

OPERATOR'S MANUAL

KXXXXX-XXX-X

INCLUDING: APPLICATION, LUBRICATION, INSTALLATION & SERVICE

RELEASED: 4-15-88

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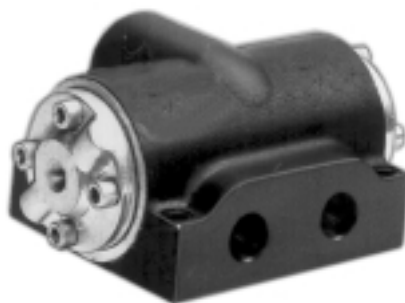
(REV. B)

K SERIES VALVES



**READ THIS MANUAL CAREFULLY BEFORE INSTALLING,
OPERATING OR SERVICING THIS EQUIPMENT.**

It is the responsibility of the employer to place this information in the hands of the operator. Keep for future reference.



MODEL DESCRIPTION CHART

K X X X XX - XXX - X

VALVE TYPE

- 2 - 2 Position
- 3 - 3 Position Spring Centered
- 5 - 3 Position Detent
(3 & 5 - all ports blocked in neutral)
- 6 - 3 Position Detent
- 7 - 3 Position Spring Centered
(6 & 7 - inlet ports blocked,
cylinder ports open in neutral)

BODY STYLE

- 1 - 4 Way Side Ported
- 3 - 4 Way Bottom Ported for subplate mounting.
Common exhaust in subplate.
- 4 - 4 Way Bottom Ported for subplate mounting.
Exhaust in valve body.

PORT SIZE

- 3 - 3/8" NPT
- 4 - 1/2" NPT
- 6 - 3/4" NPT
- 8 - 1" NPT

CURRENT TYPE

- A - AC
- D - DC
- N - No Coil

COIL VOLTAGE

- 000 - No Coil
- 005 - 5 V
- 012 - 12 V
- 024 - 24 V
- 120 - 120 V
- 240 - 240 V

ACTUATOR / RETURN

- BD - Bleed / Bleed (pages 12 & 13)
- BS - Bleed / Spring (pages 14 & 15)
- FP - Pedal / Pilot (page 6)
- FS - Pedal / Spring (page 6)
- HP - Palm / Pilot (page 20)
- HS - Palm / Spring (page 20)
- LM - Hand Lever / Manual (pages 3 & 4)
- LS - Hand Lever / Spring (pages 3 & 5)
- PD - Pilot / Pilot (pages 10 & 11)
- PS - Pilot / Spring (pages 10 & 11)
- SD - Solenoid / Solenoid (pages 18 & 19)
- SS - Solenoid / Spring (pages 16 & 17)
- TM - Treadle / Manual (pages 7 & 8)
- TS - Treadle / Spring (page 9)

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Unit 16, Upminster Trading Park, Warley St., Upminster, Essex, RM14 3PJ, ENGLAND



Warnings and Cautions

APPLICATION

WARNINGS:

1. ARO valves are designed for use only in industrial pneumatic (air) and / or vacuum systems applications and are NOT to be used for individual consumer use, application or service.
2. When any ARO valve is used in any type application, safeguards must be provided to insure against bodily injury for the operator and / or other persons in the immediate area.
3. ARO valves are NOT to be used as a safety device or to operate and / or control the operation of full revolution clutch systems and / or brake systems on power presses or similar equipment. ARO valves are not designed or intended for such uses.
5. When a manually operated (actuated) valve is used or installed into a system, provisions must be made to prevent the valve from being accidentally operated (actuated), which may in turn cause bodily injury or otherwise cause a hazardous or dangerous condition.
6. Damaged air pressure hoses or electrical wiring, or connections, can cause accidental valve operation (actuation), which may in turn cause bodily injury or otherwise cause a hazardous or dangerous condition. KEEP ALL HOSES, ELECTRICAL WIRING, FITTINGS AND CONNECTIONS IN FIRST CLASS OPERATING CONDITION.

LUBRICATION

Valve components are lubricated at the time of assembly at the factory and can normally be operated without air line lubrication to an approximate life of twenty million cycles, depending on application. If air line cylinders, or other air line devices, used in conjunction with ARO valves require lubrication, be sure the lubricating oils used are compatible with the valve seals and are of sufficient viscosity to assure adequate lubrication. Aro recommends an oil lubricant with a viscosity of 100 - 200 SUS at 100° F and an aniline point above 200° F. Aro does not recommend the use of compound oils containing graphite fillers, extremely low viscosities and other non-fluidic lubricants. RECOMMENDED: Aro 29665 air line lubricator oil is available in one quart containers.

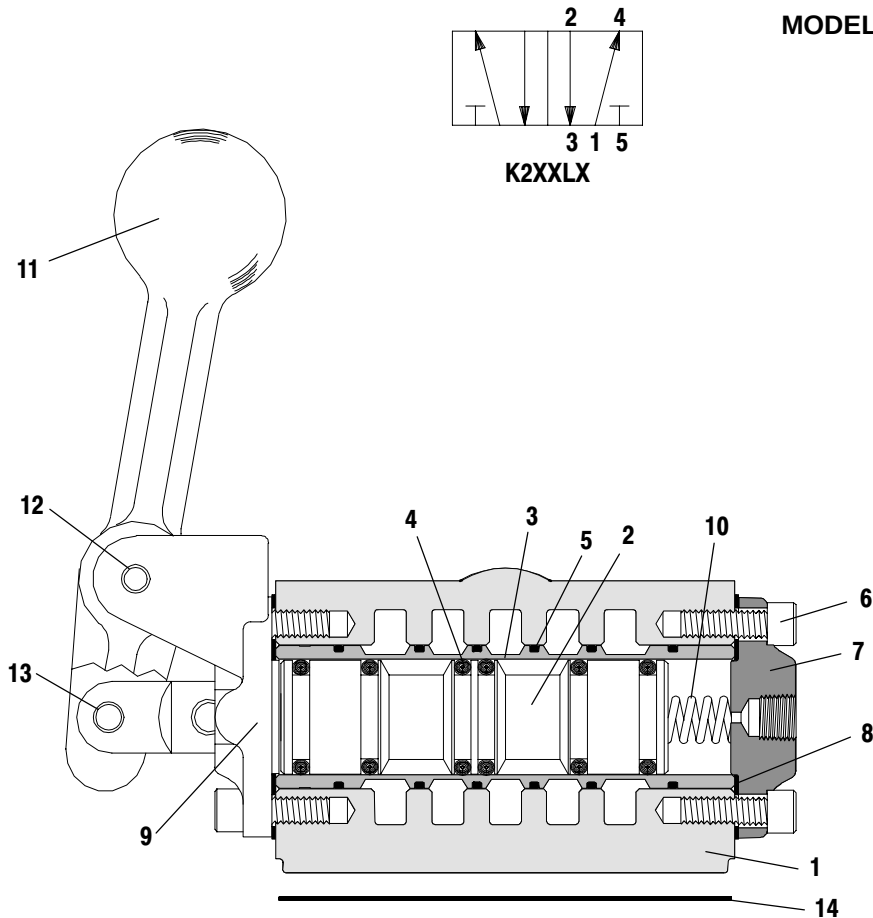
INSTALLATION AND SERVICE

WARNINGS:

1. Shut off, disconnect and exhaust air pressure from system before installing or performing service to any ARO valve.
2. Shut off and disconnect electrical supply to system before installing or performing service to any ARO valve.
3. Allow only persons with a thorough understanding of the operation and application of all ARO valves being used in a particular system and how the ARO valve(s) relate to and interact with other components of the system to install or perform maintenance or service to any ARO valve or other components of the system.
4. DO NOT subject any ARO valve to any condition that exceeds the limits set forth in the specifications for a particular valve model.
7. **ARO 2-POSITION, 4-WAY VALVES:** Regardless of which of the 2-positions this type of ARO valve is in, when air pressure is applied to the inlet port(s) of these valves, there will always be an open flow path of air from the inlet to one of the valve outlets. A method to exhaust this trapped air pressure must be installed into the system so all air pressure can be removed from valve or system before performing service or maintenance to valve.
8. **ARO 3-POSITION, 4-WAY VALVES:** To actuate this type of ARO valve, either a double solenoid, double remote air pilot pressure or manual operation is used. When the valve actuator has shifted the valve, air pressure applied at the inlet port(s) will flow thru the valve to one of the two outlet ports. When the valve is not in a shifted position, the valve will automatically move to a center position. ARO valves can be either closed center or open center type and will reveal the following characteristics when the valve is in the center position:
 - a. **OPEN CENTER VALVES:** When this type ARO valve is in the center position, the inlet port(s) is blocked and the two outlet ports are open to the exhaust port(s) of the valve. With this type valve, in the center position, air pressure is not present at either outlet port. Do not use this type ARO valve if exhausting the air pressure from the valve will cause hazardous or dangerous condition.
 - b. **CLOSED CENTER VALVES:** When this type valve is in the center position, all inlet, outlet and exhaust ports are blocked. Do not use this type valve if having the air pressure blocked at the port(s) may cause a dangerous or hazardous condition in the application, installation and / or servicing of an ARO valve. These valves must not be used to control load holding devices without an additional mechanical positive stop on the holding device.

