

# KR-140 Regulator Specifications **Table of Contents**

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All PacSeal Hydraulics' KR Pressure Regulators are designed with ShearFlo® metal-to-metal sealing technology. ShearFlo® sealing technology features:

- High cycle life and anti-wear design is suitable for critical service applications, including contaminated fluids.
- Leak proof, contaminant resistant metal-to-metal seal is accomplished by lapping and polishing hardened stainless steel sealing elements to exacting standards of finish and flatness.
- The sealing elements are spring preloaded and pressure energized, which maintains contact between the two sealing surfaces at all times.

All KR Regulators are tested to PacSeal's strict quality control standards to ensure proper function and reliability. Every ShearFlo® sealing component in a repair kit is inspected to ensure trouble-free performance after field maintenance and repair.

PacSeal Hydraulics' KR Pressure Regulators serve as pressure reducing and regulating valves to maintain system pressure at a desired value (set pressure) which is below that of the supply pressure.

The operator controls the outlet pressure by modulating the compression of springs that act on a pressurized piston. This in turn balances the hydraulic load inside the body. The operator options are as follows:

- Manual
- Failsafe Air Motor with Manual Override
- Failsafe Hydraulic Motor with Manual Override
- Hydraulic Pilot

The internal override bypass operator provides a lean solution for tight space applications by allowing full accumulator pressure to be supplied downstream of the regulator without a dedicated 4-way bypass valve in the hydraulic circuit.

| General Specifications  |  |  |  |  |  |
|---|--|--|--|--|--|
| Supply Port Size  | 1 in. NPT or SAE ORB (2X)                      |  |  |  |  |
| Outlet Port Size  | 1-1/2 in. NPT or SAE ORB                       |  |  |  |  |
| Vent Port Size  | 1/2 in. NPT or SAE ORB                         |  |  |  |  |
| Working Pressure<br>Options (Liquid)                          | 3000, 5000 or 6000 psi                         |  |  |  |  |
| Regulated Outlet<br>Pressure Options                          | See Product Configurator                       |  |  |  |  |
| Cv Factor Outlet  | 14.9   |  |  |  |  |
| Cv Factor Vent  | 2.8  |  |  |  |  |
| Rated Flow  | 150 gpm  |  |  |  |  |
| Temperature Rating<br>(Regulators and<br>Failsafe Air Motors) | -40° to 250°F                                  |  |  |  |  |
| Fluid Media   | Hydraulic oil or lubricated water <sup>1</sup> |  |  |  |  |
| Weight  | See installation drawings                      |  |  |  |  |
| N   | Naterials                                      |  |  |  |  |
| ShearFlo Sealing<br>Components (i.e.<br>Rotor and Seal Rings) | Hardened stainless steel <sup>1</sup>          |  |  |  |  |
| Body  | Stainless Steel                                |  |  |  |  |
| Operators   | Carbon Steel                                   |  |  |  |  |
| Flanges and<br>Hardware                                       | Coated Carbon Steel                            |  |  |  |  |
| O-rings   | Buna-N (N), Viton (V), or<br>EPR (E)           |  |  |  |  |
| Backup Rings  | Teflon   |  |  |  |  |
|   |  |  |  |  |  |

For water based media, special alloy seal rings may be required for optimum perfomance and durability - Contact PacSeal for details.

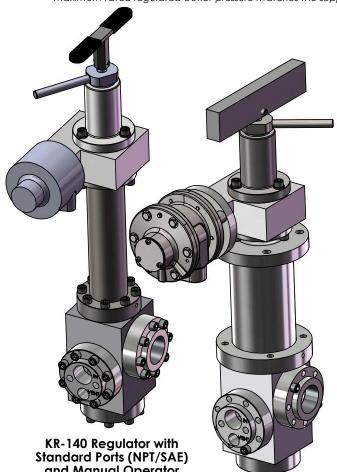
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|-------|--------------------|-----------------|---------|
|       | Supply             | Regulated       | Deadand |
| Model | Pressure           | Outlet Pressure | Range   |
|       | [psi]              | [psi]           | [psi]*  |
| L     | 3000/5000          | 200-2000        | 85-150  |
| R     | 3000/5000          | 550-2500        | 300-600 |
| Н     | 5000/6000          | 350-3300        | 85-150  |
| D     | 5000/6000          | 400-4000        | 150-250 |
| V     | 6000               | 1200-5500       | 450-800 |
| W     | 6000               | 600-5000        | 150-250 |
| Р     | 3000/5000/<br>6000 | 50-6000         | 0-100   |

\*Deadband is the difference between the set pressure and the actual outlet pressure that triggers the KR to open or vent. The deadband will vary depending on factors that influence the friction between the seal rings and flow plates, such as: type of fluid and lubricity properties, temperature, differential pressure between supply and regulated outlet, seal ring and flow plate wear condition, and lastly interpretation influenced by gauge sensitivity. The Reset Range or Hysteresis is within +/- 150 psi for all models.

|                | Model Number Configurator  KR-140 Regulators |     |                   |   |                          |                 |     |                          |     |                      |
|----------------|--|-----|-------------------|---|--------------------------|-----------------|-----|--------------------------|-----|----------------------|
| Basic<br>Model | Ports  |     | Supply<br>ressure |   | Regulated Out            | et Pressure     |     | Operator                 |     | Internal<br>Override |
|                |  |     |                   | F | Rated Range <sup>2</sup> | <u>Deadband</u> |     |                          |     | Bypass               |
|                | N NPT  | 3   | 3000 psi          | L | 200-2000 psi             | 85-150 psi      | M N | Manual                   | -IO | Direct               |
|                | <b>S</b> SAE                                 | 5   | 5000 psi          | R | 550-2500 psi             | 300-600 psi     | FSA | Failsafe Air Motor       | -IS | with SV-25           |
|                | M Subplate Mount (NPT)                       | 5   | 5000 psi          | Н | 350-3300 psi             | 85-150 psi      | FSH | Failsafe Hydraulic Motor | -IX | with SVx-25          |
| KR-<br>140     | <b>T</b> Subplate Mount (SAE) <sup>1</sup>   |     |                   |   | 400-4000 psi             | 150-250 psi     |     |                          |     |                      |
| 140            | C Code-61 <sup>1</sup>                       | ,   | 4000 pci          | W | 600-5000 psi             | 150-250 psi     | n   |                          |     |                      |
|                | <b>D</b> Code-62 <sup>1</sup>                | 0   | 6000 PSI          | ٧ | 1200-5500 psi            | 450-800 psi     |     |                          | Le  | ave blank if<br>N/A  |
|                |  | 3,  | 5, or 6           | P | <sup>3</sup> 50-6000 psi | 0-100 psi       | н н | ydraulic Pilot           | -   | ,,,,,                |
| Notes:         | <sup>1</sup> Not a standard option - special | ord | er only           |   |                          |                 |     |                          |     |                      |

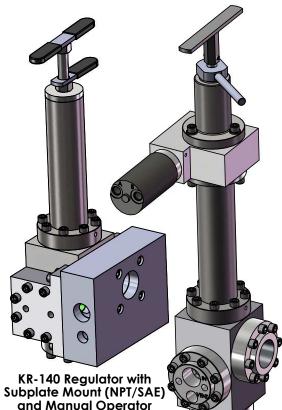
<sup>&</sup>lt;sup>2</sup> Rated Regulated Outlet Pressure cannot exceed supply pressure. Absolute Outlet Pressure is 0 psi up to 25% above the maximum operating

