KR-12 Regulator Specifications
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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

General Specifications	
Supply Port Size	1/2 in. NPT or SAE ORB
Outlet Port Size	1/2 in. NPT or SAE ORB
Vent Port Size	1/2 in. NPT or SAE ORB
Working Pressure Options (Liquid)	3000, 5000 or 6000 psi
Regulated Outlet Pressure Options	See Product Configurator
Cv Factor Outlet	.23
Cv Factor Vent	.23
Rated Flow	2 gpm
Temperature Rating (Regulators and Failsafe Air Motors)	-40° to 250°F
Fluid Media	Hydraulic oil or lubricated water[1]
Weight	See installation drawings
Materials	
ShearFlo Sealing Components (i.e. Rotor and Seal Rings)	Hardened stainless steel[1]
Body	Carbon Steel
Flanges and Operators	Carbon Steel
Hardware	Coated Carbon Steel
O-rings	Buna-N (N), Viton (V), or EPR (E)
Backup Rings	Teflon

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

Model	Supply Pressure [psi]	Regulated Outlet Pressure [psi]	Deadand Range [psi]*
L	3000/5000/ 6000	250-1800	50-125
H		300-3800	50-150
P		50-6000	0-100

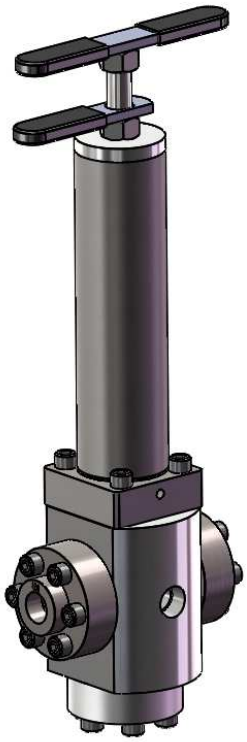
*Deadband is the difference between the set pressure and the actual outlet pressure that triggers the KR to open or vent. The deadband will vary depending on factors that influence the friction between the seal rings and flow plates, such as: type of fluid and lubricity properties, temperature, differential 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

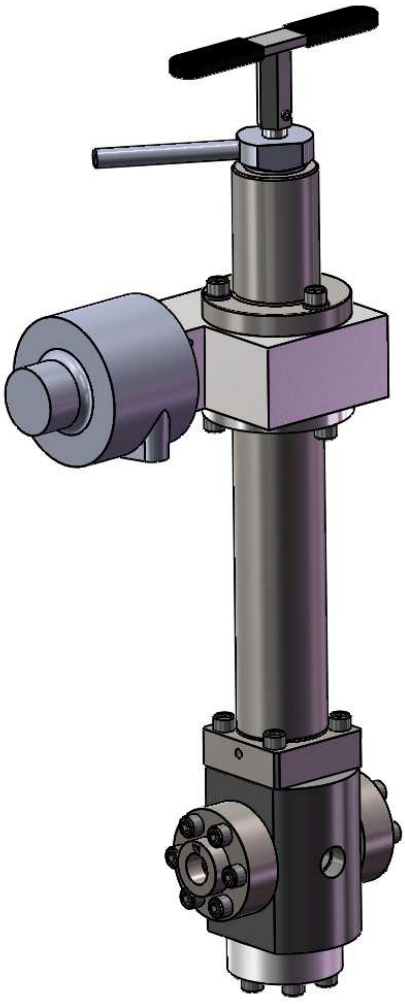
Basic Model	Ports	Supply Pressure	Regulated Outlet Pressure		Operator
			Rated Range[1]	Deadband	
KR-12	**N** NPT **S** SAE	**3** 3000 psi **5** 5000 psi **6** 6000 psi	**L** 250-1800 psi	50-125 psi	**M** Manual
			H 300-3800 psi	50-150 psi	**FSA** Failsafe Air Motor **FSH** Failsafe Hydraulic Motor
			P[2] 50-6000 psi	0-100 psi	**H** Hydraulic Pilot

Notes: [1] *Rated Regulated Outlet Pressure cannot exceed supply pressure. Absolute Outlet Pressure is 0 psi up to 25% above the maximum operating pressure.*

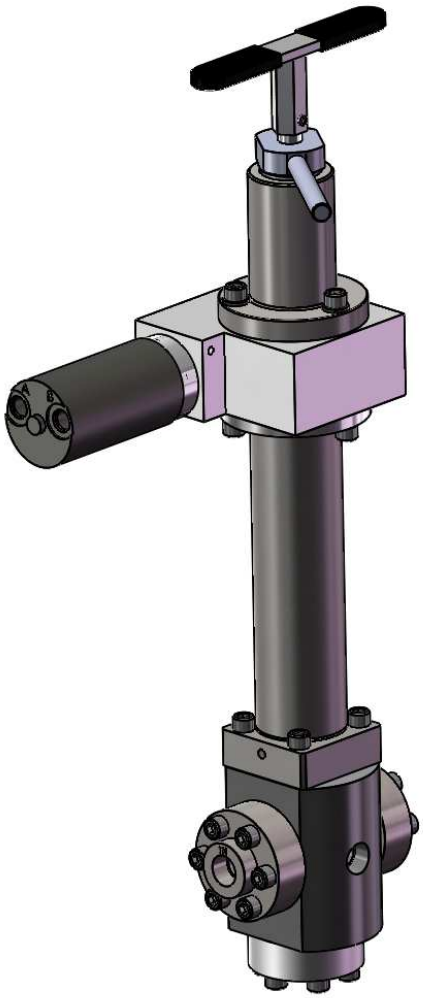
[2] *Maximum rated regulated outlet pressure matches the supply pressure for a regulator with the Hydraulic Pilot operator*