PARTS LIST

SERIES K SPOOL VALVES 3/8" AND 1/2" N.P.T.F. PIPE PORTS 4-WAY HAND LEVER, 2 POSITION



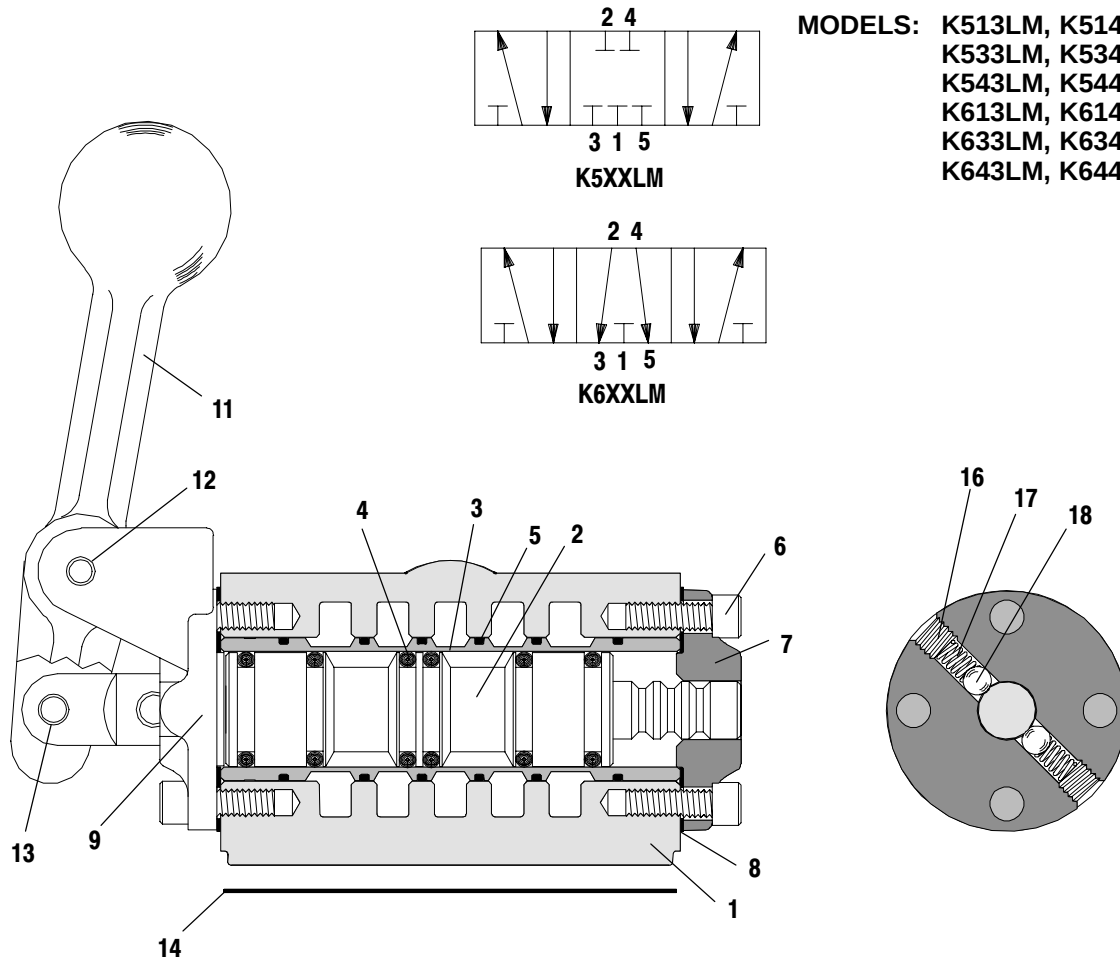
MODELS: K213LM, K214LM,
K233LM, K234LM,
K243LM, K244LM,
K213LS, K214LS,
K233LS, K234LS,
K243LS, K244LS

PARTS LIST

ITEM	DESCRIPTION (Size in inches)	QTY	PART NO.	ITEM	DESCRIPTION (Size in inches)	QTY	PART NO.
1	Body (K213LX)	(1)	115126	7	End Plate	(1)	24007
	Body (K23XLX)	(1)	115127	✓ 8	Gasket	(2)	24009
	Body (K243LX)	(1)	115128	9	End Plate	(1)	24008
	Body (K214LX)	(1)	115129	✓ 10	Spring (K2XXLS)	(1)	24016
	Body (K244LX)	(1)	115130	11	Lever	(1)	116936
2	Spool Assembly	(1)	24206	✓ 12	Roll Pin (.250" o.d. x 1-1/2" long)	(1)	Y178-107
3	Sleeve	(1)	24064	✓ 13	Roll Pin (.250" o.d. x 5/8" long)	(1)	Y178-146
✓ 4	"O" Ring (1/8" x 1" o.d.)	(6)	Y325-210	14	Gasket (K23XLX & K24XLX)	(1)	37009
✓ 5	"O" Ring (1/16" x 1-1/4" o.d.)	(6)	Y325-24	15	Screw (1/4" - 20 x 1-1/2") (K23XLX & K24XLX)	(4)	Y99-44-C
6	Screw (1/4" - 20 x 3/4")	(8)	Y195-126-C	✓	Repair Kit		7006

PARTS LIST

SERIES K SPOOL VALVES 3/8" AND 1/2" N.P.T.F. PIPE PORTS 4-WAY HAND LEVER, 3 POSITION DETENT

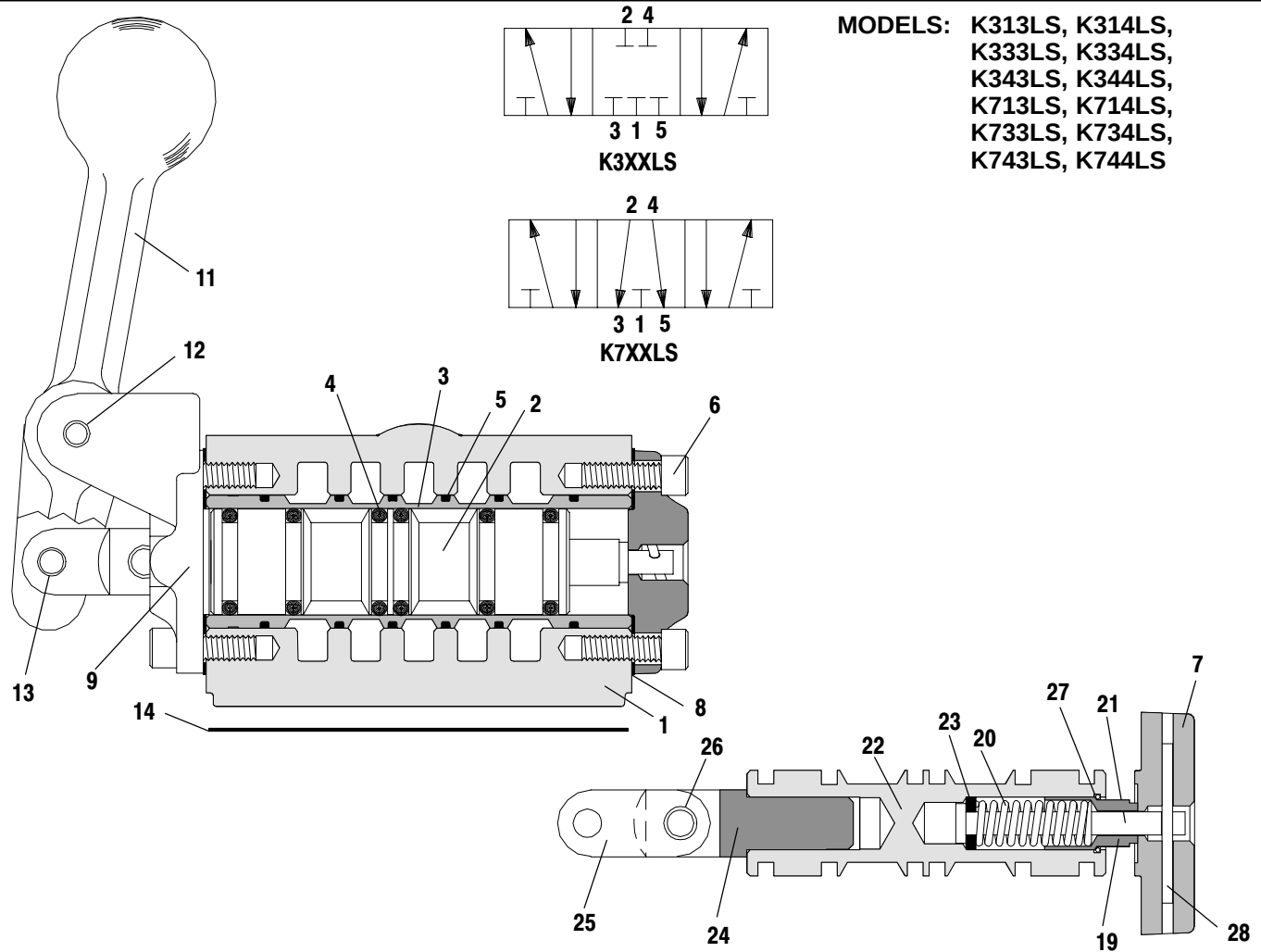


MODELS: K513LM, K514LM,
K533LM, K534LM,
K543LM, K544LM,
K613LM, K614LM,
K633LM, K634LM,
K643LM, K644LM

PARTS LIST							
ITEM	DESCRIPTION (Size in inches)	QTY	PART NO.	ITEM	DESCRIPTION (Size in inches)	QTY	PART NO.
1	Body (KX13LM)	(1)	115126	✓ 8	Gasket	(2)	24009
	Body (KX3XLM)	(1)	115127	9	End Plate	(1)	24008
	Body (KX43LM)	(1)	115128	11	Lever	(1)	116936
	Body (KX14LM)	(1)	115129	✓ 12	Roll Pin (.250" o.d. x 1-1/2" long)	(1)	Y178-107
	Body (KX44LM)	(1)	115130	✓ 13	Roll Pin (.250" o.d. x 5/8" long)	(1)	Y178-146
2	Spool Assembly (K5XXLM)	(1)	24089	14	Gasket (KX3XLM & KX4XLM)	(1)	37009
	Spool Assembly (K6XXLM)	(1)	24079	15	Screw (1/4" - 20 x 1-1/2") (KX3XLM & KX4XLM)	(4)	Y99-44-C
3	Sleeve	(1)	24064	16	Plug	(2)	24152
✓ 4	"O" Ring (1/8" x 1" o.d.)	(6)	Y325-210	✓ 17	Spring	(2)	24149
✓ 5	"O" Ring (1/16" x 1-1/4" o.d.)	(6)	Y325-24	✓ 18	Ball (.2500" dia.)	(2)	Y16-208
6	Screw (1/4" - 20 x 3/4")	(8)	Y195-126-C	✓	Repair Kit		7007
7	End Plate	(1)	24150				