<sup>3</sup> Maximum rated regulated outlet pressure matches the supply pressure for a regulator with the Hydraulic Pilot operator



and Manual Operator Example: KR-140N3LFSA

**KR-140 Regulator with High Pressure Low** Deadband and Failsafe **Air Motor Operator** Example: KR-140N5HFSA



and Manual Operator Example: KR-140M6VM

**KR-140 Regulator with** Failsafe Hydraulic **Motor Operator** Example: KR-140S3RFSH



**KR-140 Regulator with Hydraulic Pilot Operator** Éxample: KR-140N6PH

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TITLE

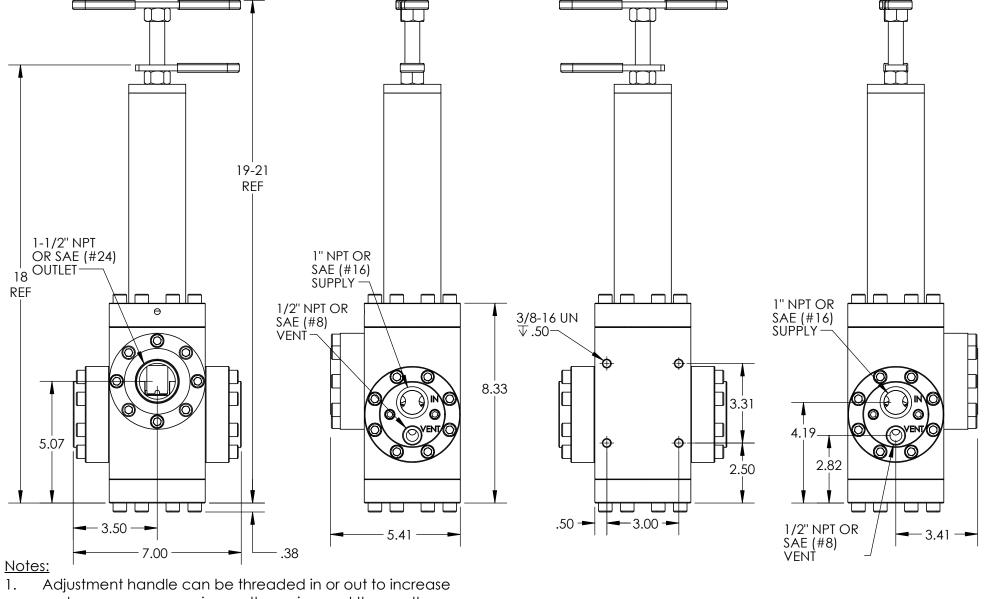
Configuration Overview

SIZE **REV** SHEET 3 OF 26

KR-140 Regulator with Direct Internal

Override Example:

KR-140N3LM-IO



- Adjustment handle can be threaded in or out to increase or decrease compression on the spring and thus on the regulated outlet pressure.
- 2. Model configuration (Regulated Outlet Pressure) options: D, L, R, V
- 3. Weight 50 lb.
- 4. All dimensions are consistent for KR-140 NPT or SAE ORB porting options, regardless of supply/outlet pressure and operator selection.



2

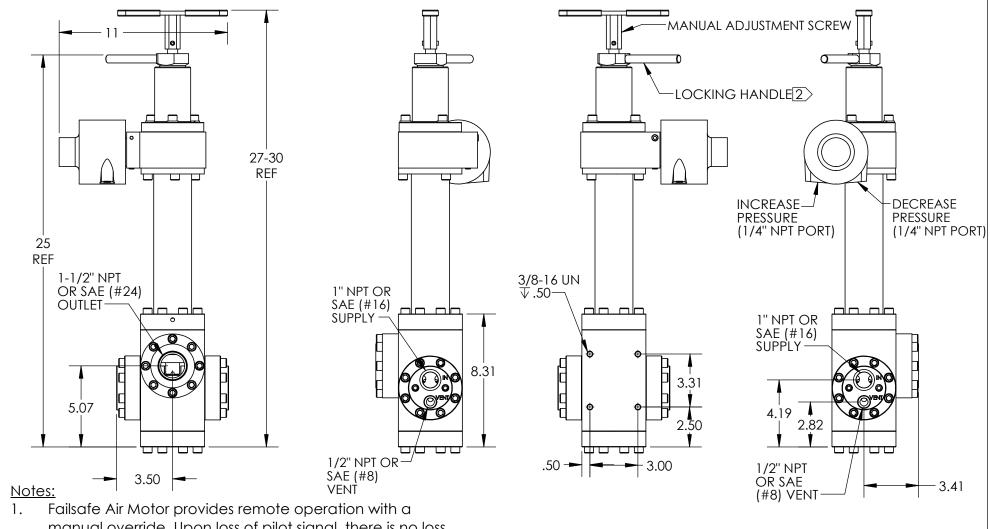
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KR-140 Regulator w/
Manual Operator (NPT/SAE)
Installation Drawing

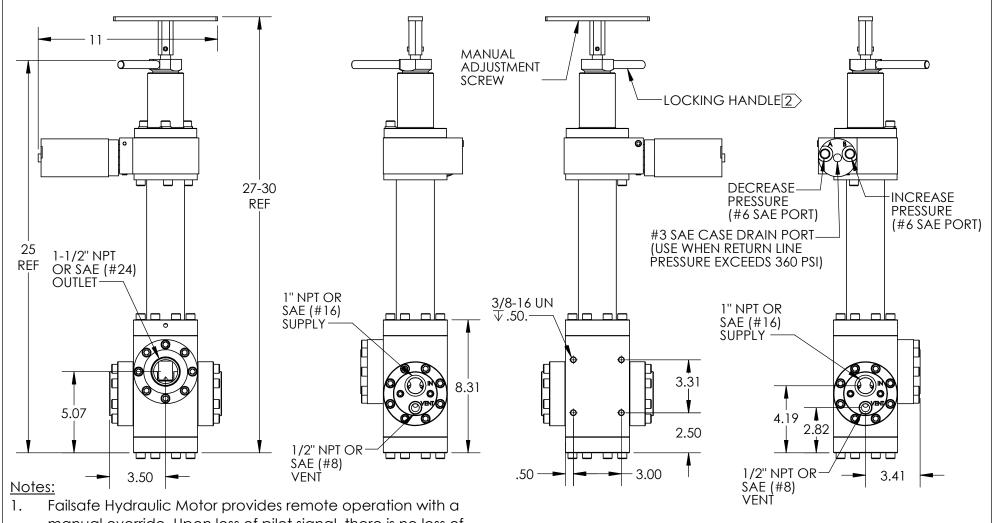
SIZE REV 5 SHEET 4 OF 26



- manual override. Upon loss of pilot signal, there is no loss of regulated outlet pressure.
- Turn locking handle clockwise to lock for failsafe remote operation. Turn locking handle counter-clockwise to unlock for manual operation/override.
- Recommended Air Supply 115 PSI max. 3.
- Model configuration (Regulated Outlet Pressure) options: D, L, R, V
- 5. Weight - 79 lb.
- All dimensions are consistent for KR-140 NPT or SAE ORB porting options, regardless of supply/outlet pressure and operator selection.



