

PRESSURE REGULATORS

A



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INC.®

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GAS BACK PRESSURE:	A:10.1 - A:10.4
APPLICATIONS: Vent lines on oil and gas separators, flow treaters, compressor stations, gas gathering systems.	
OPERATING PRESSURE RANGES: 5 psig to 500 psig	
GAS BACK PRESSURE NON VENTING:	A:15.1 - A:15.3
APPLICATIONS: Vent lines or pressure regulation on separators, heater treaters, compressor stations, gas gathering and distribution systems where it is desired that no gas be vented.	
OPERATING PRESSURE RANGES: 5 psig to 285 psig	
PRESSURE REDUCING:	A:20.1 - A:20.4
APPLICATIONS: Regulation of inlet pressure to gas compressors. Control of supply or distribution systems pressures.	
OPERATING PRESSURE RANGES: 5 psig to 500 psig	
PRESSURE REDUCING NON VENTING:	A:25.1 - A:25.4
APPLICATIONS: Regulation of inlet pressure to gas compressors. Control of supply or distribution system pressures.	
Regulation of down stream pressure where it is desired that no gas be vented.	
OPERATING PRESSURE RANGES: 5 psig to 300 psig	
PRESSURE REDUCING BALANCED:	A:30.1 - A:30.4
APPLICATIONS: Regulation of inlet pressure to gas compressors and control of supply or distribution system pressures where the pressure to the regulator varies more than 2:1.	
OPERATING PRESSURE RANGES: 5 psig to 300 psig	
LIQUID BACK PRESSURE:	A:40.1 - A:40.4
APPLICATIONS: Control back pressure in liquid packed systems where an auxiliary source of supply gas pressure is available.	
OPERATING PRESSURE RANGES: 5 psig to 300 psig	
GAS PRESSURE DIFFERENTIAL:	A:50.1 - A:50.4
APPLICATIONS: For maintaining a constant pressure drop across meter systems.	
OPERATING PRESSURE RANGES: 5 psig to 300 psig	
GAS BACK PRESSURE VACUUM:	A:70.1 - A:70.2
APPLICATIONS: Positive pressure control of systems flowing into downstream vacuum gathering lines.	
OPERATING PRESSURE RANGES: 5 psig to 125 psig	
LOW PRESSURE BACK PRESSURE:	A:90.1 - A:90.2
APPLICATIONS: Control 3 to 20 psig back pressure on low pressure vessels and vent line of separators, treaters, compressors, and gas gathering systems.	
OPERATING PRESSURE RANGES: 5 psig to 20 psig	
OUNCES BACK PRESSURE TO ATMOSPHERE:	A:95.1 - A:95.3
APPLICATIONS: Valve designed to regulate ounces (0.5 oz to 20 psig) back pressure on a tank and vent to atmosphere when pressure exceeds set point. An outside supply of 10 psig is raised to operate motor valve.	
OPERATING PRESSURE RANGES: 0.5 psig to 20 psig	
OUNCES BACK PRESSURE TO VACUUM:	A:100.1 - A:100.2
APPLICATIONS: To maintain ounces of positive pressure on systems flowing into a downstream vacuum, such as vapor recovery systems.	
OPERATING PRESSURE RANGES: 0.5 psig to 20 psig	
OUNCES PRESSURE REDUCING:	A:110.1 - A:110.4
APPLICATIONS: This valve is used to regulate downstream pressure (sense line) from 0.5 oz to 2.5 psig or on vapor recovery systems to bypass a compressor when tank pressure falls too low.	
OPERATING PRESSURE RANGES: 0.5 psig to 20 psig	
OUNCES PRESSURE REDUCING VACUUM:	A:120.1 - A:120.3
APPLICATIONS: Used to regulate a downstream vacuum from 1" to 6" Hg.	
OPERATING PRESSURE RANGES: 0.5 psig to 20 psig	
FLOW COEFFICIENT	A:I
DIMENSIONS	A:II
SEALS	A:III
MATERIAL SPECIFICATIONS	A:IV
TEMPERATURE	A:V

Creating a Kimray Part Number with Options

Base Part Number from Catalog (Example:AAA) See following pages to select base code

Characteristics such as Flange connection size & type, thru & angled body are inherent in the Base Part Number.

Reduced Inner Valve (see following pages for sizes of reduced trim)

5 = Reduced Inner Valve

Misc. Options:

LB = No Body (Upper Portion only)

TF6 = Tubing and Fittings 316 Stainless (Not necessary if S6 or S6B below is chosen)

TF6G = Gage, Tubing, & Fittings 316 Stainless (Not necessary if S6 or S6B below is chosen)

NL = Non Lube lower housing / stem sleeve

Trim Material Options:

S6 = 316 Stainless steel Trim, Tubing and Fittings (Adding S6 makes valve NACE compliant)

S6B = 316 Stainless steel Body, Trim, Tubing, and Fittings (only available on steel valves)

Seal Options: Nitrile is standard

HSN = Highly Saturated Nitrile on all seals (HNBR)

V = FKM on all seals

AF = Aflas® on all seals

G = Gylon® seals

Spring

125 = Changes 300# spring to 125# spring (lower operating pressure)

Coating

KC = Kimcoat (for wear and corrosion resistance)

Certifications

NC = NACE certificate

MTR = Material Test Report

SPT = Static pressure Test

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Leave blank where no options are desired. Consolidate by removing blanks

Example:

AAA			S6			KC	
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reduces to **AAAS6KC**





* NOTE: Some options could **drastically** affect lead times. Contact your local Kimray representative to finalize your product code.

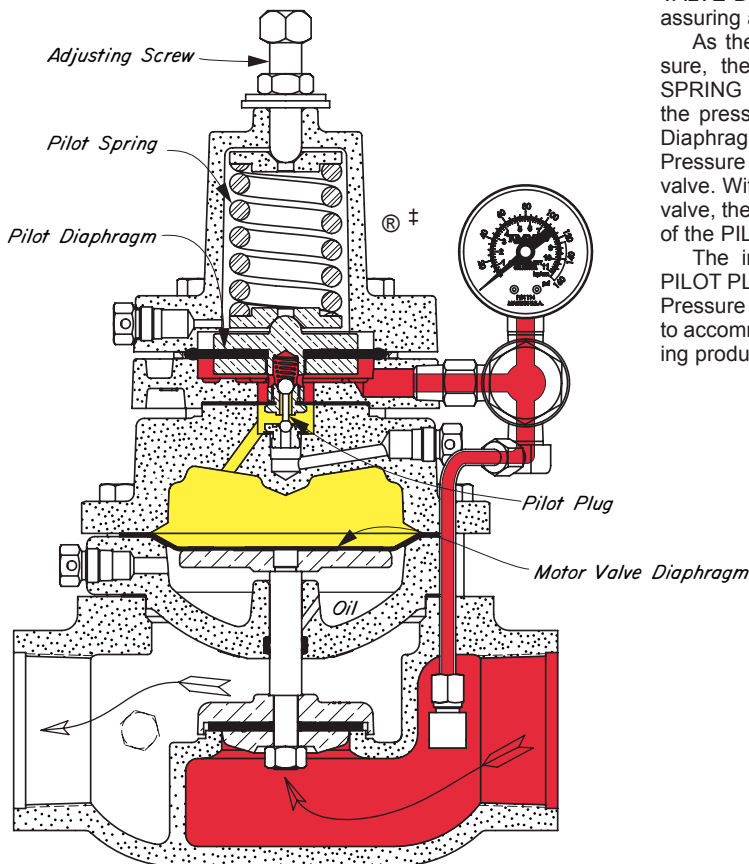
APPLICATION:

Vent lines on oil separators, flow treaters, compressor stations, gas gathering systems.

CERTIFICATIONS:

Canadian Registration Number (CRN):
 0C16234.24567890NTY (Ductile)
 0C15604.24567890NTY (Steel)

-  Pilot Assembly
-  Motor Valve Stem Assembly
-  Upstream Pressure
-  Motor Valve Diaphragm Pressure



OPERATION:

The Pilot Assembly and Motor Valve Stem Assembly (Crosshatched) are the only moving units in the regulator. The PILOT PLUG consists of two stainless balls rigidly connected together. The upper seat for the PILOT PLUG is the Motor Valve Diaphragm Pressure inlet (Red to Yellow). The lower seat for the PILOT PLUG is the pressure vent (Yellow to Atmosphere).

The PILOT SPRING in the bonnet loads the upper side of the Pilot Assembly and is opposed on the underside by Upstream Pressure (Red).

Assume the PILOT SPRING is compressed with the ADJUSTING SCREW for a set pressure greater than the Upstream Pressure (Red). The Pilot Assembly is forced downward by the PILOT SPRING. The lower seat for the PILOT PLUG (Yellow to Atmosphere) is closed and the upper seat for the PILOT PLUG (Red to Yellow) is open. This lets full Upstream Pressure (Red) load the motor valve. The area of the MOTOR VALVE DIAPHRAGM is twice the area of the motor valve seat, assuring a Class VI positive shut-off.

As the Upstream Pressure (Red) increases to the set pressure, the Pilot Assembly moves upward against the PILOT SPRING to first close the upper seat (Red to Yellow) and open the pressure vent (Yellow to Atmosphere). As the Motor Valve Diaphragm Pressure (Yellow) is decreased, the Upstream Pressure (Red) acting under the motor valve seat, opens the valve. With relief of Upstream Pressure (Red) through the motor valve, the Pilot Assembly assumes a position in which both seats of the PILOT PLUG are closed.

The intermittent vent pilot, three-way valve action of the PILOT PLUG against its seat adjusts the Motor Valve Diaphragm Pressure (Yellow), repositioning the Motor Valve Stem Assembly to accommodate any rate of flow. The rapid but stable repositioning produces a true throttling action.