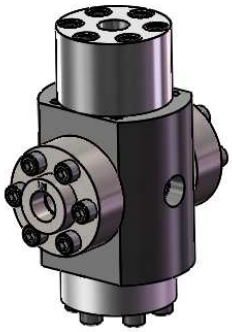
KR-12 Regulator with Standard Ports (NPT/SAE) and Manual Operator
Example: KR-12N3LM



KR-12 Regulator with Failsafe Air Motor Operator
Example: KR-12S5HFSA



KR-12 Regulator with Failsafe Hydraulic Motor Operator
Example: KR-12N6LFSH

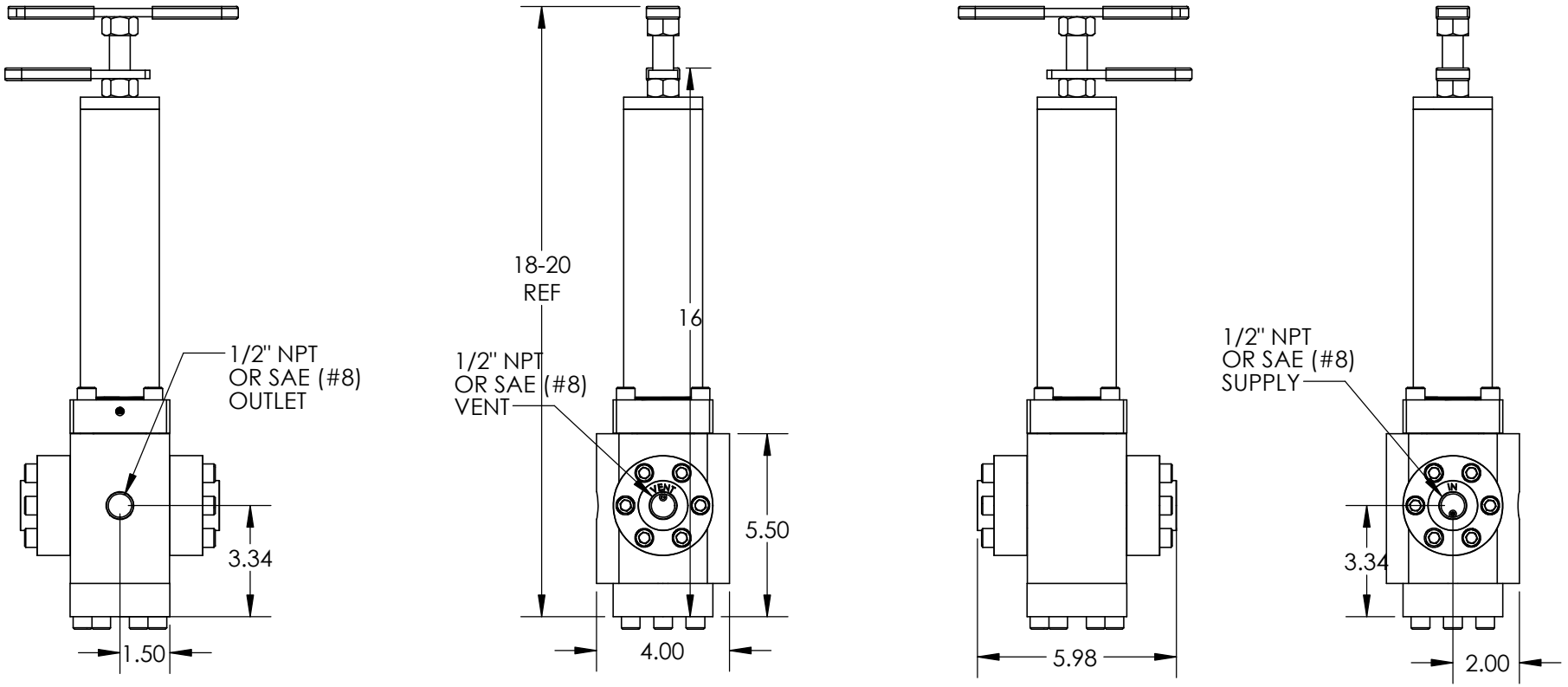


KR-12 Regulator with Hydraulic Pilot Operator
Example: KR-12N6PH

PACSEAL HYDRAULICS

TITLE: **Configuration Overview**

SIZE: A | REV: 5



Notes:

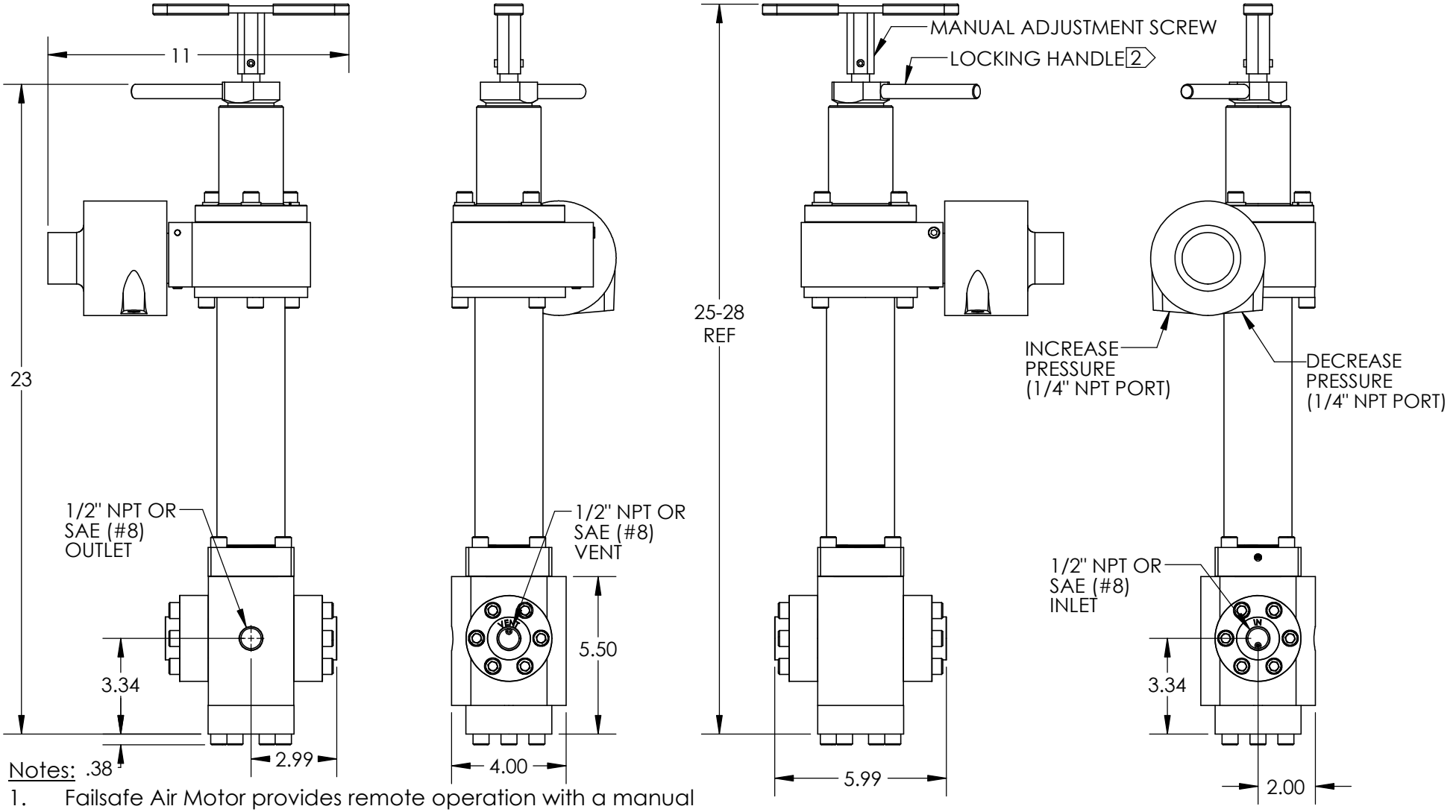
1. Adjustment handle can be threaded in or out to increase or decrease compression on the spring and thus on the regulated outlet pressure.
2. Model configuration (Regulated Outlet Pressure) options: L, H
3. Weight - 31 lb.
4. All dimensions are consistent for KR-12 NPT or SAE ORB porting options, regardless of supply/outlet pressure and operator selection.
5. Contact PacSeal for Tamper Proof option.

PACSEAL HYDRAULICS

TITLE: **Regulator w/ Manual Operator (NPT/SAE) Installation Drawing**

SIZE: A | REV: 5

5 4 3 2 1



Notes:

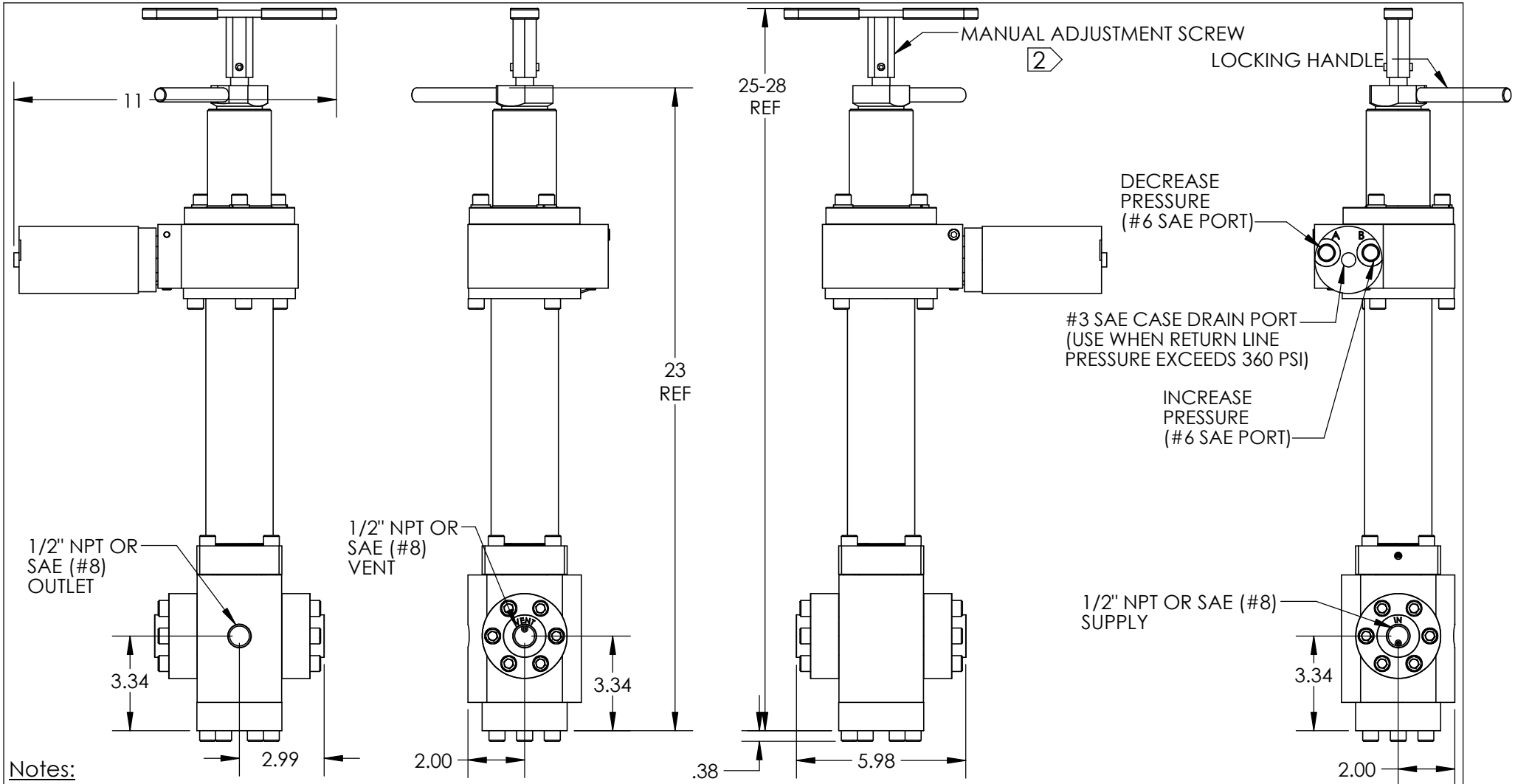
1. Failsafe Air Motor provides remote operation with a manual override. Upon loss of pilot signal, there is no loss of regulated outlet pressure.
2. Turn locking handle clockwise to lock for failsafe remote operation. Turn locking handle counter-clockwise to unlock for manual operation/override.
3. Recommended Air Supply - 115 PSI maximum.
4. Model configuration (Regulated Outlet Pressure) options: L, H
5. Weight - 59 lb.
6. All dimensions are consistent for KR-12 NPT or SAE ORB porting options, regardless of supply/outlet pressure and operator selection.

PacSeal Hydraulics

TITLE
Regulator w/ Failsafe Air Operator (NPT/SAE) Installation Drawing

SIZE A | REV 5

5 4 3 2 1



Notes:

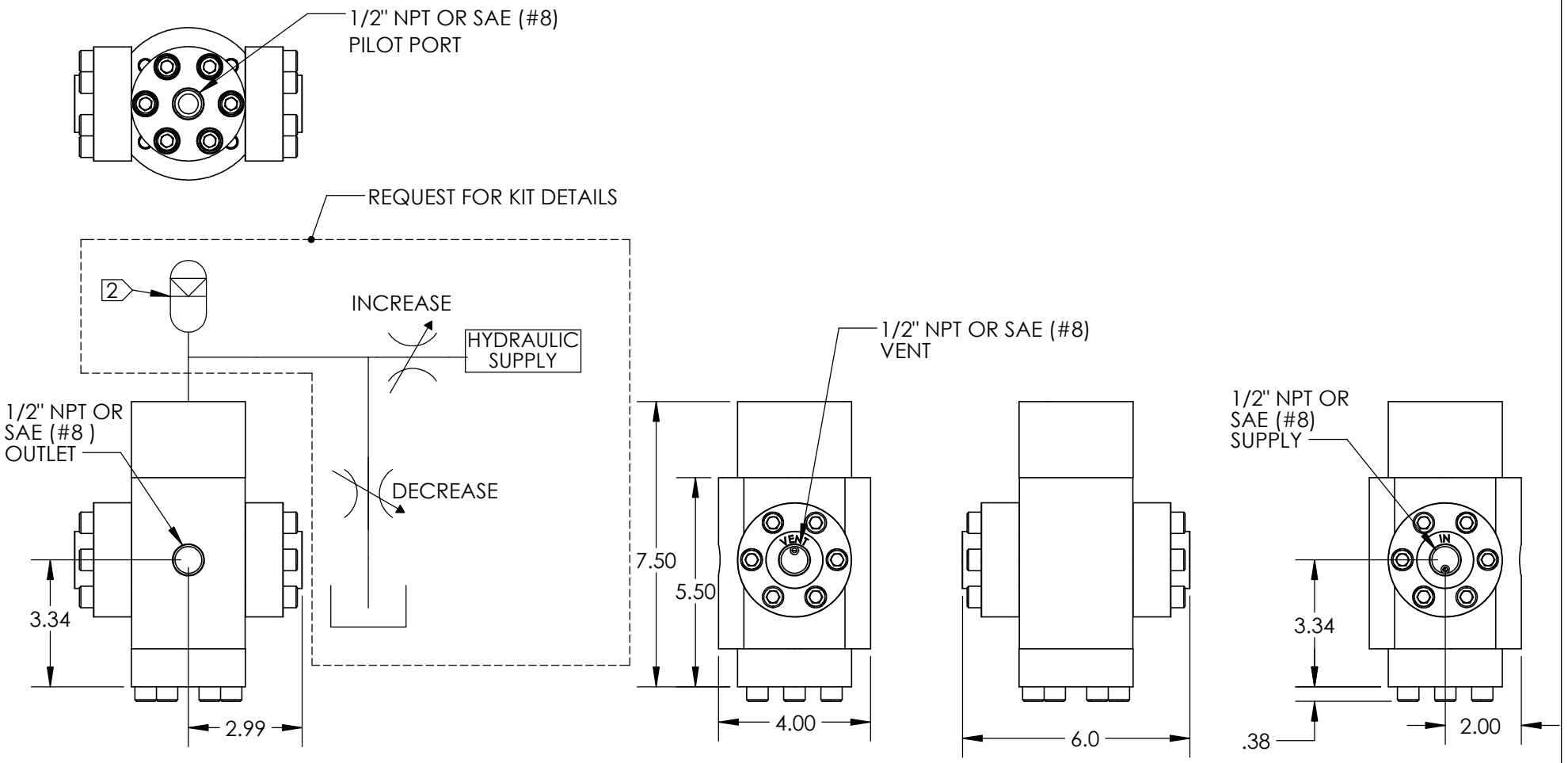
1. Failsafe Hydraulic Motor provides remote operation with a manual override. Upon loss of pilot signal, there is no loss of regulated outlet pressure.
2. Turn locking handle clockwise to lock for failsafe remote operation. Turn locking handle counter-clockwise to unlock for manual operation/override.
3. Max Hydraulic Motor Supply Pressure - 1500 psi
4. Model configuration (Regulated Outlet Pressure) options: L, H
5. Weight - 56 lb.
6. All dimensions are consistent for KR-12 NPT or SAE ORB porting options, regardless of supply/outlet pressure and operator selection.

PacSeal Hydraulics

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

SIZE A | REV 5

5 4 3 2 1



Notes:

1. 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.
2. Minimum 1 Pint Accumulator is recommended for operation.
3. Model configuration (Regulated Outlet Pressure) option: P
4. Weight - 23 lb.
5. All dimensions are consistent for KR-12 NPT or SAE ORB porting options, regardless of supply/outlet pressure and operator selection.