2



- 1. Failsafe Hydraulic Motor provides remote operation with a manual override. Upon loss of pilot signal, there is no loss of regulated outlet pressure.
- Turn locking handle clockwise to lock for failsafe remote operation. Turn locking handle counter-clockwise to unlock for manual operation/override.
- 3. Max Hydraulic Motor Supply Pressure 1500 psi
- Model configuration (Regulated Outlet Pressure) options:
   D, L, R, V
- 5. Weight 75 lb.
- All dimensions are consistent for KR-140 NPT or SAE ORB porting options, regardless of supply/outlet pressure and operator selection.



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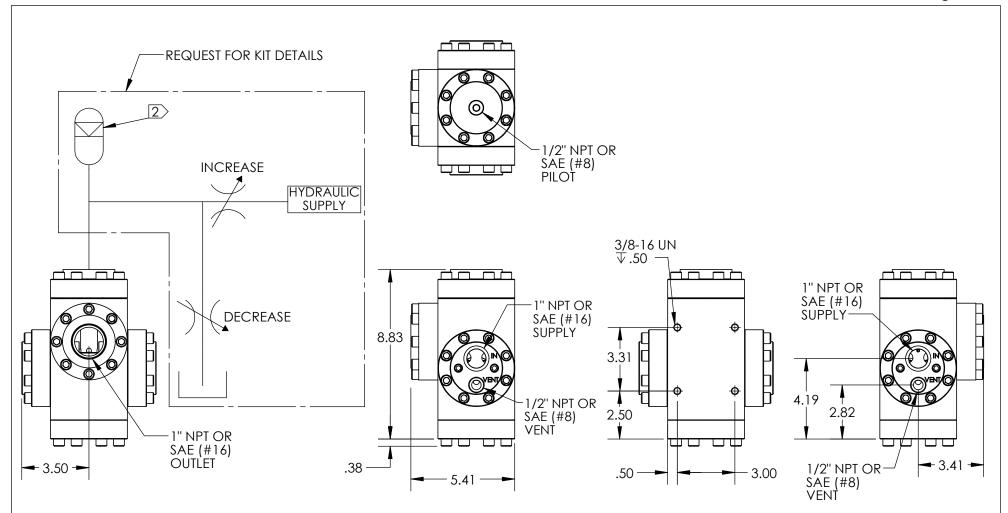
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Regulator w/ Failsafe
Hydraulic Operator
(NPT/SAE)
Installation Drawing

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4

3



## Notes:

- A remote, variable hydraulic signal operates on a piston with a 1:1 ratio which allows for the most precisely controlled outlet pressures of all options. Loss of hydraulic pilot pressure will result in the outlet venting to tank.
- Requires a minimum 1 Pint Accumulator for operation
- Model configuration (Regulated Outlet Pressure) option: P 3.
- Weight 42 lb.
- 5. All dimensions are consistent for KR-140 NPT or SAE ORB porting options, regardless of supply/outlet pressure and operator selection.



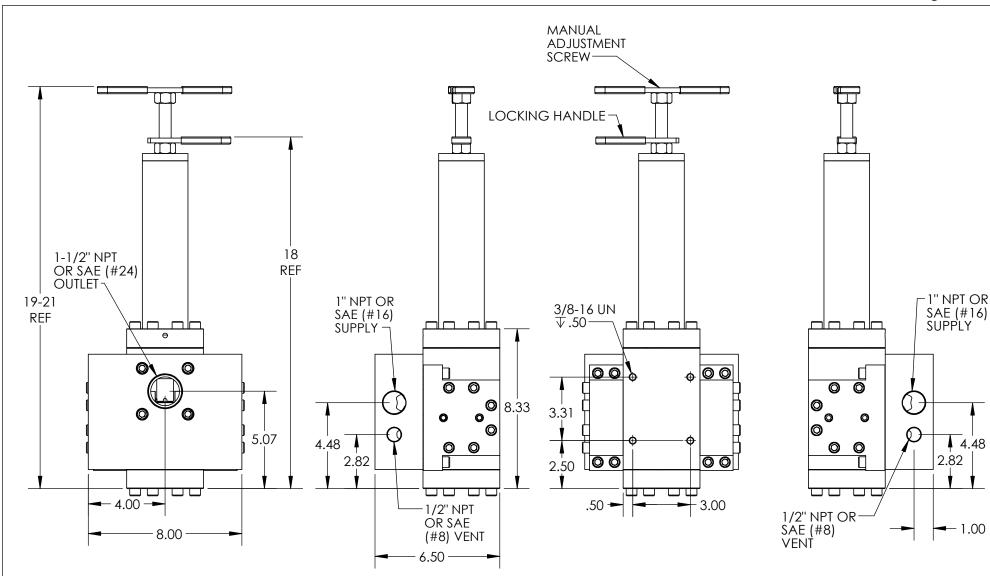
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Regulator w/ Hydraulic Pilot Operator (NPT/SAE) **Installation Drawing** 

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## Notes:

- 1. Operator options: Manual, FSA, FSH, or Hydraulic Pilot
- Model configuration (Regulated Outlet Pressure) options:
   L, R, V, E, D
- 3. Weight 85 lb.
- 4. All dimensions are consistent for KR-140 NPT or SAE ORB porting options, regardless of supply/outlet pressure and operator selection.



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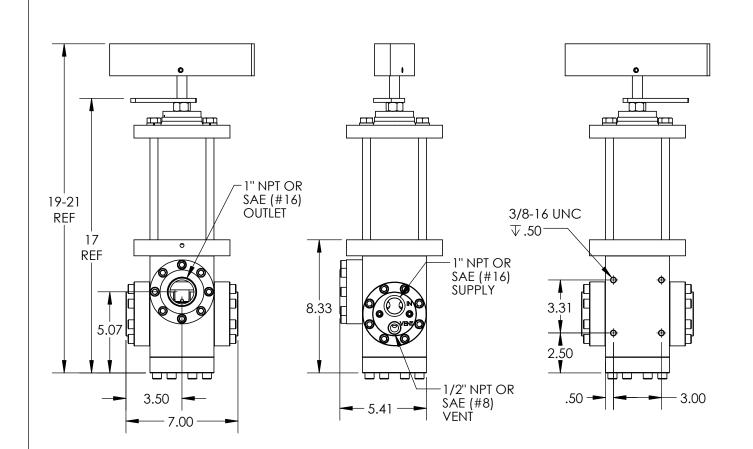
(NPT/SAE) Regulator Installation Drawing

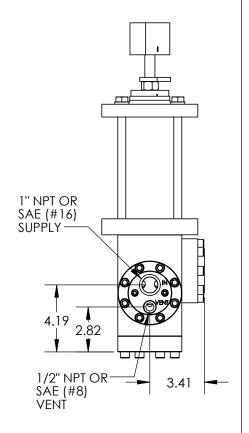
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4

3





## Notes:

- Adjustment handle can be threaded in or out to increase or decrease compression on the spring and thus on the regulated outlet pressure.
- 2. Model configuration (Regulated Outlet Pressure) options: H (5000/6000 psi supply) and W (6000 psi supply).
- 3. Weight 74 lb.
- 4. All dimensions are consistent for KR-140 NPT or SAE ORB porting options, regardless of supply/outlet pressure and operator selection.



