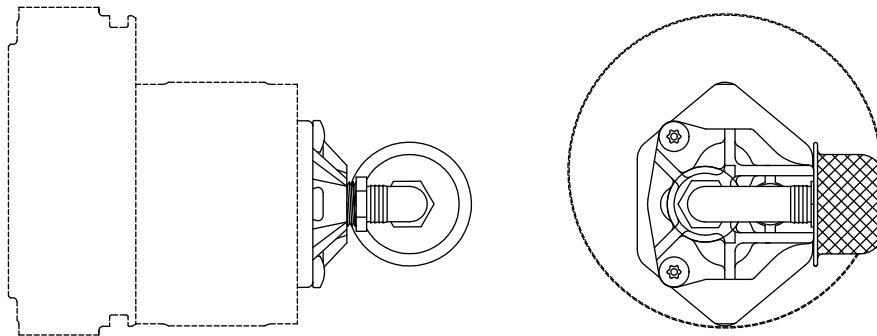
# PLUMBING KIT

## HORIZONTALLY MOUNTED UNITS

### HORIZONTAL MOUNTING



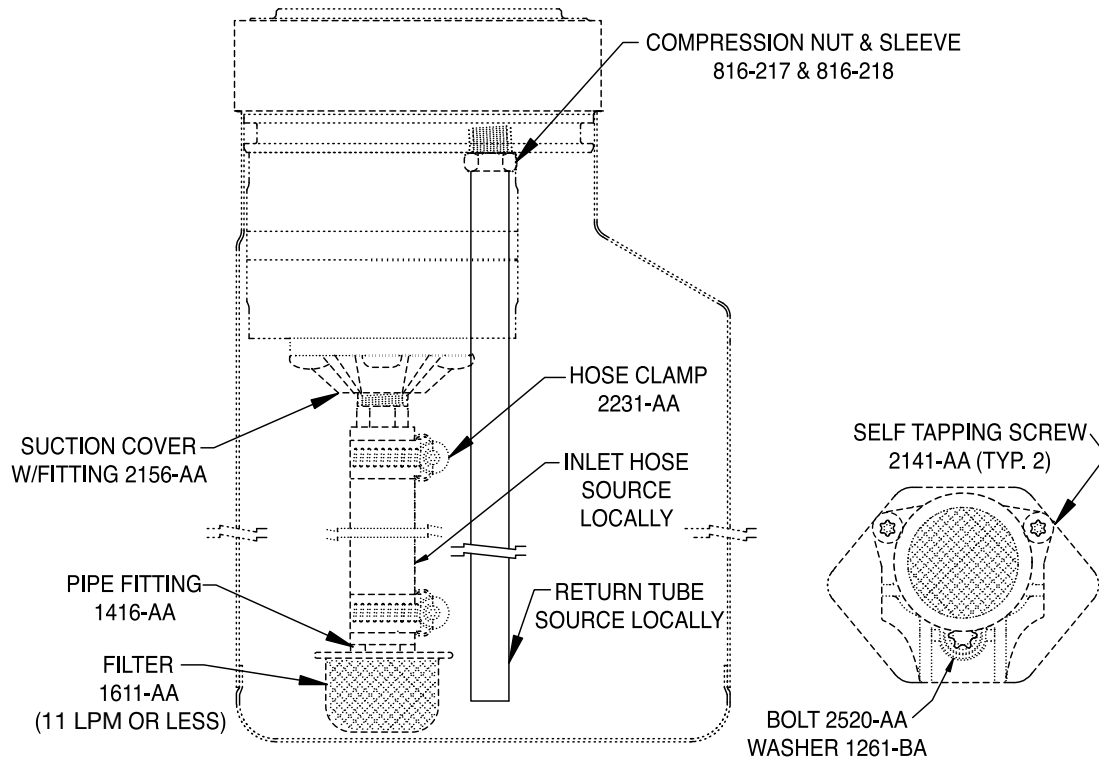
### SIDE HORIZONTAL MOUNTING



Parts may be assembled in either orientation depending on mounting of power unit.  
For flows over 11 LPM use 1413-AA large filter.

KV

# PLUMBING KIT VERTICALLY MOUNTED UNITS



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

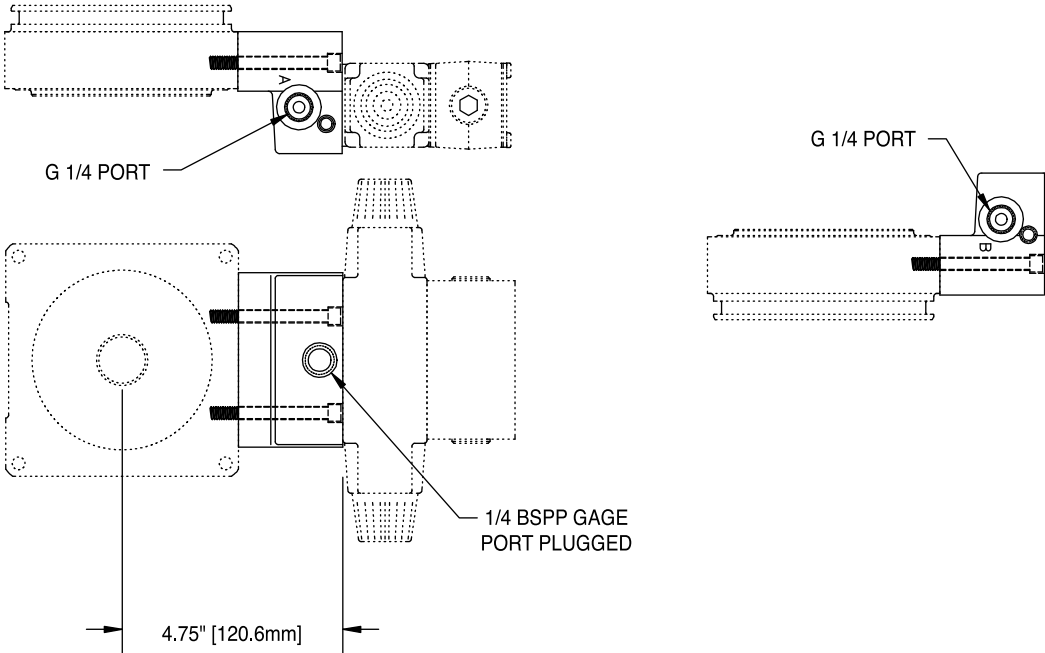
For flows over 11 LPM use 1413-AA filter.