PacSeal Hydraulics

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

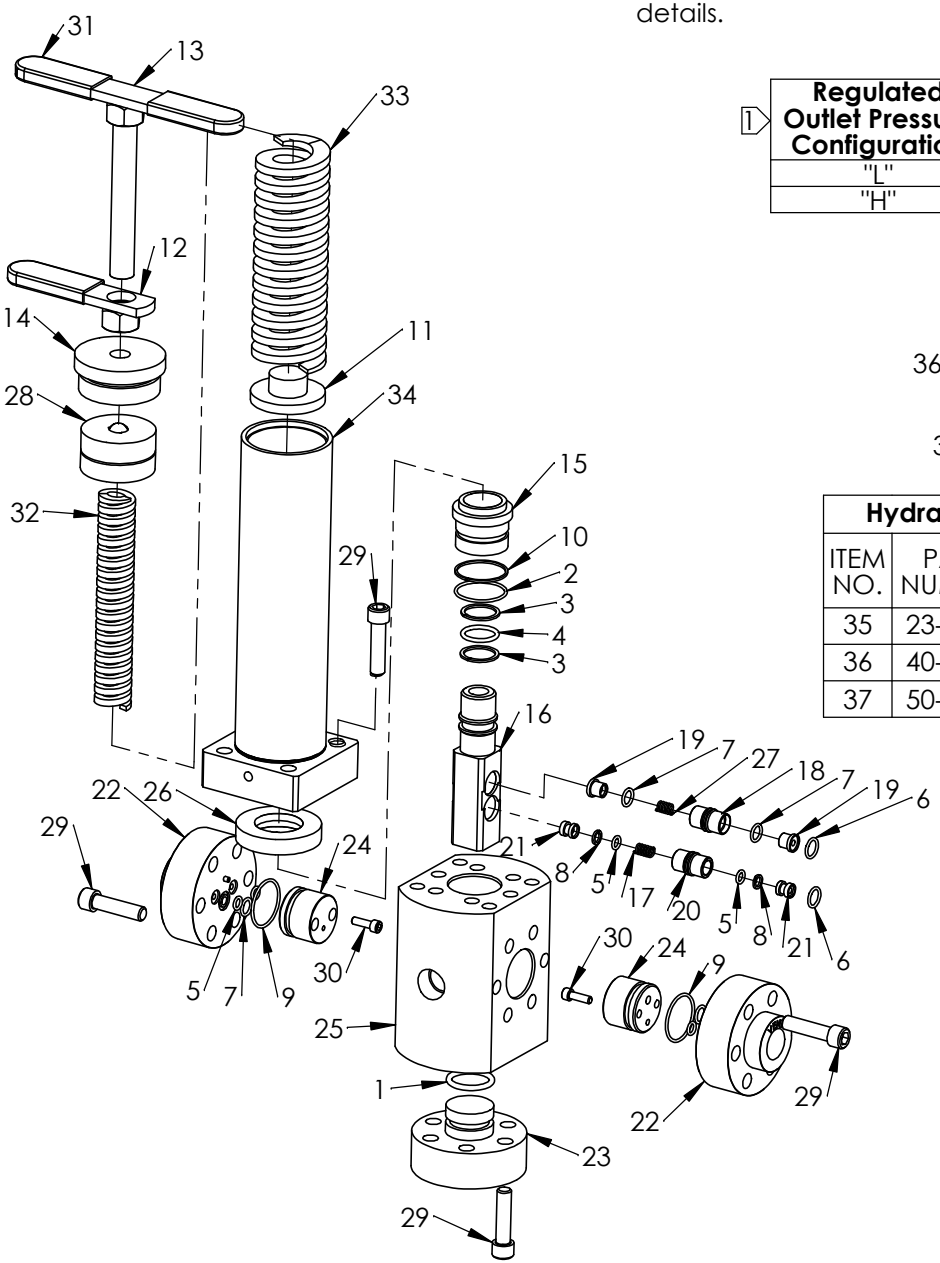
SIZE: A | REV: 5

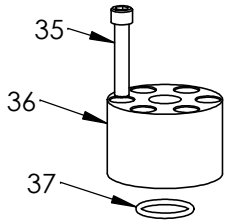
5 4 3 2 1

Notes:

1. Differences between all regulated outlet pressure model configurations are shown in the table below.
2. Failsafe motor operator assembly drawings shown in sheet 9.
3. Contact PacSeal for replacement parts.
4. Refer to *KR-12 Maintenance Instructions* for more details.

1 Regulated Outlet Pressure Configuration	Spring Inner P/N	Spring Outer P/N
"L"	40-0144	40-0189
"H"	40-0144	40-0143





Hydraulic Pilot Bill of Materials

ITEM NO.	PART NUMBER	DESCRIPTION	QTY.
35	23-1124	O-Ring	1
36	40-0875	Hydraulic Head	1
37	50-0080	Bolt	1

ITEM NO.	PART NUMBER	DESCRIPTION	QTY.
1	23-1141	O-Ring	1
2	23-1325	O-Ring	1
3	23-1331	Backup Ring	2
4	23-1332	O-Ring	1
5	23-1335	O-Ring	6
6	23-1343	O-Ring	2
7	23-1344	O-Ring	4
8	23-1345	Backup Ring	2
9	23-1400	O-Ring	2
10	23-1433	Backup Ring	1
11	40-0134	Spring Plate	1
12	40-0135	Lock Handle	1
13	40-0136	Adjusting Screw & Handle	1
14	40-0140	Plug, Adjustment Head	1
15	40-0330	Piston Guide	1
16	40-0331	Seal Container	1
17	40-0332	Spring, Supply	1
18	40-0333	Seal Cage, Vent	1
19	40-0334	Seal Ring, Vent	2
20	40-0335	Seal Cage, Inlet	1
21	40-0336	Seal Ring, Supply	2
22	40-0337	Flange, KR-12	2
23	40-0339	Flange, Lower	1
24	40-0340	Flow Plate, Supply & Vent KR-12	2
25	40-0341	Body	1
26	40-0345	Adapter	1
27	40-0863	Spring, Vent	1
28	40-3834	Thrust Bearing Assembly	1
29	50-0069	Bolt	22
30	50-0084	Bolt	4
31	50-0239	Grip, Handle	3
32	Note 1	Spring, Inner	1
33	Note 1	Spring, Outer	1
34	40-0388	Adjustment Head	1