2

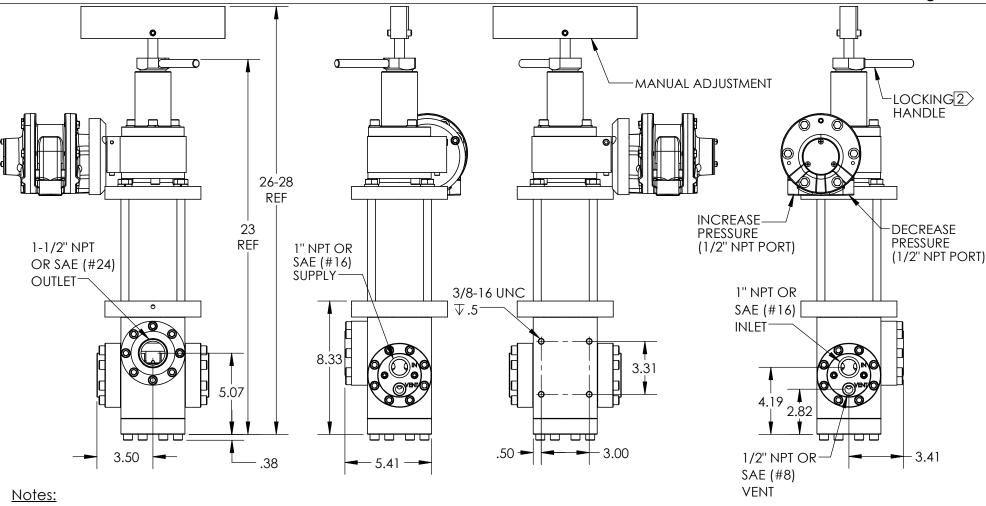
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Ouput w/
Manual Operator

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- Failsafe Air Motor provides remote operation with a manual override. Upon loss of pilot signal, there is no loss of regulated outlet pressure.
- Turn locking handle clockwise to lock for failsafe remote operation. Turn locking handle counter-clockwise to unlock for manual operation/override.
- 3. Recommended Air Supply 115 PSI max.
- 4. Model configuration (Regulated Outlet Pressure) option: H (5000 psi supply) and W (6000 psi supply)
- 5. Weight 119 lb.
- 6. All dimensions are consistent for KR-140 NPT or SAE ORB porting options, regardless of supply/outlet pressure and operator selection.



2

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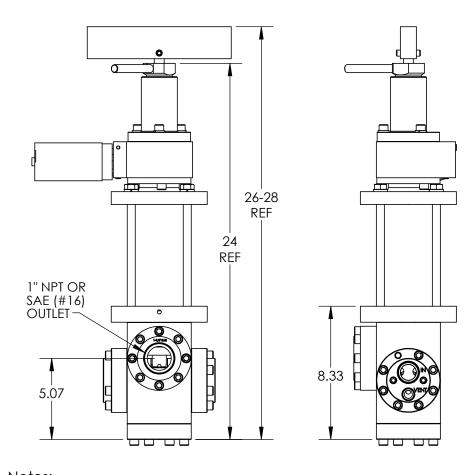
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Regulator w/ High Torque
Failsafe Air Operator

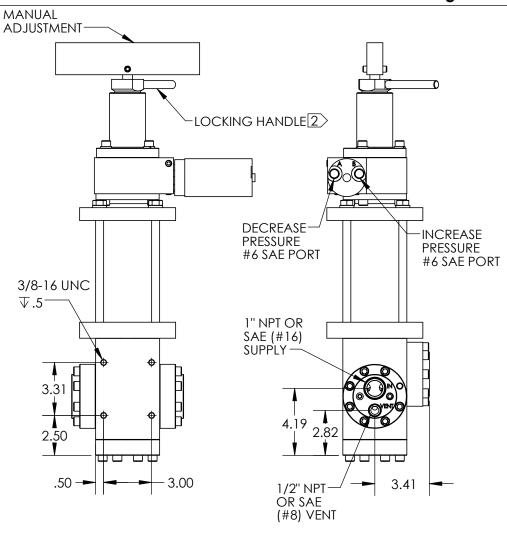
SIZE REV 5 SHEET 10 OF 26

4 3



## <u>Notes:</u>

- Failsafe Hydraulic Motor provides remote operation with a manual override. Upon loss of pilot signal, there is no loss of regulated outlet pressure.
- Turn locking handle clockwise to lock for failsafe remote operation. Turn locking handle counter-clockwise to unlock for manual operation/override.
- 3. Max Hydraulic Motor Supply Pressure 1500 psi
- 4. Model configuration (Regulated Outlet Pressure) option: H (5000 psi supply) and W (6000 psi supply).
- 5. Weight 98 lb.
- All dimensions are consistent for KR-140 NPT or SAE porting options, regardless of supply/outlet pressure and operator selection.





2

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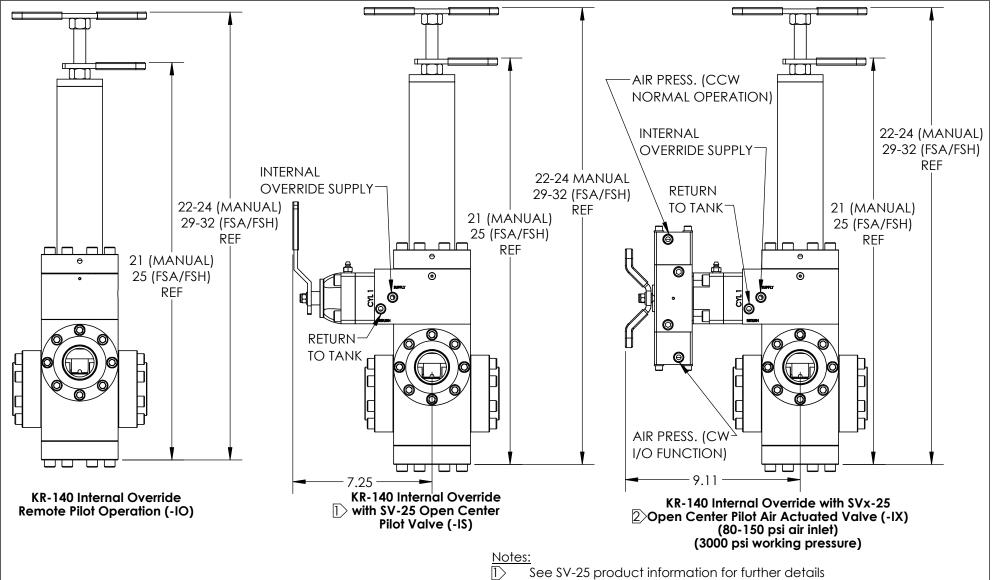
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Regulator w/ Failsafe
Hydraulic Operator

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5 4 3



The I/O Bypass operator allows full accumulator pressure to be supplied downstream of the regulator without a dedicated 4-way bypass valve in the circuit. The over-ride bypass is accomplished by applying a pilot signal to the I/O operator which is equal to or greater than the accumulator pressure. The pilot pressure forces the piston/seal container assembly to the full open position where supply pressure flows through the regulator to the output circuit. Relieving the pilot signal allows the regulator to return to the original set pressure.