# Manifolds

| <b>Kit Number</b> | <b>Description</b>                                   | <b>Page Number</b> |
|-------------------|--|--------------------|
| KB10              | Single Manifold Block For D03 CETOP Valve/BSPP Ports | Page 66            |
| KB11              | Single Manifold Block For D03 CETOP Valve/SAE Ports  | Page 67            |

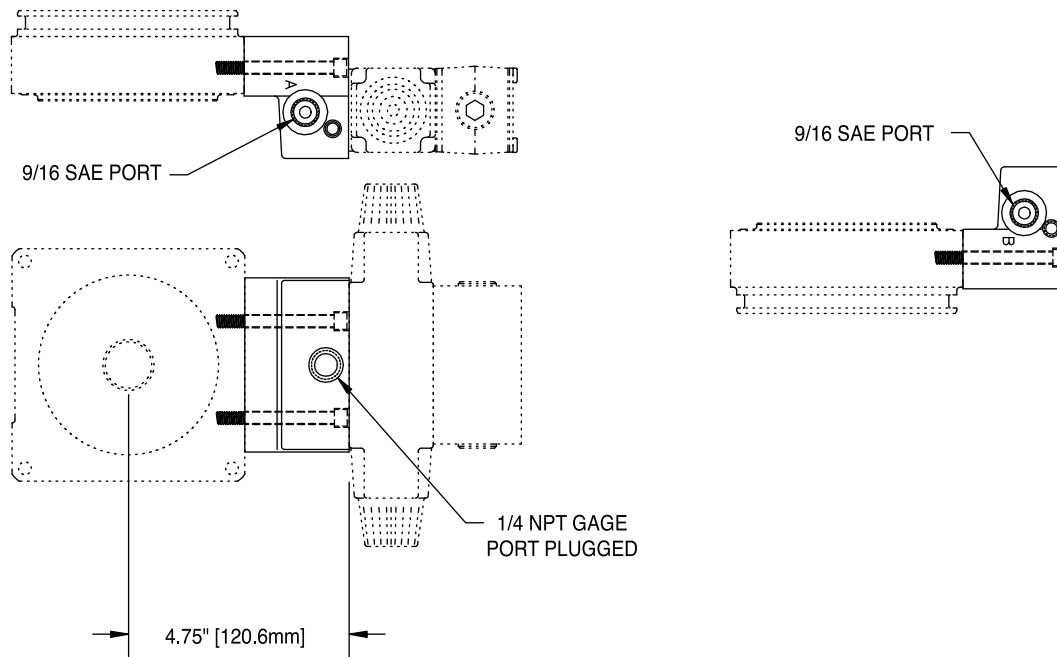
**KB10**

**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.

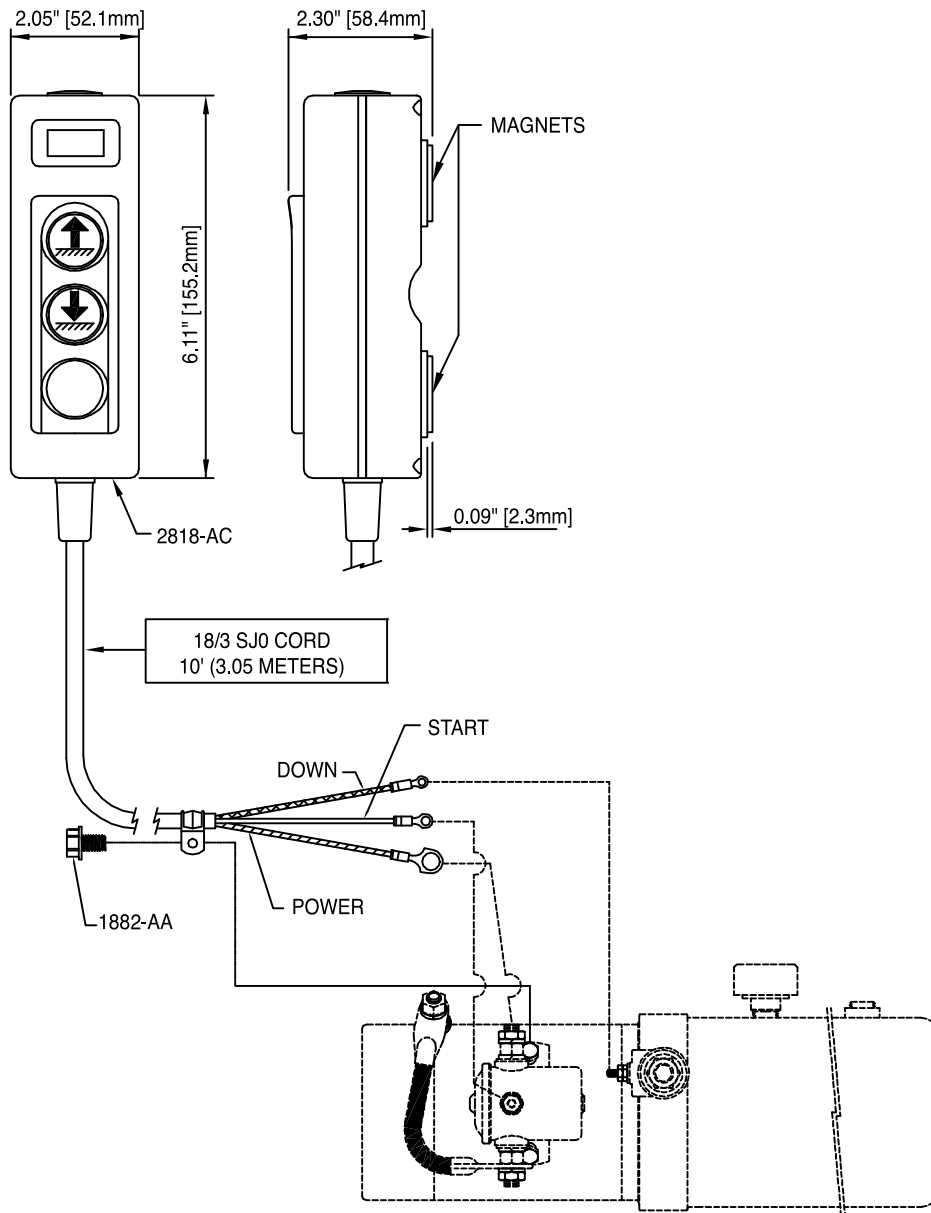
Will allow only single D03 valve (not intended for multiple valve stacking) .