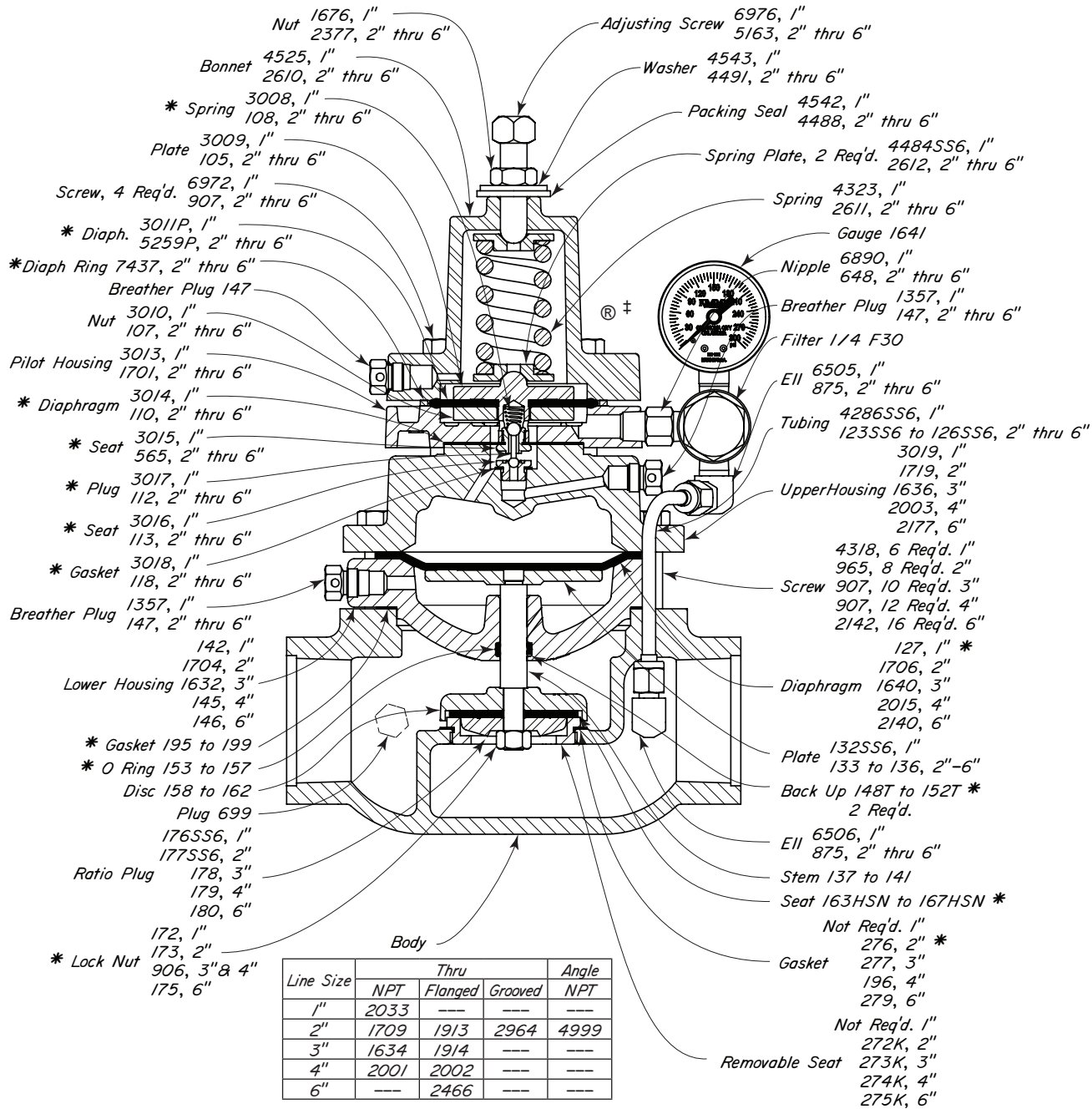


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PRESSURE REGULATORS



GAS BACK PRESSURE
DUCTILE IRON 10-300 psig OPER. PRES.



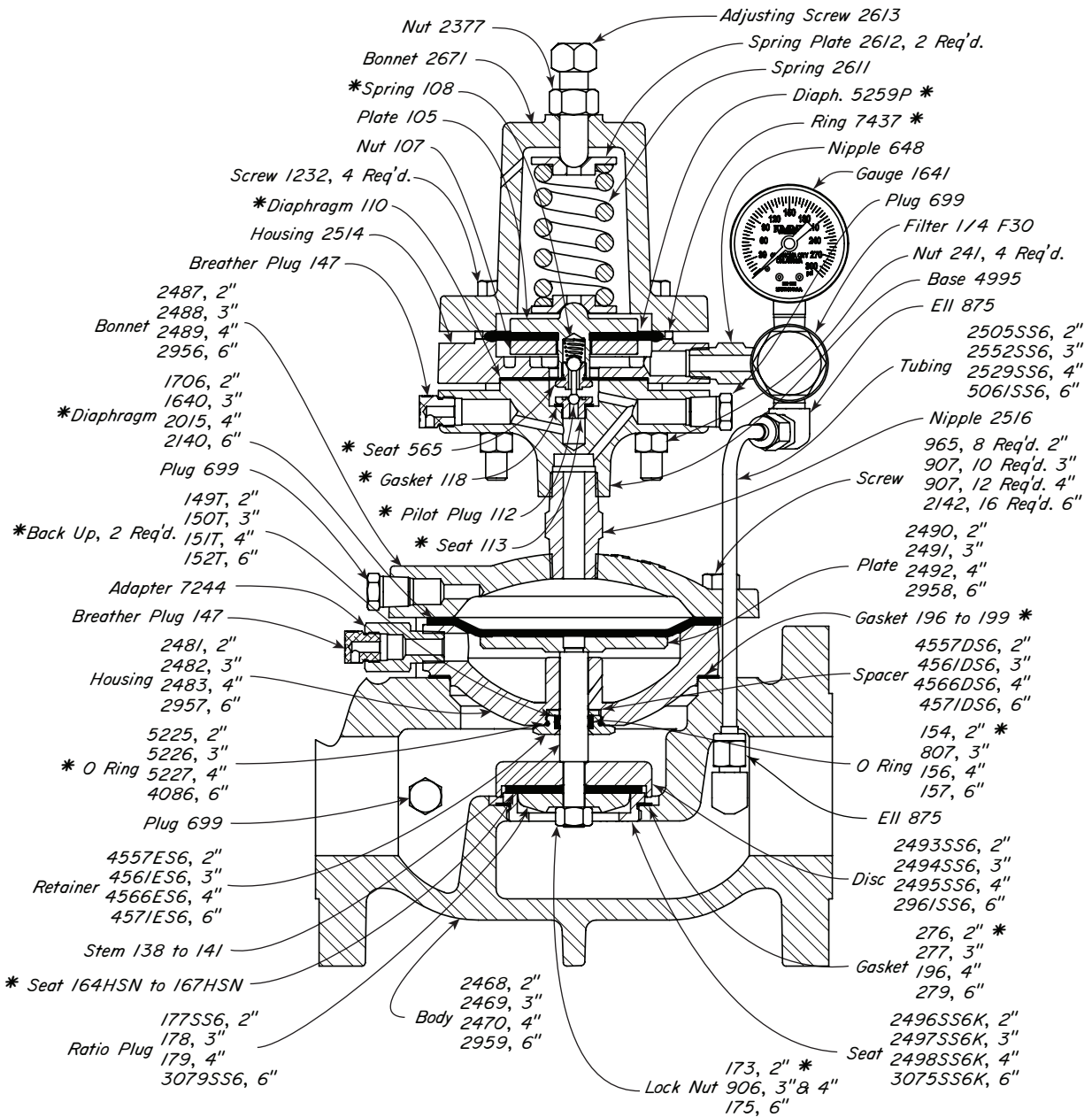
Line Size	Thru			Angle	
	NPT	Flanged	Grooved	NPT	
1"	2033	---	---	---	---
2"	1709	1913	2964	4999	
3"	1634	1914	---	---	
4"	2001	2002	---	---	
6"	---	2466	---	---	

THRU VALVES AVAILABLE:

PART NO.	BODY [†] CONNECTION	MODEL NO.	OPER. PRES.	MAX ^{††} W.P.	REP. KIT
AKB	1" NPT	130 SGT BP-D	10-300	300	RRU
AAR	2" NPT	230 SGT BP-D	10-300	300	RDG
AAS	2" 150RF	218 FGT BP-D	10-250	250	RDG
AAQ	2" GRVD.	230 GGT BP-D	10-300	300	RDG
AAT	3" NPT	330 SGT BP-D	10-300	300	RDH
AAU	3" 150RF	318 FGT BP-D	10-250	250	RDH
AAW	4" NPT	430 SGT BP-D	10-300	300	RDI
AAX	4" 150RF	418 FGT BP-D	10-250	250	RDI
AAZ	6" 150RF	618 FGT BP-D	10-250	250	RDJ

NOTES:

*These parts are recommended spare parts and are stocked as repair kits.
The numbers of a series assigned to a part indicate different line sizes. For example: Stem 137-1", 138-2", 139-3", 140-4", 141-6".
For standard & optional Seals, Metals, Cv values, Material specifications & Dimensions see Technical Data on pages A:1 - A:V
[†] Standard Trim size is same as connection size. For Reduced trim sizes, see A:1
^{††} Max W.P. valves based on -20°F to 100°F. See page A:V for temps above 100°F



THRU VALVES AVAILABLE:

PART NO.	BODY [†] CONNECTION	MODEL NO.	OPER. PRES.	MAX ^{††} W.P.	REP. KIT
AGB	2" 150RF	227 FGT BP-S	10-285	285	RAE
AGC	3" 150RF	327 FGT BP-S	10-285	285	RAF
AGD	4" 150RF	427 FGT BP-S	10-285	285	RAG
AGE	6" 150RF	627 FGT BP-S	10-285	285	RAH

NOTES:

*These parts are recommended spare parts and are stocked as repair kits.

The numbers of a series assigned to a part indicate different line sizes. For example: Stem 137-1", 138-2", 139-3", 140-4", 141-6".