- See SVx-25 product information for further details
- Regulated outlet pressure options: D, L, R, V



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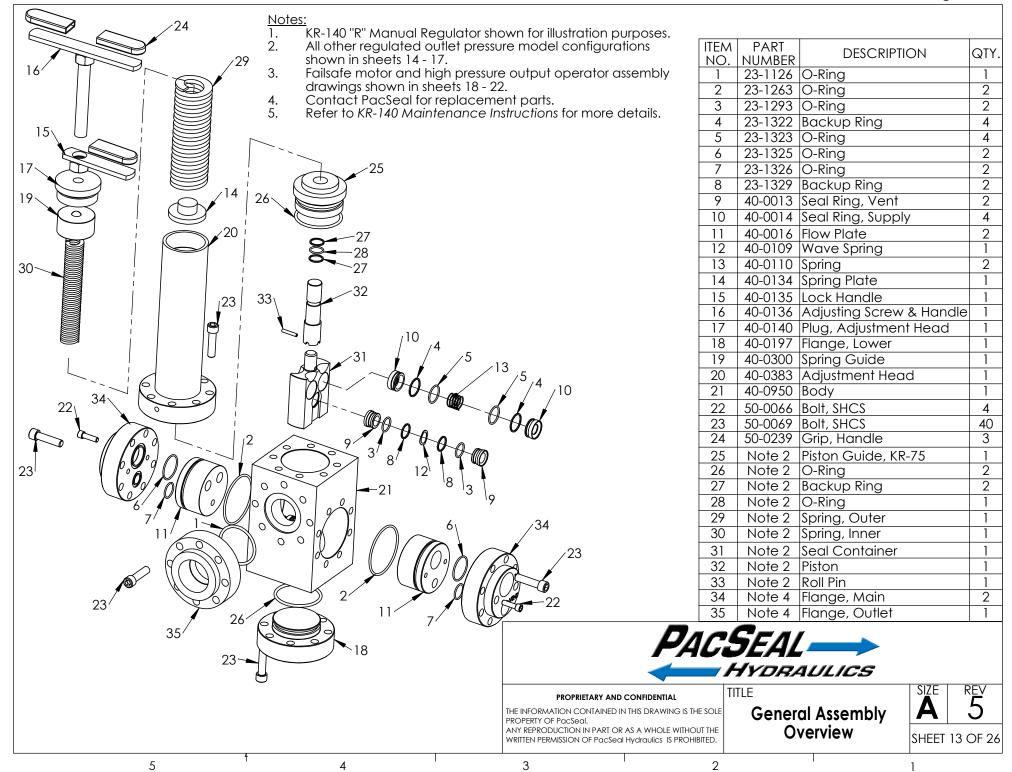
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TITLE

Internal Override Options **Installation Drawing** 

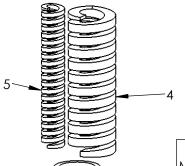
SIZE SHEET 12 OF 26

3

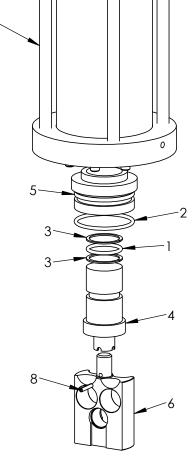




1. The listed components vary based on Supply and Regulated Outlet Pressures, while all other components (shown in sheet 13 "General Assembly Overview") are shared.



| Model | Supply<br>Pressure (psi) | Regulated<br>Outlet<br>Pressure (psi) | Deadband<br>(psi) |
|-------|--------------------------|---------------------------------------|-------------------|
| L     | 3000/5000                | 200-2000                              | 85-150            |
| Н     | 5000/6000                | 350-3300                              | 85-150            |



KR-140 "H" Regulator with High Pressure Output Adjustment Head

# KR-140 "L" Regulator

| ITEM<br>NO. | PART<br>NUMBER | DESCRIPTION      | QTY. |
|-------------|----------------|------------------|------|
| 1           | 23-1124        | O-Ring           | 1    |
| 2           | 23-1319        | O-Ring           | 1    |
| 3           | 23-1342        | Backup Ring      | 2    |
| 4           | 40-0143        | Spring, Outer    | 1    |
| 5           | 40-0144        | Spring, Inner    | 1    |
| 6           | 40-0995        | Piston, L        | 1    |
| 7           | 40-0996        | Plunger Guide, L | 1    |
| 8           | 40-1292        | Seal Container   | 1    |
| 9           | 50-0117        | Roll Pin         | 1    |

| ITEM<br>NO. | PART<br>NUMBER | DESCRIPTION                       | QTY. |
|-------------|----------------|-----------------------------------|------|
| 1           | 23-1124        | O-Ring                            | 1    |
| 2           | 23-1319        | O-Ring                            | 1    |
| 3           | 23-1342        | Backup Ring                       | 2    |
| 4           | 40-0995        | Piston, L                         | 1    |
| 5           | 40-0996        | Piston Guide, L                   | 1    |
| 6           | 40-1292        | Seal Container                    | 1    |
| 7           | 40-2927        | High Pressure Output<br>Adj. Head | 1    |
| 8           | 50-0117        | Roll Pin                          | 1    |



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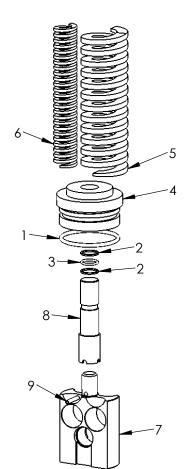
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TITLE

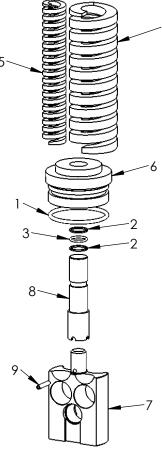
L and H Model Configurations Assembly Drawing

SIZE REV **A** 5 SHEET 14 OF 26

Notes:
1. The listed components vary based on Supply and Regulated Outlet Pressures, while all other components (shown in sheet 13 "General Assembly Overview") are shared.



| Model | Supply<br>Pressure (psi) | Regulated<br>Outlet<br>Pressure (psi) | Deadband<br>(psi) |
|-------|--------------------------|---------------------------------------|-------------------|
| R     | 3000/5000                | 550-2500                              | 300-600           |
| ٧     | 6000                     | 1200-5500                             | 450-800           |



KR-140 "V" Regulator

| K | R-   | 140 | 0 "R | " R  | ea           | ul | ata | )r |
|---|------|-----|------|------|--------------|----|-----|----|
| 1 | 17 - | 17  | J N  | . 17 | <del>С</del> | U  | uiv | "  |

| ITEM<br>NO. | PART<br>NUMBER | DESCRIPTION     | QTY. |
|-------------|----------------|-----------------|------|
| 1           | 23-1319        | O-Ring          | 1    |
| 2           | 23-1320        | Backup Ring     | 2    |
| 3           | 23-1321        | O-Ring          | 1    |
| 4           | 40-0186        | Piston Guide, R | 1    |
| 5           | 40-0189        | Spring, Outer   | 1    |
| 6           | 40-0190        | Spring, Inner   | 1    |
| 7           | 40-1292        | Seal Container  | 1    |
| 8           | 40-2875        | Piston, R       | 1    |
| 9           | 50-0117        | Roll Pin        | 1    |

| ITEM<br>NO. | PART<br>NUMBER | DESCRIPTION     | QTY. |
|-------------|----------------|-----------------|------|
| 1           | 23-1319        | O-Ring          | 1    |
| 2           | 23-1320        | Backup Ring     | 2    |
| 3           | 23-1321        | O-Ring          | 1    |
| 4           | 40-0143        | Spring, Outer   | 1    |
| 5           | 40-0144        | Spring, Inner   | 1    |
| 6           | 40-0186        | Piston Guide, R | 1    |
| 7           | 40-1292        | Seal Container  | 1    |
| 8           | 40-2875        | Piston, R       | 1    |
| 9           | 50-0117        | Roll Pin        | 1    |