PARTS LIST

SERIES K SPOOL VALVES 3/8" AND 1/2" N.P.T.F. PIPE PORTS 4-WAY HAND LEVER, 3 POSITION SPRING CENTERED



MODELS: K313LS, K314LS,
K333LS, K334LS,
K343LS, K344LS,
K713LS, K714LS,
K733LS, K734LS,
K743LS, K744LS

PARTS LIST

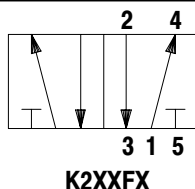
ITEM	DESCRIPTION (Size in inches)	QTY	PART NO.	ITEM	DESCRIPTION (Size in inches)	QTY	PART NO.
1	Body (KX13LS)	(1)	115126	✓ 13	Roll Pin (.250" o.d. x 5/8" long)	(1)	Y178-146
	Body (KX3XLS)	(1)	115127	14	Gasket (KX3XLS & KX4XLS)	(1)	37009
	Body (KX43LS)	(1)	115128	15	Screw (1/4" - 20 x 1-1/2") (KX3XLS & KX4XLS)	(4)	Y99-44-C
	Body (KX14LS)	(1)	115129	19	Plunger	(1)	24140-1
	Body (KX44LS)	(1)	115130	✓ 20	Spring	(1)	24143-B
2	Spool Assembly (K3XXLS)	(1)	24094	21	Rod	(1)	24163
	Spool Assembly (K7XXLS)	(1)	24098	22	Spool (K3XXLS)	(1)	24210
3	Sleeve	(1)	24064		Spool (K7XXLS)	(1)	24211
✓ 4	"O" Ring (1/8" x 1" o.d.)	(6)	Y325-210	23	Washer	(1)	24162
✓ 5	"O" Ring (1/16" x 1-1/4" o.d.)	(6)	Y325-24	24	Plug	(1)	119322
6	Screw (1/4" - 20 x 3/4")	(8)	Y195-126-C	25	Link	(1)	24002
7	End Plate	(1)	24161	26	Roll Pin (.250" o.d. x 5/8" long)	(1)	Y178-146
✓ 8	Gasket	(2)	24009	27	Snap Ring	(1)	24141-1
9	End Plate	(1)	24008	28	Roll Pin (.094" o.d. x 1-1/2" long)	(1)	Y178-34-S
11	Lever	(1)	116936	✓	Repair Kit		7006
✓ 12	Roll Pin (.250" o.d. x 1-1/2" long)	(1)	Y178-107				

PARTS LIST

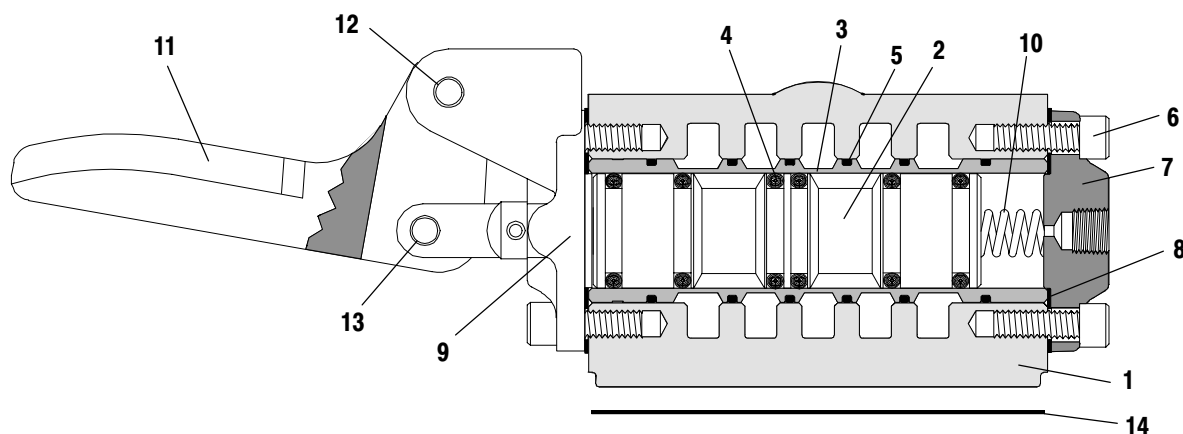
SERIES K SPOOL VALVES

3/8" AND 1/2" N.P.T.F. PIPE PORTS

4-WAY PEDAL, 2 POSITION



MODELS: K213FP, K214FP,
K233FP, K234FP,
K243FP, K244FP,
K213FS, K214FS,
K233FS, K234FS,
K243FS, K244FS

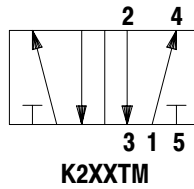


PARTS LIST

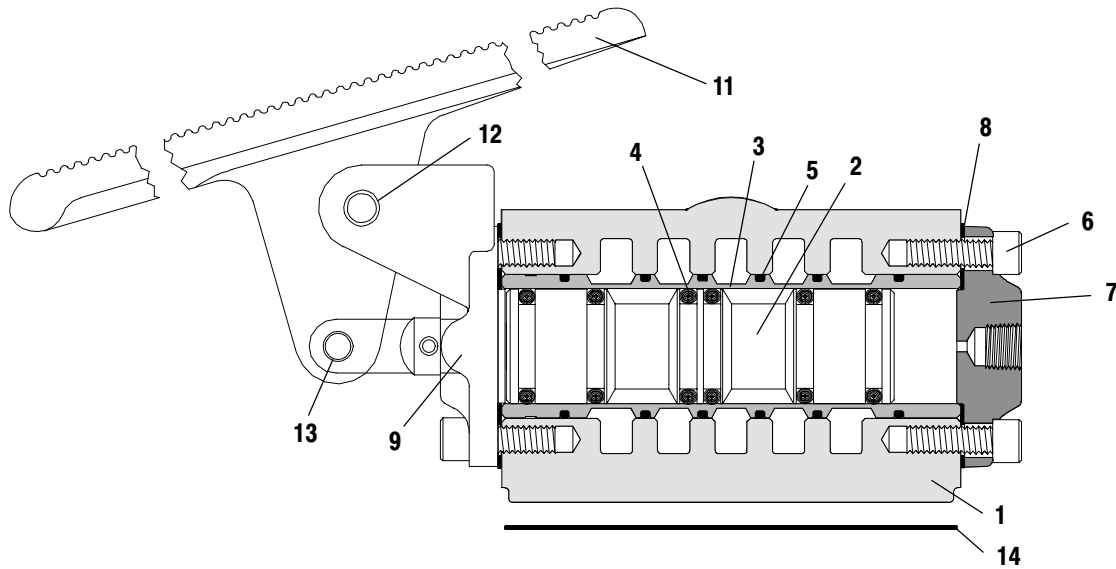
ITEM	DESCRIPTION (Size in inches)	QTY	PART NO.	ITEM	DESCRIPTION (Size in inches)	QTY	PART NO.
1	Body (K213FX)	(1)	115126	7	End Plate	(1)	24007
	Body (K23XFX)	(1)	115127	✓ 8	Gasket	(2)	24009
	Body (K243FX)	(1)	115128	9	End Plate	(1)	24008
	Body (K214FX)	(1)	115129	✓ 10	Spring (K2XXFS)	(1)	24016
	Body (K244FX)	(1)	115130	11	Foot Pedal	(1)	24113
2	Spool Assembly	(1)	24206	✓ 12	Roll Pin (.250" o.d. x 1-1/2" long)	(1)	Y178-107
3	Sleeve	(1)	24064	✓ 13	Roll Pin (.250" o.d. x 7/8" long)	(1)	Y178-102
✓ 4	"O" Ring (1/8" x 1" o.d.)	(6)	Y325-210	14	Gasket (K23XFX & K24XFX)	(1)	37009
✓ 5	"O" Ring (1/16" x 1-1/4" o.d.)	(6)	Y325-24	15	Screw (1/4" - 20 x 1-1/2") (K23XFX & K24XFX)	(4)	Y99-44-C
6	Screw (1/4" - 20 x 3/4")	(8)	Y195-126-C	✓	Repair Kit		7006

PARTS LIST

SERIES K SPOOL VALVES 3/8" AND 1/2" N.P.T.F. PIPE PORTS 4-WAY TREADLE, 2 POSITION



MODELS: K213TM, K214TM,
K233TM, K234TM,
K243TM, K244TM

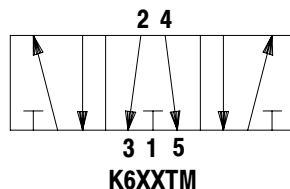
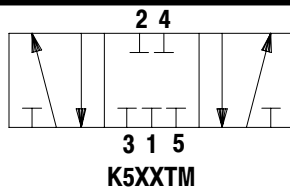


PARTS LIST

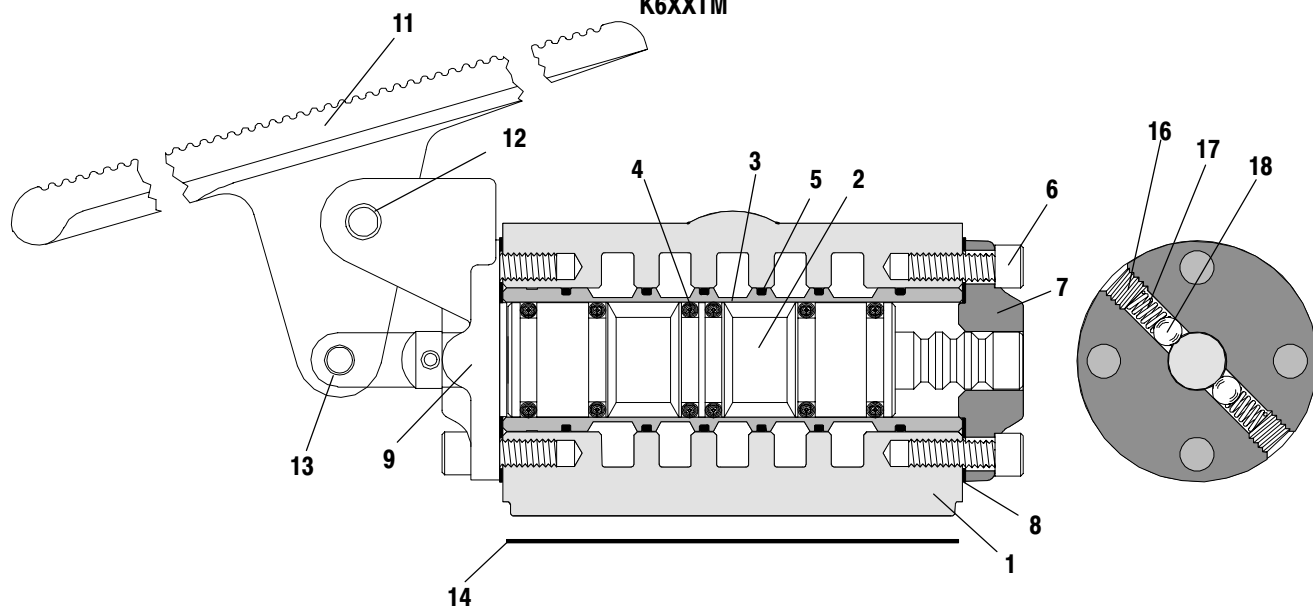
ITEM	DESCRIPTION (Size in inches)	QTY	PART NO.	ITEM	DESCRIPTION (Size in inches)	QTY	PART NO.
1	Body (K213TM)	(1)	115126	7	End Plate	(1)	24007
	Body (K23XTM)	(1)	115127	✓ 8	Gasket	(2)	24009
	Body (K243TM)	(1)	115128	9	End Plate	(1)	24008
	Body (K214TM)	(1)	115129	11	Foot Treadle	(1)	24112
	Body (K244TM)	(1)	115130	✓ 12	Roll Pin (.250" o.d. x 1-1/2" long)	(1)	Y178-107
2	Spool Assembly	(1)	24206	✓ 13	Roll Pin (.250" o.d. x 7/8" long)	(1)	Y178-102
3	Sleeve	(1)	24064	14	Gasket (K23XTM & K24XTM)	(1)	37009
✓ 4	"O" Ring (1/8" x 1" o.d.)	(6)	Y325-210	15	Screw (1/4" - 20 x 1-1/2") (K23XTM & K24XTM)	(4)	Y99-44-C
✓ 5	"O" Ring (1/16" x 1-1/4" o.d.)	(6)	Y325-24	✓	Repair Kit		7006
6	Screw (1/4" - 20 x 3/4")	(8)	Y195-126-C				