PACSEAL HYDRAULICS

TITLE
General Assembly Overview

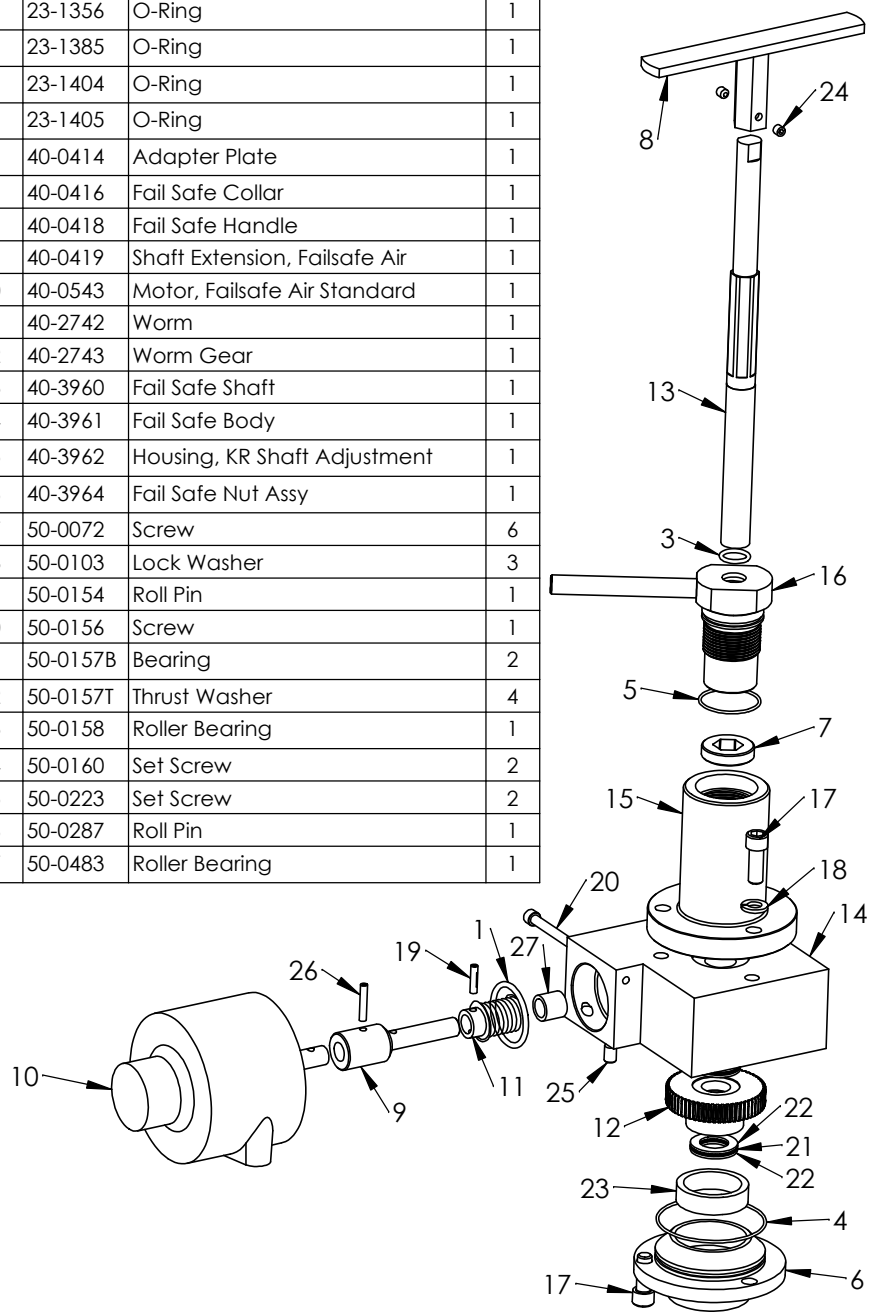
SIZE **A** | REV **5**

SHEET 8 OF 9

5 4 3 2 1

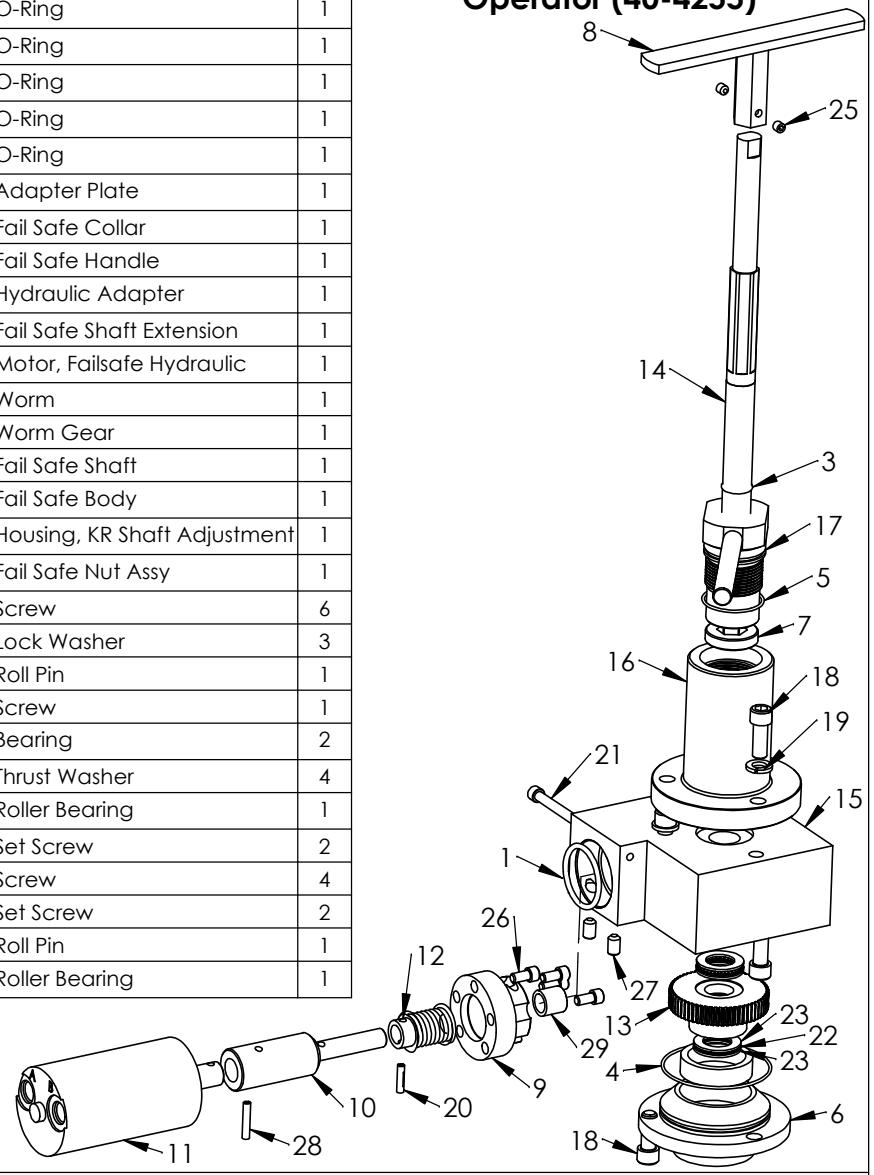
ITEM NO.	PART NUMBER	DESCRIPTION	QTY.
1	23-1123	O-Ring	1
2	23-1356	O-Ring	1
3	23-1385	O-Ring	1
4	23-1404	O-Ring	1
5	23-1405	O-Ring	1
6	40-0414	Adapter Plate	1
7	40-0416	Fail Safe Collar	1
8	40-0418	Fail Safe Handle	1
9	40-0419	Shaft Extension, Failsafe Air	1
10	40-0543	Motor, Failsafe Air Standard	1
11	40-2742	Worm	1
12	40-2743	Worm Gear	1
13	40-3960	Fail Safe Shaft	1
14	40-3961	Fail Safe Body	1
15	40-3962	Housing, KR Shaft Adjustment	1
16	40-3964	Fail Safe Nut Assy	1
17	50-0072	Screw	6
18	50-0103	Lock Washer	3
19	50-0154	Roll Pin	1
20	50-0156	Screw	1
21	50-0157B	Bearing	2
22	50-0157T	Thrust Washer	4
23	50-0158	Roller Bearing	1
24	50-0160	Set Screw	2
25	50-0223	Set Screw	2
26	50-0287	Roll Pin	1