For standard & optional Seals, Metals, Cv values, Material specifications & Dimensions see Technical Data on pages A:1 - A:V

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^{††} Max W.P. valves based on -20°F to 100°F. See page A:V for temps above 100°F

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NOTES:



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APPLICATION:

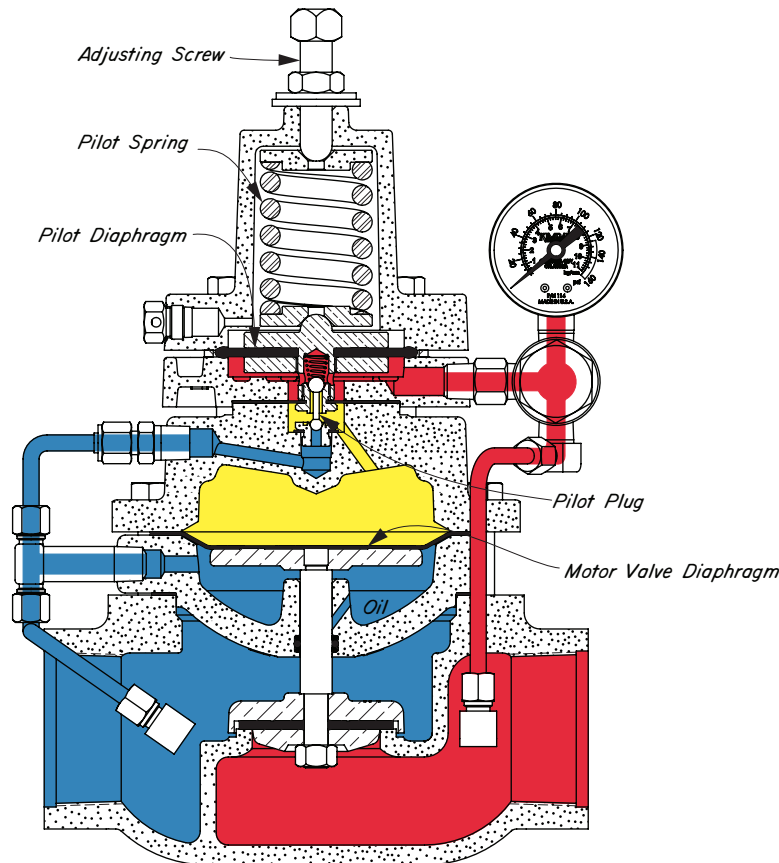
Vent lines or pressure regulation on separators, heater treaters, compressor stations, gas gathering and distribution systems where it is desired that no gas be vented.

- Inside Buildings
- In populated areas
- Emissions regulated areas
- Sour or poisonous gas systems

CERTIFICATIONS:

Canadian Registration Number (CRN):
 0C16234.24567890NTY (Ductile)
 0C15604.24567890NTY (Steel)

-  Pilot Assembly
-  Motor Valve Stem Assembly
-  Upstream Pressure
-  Motor Valve Diaphragm Pressure
-  Downstream Pressure



OPERATION:

Assume the **PILOT SPRING** is compressed with the **ADJUSTING SCREW** for a set pressure greater than the **Upstream Pressure** (Red). The **Pilot Assembly** is forced downward by the **PILOT SPRING**. The lower seat for the **PILOT PLUG** (Yellow to Blue) is closed and the upper seat for the **PILOT PLUG** (Red to Yellow) is open. This lets full **Upstream Pressure** (Red) load the **MOTOR VALVE DIAPHRAGM** to close the valve.

As the **Upstream Pressure** (Red) increases to the set pressure, the **Pilot Assembly** moves upward against the **PILOT SPRING** to first close the upper seat (Red to Yellow) and open the lower seat (Yellow to Blue). **Motor Valve Diaphragm Pressure** (Yellow) is vented to the **Downstream** (Blue).

As the **Motor Valve Diaphragm Pressure** (Yellow) is decreased, the **Upstream Pressure** (Red) acting under the motor valve seat, opens the valve. With relief of the **Upstream Pressure** (Red) through the valve, the **Pilot Assembly** assumes a position in which both seats of the **PILOT PLUG** are closed.

Motor Valve Diaphragm Pressure (Yellow) is regulated by the three-way valve action of the **PILOT PLUG** to reposition the **Motor Valve Stem Assembly** for changes in flow rate. The rapid but stable repositioning produces a true throttling action.

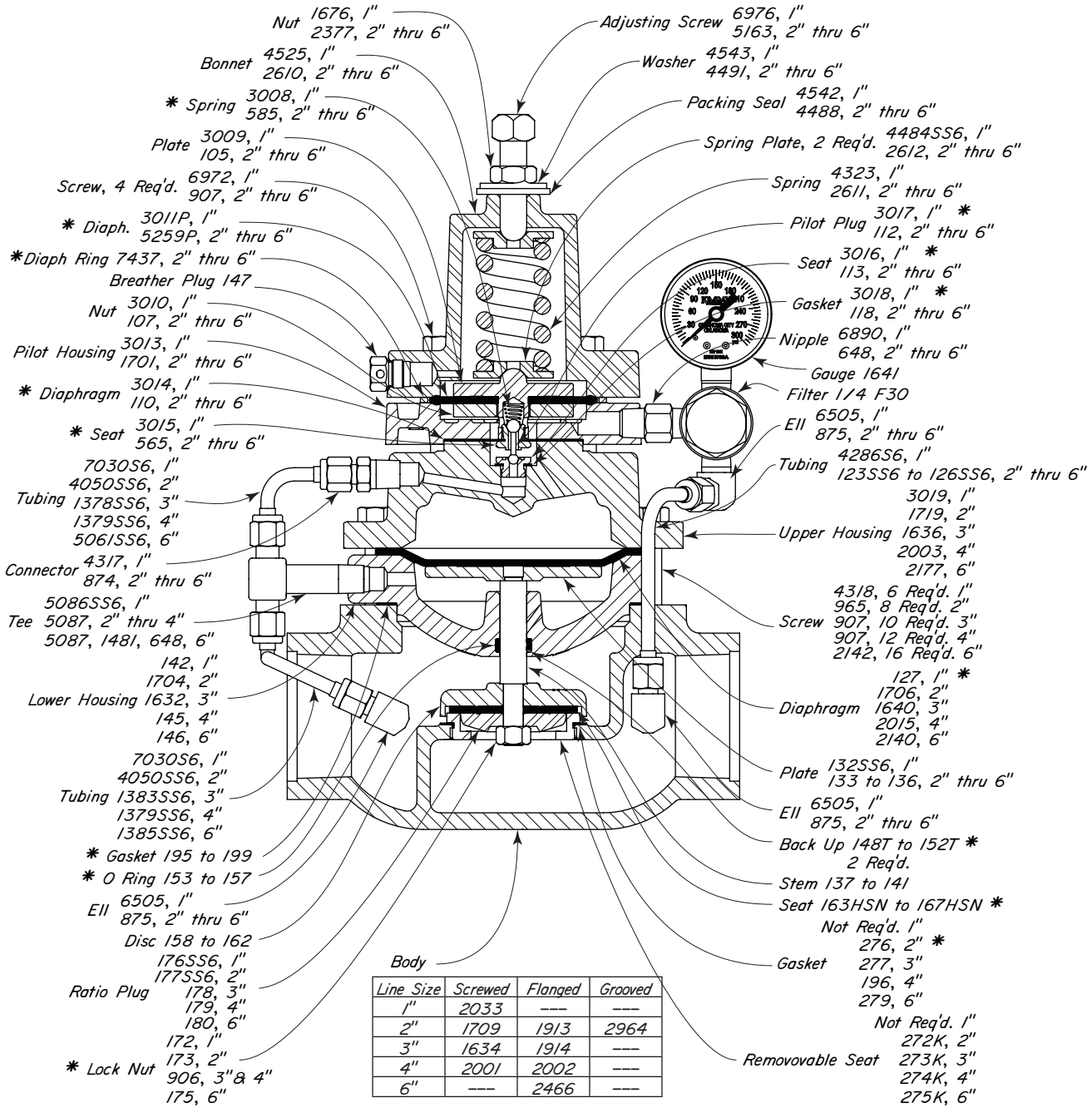


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PRESSURE REGULATORS



GAS BACK PRESSURE
DUCTILE IRON 10-300 psig OPER. PRES.



Line Size	Screwed	Flanged	Grooved
1"	2033	---	---
2"	1709	1913	2964
3"	1634	1914	---
4"	2001	2002	---
6"	---	2466	---