PARTS LIST

SERIES K SPOOL VALVES 3/8" AND 1/2" N.P.T.F. PIPE PORTS 4-WAY TREADLE, 3 POSITION DETENT



MODELS: K513TM, K514TM,
K533TM, K534TM,
K543TM, K544TM,
K613TM, K614TM,
K633TM, K634TM,
K643TM, K644TM

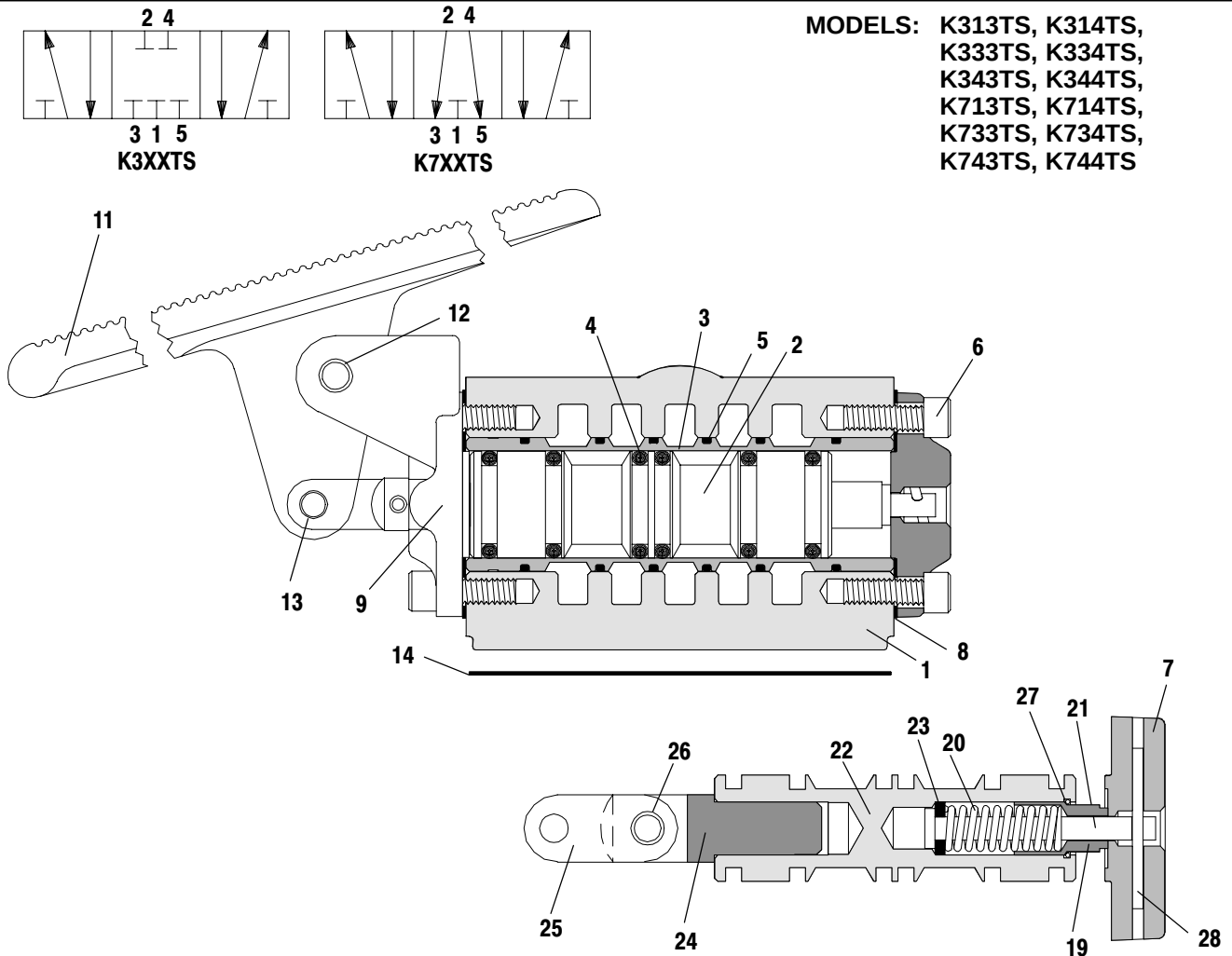


PARTS LIST

ITEM	DESCRIPTION (Size in inches)	QTY	PART NO.	ITEM	DESCRIPTION (Size in inches)	QTY	PART NO.
1	Body (KX13TM)	(1)	115126	✓ 8	Gasket	(2)	24009
	Body (KX3XTM)	(1)	115127	9	End Plate	(1)	24008
	Body (KX43TM)	(1)	115128	11	Foot Treadle	(1)	24112
	Body (KX14TM)	(1)	115129	✓ 12	Roll Pin (.250" o.d. x 1-1/2" long)	(1)	Y178-107
	Body (KX44TM)	(1)	115130	✓ 13	Roll Pin (.250" o.d. x 7/8" long)	(1)	Y178-102
2	Spool Assembly (K5XXTM)	(1)	24089	14	Gasket (KX3XTM & KX4XTM)	(1)	37009
	Spool Assembly (K6XXTM)	(1)	24079	15	Screw (1/4" - 20 x 1-1/2") (KX3XTM & KX4XTM)	(4)	Y99-44-C
3	Sleeve	(1)	24064	16	Plug	(2)	24152
✓ 4	"O" Ring (1/8" x 1" o.d.)	(6)	Y325-210	✓ 17	Spring	(2)	24149
✓ 5	"O" Ring (1/16" x 1-1/4" o.d.)	(6)	Y325-24	✓ 18	Ball (.2500" dia.)	(2)	Y16-208
6	Screw (1/4" - 20 x 3/4")	(8)	Y195-126-C	✓	Repair Kit		7007
7	End Plate	(1)	24150				

PARTS LIST

SERIES K SPOOL VALVES 3/8" AND 1/2" N.P.T.F. PIPE PORTS 4-WAY TREADLE, 3 POSITION SPRING CENTERED



PARTS LIST

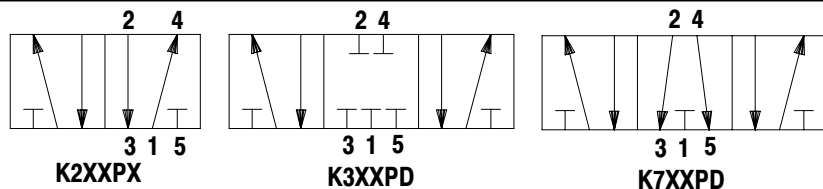
ITEM	DESCRIPTION (Size in inches)	QTY	PART NO.	ITEM	DESCRIPTION (Size in inches)	QTY	PART NO.
1	Body (KX13TS)	(1)	115126	✓ 13	Roll Pin (.250" o.d. x 7/8" long)	(1)	Y178-102
	Body (KX3XTS)	(1)	115127	14	Gasket (KX3XTS & KX4XTS)	(1)	37009
	Body (KX43TS)	(1)	115128	15	Screw (1/4" - 20 x 1-1/2") (KX3XTS & KX4XTS)	(4)	Y99-44-C
	Body (KX14TS)	(1)	115129	19	Plunger	(1)	24140-1
	Body (KX44TS)	(1)	115130	✓ 20	Spring	(1)	24143-B
2	Spool Assembly (K3XXTS)	(1)	24094	21	Rod	(1)	24163
	Spool Assembly (K7XXTS)	(1)	24098	22	Spool (K3XXLS)	(1)	24210
3	Sleeve	(1)	24064		Spool (K7XXLS)	(1)	24211
✓ 4	"O" Ring (1/8" x 1" o.d.)	(6)	Y325-210	23	Washer	(1)	24162
✓ 5	"O" Ring (1/16" x 1-1/4" o.d.)	(6)	Y325-24	24	Plug	(1)	119322
6	Screw (1/4" - 20 x 3/4")	(8)	Y195-126-C	25	Link	(1)	24002
7	End Plate	(1)	24161	✓ 26	Roll Pin (.250" o.d. x 5/8" long)	(1)	Y178-146
✓ 8	Gasket	(2)	24009	27	Snap Ring	(1)	24141-1
9	End Plate	(1)	24008	28	Roll Pin (.094" o.d. x 1-1/2" long)	(1)	Y178-34-S
11	Foot Treadle	(1)	24112	✓	Repair Kit		7006
✓ 12	Roll Pin (.250" o.d. x 1-1/2" long)	(1)	Y178-107				

PARTS LIST

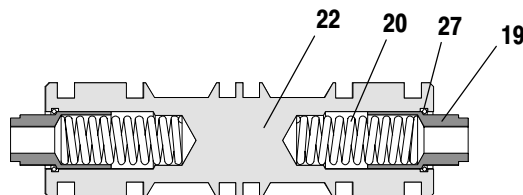
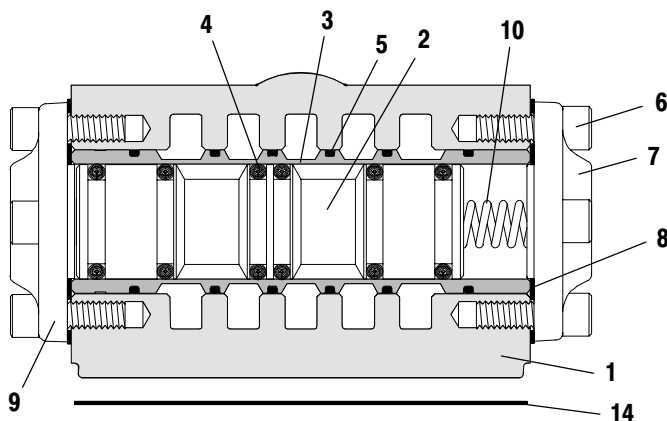
SERIES K SPOOL VALVES