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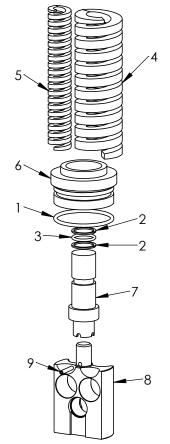
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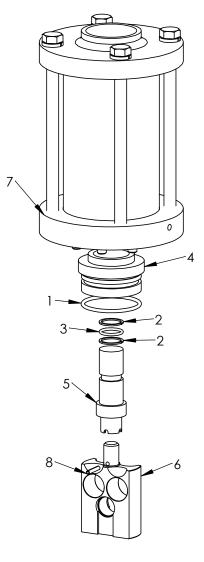
TITLE R and V Model Configurations A 5
Assembly Drawing SHEET 15 OF 26

SIZE **REV** 

Notes: The listed components vary based on Supply and Regulated Outlet Pressures, while all other components (shown in sheet 13 "General Assembly Overview") are shared.



| Model | Supply<br>Pressure (psi) | Regulated<br>Outlet<br>Pressure (psi) | Deadband<br>(psi) |
|-------|--------------------------|---------------------------------------|-------------------|
| D     | 5000/6000                | 400-4000                              | 150-250           |
| W     | 6000                     | 600-5000                              | 150-250           |



# KR-140 "D" Regulator

| ITEM<br>NO. | PART<br>NUMBER | DESCRIPTION     | QTY. |
|-------------|----------------|-----------------|------|
| 1           | 23-1319        | O-Ring          | 1    |
| 2           | 23-1331        | Backup Ring     | 2    |
| 3           | 23-1332        | O-Ring          | 1    |
| 4           | 40-0143        | Spring, Outer   | 1    |
| 5           | 40-0144        | Spring, Inner   | 1    |
| 6           | 40-0996        | Piston Guide, D | 1    |
| 7           | 40-1077        | Piston, D       | 1    |
| 8           | 40-1292        | Seal Container  | 1    |
| 9           | 50-0117        | Roll Pin        | 1    |

KR-140 "W" Regulator with High Pressure Output Adjustment Head

| ITEM<br>NO. | PART<br>NUMBER | DESCRIPTION                       | QTY. |
|-------------|----------------|-----------------------------------|------|
| 1           | 23-1319        | O-Ring                            | 1    |
| 2           | 23-1331        | Backup Ring                       | 2    |
| 3           | 23-1332        | O-Ring                            | 1    |
| 4           | 40-0996        | Piston Guide, D                   | 1    |
| 5           | 40-1077        | Piston, D                         | 1    |
| 6           | 40-1292        | Seal Container                    | 1    |
| 7           | 40-2927        | High Pressure Output<br>Adj. Head | 1    |
| 8           | 50-0117        | Roll Pin                          | 1    |



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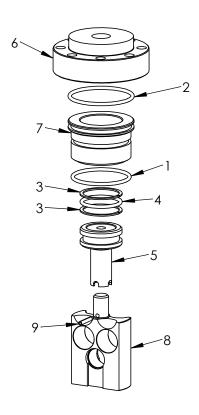
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TITLE D and W Model Configurations Assembly Drawing SHEET 16 OF 26

SIZE **REV** 

Notes: The listed components vary based on Supply and Regulated Outlet Pressures, while all other components (shown in sheet 13 "General Assembly Overview") are shared.



| Model | Supply Pressure (psi) | Regulated<br>Outlet<br>Pressure (psi) | Deadband<br>(psi) |
|-------|-----------------------|---------------------------------------|-------------------|
| Р     | 3000/5000/6000        | 50-6000                               | 0-100             |

# KR-140 "P" Regulator (Hydraulic Pilot)

| ITEM<br>NO. | PART<br>NUMBER | DESCRIPTION    | QTY. |
|-------------|----------------|----------------|------|
| 1           | 23-1319        | O-Ring         | 1    |
| 2           | 23-1327        | O-Ring         | 1    |
| 3           | 23-1328        | Backup Ring    | 2    |
| 4           | 23-1529        | O-Ring         | 1    |
| 5           | 40-0183        | Piston, A/H    | 1    |
| 6           | 40-0298        | Hydraulic Head | 1    |
| 7           | 40-0299        | Piston Guide   | 1    |
| 8           | 40-1292        | Seal Container | 1    |
| 9           | 50-0117        | Roll Pin       | 1    |