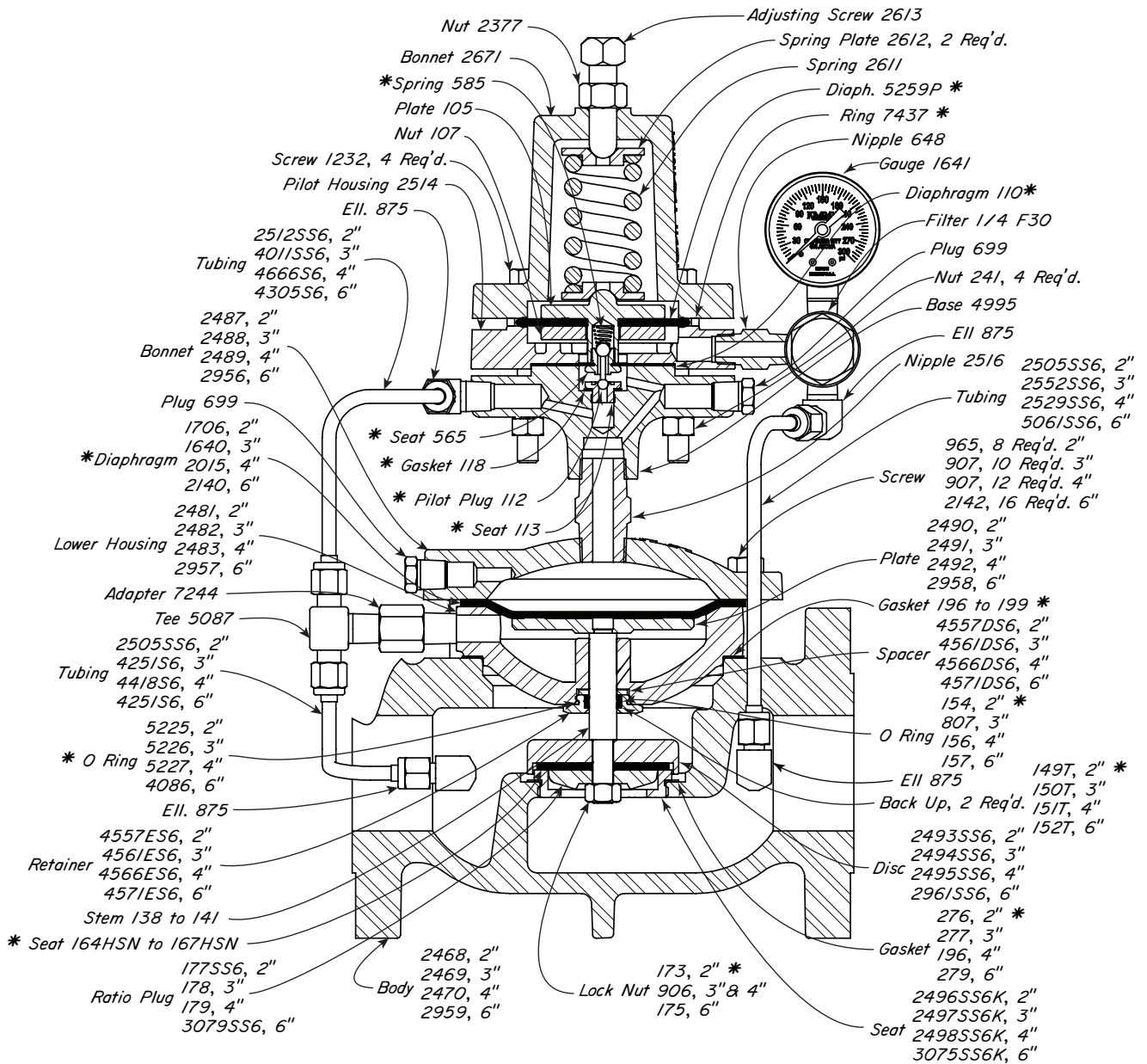
THRU VALVES AVAILABLE:

PART NO.	BODY [†] CONNECTION	MODEL NO.	OPER. PRES.	MAX ^{††} W.P.	REP. KIT
ALDD	1" NPT	130 SGT BP-NV-D	10-300	300	RRU
ALED	2" NPT	230 SGT BP-NV-D	10-300	300	RDGNV
ALFD	2" 150RF	218 FGT BP-NV-D	10-250	250	RDGNV
ALGD	2" GRVD	230 GGT BP-NV-D	10-300	300	RDGNV
ALHD	3" NPT	330 SGT BP-NV-D	10-300	300	RDHNV
ALID	3" 150RF	318 FGT BP-NV-D	10-250	250	RDHNV
ALJD	4" NPT	430 SGT BP-NV-D	10-300	300	RDINV
ALKD	4" 150RF	418 FGT BP-NV-D	10-250	250	RDINV
ALLD	6" 150RF	618 FGT BP-NV-D	10-250	250	RDJNV

NOTES:

*These parts are recommended spare parts and are stocked as repair kits.
 The numbers of a series assigned to a part indicate different line sizes. For example: Stem 137-1", 138-2", 139-3", 140-4", 141-6".
 For standard & optional Seals, Metals, Cv values, Material specifications & Dimensions see Technical Data on pages A:1 - A:V
[†] Standard Trim size is same as connection size. For Reduced trim sizes, see A:1
^{††} Max W.P. valves based on -20°F to 100°F. See page A:V for temps above 100°F

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THRU VALVES AVAILABLE:

PART NO.	BODY [†] CONNECTION	MODEL NO.	OPER. PRES.	MAX ^{††} W.P.	REP. KIT
AGF	2" 150RF	227 FGT BP-S-NV	10-285	285	RAENV
AGV	3" 150RF	327 FGT BP-S-NV	10-285	285	RAFNV
AGP	4" 150RF	427 FGT BP-S-NV	10-285	285	RAGNV
AGU	6" 150RF	627 FGT BP-S-NV	10-285	285	RAHNV

NOTES:

*These parts are recommended spare parts and are stocked as repair kits.

The numbers of a series assigned to a part indicate different line sizes. For example: Stem 137-1", 138-2", 139-3", 140-4", 141-6".

For standard & optional Seals, Metals, Cv values, Material specifications & Dimensions see Technical Data on pages A:1 - A:V

[†] Standard Trim size is same as connection size. For Reduced trim sizes, see A:1

^{††} Max W.P. valves based on -20°F to 100°F. See page A:V for temps above 100°F

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NOTES:



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APPLICATION:

Regulation of inlet pressure to gas compressors. Control of supply or distribution system pressure

SET POINT DRIFT RATIO:

8:1

CERTIFICATIONS:

Canadian Registration Number (CRN):
0C16234.24567890NTY (Ductile)
0C15604.24567890NTY (Steel)

OPERATION:

The Pilot Assembly and Motor Valve Stem Assembly (Crosshatched) are the only moving units in the regulator.

The PILOT PLUG consists of two stainless balls rigidly connected together. Upstream Pressure (Red) is the supply pressure to the pilot and is also in constant communication with the top side of the MOTOR VALVE DIAPHRAGM. The area of the MOTOR VALVE DIAPHRAGM is twice the area of the motor valve seat, assuring a Class VI positive shut-off.

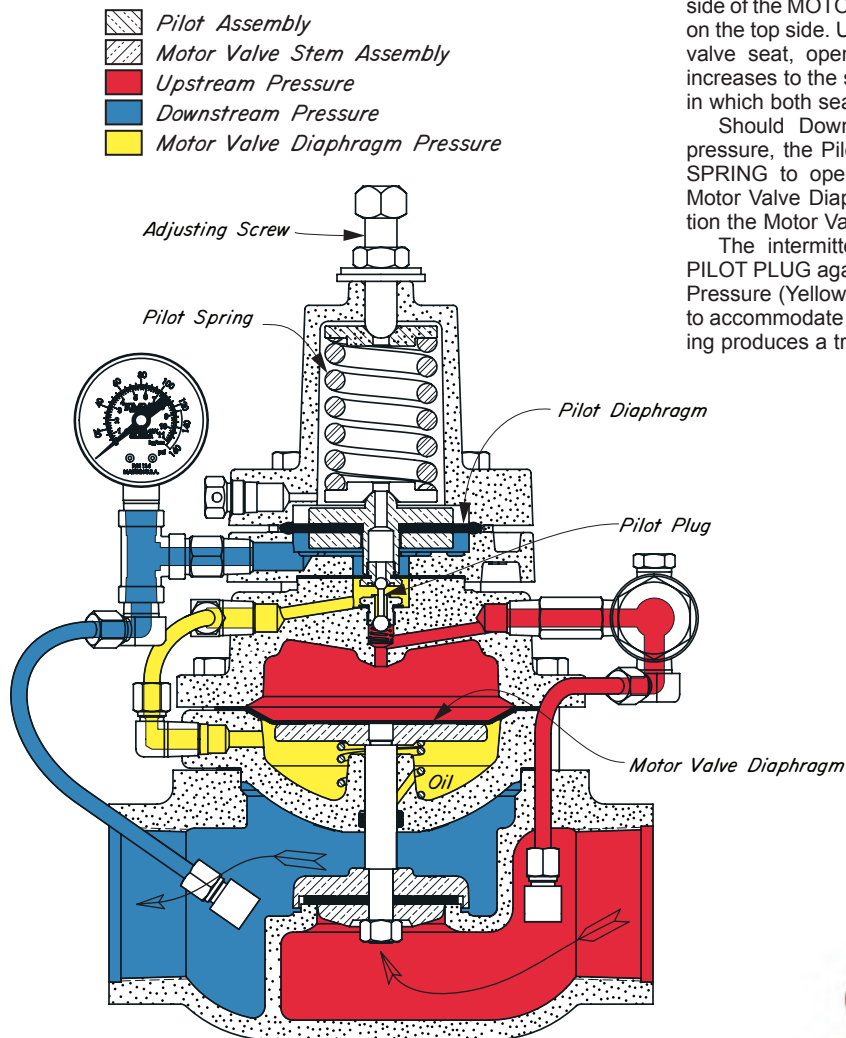
The lower seat for the PILOT PLUG is the Motor Valve Diaphragm Pressure inlet (Red to Yellow). The upper seat for the PILOT PLUG is the pressure vent (Yellow to Atmosphere). The PILOT SPRING loads the upper side of the Pilot Assembly and is opposed on the underneath side by the controlled Downstream Pressure (Blue).

Assume the PILOT SPRING is compressed with the ADJUSTING SCREW for a desired Downstream Pressure setting. With Downstream Pressure (Blue) too low, the PILOT SPRING forces the Pilot Assembly downward to close the upper seat (Yellow to Atmosphere) and open the lower seat (Red to Yellow).

This lets full Upstream Pressure (Red) load the underneath side of the MOTOR VALVE DIAPHRAGM to balance the pressure on the top side. Upstream Pressure (Red) acting under the motor valve seat, opens the valve. As Downstream Pressure (Blue) increases to the set pressure Pilot Assembly assumes a position in which both seats of the PILOT PLUG are closed.

Should Downstream Pressure (Blue) rise above the set pressure, the Pilot Assembly moves upward against the PILOT SPRING to open the pressure vent (Yellow to Atmosphere). Motor Valve Diaphragm Pressure (Yellow) decreases to reposition the Motor Valve Stem Assembly.

The intermittent vent pilot, three-way valve action of the PILOT PLUG against its seat adjusts the Motor Valve Diaphragm Pressure (Yellow), repositioning the Motor Valve stem Assembly to accommodate any rate of flow. The rapid but stable repositioning produces a true throttling action.

