

TYPE AA, AR REGULATING VALVES

Renewable Parts

Identification of Internal working parts:



DIAPHRAGM No. 11



MAIN VALVE No. 26



MAIN VALVE SPRING No. 27



PISTON WITH RING No. 21



TYPE AA

CROSS SECTION OF TYPE AA AND IA REGULATING VALVE SHOWING RELATION OF COMPONENT PARTS. NOTE ACCESSIBILITY TO EVERY PIECE OF VALVE CONSTRUCTION. SIZES ½" TO 6" SCREWED OR FLANGED.

Tested and Approved - U.S. Navy for design - materials - workmanship and operation.



CYLINDER LINER No. 23



UNIT PILOT VALVE No. 12



ADJUSTING SPRING No. 8



MAIN VALVE SEAT No. 25



TYPE AA, AR PRESSURE REGULATORS

Bronze Body Steam — Stainless Steel Trim (Max. 300 psi Inlet) Air — Nylon Trim (Max. 600 psi Inlet) Internal Unit Pilot Valve

The Keckley Precision Pressure Regulator has for its greatest advantages simplicity in design, unit pilot valve construction, and the use of stainless steel for parts subject to the most wear, which can be renewed at a nominal cost.

The main valve seat of stainless steel is inserted from the bottom of the body. The piston above the valve, where dirt and sediment will not affect its operation, rides in a cylinder liner which can be easily replaced. The pilot valve cage is screwed into the top cap as a complete unit, with valve and spring. Directly above the pilot valve is the diaphragm held down by the adjusting spring case.

The main valve is opened by high pressure acting on the large piston directly above it. The pilot valve, working in conjunction with the diaphragm, actuated by any unbalanced effect of the adjusting spring and low pressure beneath it, controls accurately the necessary pressure to the piston. Thus the pilot valve, extremely sensitive to the secondary pressure, opens and closes the main valve in a proportionate degree to maintain the desired constant low pressure at all times.

Sudden fluctuations in initial pressure are prevented from reaching the secondary side by the expansion chamber effect of the piston cylinder.

The Keckley Regulator is made of the finest materials with precision workmanship and is thoroughly tested under all operating conditions. This regulator, therefore, offers maximum efficiency not only as to close regulation but also as to dependability through years of service.

Type AA for reduced steam or air

pressure above 40 psi: Type AA Regulators are recommended for reduction of pressures from the maximum pressure in one step to pressure above 40 psi. For pressures below 40 psi, we recommend the Type AR Precision Pressure Regulator as described below. It is necessary to have a minimum difference of 15 psi between initial pressure and reduced pressure for proper valve operation.

Type AR for reduced pressures from

2 to 40 psi: For reduction of pressure to 40 psi or less, the top cap of the regulator is furnished with larger diaphragm and provided with remote control connection, and is designated as Type AR. Remote control connection should be installed in the line to be controlled on the reduced pressure side of the regulator.

Operation: Remove all tension from the adjusting spring by turning handwheel to the left, which closes pilot valve and main valve of the regulator. Then open wide the stop valve on the high pressure side of the line. Increase tension slowly on the adjusting spring by turning handwheel to the right until the desired low pressure is reached, after which the stop valve in the low pressure side can be opened. When the regulator is in operation. keep both stop valves fully open and locknut on adjusting screw tight.



TYPE AA REGULATING VALVE SIZES 2½" TO 6" SCREWED OR FLANGED

The Keckley Precision Pressure Regulator can be adjusted to any desired pressure within the range of the regulating spring and diaphragm by merely turning the handwheel at the top of the regulator to the right for higher secondary pressure, and to the left for lower secondary pressure.

See pages 16-17 for recommended sizes at various capacities.

		INLET PRESSURE RANGE	REDUCED PRE	SSURE RANGE	Approx. Variation in		
TYPE	Size	Steam	Minimum	Maximum	Reduced Pressure Setting		
Type AA	1⁄2"-21⁄2"	55–300 psi	40 psi	285 psi	3% of inlet Press. over 100 psi		
	3"-6"	55–300 psi	40 psi	285 psi	5% of inlet Press. over 100 psi		
Type AR	1/2"-21/2"	25–300 psi	2 psi	40 psi	2% of inlet Press. over 100 psi		
	3"-6"	25–300 psi	5 psi	40 psi	5% of inlet Press. over 100 psi		

For Air service with nylon trim to 600# inlet, same Minimum Reduced Pressure % factors apply. Must have at least 25 psi initial pressure.