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

# Electrical Accessories

| <b>Kit Number</b> | <b>Description</b>                                      | <b>Page Number</b> |
|-------------------|---|--------------------|
| KG11              | Control Handset For Single-Acting Units                 | Page 69            |
| KG11A             | Control Handset For Single-Acting Units For Smart Start | Page 70            |
| KG12              | Control Handset For Double-Acting Units                 | Page 71            |
| KG12A             | Control Handset For Double-Acting Units For Smart Start | Page 72            |
| KG13              | Control Handset For Double-Acting Units                 | Page 73            |
| KG13A             | Control Handset For Double-Acting Units For Smart Start | Page 74            |
| KS1-4             | Intermittent Duty Start Solenoids                       | Page 75            |
| KS5               | Smart Start Solenoids Intermittent Duty                 | Page 76            |
| TA-01-B           | Pressure Alarm  | Page 77            |

# 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.

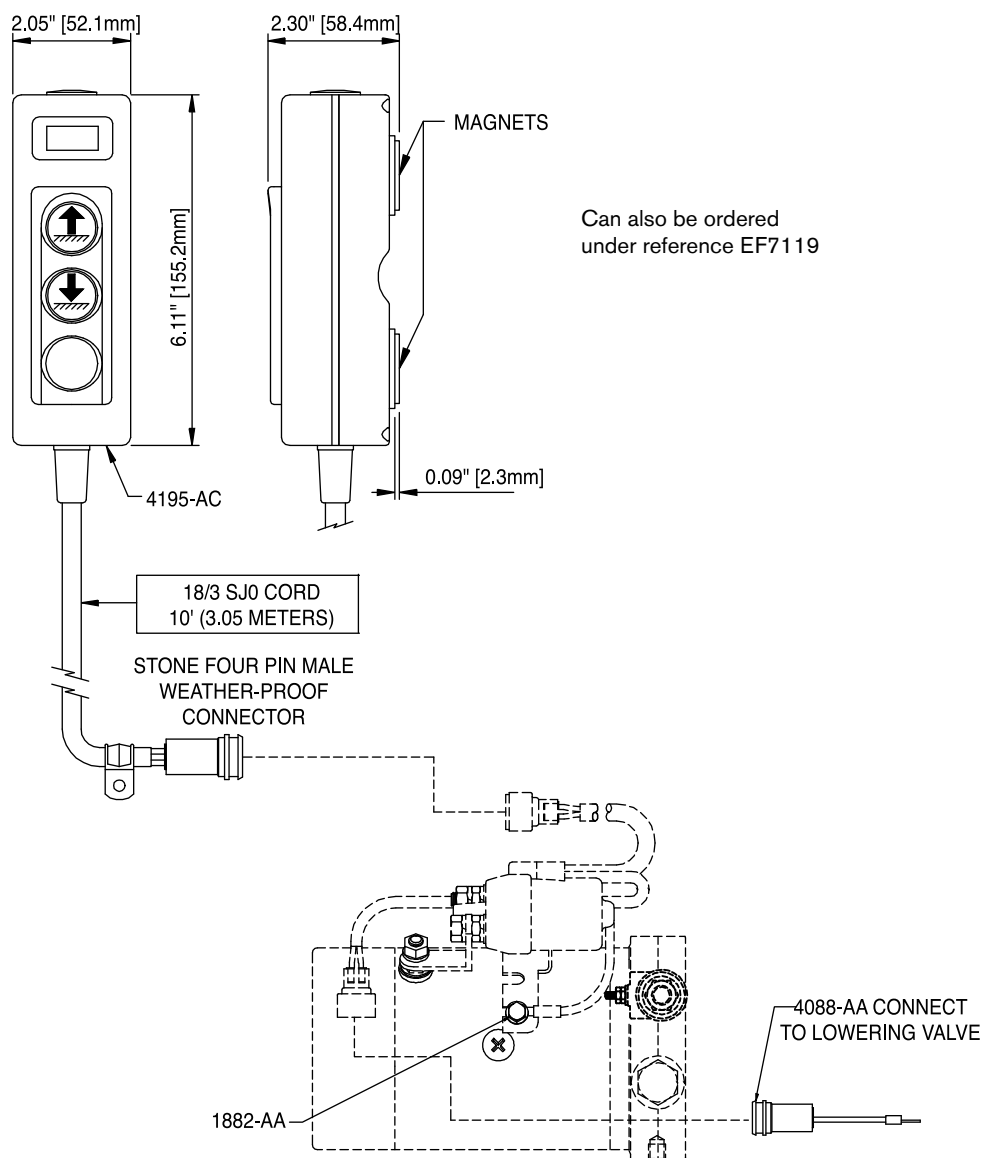
For wall mounting, order bracket hook 2686-AA.

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     |

KG11A

# 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.

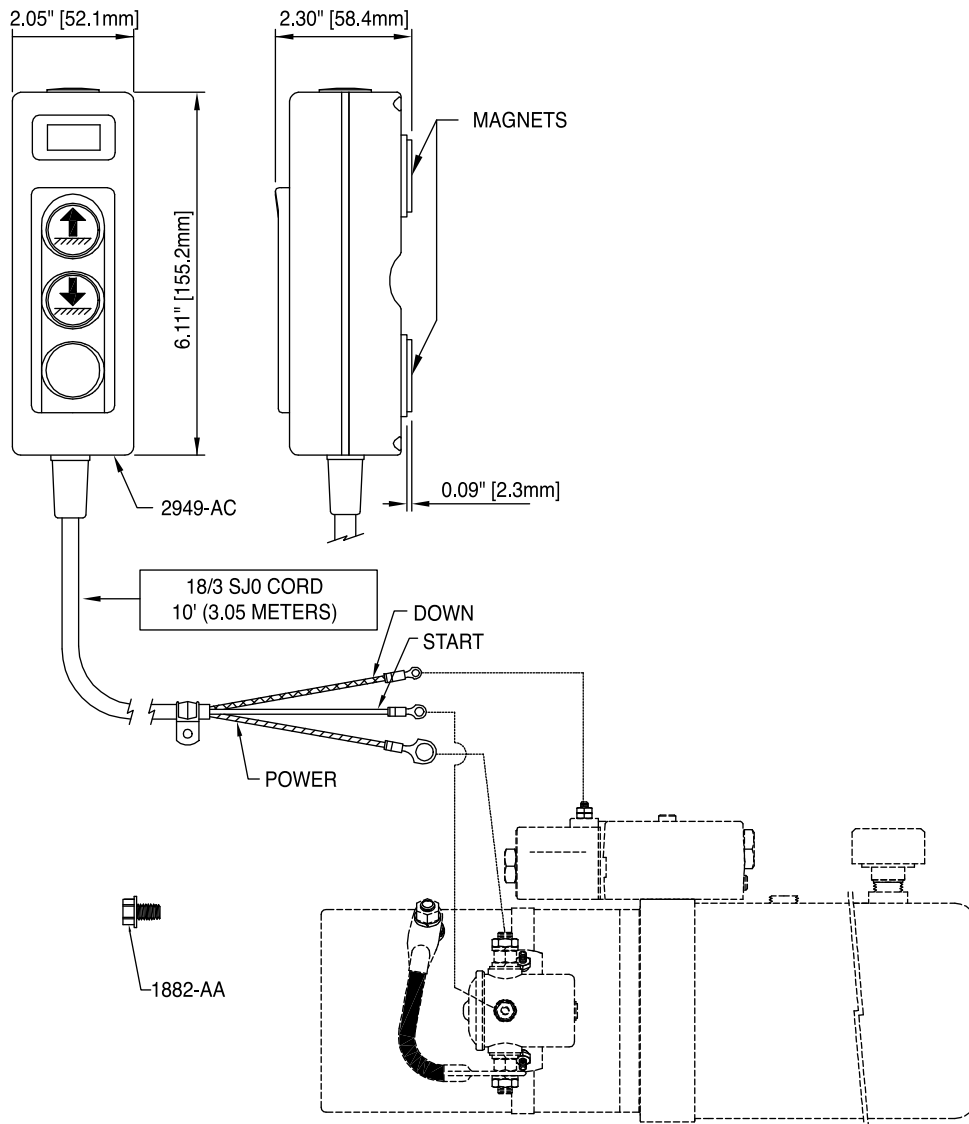
Magnets are intended for convenience during use. They are not intended to support the handset during motion.