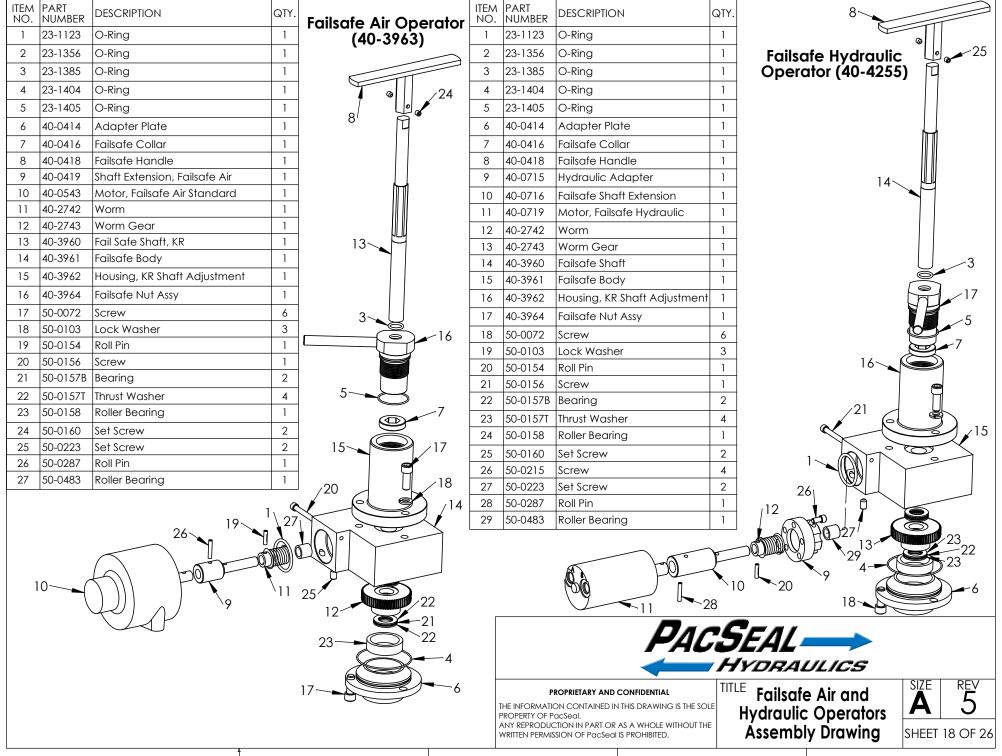


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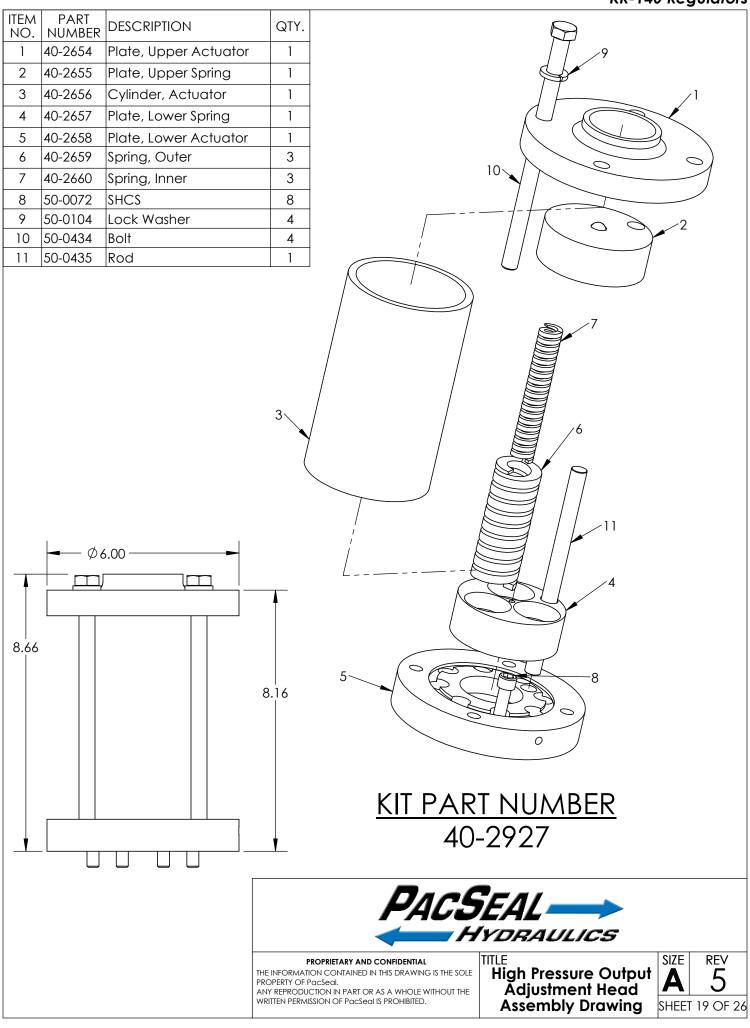
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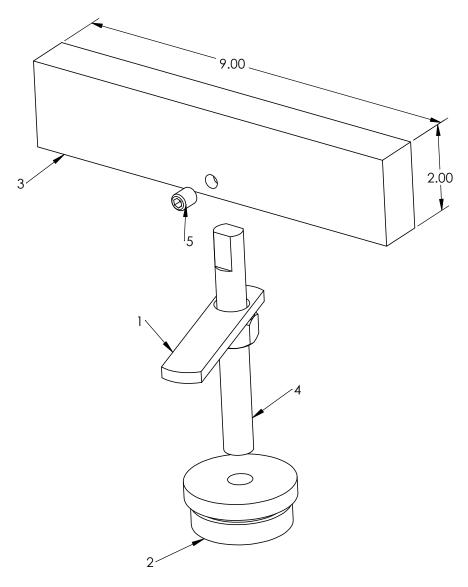
TITLE P Model Configuration Assembly Drawing SHEET 17 OF 26



5 4 2



| ITEM<br>NO. | PART<br>NUMBER | DESCRIPTION           | QTY. |
|-------------|----------------|-----------------------|------|
| 1           | 40-0135        | Lock Handle           | 1    |
| 2           | 40-0140        | Plug, Adjustment Head | 1    |
| 3           | 40-3237        | Handle, Fail Safe HP  | 1    |
| 4           | 40-3414        | Adjusting Rod         | 1    |
| 5           | 50-0482        | Set Screw             | 2    |



# KIT PART NUMBER 40-3558



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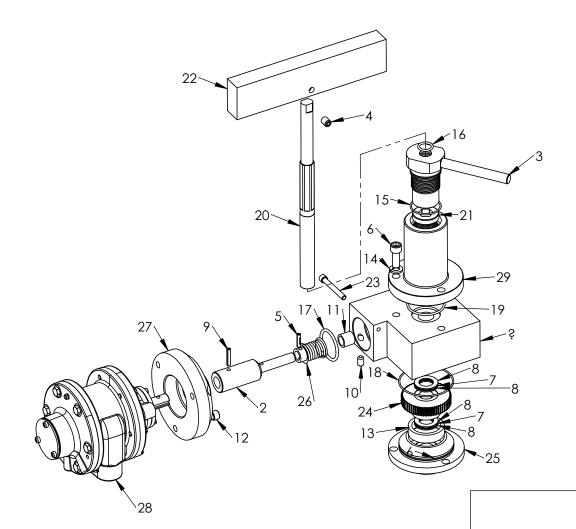
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TITLE
High Pressure Output
Manual Handle
Assembly Drawing

SIZE REV 5 SHEET 20 OF 26

# High Pressure Output Failsafe Air Actuator (40-4280) with Standard Motor Used exclusively with "H" and "W" Regulators



| _ |             |             |                        |      |
|---|-------------|-------------|------------------------|------|
|   | ITEM<br>NO. | PART NUMBER | DESCRIPTION            | QTY. |
|   | 1           | 23-1123     | O-Ring                 | 1    |
| İ | 2           | 23-1356     | O-Ring                 | 1    |
|   | 3           | 23-1385     | O-Ring                 | 1    |
| i | 4           | 23-1404     | O-Ring                 | 1    |
| İ | 5           | 23-1405     | O-Ring                 | 1    |
|   | 6           | 40-0414     | Adapter Plate          | 1    |
| İ | 7           | 40-0416     | Collar                 | 1    |
|   | 8           | 40-0716     | Shaft Extension, Air   | 1    |
|   | 9           | 40-2742     | Worm                   | 1    |
|   | 10          | 40-2743     | Worm Gear              | 1    |
| İ | 11          | 40-3237     | Handle, High Torque    | 1    |
| İ | 12          | 40-3757     | Adapter Plate          | 1    |
|   | 13          | 40-3761     | Motor, Air High Torque | 1    |
| İ | 14          | 40-3960     | Shaft                  | 1    |
|   | 15          | 40-3961     | Body                   | 1    |
| İ | 16          | 40-3962     | Housing                | 1    |
|   | 17          | 40-3964     | Failsafe Nut Ass'y     | 1    |
| İ | 18          | 50-0072     | Bolt                   | 6    |
| ĺ | 19          | 50-0103     | Lock Washer            | 3    |
|   | 20          | 50-0154     | Roll Pin               | 1    |
|   | 21          | 50-0156     | Bolt                   | 1    |
|   | 22          | 50-0157B    | Bearing                | 2    |
|   | 23          | 50-0157T    | Thrust Washer          | 4    |
|   | 24          | 50-0158     | Roller Bearing         | 1    |
|   | 25          | 50-0223     | Bolt                   | 2    |
|   | 26          | 50-0287     | Roll Pin               | 1    |
| İ | 27          | 50-0319     | Bolt                   | 3    |
|   | 28          | 50-0482     | Set Screw              | 2    |
|   | 29          | 50-0483     | Roller Bearing         | 1    |
|   |             |             |                        |      |