	INLET PRESSURE RANGE	REDUCED PRESSURE RANGE				
	Air	Air				
Туре АА	60–600 psi	40–585 psi				
Type AR	25–600 psi	2–40 psi				
Must have at least 25 psi initial pressu	ire.					

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P.O. Box 67

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TYPE AA, AR PRESSURE REGULATORS

Specifications:

BODY CASTINGS: Bronze.

MAIN VALVE: Stainless steel, accurately machined, ground and polished.

MAIN VALVE SEAT: Stainless steel with seat ground and polished. Screwed into body. Readily removable and renewable.

DIAPHRAGM: Phosphor bronze rolled to accurate thickness.

SPRINGS: Stainless steel, impervious to tension changes due to temperature variations. Accurately wound. Ends ground square.

PISTON: Government bronze, accurately machined and readily removable. Carries piston ring of high resiliency and sealing characteristics.

PISTON CYLINDER: Renewable cylinder liner with integral head of government bronze or stainless steel.

GASKETS: Non asbestos (copper jacketed), both under main valve cap and between body and body cap offer maximum resistance to leakage. PILOT VALVE: The pilot valve, spring and cage is of course the "HEART OF THE REGULATING VALVE." For this reason we have designed this portion of the Keckley Regulating Valve so that it is removable as a unit. Compare this unit construction with other types where the various component parts of the pilot valve must be removed individually. Valve and cage are stainless steel, accurately ground and polished.

NYLON is used for both the pilot valve and main valve, guaranteeing positive shut-off on air service.

STELLITED SEAT RINGS for the main valve and main valve seat can be furnished for extreme operating conditions where high pressure and temperature is a major factor.

Capacity table, see pages 16-17.

DATA REQUIRED WHEN ORDERING:

Inlet Pressure Outlet Pressure Media Capacity



TYPE AR REGULATING VALVE SIZES ½" TO 6" SCREWED OR FLANGED



UNIT PILOT VALVE OF TYPE AA AND AR REGULATORS

DIMENSIONS • BRONZE-300# • 150# AND 300# ASA FLANGES (approximate)

	Face to Face												Ship Weight		
	Screwed	Flar	nged	Center	Center	Total	Diam.	Thick.	Bolt	No	Size	Diam.	Screwed	Flar	nged
Size		150#	300#	Bottom	Тор	Height	Flanges	Flanges	Circle	Bolts	Bolts	Hole		150#	300#
1/2	5%	6¼	6%	2 ¹ 1/16	11 ¾6	13%	3¾	1/2	2%	4	1/2	5%	22	28	29
3/4	5¾	65/16	6 ¹ / ₁₆	2 ¹ / ₁₆	11 ¾6	13%	4%	17/32	3¼	4	5/8	3/4	22	28	29
1	5¾	6%	6 ¹³ /16	2 ¹ / ₁₆	11 ³ ⁄ ₁₆	13%	4%	¹⁹ /32	3½	4	5/8	3/4	22	28	29
1¼	6	6 ¹ ¹ / ₁₆	7½	2%	11½	14%	5¼	5/8	3%	4	%	3/4	23	30	32
1½	6¼	71/16	7%	3 ¾6	11¾	14 ¹⁵ / ₁₆	6½	11/16	4½	4	3/4	7/8	27	37	39
2	7½	8½	9	3½	12 1/16	151%	6½	3/4	5	8	5/8	3/4	42	51	54
2½	_	9½	10	4%	13%	17¾	7½	¹³ /16	5%	8	3/4	7/8	_	72	75
3	-	10¾	11 5/16	511/16	13%	19 5/16	8¼	²⁹ /32	6%	8	3/4	7/8	—	112	115
4	_	121/16	13 ³ ⁄16	7½	151/16	22 ¹ / ₁₆	10	1 1/16	7%	8	3/4	7/8	_	218	221
5	_	13%	14%	9 5/16	16%	263/16	11	1%	9¼	8	3/4	7/8	_	295	300
6	-	15%	15%	9 ¹ ³ / ₁₆	181/16	28%	12½	1¾6	10%	12	3/4	7⁄8	_	395	400

KECKLEY COMPANY

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