Use 3467-AA jumper when using 24 volts.

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



# 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.

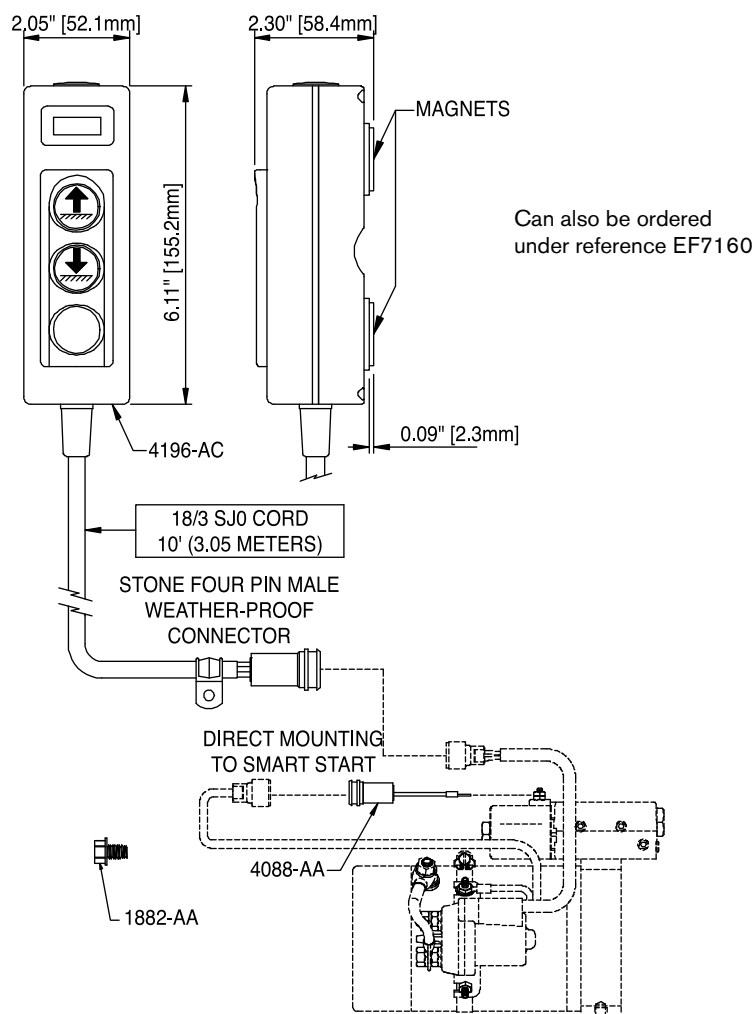
For wall mounting, order bracket hook 2686-AA.

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

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

KG12A

# 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.

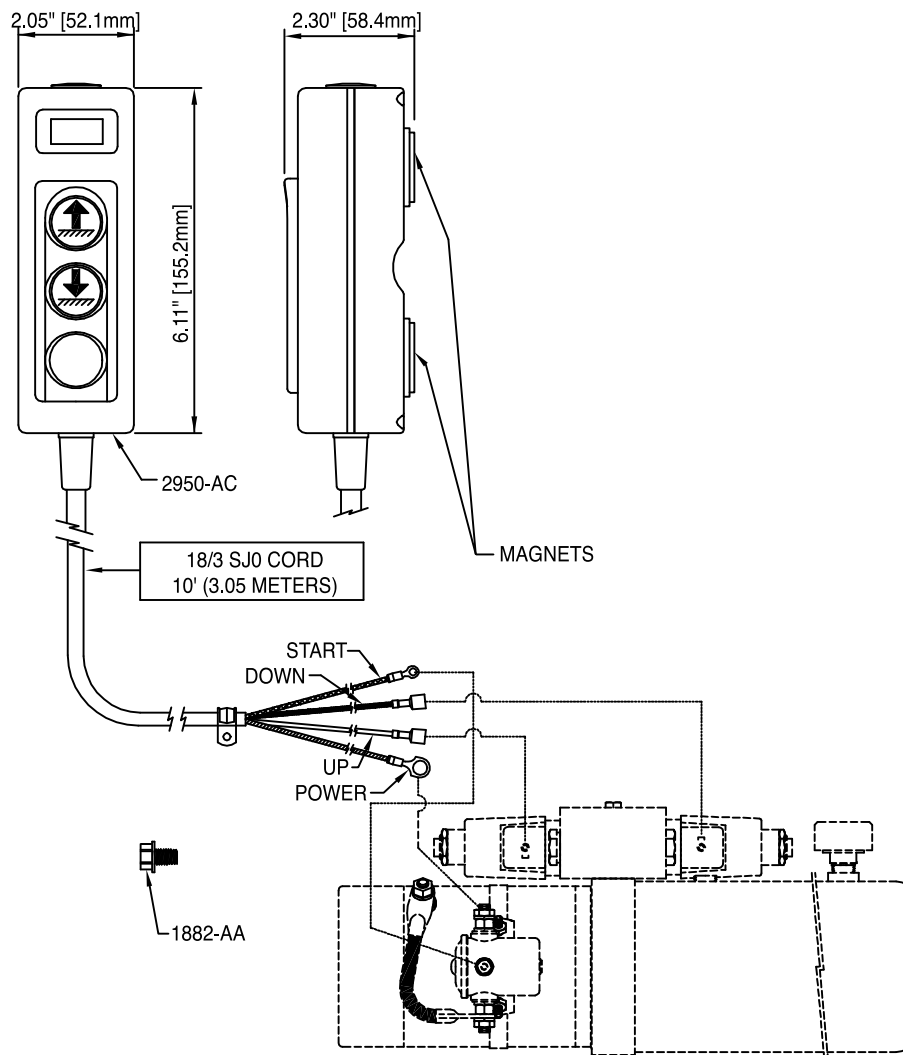
For wall mounting, order bracket hook 2686-AA.