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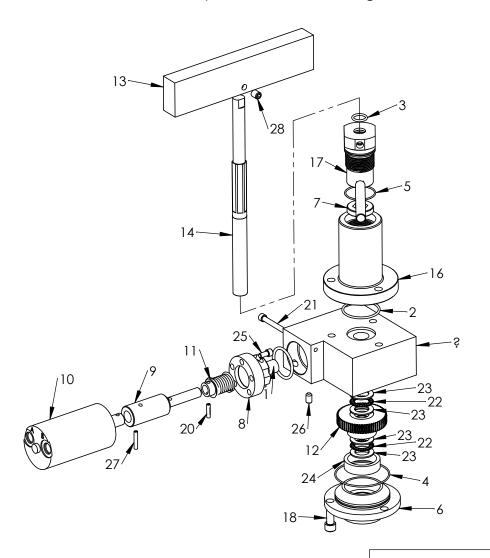
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TITLE

High Pressure Output Failsafe Air Operators **Assembly Drawing** 

SHEET 21 OF 26

# High Pressure Output Failsafe Hydraulic Actuator (40-4284) with High Torque Motor Used exclusively with "H" and "W" Regulator



5

| ITEM<br>NO. | PART NUMBER | DESCRIPTION                | QTY. |
|-------------|-------------|----------------------------|------|
| 1           | 23-1123     | O-Ring                     | 1    |
| 2           | 23-1356     | O-Ring                     | 1    |
| 3           | 23-1385     | O-Ring                     | 1    |
| 4           | 23-1404     | O-Ring                     | 1    |
| 5           | 23-1405     | O-Ring                     | 1    |
| 6           | 40-0414     | Adapter Plate              | 1    |
| 7           | 40-0416     | Collar                     | 1    |
| 8           | 40-0715     | Hydraulic Adapter          | 1    |
| 9           | 40-0716     | Shaft Extension, Hydraulic | 1    |
| 10          | 40-0719     | Motor, Hydraulic           | 1    |
| 11          | 40-2742     | Worm                       | 1    |
| 12          | 40-2743     | Worm Gear                  | 1    |
| 13          | 40-3237     | Handle, High Torque        | 1    |
| 14          | 40-3960     | Shaft                      | 1    |
| 15          | 40-3961     | Body                       | 1    |
| 16          | 40-3962     | Housing                    | 1    |
| 17          | 40-3964     | Failsafe Nut Ass'y         | 1    |
| 18          | 50-0072     | Bolt                       | 6    |
| 19          | 50-0103     | Lock Washer                | 3    |
| 20          | 50-0154     | Roll Pin                   | 1    |
| 21          | 50-0156     | Bolt                       | 1    |
| 22          | 50-0157B    | Bearing                    | 2    |
| 23          | 50-0157T    | Thrust Washer              | 4    |
| 24          | 50-0158     | Roller Bearing             | 1    |
| 25          | 50-0215     | Bolt                       | 4    |
| 26          | 50-0223     | Set Screw                  | 2    |
| 27          | 50-0287     | Roll Pin                   | 1    |
| 28          | 50-0482     | Set Screw                  | 2    |
| 29          | 50-0483     | Roller Bearing             | 1    |



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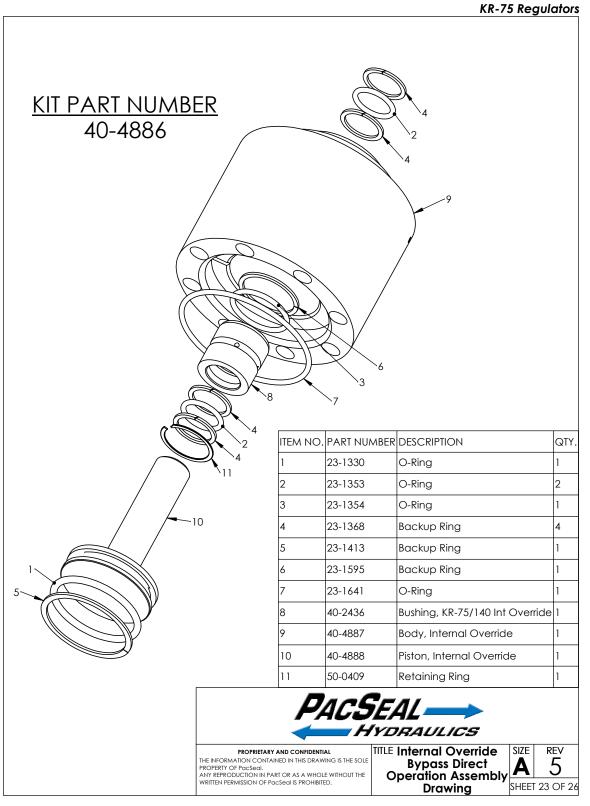
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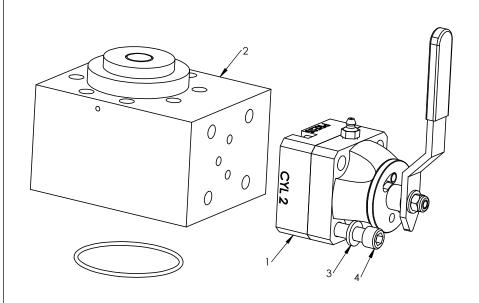
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TITLE

High Pressure Output Failsafe Hydraulic Operator **Assembly Drawing** 

SHEET 22 OF 26





# KIT PART NUMBER 40-4899

| ITEM NO. | PART NUMBER | DESCRIPTION                          | QTY. |
|----------|-------------|--------------------------------------|------|
| 1        | 40-3301     | SV-25 Open Center                    | 1    |
| 2        | 40-4895     | Internal Override, KR-75/140/150/200 | 1    |
| 3        | 50-0103     | Lock Washer                          | 4    |
| 4        | 50-0338     | SHCS                                 | 4    |



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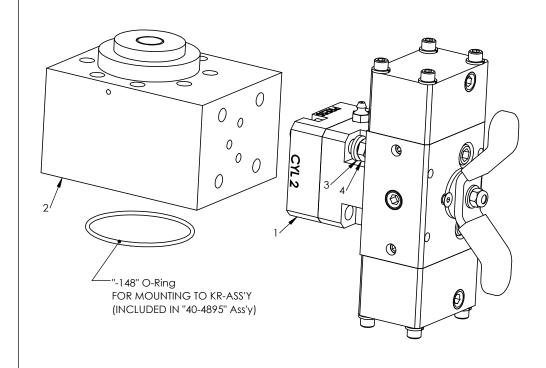
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Internal Override
Bypass w/ SV-25
Assembly Drawing

SIZE 5

# KIT PART NUMBER 40-4894

| ITEM NO. | PART NUMBER | DESCRIPTION                          | QTY. |
|----------|-------------|--------------------------------------|------|
| 1        | 40-4549     | SVx-25 Open Center, 2-Pos 45° CW     | 1    |
| 2        | 40-4895     | Internal Override, KR-75/140/150/200 | 1    |
| 3        | 50-0103     | Lock Washer                          | 4    |
| 4        | 50-0291     | Bolt                                 | 4    |





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Internal Override
Bypass w/ SVx-25
Assembly Drawing

SHEET 25 OF 26

SIZE REV