3/8" AND 1/2" N.P.T.F. PIPE PORTS

4-WAY PILOT



MODELS: K213PS, K214PS,
K233PS, K234PS,
K243PS, K244PS,
K213PD, K214PD,
K233PD, K234PD,
K243PD, K244PD,
K313PD, K314PD,
K333PD, K334PD,
K343PD, K344PD,
K713PD, K714PD,
K733PD, K734PD,
K743PD, K744PD



PARTS LIST

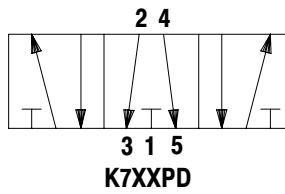
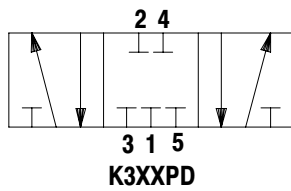
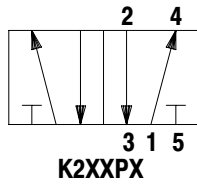
ITEM	DESCRIPTION (Size in inches)	QTY	PART NO.	ITEM	DESCRIPTION (Size in inches)	QTY	PART NO.
1	Body (KX13PX)	(1)	115126	✓ 8	Gasket	(2)	24009
	Body (KX3XPX)	(1)	115127	9	End Plate	(1)	24007
	Body (KX43PX)	(1)	115128	✓ 10	Spring (K2XXPS)	(1)	24016
	Body (KX14PX)	(1)	115129	14	Gasket (KX3XPX & KX4XPX)	(1)	37009
	Body (KX44PX)	(1)	115130	15	Screw (1/4" - 20 x 1-1/2") (KX3XPX & KX4XPX)	(4)	Y99-44-C
2	Spool Assembly (K3XXPD)	(1)	24095	19	Plunger (K3XXPD & K7XXPD)	(2)	24140-1
	Spool Assembly (K7XXPD)	(1)	24097	✓ 20	Spring (K3XXPD & K7XXPD)	(2)	24143-B
3	Sleeve	(1)	24064	22	Spool (K2XXPX)	(1)	24205
✓ 4	"O" Ring (1/8" x 1" o.d.)	(6)	Y325-210		Spool (K3XXPD)	(1)	24208
✓ 5	"O" Ring (1/16" x 1-1/4" o.d.)	(6)	Y325-24		Spool (K7XXPD)	(1)	24209
6	Screw (1/4" - 20 x 3/4")	(8)	Y195-126-C	27	Snap Ring (K3XXPD & K7XXPD)	(2)	24141-1
7	End Plate	(1)	24007	✓	Repair Kit		7006

PARTS LIST

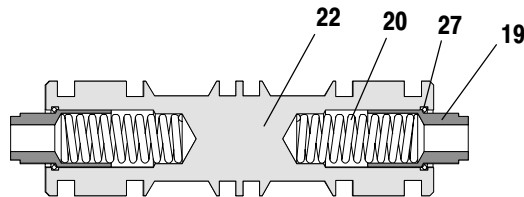
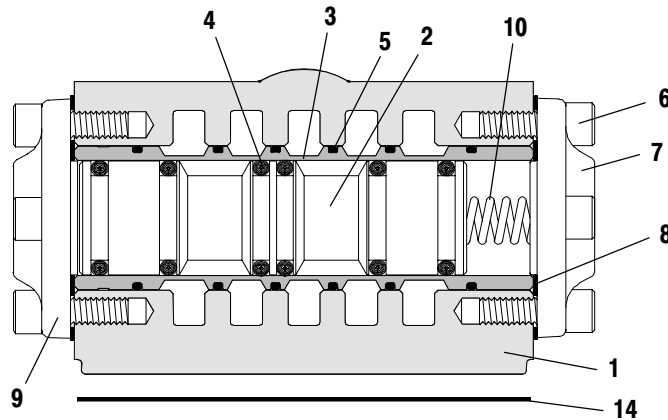
SERIES K SPOOL VALVES

3/4" AND 1" N.P.T.F. PIPE PORTS

4-WAY PILOT



MODELS: K216PS, K218PS, K236PS, K238PS, K246PS, K248PS, K216PD, K218PD, K236PD, K238PD, K246PD, K248PD, K316PD, K318PD, K336PD, K338PD, K346PD, K348PD, K716PD, K718PD, K736PD, K738PD, K746PD, K748PD



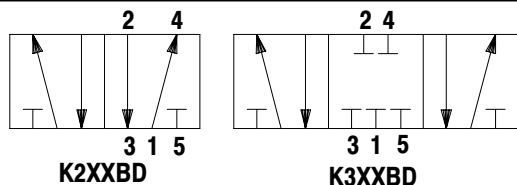
PARTS LIST							
ITEM	DESCRIPTION (Size in inches)	QTY	PART NO.	ITEM	DESCRIPTION (Size in inches)	QTY	PART NO.
1	Body (KX16PX)	(1)	115131	✓ 8	Gasket	(2)	116729
	Body (KX3XPX)	(1)	115132	9	End Plate	(1)	34007
	Body (KX46PX)	(1)	115133	✓ 10	Spring (K2XXPS)	(1)	34016
	Body (KX18PX)	(1)	115134	14	Gasket (KX3XPX & KX4XPX)	(1)	38009
	Body (KX48PX)	(1)	115135	15	Screw (3/8" - 16 x 1-3/4") (KX3XPX & KX4XPX)	(4)	Y99-65
2	Spool Assembly (K3XXPD)	(1)	116731	19	Plunger (K3XXPD & K7XXPD)	(2)	34140
	Spool Assembly (K7XXPD)	(1)	34023	✓ 20	Spring (K3XXPD & K7XXPD)	(2)	34143-A
3	Sleeve	(1)	116733	22	Spool (K2XXPX)	(1)	34205
✓ 4	"O" Ring (1/8" x 1-1/4" o.d.)	(6)	Y325-214		Spool (K3XXPD)	(1)	34208
✓ 5	"O" Ring (1/16" x 1-1/2" o.d.)	(6)	Y325-28		Spool (K7XXPD)	(1)	34209
6	Screw (1/4" - 20 x 3/4")	(8)	Y195-126-C	27	Snap Ring (K3XXPD & K7XXPD)	(2)	34141
7	End Plate	(1)	34007	✓	Repair Kit		7010

PARTS LIST

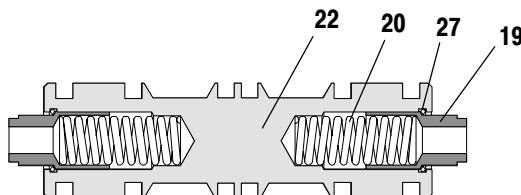
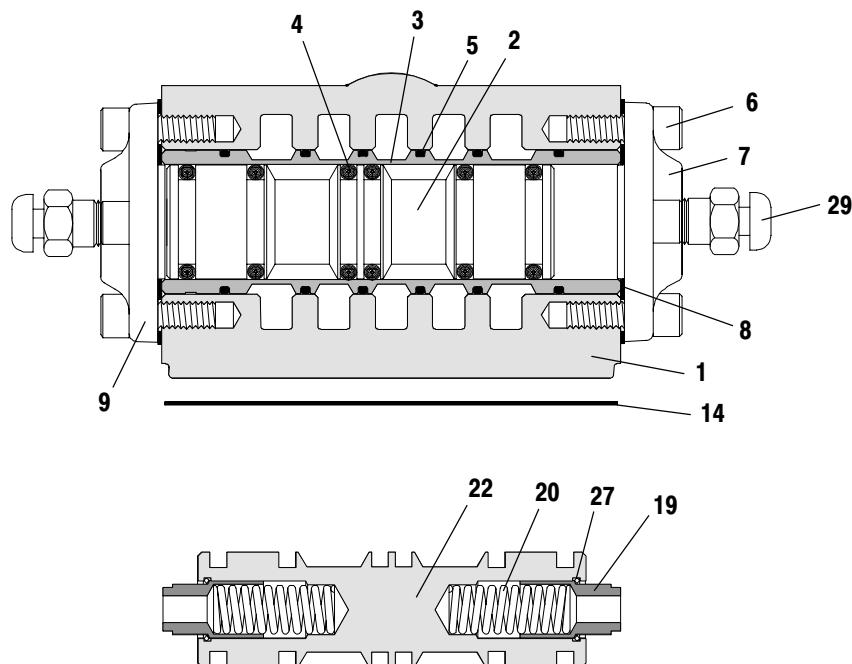
SERIES K SPOOL VALVES

3/8" AND 1/2" N.P.T.F. PIPE PORTS

4-WAY DOUBLE BLEED



MODELS: K213BD, K214BD,
K233BD, K234BD,
K243BD, K244BD,
K314BD



PARTS LIST

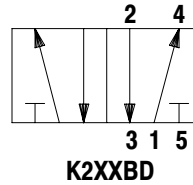
ITEM	DESCRIPTION (Size in inches)	QTY	PART NO.	ITEM	DESCRIPTION (Size in inches)	QTY	PART NO.
1	Body (K213BD)	(1)	115126	✓ 8	Gasket	(2)	24009
	Body (K23XBD)	(1)	115127		End Plate	(1)	24117
	Body (K243BD)	(1)	115128	14	Gasket (K23XBD & K24XBD)	(1)	37009
	Body (KX14BD)	(1)	115129	15	Screw (1/4" - 20 x 1-1/2") (K23XBD & K24XBD)	(4)	Y99-44-C
	Body (K244BD)	(1)	115130	19	Plunger (K314BD)	(2)	24140-1
2	Spool Assembly (K314BD)	(1)	24095	✓ 20	Spring (K314BD)	(2)	24143-B
3	Sleeve	(1)	24064	22	Spool (K2XXBD)	(1)	24205
✓ 4	"O" Ring (1/8" x 1" o.d.)	(6)	Y325-210		Spool (K314BD)	(1)	24208
✓ 5	"O" Ring (1/16" x 1-1/4" o.d.)	(6)	Y325-24	27	Snap Ring (K314BD)	(2)	24141-1
6	Screw (1/4" - 20 x 3/4")	(8)	Y195-126-C	29	Button Bleeder Assembly	(2)	24130
7	End Plate	(1)	24117	✓	Repair Kit		7006