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.

# 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.

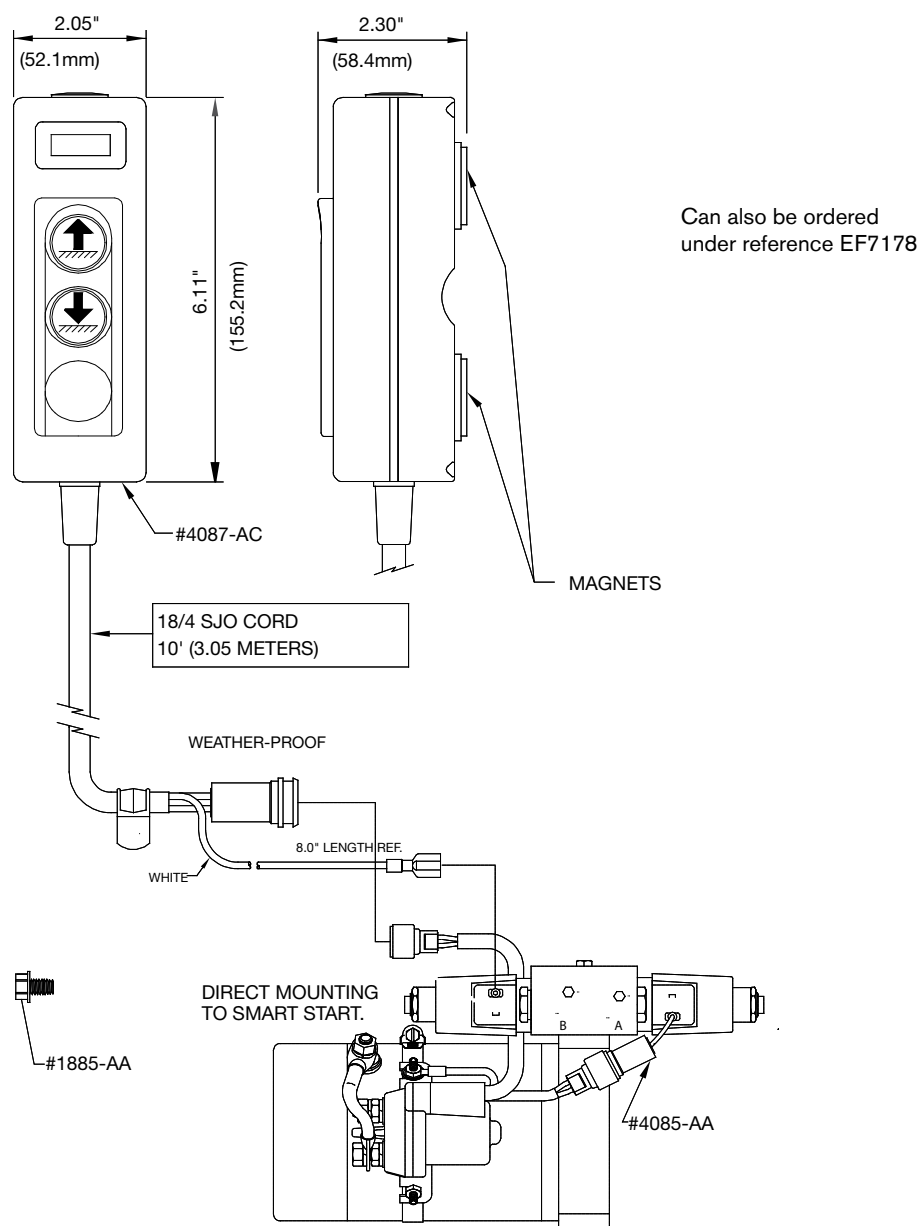
Magnets are intended for convenience during use. They are not intended to support the handset during motion.

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



KG13A

# 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.

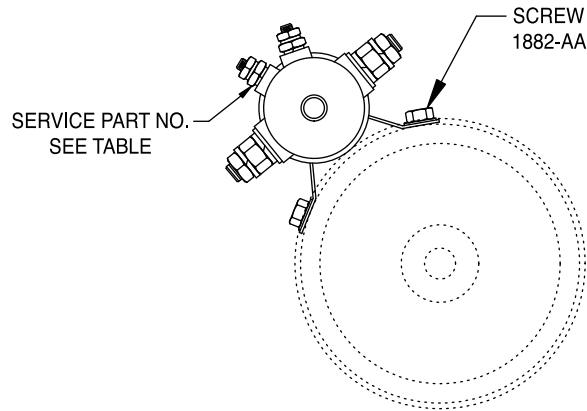
For wall mounting, order bracket hook 2686-AA.

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.