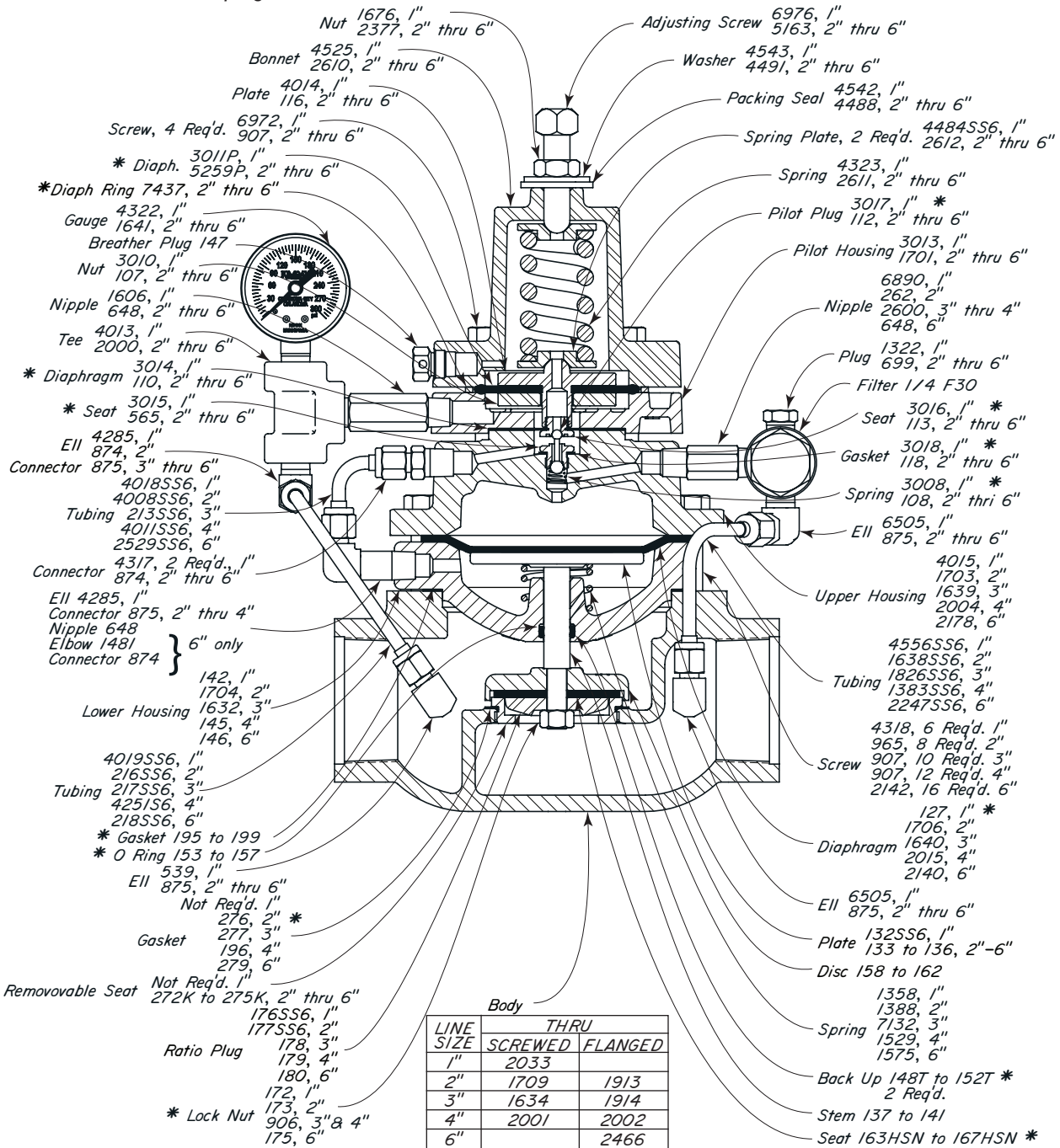


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PRESSURE REGULATORS



GAS PRESSURE REDUCING DUCTILE IRON 10-300 psig OPER. PRES.



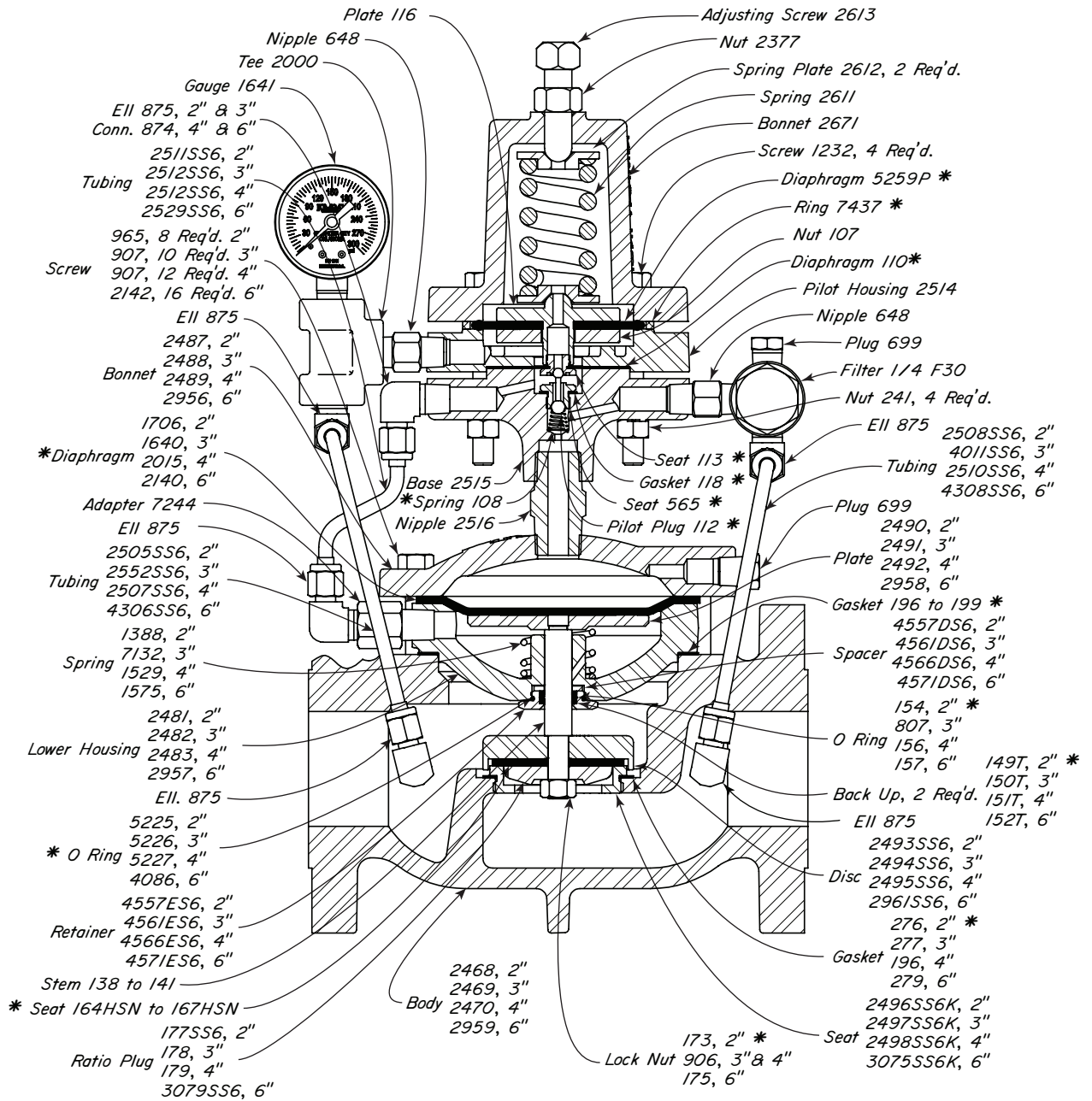
LINE SIZE	THRU	
	SCREWED	FLANGED
1"	2033	
2"	1709	1913
3"	1634	1914
4"	2001	2002
6"		2466

THRU VALVES AVAILABLE:

PART NO.	BODY [†] CONNECTION	MODEL NO.	OPER. PRES.	MAX ^{††} W.P.	REP. KIT
AKF	1" NPT	130 SGT PR-D	10-300	300	RRU
ABU	2" NPT	230 SGT PR-D	10-300	300	RDG
ABW	2" 150RF	218 FGT PR-D	10-250	250	RDG
ABX	3" NPT	330 SGT PR-D	10-300	300	RDH
ABY	3" 150RF	318 FGT PR-D	10-250	250	RDH
ACA	4" NPT	430 SGT PR-D	10-300	300	RDI
ACB	4" 150RF	418 FGT PR-D	10-250	250	RDI
ACC	6" 150RF	618 FGT PR-D	10-250	250	RDJ

NOTES:

*These parts are recommended spare parts and are stocked as repair kits.
 The numbers of a series assigned to a part indicate different line sizes. For example: Stem 137-1", 138-2", 139-3", 140-4", 141-6".
 For standard & optional Seals, Metals, Cv values, Material specifications & Dimensions see Technical Data on pages A:I - A:V
[†] Standard Trim size is same as connection size. For Reduced trim sizes, see A:I
^{††} Max W.P. valves based on -20°F to 100°F. See page A:V for temps above 100°F



THRU VALVES AVAILABLE:

PART NO.	BODY [†] CONNECTION	MODEL NO.	OPER. PRES.	MAX ^{††} W.P.	REP. KIT
AGG	2" FLGD.	227 FGT PR-S	10-285	285	RAE
AGH	3" FLGD.	327 FGT PR-S	10-285	285	RAF
AGI	4" FLGD.	427 FGT PR-S	10-285	285	RAG
AGJ	6" FLGD.	627 FGT PR-S	10-285	285	RAH

NOTES:

*These parts are recommended spare parts and are stocked as repair kits.

The numbers of a series assigned to a part indicate different line sizes. For example: Stem 137-1", 138-2", 139-3", 140-4", 141-6".