27	50-0483	Roller Bearing	1

Failsafe Air Operator (40-3963)



ITEM 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	Fail Safe Collar	1
8	40-0418	Fail Safe Handle	1
9	40-0715	Hydraulic Adapter	1
10	40-0716	Fail Safe Shaft Extension	1
11	40-0719	Motor, Failsafe Hydraulic	1
12	40-2742	Worm	1
13	40-2743	Worm Gear	1
14	40-3960	Fail Safe Shaft	1
15	40-3961	Fail Safe Body	1
16	40-3962	Housing, KR Shaft Adjustment	1
17	40-3964	Fail Safe Nut Assy	1
18	50-0072	Screw	6
19	50-0103	Lock Washer	3
20	50-0154	Roll Pin	1
21	50-0156	Screw	1
22	50-0157B	Bearing	2
23	50-0157T	Thrust Washer	4
24	50-0158	Roller Bearing	1
25	50-0160	Set Screw	2
26	50-0215	Screw	4
27	50-0223	Set Screw	2
28	50-0287	Roll Pin	1
29	50-0483	Roller Bearing	1

Failsafe Hydraulic Operator (40-4255)



PacSeal Hydraulics

TITLE **Failsafe Air and Hydraulic Operators Assembly Drawing**

SIZE **A** REV **5**

SHEET 9 OF 9

5 4 3 2 1