PARTS LIST

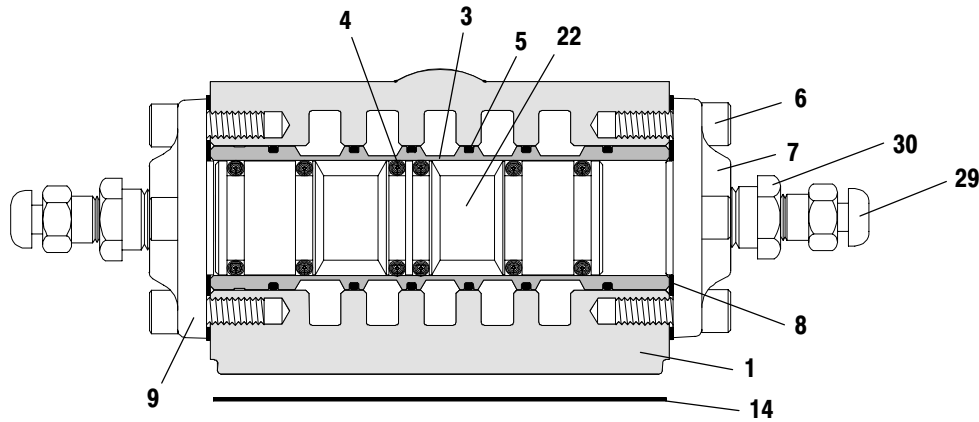
SERIES K SPOOL VALVES

3/4" AND 1" N.P.T.F. PIPE PORTS

4-WAY DOUBLE BLEED



MODELS: K216BD, K218BD,
K236BD, K238BD,
K246BD, K248BD



PARTS LIST

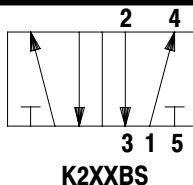
ITEM	DESCRIPTION (Size in inches)	QTY	PART NO.	ITEM	DESCRIPTION (Size in inches)	QTY	PART NO.
1	Body (K216BD)	(1)	115131	7	End Plate	(1)	34117
	Body (K23XBD)	(1)	115132	✓ 8	Gasket	(2)	116729
	Body (K246BD)	(1)	115133	9	End Plate	(1)	34117
	Body (K218BD)	(1)	115134	14	Gasket (K23XBD & K24XBD)	(1)	38009
	Body (K248BD)	(1)	115135	15	Screw (3/8" - 16 x 1-3/4") (K23XBD & K24XBD)	(4)	Y99-65
3	Sleeve	(1)	116733	22	Spool	(1)	34205
✓ 4	"O" Ring (1/8" x 1-1/4" o.d.)	(6)	Y325-214	29	Button Bleeder Assembly	(2)	24130
✓ 5	"O" Ring (1/16" x 1-1/2" o.d.)	(6)	Y325-28	30	Bushing	(2)	24126
6	Screw (1/4" - 20 x 3/4")	(8)	Y195-126-C	✓	Repair Kit		7010

PARTS LIST

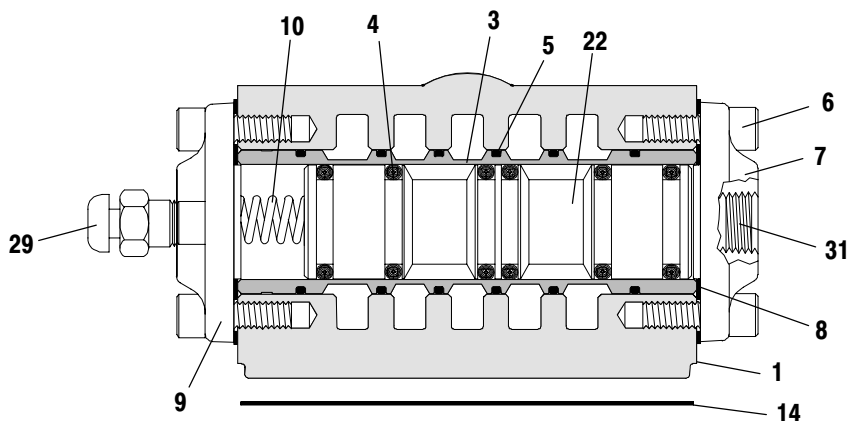
SERIES K SPOOL VALVES

3/8" AND 1/2" N.P.T.F. PIPE PORTS

4-WAY SINGLE BLEED



MODELS: K213BS, K214BS,
K233BS, K234BS,
K243BS, K244BS



PARTS LIST

ITEM	DESCRIPTION (Size in inches)	QTY	PART NO.
1	Body (K213BS)	(1)	115126
	Body (K23XBS)	(1)	115127
	Body (K243BS)	(1)	115128
	Body (K214BS)	(1)	115129
	Body (K244BS)	(1)	115130
3	Sleeve	(1)	24064
✓ 4	"O" Ring (1/8" x 1" o.d.)	(6)	Y325-210
✓ 5	"O" Ring (1/16" x 1-1/4" o.d.)	(6)	Y325-24
6	Screw (1/4" - 20 x 3/4")	(8)	Y195-126-C
7	End Plate	(1)	24004

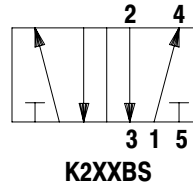
ITEM	DESCRIPTION (Size in inches)	QTY	PART NO.
✓ 8	Gasket	(2)	24009
9	End Plate	(1)	24117
✓ 10	Spring (K2XXBS)	(1)	24016
14	Gasket (K23XBS & K24XBS)	(1)	37009
15	Screw (1/4" - 20 x 1-1/2") (K23XBS & K24XBS)	(4)	Y99-44-C
22	Spool	(1)	24205
29	Button Bleeder Assembly	(1)	24130
31	Pipe Plug	(1)	118126
✓	Repair Kit		7006

PARTS LIST

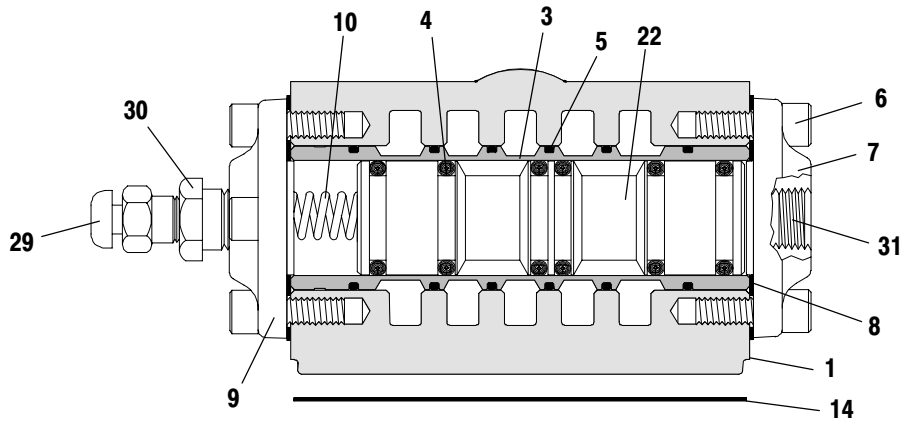
SERIES K SPOOL VALVES

3/4" AND 1" N.P.T.F. PIPE PORTS

4-WAY SINGLE BLEED



MODELS: K216BS, K218BS,
K236BS, K238BS,
K246BS, K248BS



PARTS LIST

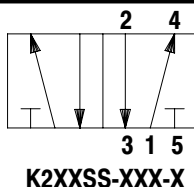
ITEM	DESCRIPTION (Size in inches)	QTY	PART NO.	ITEM	DESCRIPTION (Size in inches)	QTY	PART NO.
1	Body (K216BS)	(1)	115131	✓ 8	Gasket	(2)	116729
	Body (K23XBS)	(1)	115132	9	End Plate	(1)	34117
	Body (K246BS)	(1)	115133	✓ 10	Spring (K2XXBS)	(1)	34016
	Body (K218BS)	(1)	115134	14	Gasket (K23XBS & K24XBS)	(1)	38009
	Body (K248BS)	(1)	115135	15	Screw (3/8" - 16 x 1-3/4") (K23XBS & K24XBS)	(4)	Y99-65
3	Sleeve	(1)	116733	22	Spool	(1)	34205
✓ 4	"O" Ring (1/8" x 1-1/4" o.d.)	(6)	Y325-214	29	Button Bleeder Assembly	(1)	24130
✓ 5	"O" Ring (1/16" x 1-1/2" o.d.)	(6)	Y325-28	30	Bushing	(1)	24126
6	Screw (1/4" - 20 x 3/4")	(8)	Y195-126-C	31	Pipe Plug	(1)	Y227-3
7	End Plate	(1)	116730	✓	Repair Kit		7010