# INTERMITTENT DUTY START SOLENOIDS



| KIT NO. | VOLTAGE | SERVICE P/N | UL RECOGNIZED |
|---------|---------|-------------|---------------|
| KS3     | 12 VDC  | 1866-CA     | YES           |
| KS4     | 24 VDC  | 2150-AA     | YES           |

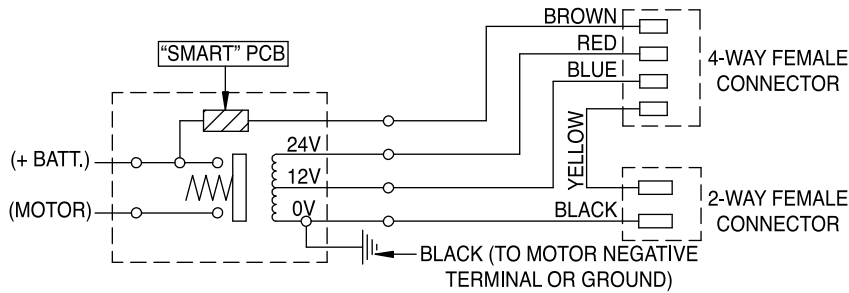
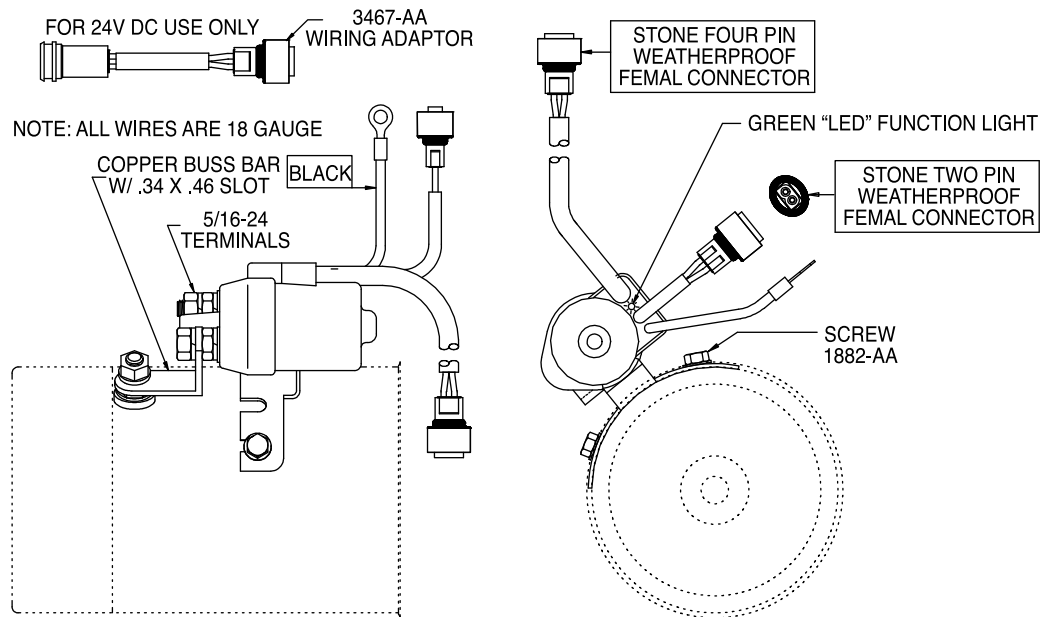
**Note:** Stone uses a network of qualified suppliers to ensure availability. There are minor dimensional and cosmetic differences between vendor's products.

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) K-217 for KMP2, 5 and KMD8.

**KS5**

# SMART START SOLENOIDS INTERMITTENT DUTY

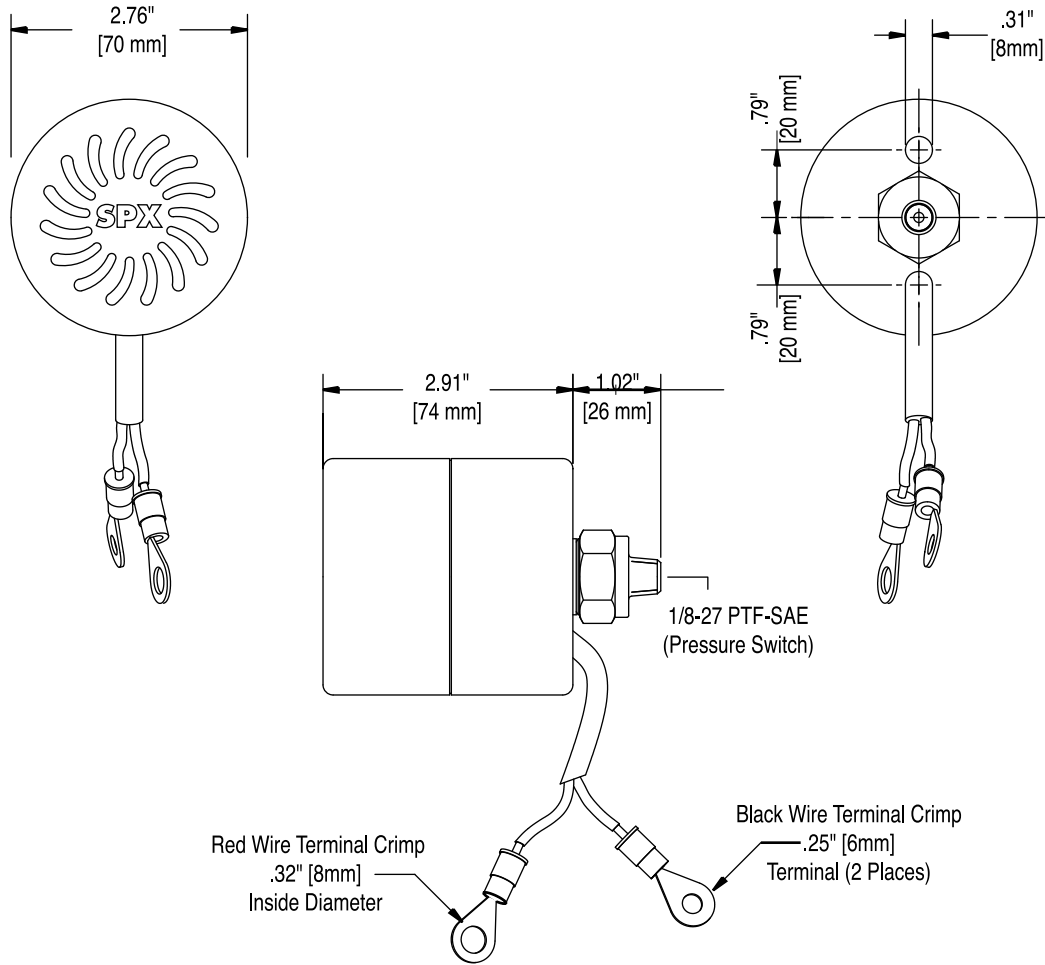


Rated for use up to 300 amps (intermittent), completely sealed construction eliminates need for circuit breakers, fuses or microswitches, dual voltage- 12 and 24 VDC, non-weldable contacts, interchangeable with current designs, neat one-plug wiring harness, terminals can not be over-tightened, covers 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.