For standard & optional Seals, Metals, Cv values, Material specifications & Dimensions see Technical Data on pages A:I - A:V

[†] Standard Trim size is same as connection size. For Reduced trim sizes, see A:I

^{††} Max W.P. valves based on -20°F to 100°F. See page A:V for temps above 100°F

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NOTES:



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APPLICATIONS:

Regulation of inlet pressure to gas compressors. Control of supply or distribution system pressures.

Regulation of down stream pressure where it is desired that no gas be vented.

- Inside Buildings
- In Populated Areas
- Emissions Regulated Areas
- Sour or Poisonous Gas Systems

CERTIFICATIONS:

Canadian Registration Number (CRN):
 0C16234.24567890NTY (Ductile)
 0C15604.24567890NTY (Steel)

OPERATION:

The Pilot assembly and Motor Valve Stem Assembly (Crosshatched) are the only moving units in the regulator. The PILOT PLUG consists of two stainless balls rigidly connected together. Upstream Pressure (Red) is the supply pressure to the pilot and is also in constant communication with the top side of the MOTOR VALVE DIAPHRAGM. The area of the MOTOR VALVE DIAPHRAGM is twice the area of the motor valve seat, assuring a Class VI positive shut-off.

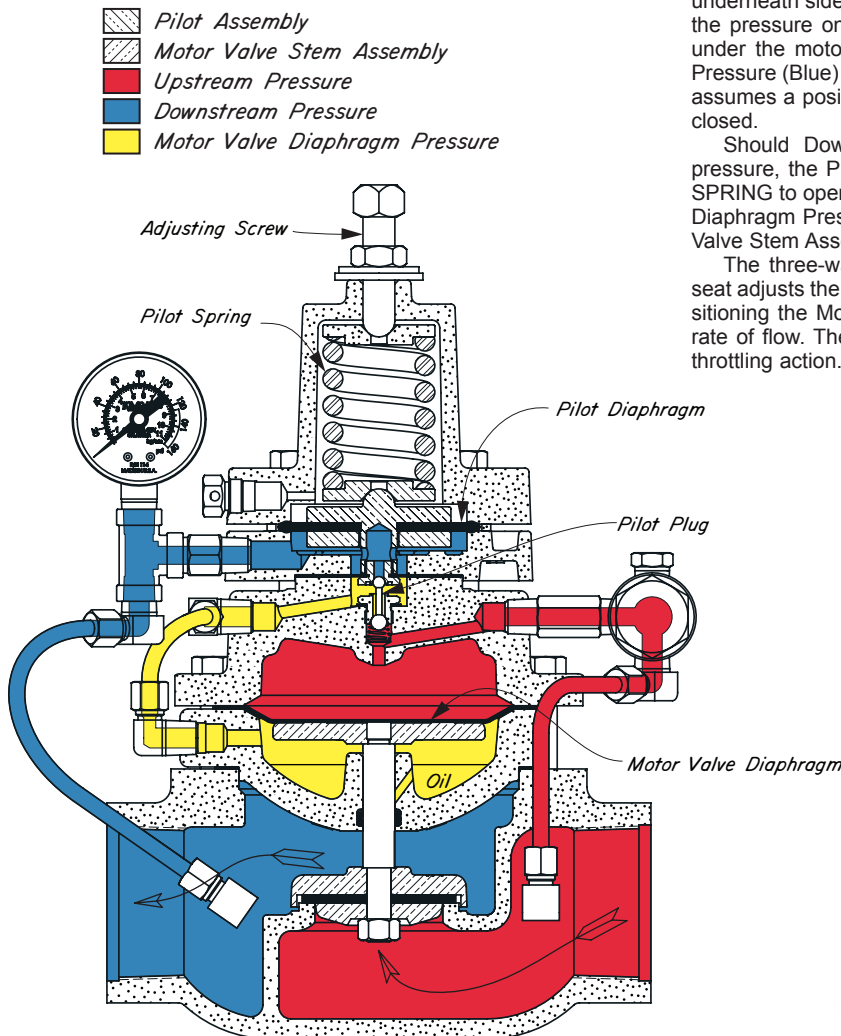
The lower seat for the PILOT PLUG is the Motor Valve Diaphragm Pressure inlet (Red to Yellow). The upper seat for the PILOT PLUG is the pressure vent (Yellow to Blue). The PILOT SPRING loads the upper side of the Pilot Assembly and is opposed on the underneath side by controlled Downstream Pressure (Blue).

Assume the PILOT SPRING is compressed with the ADJUSTING SCREW for a desired Downstream Pressure setting. With Downstream Pressure (Blue) too low, the PILOT SPRING forces the Pilot Assembly downward to close the upper seat (Yellow to Blue) and open the lower seat (Red to Yellow).

This lets full Upstream Pressure (Red), if necessary, load the underneath side of the MOTOR VALVE DIAPHRAGM to balance the pressure on the top side. Upstream Pressure (Red) acting under the motor valve seat, opens the valve. As Downstream Pressure (Blue) increases to the set pressure, the Pilot Assembly assumes a position in which both seats of the PILOT PLUG are closed.

Should Downstream Pressure (Blue) rise above the set pressure, the Pilot Assembly moves upward against the PILOT SPRING to open the pressure vent (Yellow to Blue). Motor Valve Diaphragm Pressure (Yellow) decreases to reposition the Motor Valve Stem Assembly.

The three-way valve action of the PILOT PLUG against its seat adjusts the Motor Valve Diaphragm Pressure (Yellow), repositioning the Motor Valve Stem Assembly to accommodate any rate of flow. The rapid but stable repositioning produces a true throttling action.

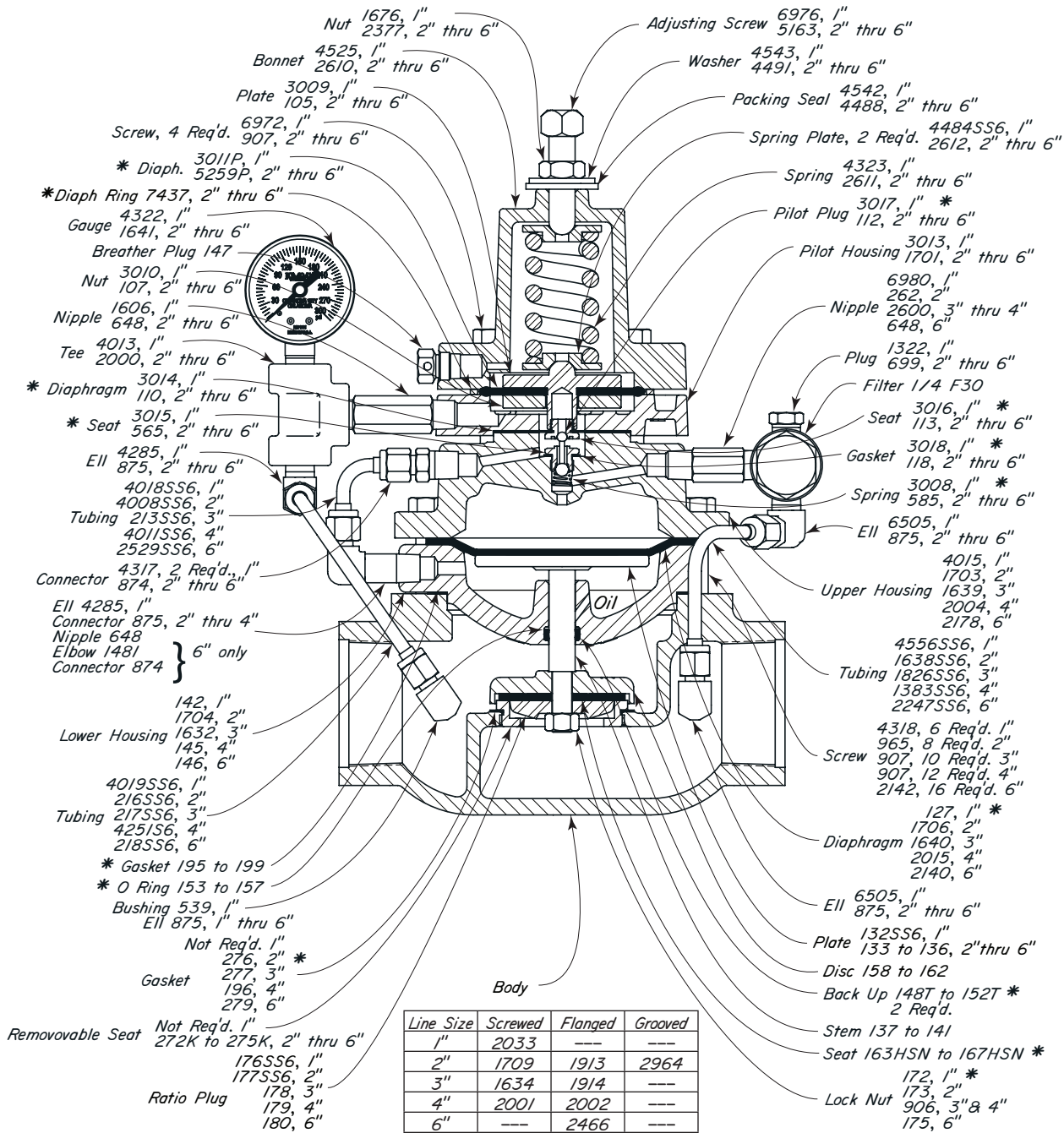


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PRESSURE REGULATORS



GAS PRESSURE REDUCING NON VENTING
DUCTILE IRON 10-300 psig OPER. PRES.