PARTS LIST

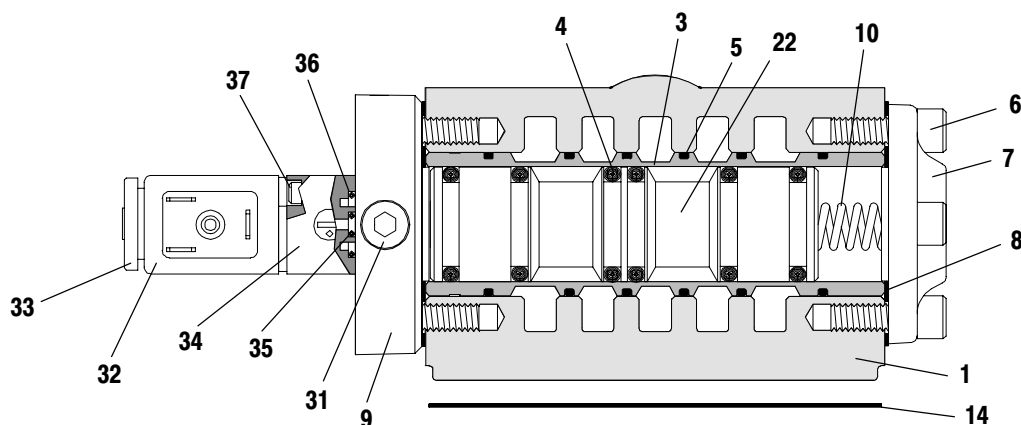
SERIES K SPOOL VALVES

3/8" AND 1/2" N.P.T.F. PIPE PORTS

4-WAY SINGLE SOLENOID



MODELS: K213SS-XXX-X, K214SS-XXX-X,
K233SS-XXX-X, K234SS-XXX-X,
K243SS-XXX-X, K244SS-XXX-X

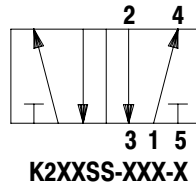


PARTS LIST

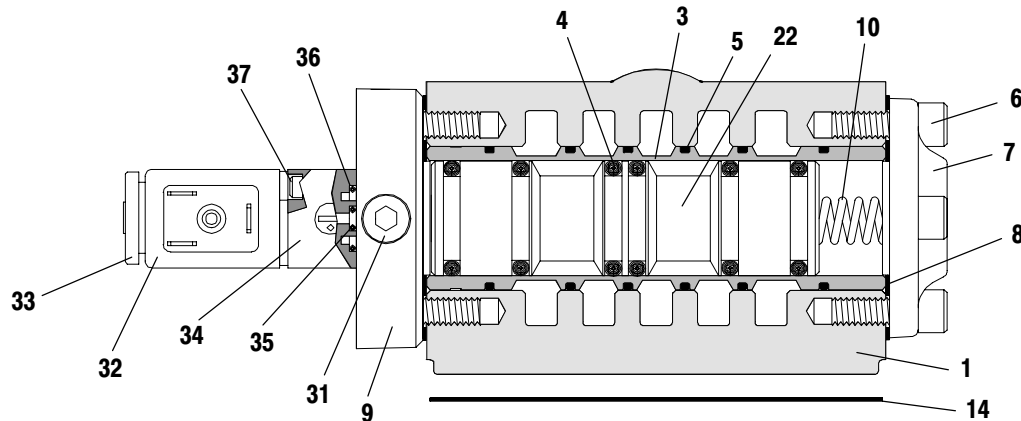
ITEM	DESCRIPTION (Size in inches)	QTY	PART NO.	ITEM	DESCRIPTION (Size in inches)	QTY	PART NO.
1	Body (K213SS-XXX-X)	(1)	115126	22	Spool	(1)	24205
	Body (K23XSS-XXX-X)	(1)	115127	* 31	Pipe Plug	(1)	118126
	Body (K243SS-XXX-X)	(1)	115128	32	Coil (K2XXSS-012-A)	(1)	116218-31
	Body (K214SS-XXX-X)	(1)	115129		Coil (K2XXSS-120-A)	(1)	116218-33
	Body (K244SS-XXX-X)	(1)	115130		Coil (K2XXSS-240-A)	(1)	116218-35
3	Sleeve	(1)	24064		Coil (K2XXSS-005-D)	(1)	116218-37
✓ 4	"O" Ring (1/8" x 1" o.d.)	(6)	Y325-210		Coil (K2XXSS-024-A & K2XXSS-012-D)	(1)	116218-38
✓ 5	"O" Ring (1/16" x 1-1/4" o.d.)	(6)	Y325-24		Coil (K2XXSS-024-D)	(1)	116218-39
6	Screw (1/4" - 20 x 3/4")	(8)	Y195-126-C	* 33	Nut	(1)	119380
7	End Plate	(1)	24007	* 34	Valve	(1)	114102
✓ * 8	Gasket	(2)	24009	* 35	"O" Ring	(1)	114103
* 9	End Cap	(1)	114134	* 36	"O" Ring	(1)	114104
✓ 10	Spring	(1)	24016	* 37	Screw	(2)	96728647
14	Gasket (K23XSS-XXX-X & K24XSS-XXX-X)	(1)	37009	✓	Repair Kit		7006
15	Screw (1/4" - 20 x 1-1/2") (K23XSS- & K24XSS-)	(4)	Y99-44-C	*	Repair Kit		116578

PARTS LIST

SERIES K SPOOL VALVES 3/4" AND 1" N.P.T.F. PIPE PORTS 4-WAY SINGLE SOLENOID



MODELS: K216SS-XXX-X, K218SS-XXX-X,
K236SS-XXX-X, K238SS-XXX-X,
K246SS-XXX-X, K248SS-XXX-X



PARTS LIST

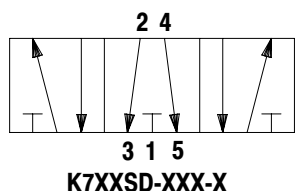
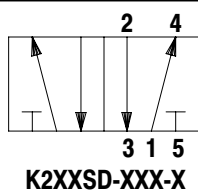
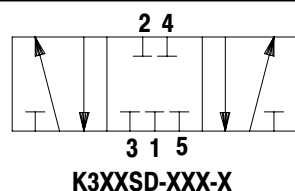
ITEM	DESCRIPTION (Size in inches)	QTY	PART NO.	ITEM	DESCRIPTION (Size in inches)	QTY	PART NO.
1	Body (K216SS-XXX-X)	(1)	115131	22	Spool	(1)	34205
	Body (K23XSS-XXX-X)	(1)	115132	31	Pipe Plug	(1)	118126
	Body (K246SS-XXX-X)	(1)	115133	32	Coil (K2XXSS-012-A)	(1)	116218-31
	Body (K218SS-XXX-X)	(1)	115134		Coil (K2XXSS-120-A)	(1)	116218-33
	Body (K248SS-XXX-X)	(1)	115135		Coil (K2XXSS-240-A)	(1)	116218-35
3	Sleeve	(1)	116733		Coil (K2XXSS-005-D)	(1)	116218-37
✓ 4	"O" Ring (1/8" x 1-1/4" o.d.)	(6)	Y325-214		Coil (K2XXSS-024-A & K2XXSS-012-D)	(1)	116218-38
✓ 5	"O" Ring (1/16" x 1-1/2" o.d.)	(6)	Y325-28		Coil (K2XXSS-024-D)	(1)	116218-39
6	Screw (1/4" - 20 x 3/4")	(8)	Y195-126-C	33	Nut	(1)	119380
7	End Plate	(1)	34007	34	Valve	(1)	114102
✓ 8	Gasket	(2)	116729	35	"O" Ring	(1)	114103
9	End Cap	(1)	116535	36	"O" Ring	(1)	114104
✓ 10	Spring	(1)	34016	37	Screw	(2)	96728647
14	Gasket (K23XSS-XXX-X & K24XSS-XXX-X)	(1)	38009	✓	Repair Kit		7010
15	Screw (3/8" - 16 x 1-3/4") (K23XSS- & K24XSS-)	(4)	Y99-65				

PARTS LIST

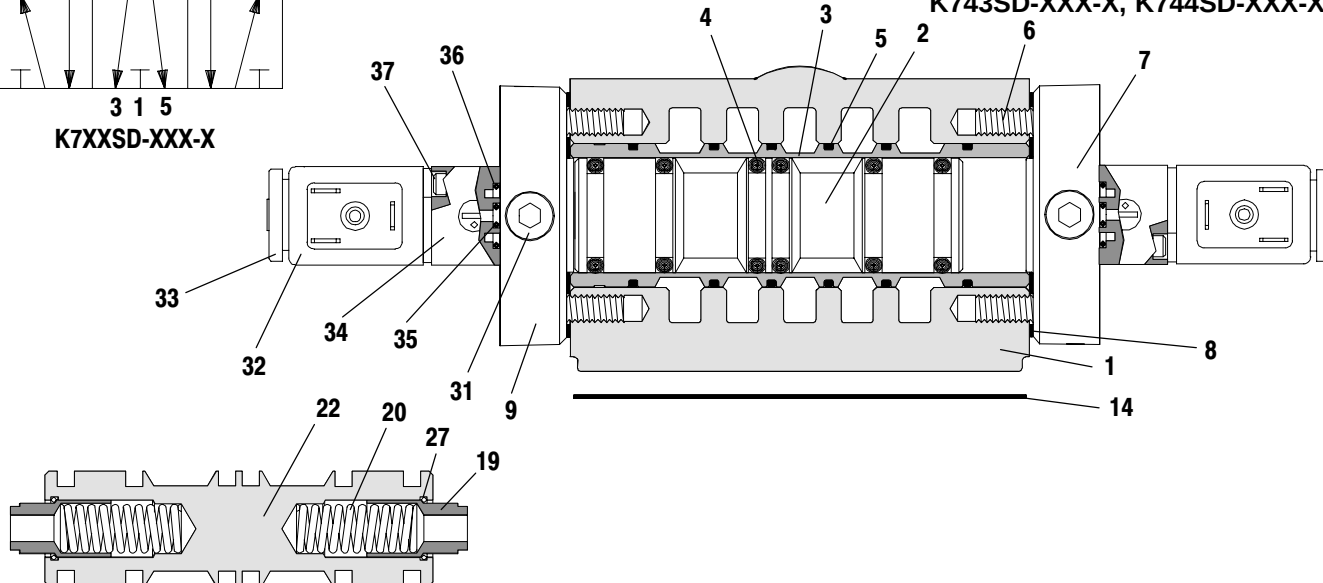
SERIES K SPOOL VALVES

3/8" AND 1/2" N.P.T.F. PIPE PORTS

4-WAY DOUBLE SOLENOID



MODELS: K213SD-XXX-X, K214SD-XXX-X,
K233SD-XXX-X, K234SD-XXX-X,
K243SD-XXX-X, K244SD-XXX-X,
K313SD-XXX-X, K314SD-XXX-X,
K333SD-XXX-X, K334SD-XXX-X,
K343SD-XXX-X, K344SD-XXX-X,
K713SD-XXX-X, K714SD-XXX-X,
K733SD-XXX-X, K734SD-XXX-X,
K743SD-XXX-X, K744SD-XXX-X