# 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.

### DECIMAL & MILLIMETER EQUIVALENTS

| DECIMALS | MILLIMETERS | DECIMALS | MILLIMETERS | DECIMALS | MILLIMETERS |       |         |          |
|----------|-------------|----------|-------------|----------|-------------|-------|---------|----------|
| 1/64     | .015625     | — 0.397  | 23/64       | .359375  | — 9.128     | 45/64 | .703125 | — 17.859 |
| 1/32     | .03125      | — 0.794  | 3/8         | .3750    | — 9.525     | 23/32 | .71875  | — 18.256 |
| 3/64     | .046875     | — 1.191  | 25/64       | .390625  | — 9.922     | 47/64 | .734375 | — 18.653 |
| 1/16     | .0625       | — 1.588  | 13/32       | .40625   | — 10.319    | 3/4   | .7500   | — 19.050 |
| 5/64     | .078125     | — 1.984  | 27/64       | .421875  | — 10.716    | 49/64 | .765625 | — 19.447 |
| 3/32     | .09375      | — 2.381  | 7/16        | .42375   | — 11.113    | 25/32 | .78125  | — 19.844 |
| 7/64     | .109375     | — 2.778  | 29/64       | .453125  | — 11.509    | 51/64 | .796875 | — 20.241 |
| 1/8      | .1250       | — 3.175  | 15/32       | .46875   | — 11.906    | 13/16 | .8125   | — 20.638 |
| 9/64     | .140625     | — 3.572  | 31/64       | .484375  | — 12.303    | 53/64 | .828125 | — 21.034 |
| 5/32     | .15625      | — 3.969  | 1/2         | .5000    | — 12.700    | 27/32 | .84375  | — 21.431 |
| 11/64    | .171875     | — 4.366  | 33/64       | .515625  | — 13.097    | 55/64 | .859375 | — 21.828 |
| 3/16     | .1875       | — 4.763  | 17/32       | .53125   | — 13.494    | 7/8   | .8750   | — 22.225 |
| 13/64    | .203125     | — 5.159  | 35/64       | .546875  | — 13.891    | 57/64 | .890625 | — 22.622 |
| 7/32     | .21875      | — 5.556  | 9/16        | .5625    | — 14.288    | 29/32 | .90625  | — 23.019 |
| 15/64    | .234375     | — 5.953  | 37/64       | .578125  | — 14.684    | 59/64 | .921875 | — 23.416 |
| 1/4      | .2500       | — 6.350  | 19/32       | .59375   | — 15.081    | 15/16 | .9375   | — 23.813 |
| 17/64    | .265625     | — 6.747  | 39/64       | .609375  | — 15.478    | 61/64 | .953125 | — 24.209 |
| 9/32     | .28125      | — 7.144  | 5/8         | .6250    | — 15.875    | 31/32 | .96875  | — 24.606 |
| 19/64    | .296875     | — 7.541  | 41/64       | .640625  | — 16.272    | 63/64 | .984375 | — 25.003 |
| 5/16     | .3125       | — 7.938  | 21/32       | .65625   | — 16.669    | 1     | 1.000   | — 25.400 |
| 21/64    | .328125     | — 8.334  | 43/64       | .671875  | — 17.066    |       |         |          |
| 11/32    | .34375      | — 8.731  | 11/16       | .6875    | — 17.463    |       |         |          |

1 mm = 0,03937"  
.001" = .0254 mm

### SI\* CONVERSION FORMULAS

#### APPROXIMATE CONVERSION

| MULTIPLY                                    | BY          | TO GET              | BY                          | TO GET            |
|---|-------------|---------------------|-----------------------------|-------------------|
| SI* UNIT                                    | CONV FACTOR | NON-SI UNIT         | CONV FACTOR                 | SI* UNIT          |
| <b>LENGTH</b>                               |             |                     |                             |                   |
| millimeter (mm)                             | X 0.03937   | = inch              | X 25.4                      | = mm              |
| (1 inch = 25.4 mm exactly)                  |             |                     |                             |                   |
| centimeter (cm) 10 mm                       | X 0.3937    | = inch              | X 2.54                      | = cm              |
| meter (m) 1000 mm                           | X 3.28      | = foot              | X 0.305                     | = m               |
| meter (m)                                   | X 1.09      | = yard              | X 0.914                     | = m               |
| kilometer (km) 1000 m                       | X 0.62      | = mile              | X 1.61                      | = km              |
| <b>AREA</b>                                 |             |                     |                             |                   |
| millimeter <sup>2</sup> (mm <sup>2</sup> )  | X 0.00155   | = inch <sup>2</sup> | X 645                       | = mm <sup>2</sup> |
| centimeter <sup>2</sup> (cm <sup>2</sup> )  | X 0.155     | = inch <sup>2</sup> | X 6.45                      | = cm <sup>2</sup> |
| meter <sup>2</sup> (m <sup>2</sup> )        | X 10.8      | = foot <sup>2</sup> | X 0.0929                    | = m <sup>2</sup>  |
| meter <sup>2</sup> (m <sup>2</sup> )        | X 1.2       | = yard <sup>2</sup> | X 0.836                     | = m <sup>2</sup>  |
| hectare (ha) 10,000 m <sup>2</sup>          | X 2.47      | = acre              | X 0.405                     | = ha              |
| kilometer <sup>2</sup> (km <sup>2</sup> )   | X 0.39      | = mile <sup>2</sup> | X 2.59                      | = km <sup>2</sup> |
| <b>VOLUME</b>                               |             |                     |                             |                   |
| centimeter <sup>3</sup> (cm <sup>3</sup> )  | X 0.061     | = inch <sup>3</sup> | X 16.4                      | = cm <sup>3</sup> |
| liter (l)                                   | X 61        | = inch <sup>3</sup> | X 0.016                     | = l               |
| milliliter (ml)                             | X 0.034     | = oz-liq            | X 29.6                      | = ml              |
|   |             |                     | (1 ml = 1 cm <sup>3</sup> ) |                   |
| liter (l) 1000 ml                           | X 1.06      | = quart             | X 0.946                     | = l               |
| liter (l)                                   | X 0.26      | = gallon            | X 3.79                      | = l               |
| meter <sup>3</sup> (m <sup>3</sup> ) 1000 l | X 1.3       | = yard <sup>3</sup> | X 0.76                      | = m <sup>3</sup>  |
| <b>MASS</b>                                 |             |                     |                             |                   |
| gram (g)                                    | X 0.035     | = ounce             | X 28.3                      | = g               |
| kilogram (kg) 1000 g                        | X 2.2       | = pound             | X 0.454                     | = kg              |
| metric ton (t) 1000 kg                      | X 1.1       | = ton (short)       | X 0.907                     | = t               |