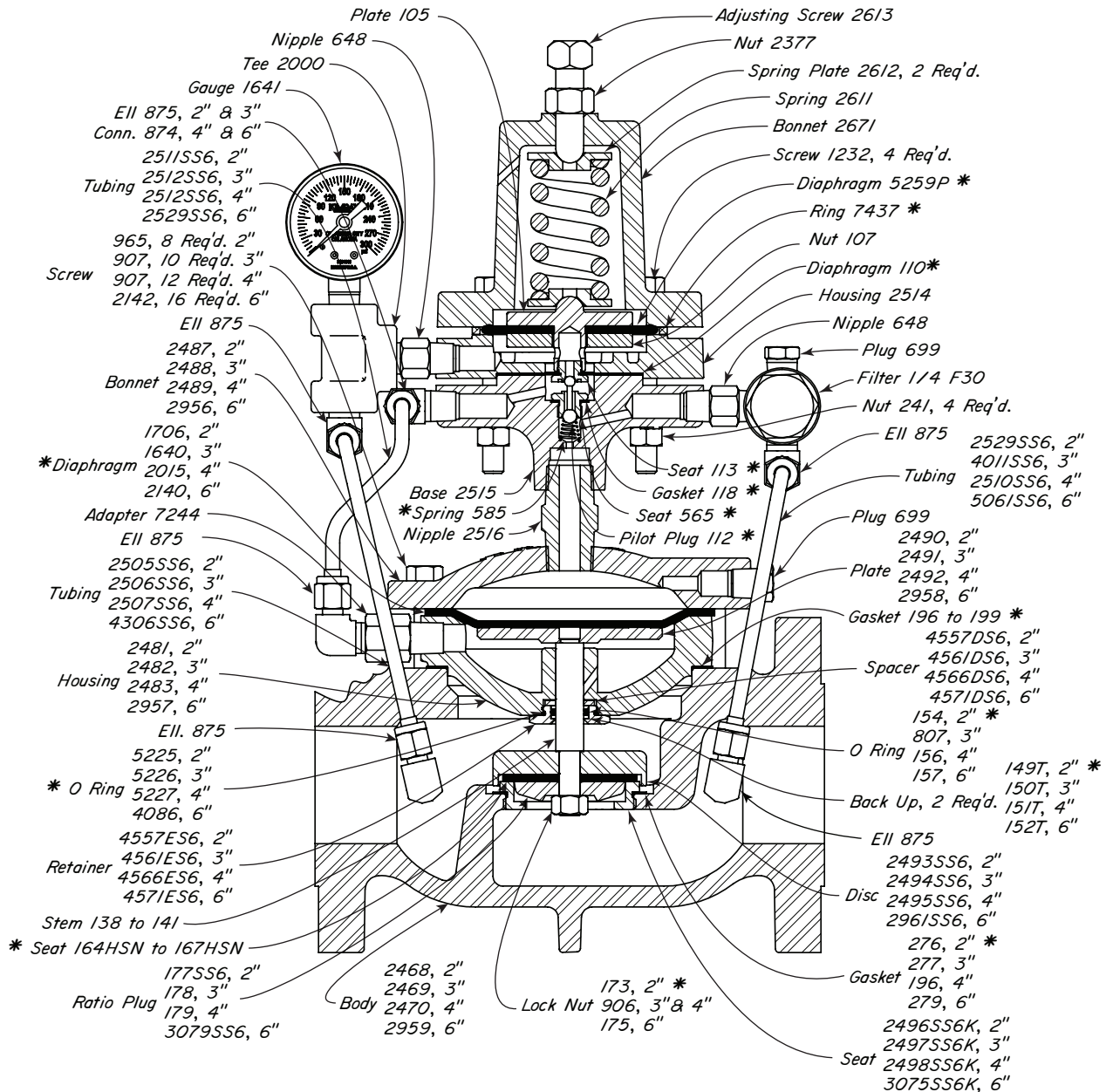
THRU VALVES AVAILABLE:

PART NO.	BODY [†] CONNECTION	MODEL NO.	OPER. PRES.	MAX ^{††} W.P.	REP. KIT
AKLD	1" NPT	130 SGT PR-NV-D	10-300	300	RRU
AKMD	2" NPT	230 SGT PR-NV-D	10-300	300	RDGNV
AKND	2" 150RF	218 FGT PR-NV-D	10-250	250	RDGNV
AKOD	2" GRVD.	230 GGT PR-NV-D	10-300	300	RDGNV
AKPD	3" NPT	330 SGT PR-NV-D	10-300	300	RDHNV
AKQD	3" 150RF	318 FGT PR-NV-D	10-250	250	RDHNV
AKRD	4" NPT	430 SGT PR-NV-D	10-300	300	RDINV
AKSD	4" 150RF	418 FGT PR-NV-D	10-250	250	RDINV
AKTD	6" 150RF	618 FGT PR-NV-D	10-250	250	RDJNV

NOTES:

*These parts are recommended spare parts and are stocked as repair kits.
The numbers of a series assigned to a part indicate different line sizes. For example: Stem 137-1", 138-2", 139-3", 140-4", 141-6".
For standard & optional Seals, Metals, Cv values, Material specifications & Dimensions see Technical Data on pages A:1 - A:V
[†] Standard Trim size is same as connection size. For Reduced trim sizes, see A:1
^{††} Max W.P. valves based on -20°F to 100°F. See page A:V for temps above 100°F

GAS PRESSURE REDUCING NON VENTING
STEEL 10-285 psig OPER. PRES.



THRU VALVES AVAILABLE:

PART NO.	BODY [†] CONNECTION	MODEL NO.	OPER. PRES.	MAX ^{††} W.P.	REP. KIT
AEV	2" 150RF	227 FGT PR-S NV	10-285	285	RAENV
AEW	3" 150RF	327 FGT PR-S NV	10-285	285	RAFNV
AEX	4" 150RF	427 FGT PR-S NV	10-285	285	RAGNV
AEY	6" 150RF	627 FGT PR-S NV	10-285	285	RAHNV

NOTES:

*These parts are recommended spare parts and are stocked as repair kits.

The numbers of a series assigned to a part indicate different line sizes. For example: Stem 137-1", 138-2", 139-3", 140-4", 141-6".

For standard & optional Seals, Metals, Cv values, Material specifications & Dimensions see Technical Data on pages A:I - A:V

[†] Standard Trim size is same as connection size. For Reduced trim sizes, see A:I

^{††} Max W.P. valves based on -20°F to 100°F. See page A:V for temps above 100°F

Kimray is an ISO 9001- certified manufacturer.

NOTES:



Kimray is an ISO 9001- certified manufacturer.

APPLICATIONS:

Regulation of inlet pressure to gas compressors and control of supply or distribution system pressures where the pressure to the regulator varies significantly and regulated pressure must remain constant.

SET POINT DRIFT RATIO:

100:1

CERTIFICATIONS:

Canadian Registration Number (CRN):
0C16234.24567890NTY (Ductile)
0C15604.24567890NTY (Steel)

NOTE:

For upstream pressure less than 10 psig use outside source of supply to operate MOTOR VALVE DIAPHRAGM.

OPERATION:

The Pilot Assembly and Motor Valve Stem Assembly (Crosshatched) are the only moving units in the regulator.

The PILOT PLUG consists of two stainless balls rigidly connected together. Upstream Pressure (Red) is the supply pressure to the pilot and is also in constant communication with the top side of the MOTOR VALVE DIAPHRAGM. The area of the MOTOR VALVE DIAPHRAGM is twice the area of the motor valve seat, assuring a Class VI positive shut-off.

The lower seat for the PILOT PLUG is the Motor Valve Diaphragm Pressure inlet (Red to Yellow). The upper seat for the PILOT PLUG is the pressure vent (Yellow to Atmosphere). The PILOT SPRING loads the upper side of the Pilot Assembly and is opposed on the underneath side by the controlled Downstream Pressure (Blue).

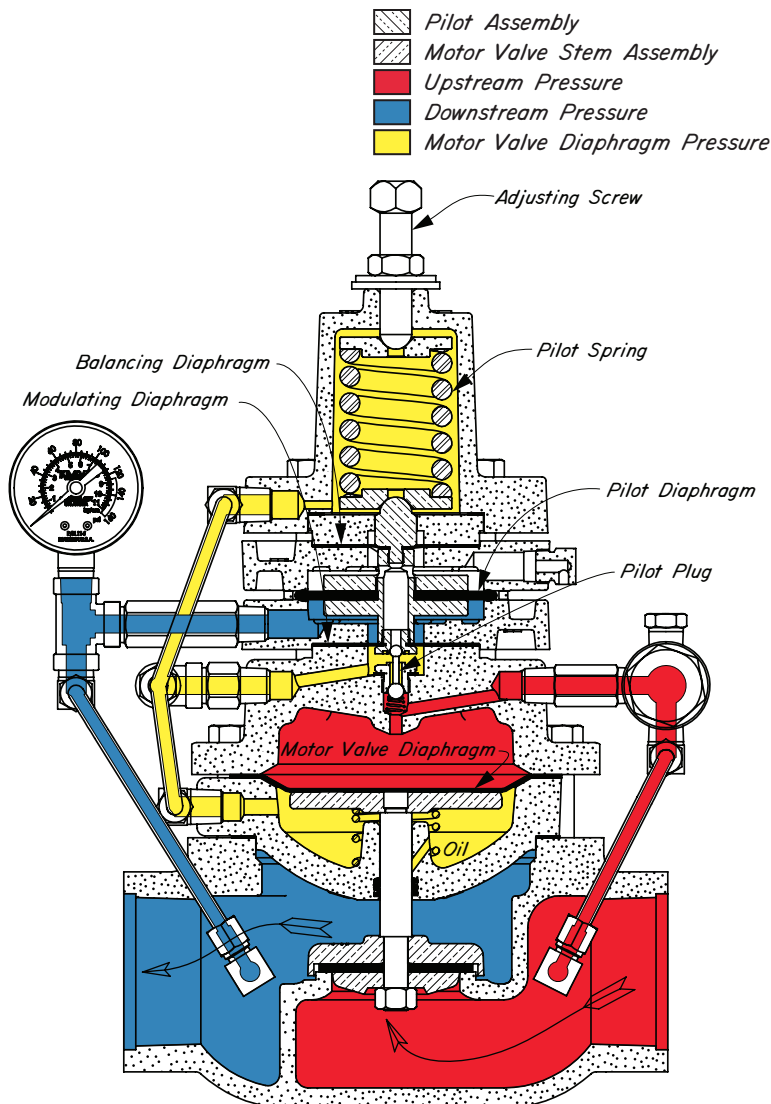
Assume the PILOT SPRING is compressed with the ADJUSTING SCREW for a desired Downstream Pressure setting. With Downstream Pressure (Blue) too low, the PILOT SPRING forces the Pilot Assembly downward to close the upper seat (Yellow to Atmosphere) and open the lower seat (Red to Yellow).