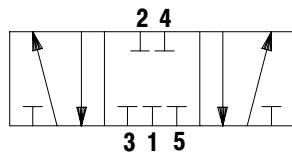


PARTS LIST

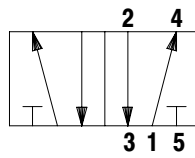
ITEM	DESCRIPTION (Size in inches)	QTY	PART NO.	ITEM	DESCRIPTION (Size in inches)	QTY	PART NO.
1	Body (KX13SD-XXX-X)	(1)	115126	22	Spool (K2XXSD-XXX-X)	(1)	24205
	Body (KX3XSD-XXX-X)	(1)	115127		Spool (K3XXSD-XXX-X)	(1)	24208
	Body (KX43SD-XXX-X)	(1)	115128		Spool (K7XXSD-XXX-X)	(1)	24209
	Body (KX14SD-XXX-X)	(1)	115129	27	Snap Ring (K3XXSD-XXX-X & K7XXSD-XXX-X)	(2)	24141-1
	Body (KX44SD-XXX-X)	(1)	115130	* 31	Pipe Plug	(2)	118126
2	Spool Assembly (K3XXSD-XXX-X)	(1)	24095	32	Coil (KXXXSD-012-A)	(2)	116218-31
	Spool Assembly (K7XXSD-XXX-X)	(1)	24097		Coil (KXXXSD-120-A)	(2)	116218-33
3	Sleeve	(1)	24064		Coil (KXXXSD-240-A)	(2)	116218-35
✓ 4	"O" Ring (1/8" x 1" o.d.)	(6)	Y325-210		Coil (KXXXSD-005-D)	(2)	116218-37
✓ 5	"O" Ring (1/16" x 1-1/4" o.d.)	(6)	Y325-24		Coil (KXXXSD-024-A & KXXXSD-012-D)	(2)	116218-38
6	Screw (1/4" - 20 x 3/4")	(8)	Y195-126-C		Coil (KXXXSD-024-D)	(2)	116218-39
* 7	End Plate	(1)	114134	* 33	Nut	(2)	119380
✓ * 8	Gasket	(2)	24009	* 34	Valve	(2)	114102
* 9	End Cap	(1)	114134	* 35	"O" Ring	(2)	114103
14	Gasket (KX3XSD-XXX-X & KX4XSD-XXX-X)	(1)	37009	* 36	"O" Ring	(2)	114104
15	Screw (1/4" - 20 x 1-1/2") (KX3XSD- & KX4XSD-)	(4)	Y99-44-C	* 37	Screw	(4)	96728647
19	Plunger (K3XXSD-XXX-X & K7XXSD-XXX-X)	(2)	24140-1	✓	Repair Kit		7006
✓ 20	Spring (K3XXSD-XXX-X & K7XXSD-XXX-X)	(2)	24143-B	*	Repair Kit (includes 1 of each item marked)		116578

PARTS LIST

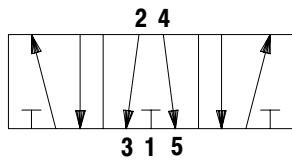
SERIES K SPOOL VALVES 3/4" AND 1" N.P.T.F. PIPE PORTS 4-WAY DOUBLE SOLENOID



K3XXSD-XXX-X

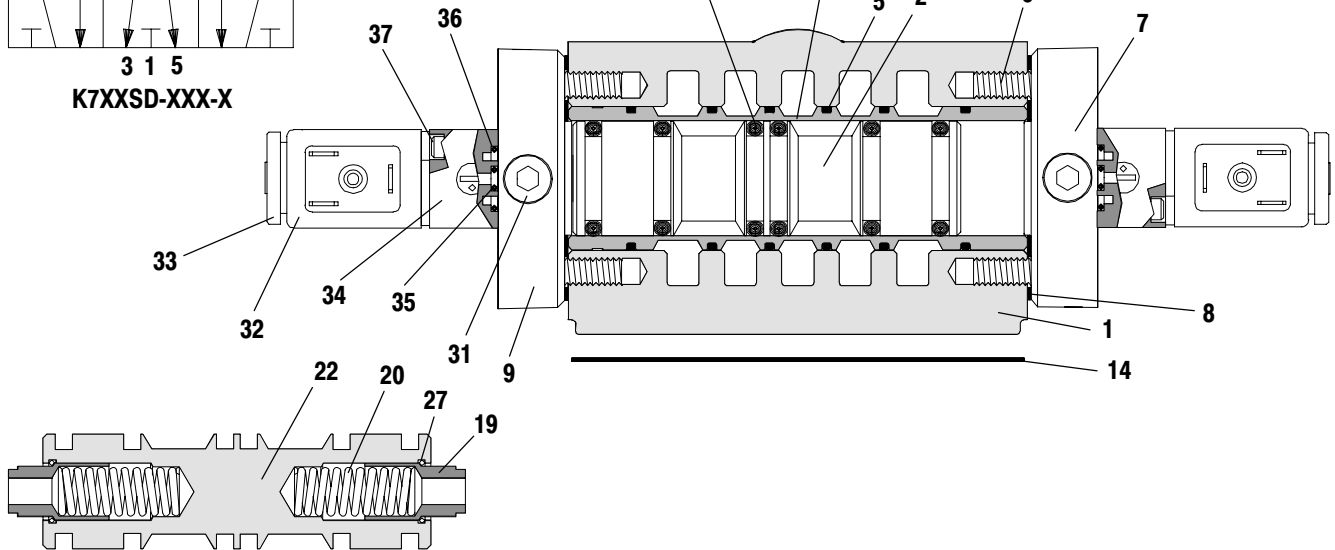


K2XXSD-XXX-X



K7XXSD-XXX-X

MODELS: K216SD-XXX-X, K218SD-XXX-X,
K236SD-XXX-X, K238SD-XXX-X,
K246SD-XXX-X, K248SD-XXX-X,
K316SD-XXX-X, K318SD-XXX-X,
K336SD-XXX-X, K338SD-XXX-X,
K346SD-XXX-X, K348SD-XXX-X,
K716SD-XXX-X, K718SD-XXX-X,
K736SD-XXX-X, K738SD-XXX-X,
K746SD-XXX-X, K748SD-XXX-X



PARTS LIST

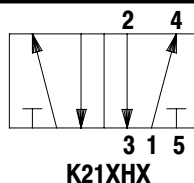
ITEM	DESCRIPTION (Size in inches)	QTY	PART NO.	ITEM	DESCRIPTION (Size in inches)	QTY	PART NO.
1	Body (KX16SD-XXX-X)	(1)	115131	22	Spool (K2XXSD-XXX-X)	(1)	34205
	Body (KX3XSD-XXX-X)	(1)	115132		Spool (K3XXSD-XXX-X)	(1)	34208
	Body (KX46SD-XXX-X)	(1)	115133		Spool (K7XXSD-XXX-X)	(1)	34209
	Body (KX18SD-XXX-X)	(1)	115134	27	Snap Ring (K3XXSD-XXX-X & K7XXSD-XXX-X)	(2)	34141
	Body (KX48SD-XXX-X)	(1)	115135	31	Pipe Plug	(2)	118126
2	Spool Assembly (K3XXSD-XXX-X)	(1)	116731	32	Coil (KXXXSD-012-A)	(2)	116218-31
	Spool Assembly (K7XXSD-XXX-X)	(1)	34023		Coil (KXXXSD-120-A)	(2)	116218-33
3	Sleeve	(1)	116733		Coil (KXXXSD-240-A)	(2)	116218-35
✓ 4	"O" Ring (1/8" x 1-1/4" o.d.)	(6)	Y325-214		Coil (KXXXSD-005-D)	(2)	116218-37
✓ 5	"O" Ring (1/16" x 1-1/2" o.d.)	(6)	Y325-28		Coil (KXXXSD-024-A & KXXXSD-012-D)	(2)	116218-38
6	Screw (1/4" - 20 x 3/4")	(8)	Y195-126-C		Coil (KXXXSD-024-D)	(2)	116218-39
7	End Plate	(1)	116535	33	Nut	(2)	119380
✓ 8	Gasket	(2)	116729	34	Valve	(2)	114102
9	End Cap	(1)	116535	35	"O" Ring	(2)	114103
14	Gasket (KX3XSD-XXX-X & KX4XSD-XXX-X)	(1)	38009	36	"O" Ring	(2)	114104
15	Screw (3/8" - 16 x 1-3/4") (KX3XSD- & KX4XSD-)	(4)	Y99-65	37	Screw	(4)	96728647
19	Plunger (K3XXSD-XXX-X & K7XXSD-XXX-X)	(2)	34140	✓	Repair Kit		7010
✓ 20	Spring (K3XXSD-XXX-X & K7XXSD-XXX-X)	(2)	34143-A				

PARTS LIST

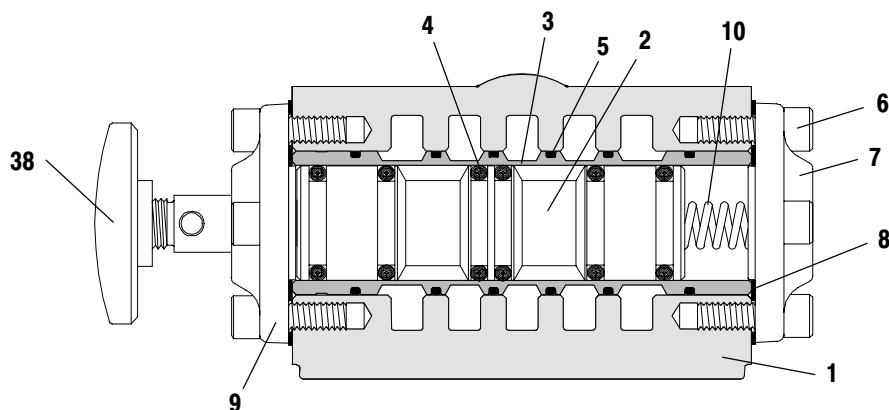
SERIES K SPOOL VALVES

3/8" AND 1/2" N.P.T.F. PIPE PORTS

4-WAY PALM



MODELS: K213HS, K214HS,
K213HP, K214HP



PARTS LIST

ITEM	DESCRIPTION (Size in inches)	QTY	PART NO.
1	Body (K213HX)	(1)	115126
	Body (K214HX)	(1)	115129
2	Spool Assembly	(1)	119889
3	Sleeve	(1)	24064
✓ 4	"O" Ring (1/8" x 1" o.d.)	(6)	Y325-210
✓ 5	"O" Ring (1/16" x 1-1/4" o.d.)	(6)	Y325-24
6	Screw (1/4" - 20 x 3/4")	(8)	Y195-126-C

ITEM	DESCRIPTION (Size in inches)	QTY	PART NO.
7	End Plate	(1)	24007
✓ 8	Gasket	(2)	24009
9	End Plate	(1)	119887
✓ 10	Spring (K21XHS)	(1)	119890
38	Palm Button	(1)	119243
✓	Repair Kit		114358