#### APPROXIMATE CONVERSION

| MULTIPLY                                | BY          | TO GET                 | BY          | TO GET         |
|---|-------------|------------------------|-------------|----------------|
| SI* UNIT                                | CONV FACTOR | NON-SI UNIT            | CONV FACTOR | SI* UNIT       |
| <b>FORCE (N = kg o m/s<sup>2</sup>)</b> |             |                        |             |                |
| newton (N)                              | X 0.225     | = pound                | X 4.45      | = N            |
| kilonewton (kN)                         | X 225       | = pound                | X 0.00445   | = kN           |
| <b>TORQUE</b>                           |             |                        |             |                |
| newton meter (Nom)                      | X 8.9       | = lb. in.              | X 0.113     | = Nom          |
| newton meter (Nom)                      | X 0.74      | = lb. ft.              | X 1.36      | = Nom          |
| <b>PRESSURE (Pa = N/m<sup>2</sup>)</b>  |             |                        |             |                |
| kilopascal (kPa)                        | X 4.0       | = in. H <sub>2</sub> O | X 0.249     | = kPa          |
| kilopascal (kPa)                        | X 0.30      | = in. Hg               | X 3.38      | = kPa          |
| kilopascal (kPa)                        | X 0.145     | = p.s.i.               | X 6.89      | = kPa          |
| megapascal (MPa)                        | X 145       | = p.s.i.               | X 0.00689   | = MPa          |
| Bar                                     | X 14.5      | = p.s.i.               | X .0689     | = Bar          |
| <b>POWER (w = J/s)</b>                  |             |                        |             |                |
| kilowatt (kw)                           | X 1.34      | = hp                   | X 0.746     | = kw           |
| kilowatt (kw)                           | X 0.948     | = Btu/s                | X 1.055     | = kw           |
| watt (w)                                | X 0.74      | = ft. lb/s             | X 1.36      | = w            |
| <b>TEMPERATURE</b>                      |             |                        |             |                |
| °C = (°F - 32) ÷ 1.8                    |             | °F = (°C X 1.8) + 32   |             |                |
| <b>FLOW</b>                             |             |                        |             |                |
| cu. cm./min.                            | X .061      | = cu. in./min.         | X 16.4      | = cu. cm./min. |
| liters/min.                             | X .2642     | = GPM                  | X 3.785     | = liters/min.  |

\* System International (Modern Metric System)







## LIMITED WARRANTY

FOR A PERIOD OF TIME STATED BELOW, SPX HYDRAULIC TECHNOLOGIES will repair or replace, free of charge, any products SPX Hydraulic Technologies has determined, upon inspection by SPX Hydraulic Technologies, to be faulty due to defective material and/or workmanship. SPX Hydraulic Technologies 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 Hydraulic Technologies for any loss or damage of SPX Hydraulic Technologies arising out of (i) through (iv) above and any breach by Buyer of its covenants and obligations under the SPX Hydraulic Technologies 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 Hydraulic Technologies; and, SPX Hydraulic Technologies shall not be liable for contingent liabilities arising out of the improper function of any product, nor shall SPX Hydraulic Technologies be liable for any claims for labor or consequential damage or incidental damages resulting from, arising out of or in connection with the testing, use, operation, replacement or repair of any SPX Hydraulic Technologies product or part.

**SPX HYDRAULIC TECHNOLOGIES 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 Hydraulic Technologies has not authorized anyone to make representation of warranty other than the warranty contained herein. Under no circumstances shall SPX Hydraulic Technologies 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 Hydraulic Technologies 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 Hydraulic Technologies will allow a maximum of two weeks (10 working days) from the date of notification for the Buyer to advise SPX Hydraulic Technologies whether to: 1) Return, 2) Repair or 3) Scrap the product. If SPX Hydraulic Technologies does not receive written notification within this two-week period, SPX Hydraulic Technologies 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 Hydraulic Technologies is not responsible for misuse or misapplication of product.

### SPX HYDRAULIC TECHNOLOGIES QUALITY POLICY

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

SPX Hydraulic Technologies is an ISO 9001:2000 certified facility.





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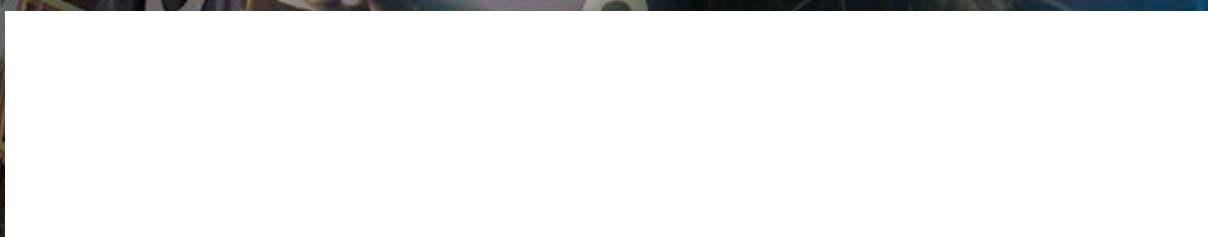
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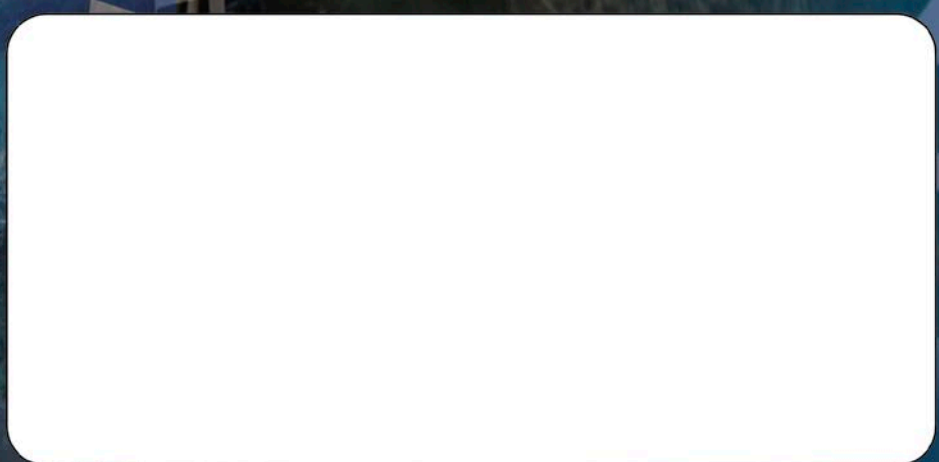


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