This lets full Upstream Pressure (Red) load the underneath side of the MOTOR VALVE DIAPHRAGM to balance the pressure on the top side. Upstream Pressure (Red) acting under the motor valve seat, opens the valve. As Downstream Pressure (Blue) increases to the set pressure, the Pilot Assembly assumes a position in which both seats of the PILOT PLUG are closed.

Should Downstream Pressure (Blue) rise above the set pressure, the Pilot Assembly moves upward against the PILOT SPRING to open the pressure vent (Yellow to Atmosphere). Motor Valve Diaphragm Pressure (Yellow) decreases to reposition the Motor Valve Stem Assembly.

The intermittent vent pilot, three-way valve action of the PILOT PLUG against its seat adjusts the Motor Valve Diaphragm Pressure (Yellow), repositioning the Motor Valve Stem Assembly to accommodate any rate of flow. The rapid but stable repositioning produces a true throttling action.

The Motor Valve Diaphragm Pressure (Yellow) is communicated to the bonnet area, this pressure acts on the BALANCING DIAPHRAGM to counteract the equal and opposite pressure on the MODULATING DIAPHRAGM. This balancing action reduces the effect of variation in Upstream Pressure (Red) on the controlled or Downstream Pressure (Blue) resulting in constant Downstream Pressure (Blue).

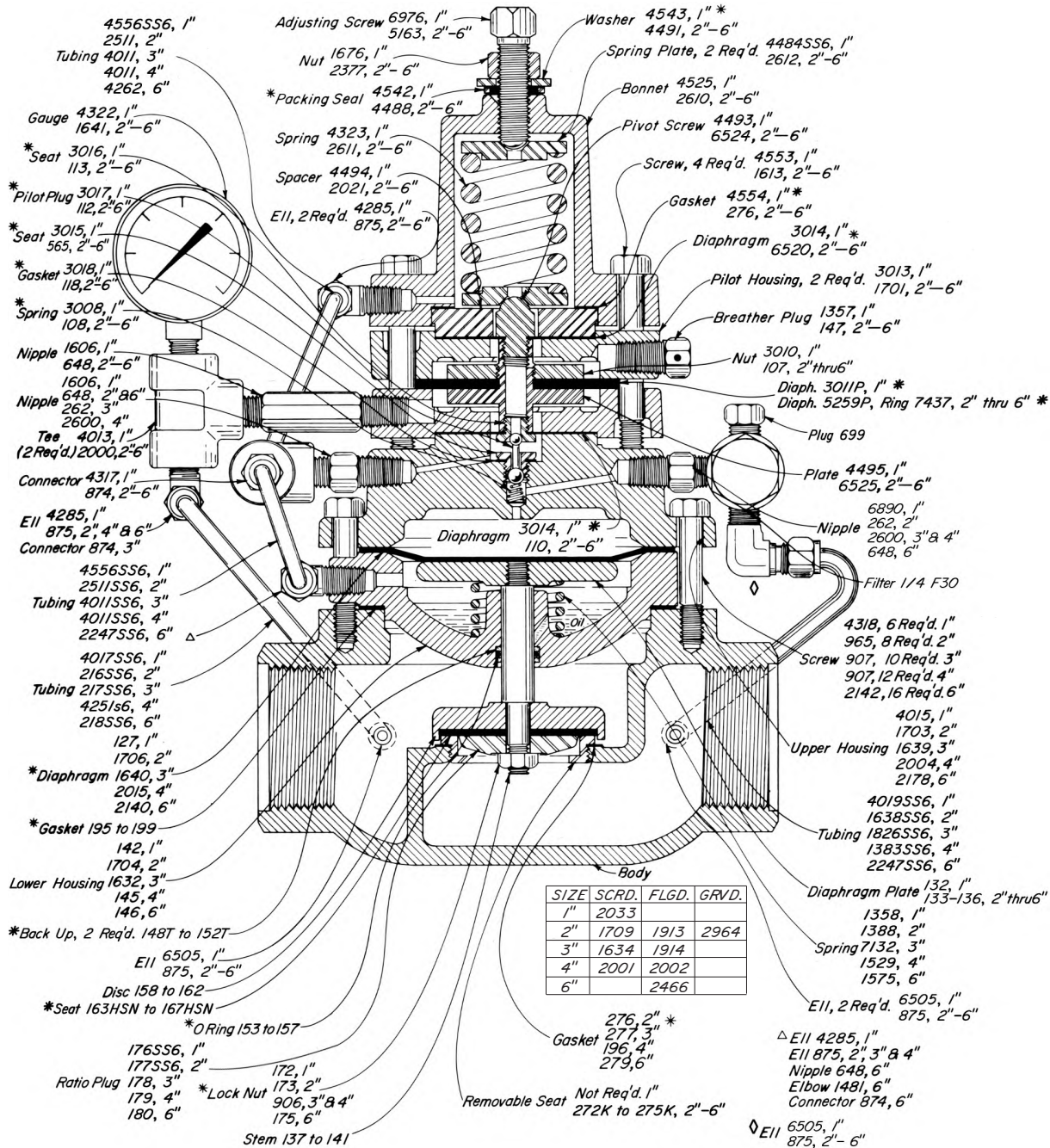


Kimray is an ISO 9001- certified manufacturer.

PRESSURE REGULATORS



GAS PRESSURE REDUCING BALANCED
DUCTILE IRON 10-300 psig OPER. PRES.



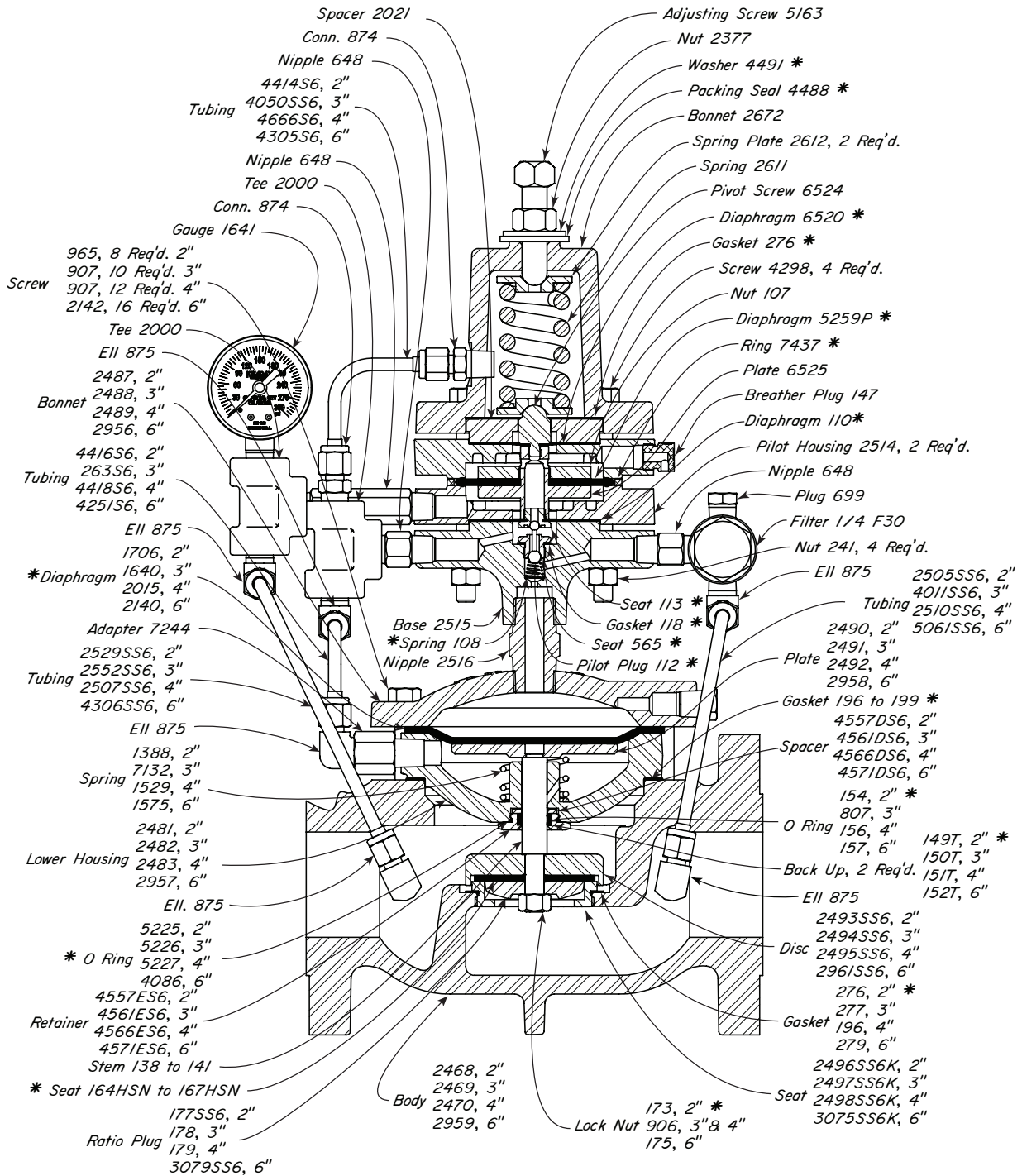
THRU VALVES AVAILABLE:

PART NO.	BODY CONNECTION	MODEL NO.	OPER. PRES.	MAX W.P.	REP. KIT
AKJ	1" NPT	130 SGT PRB-D	10-300	300	RYA
AJ1	2" NPT	230 SGT PRB-D	10-300	300	RRM
AJJ	2" 150RF	218 FGT PRB-D	10-250	250	RRM
AJK	3" NPT	330 SGT PRB-D	10-300	300	RRN
AJL	3" 150RF	318 FGT PRB-D	10-250	250	RRN
AJM	4" NPT	430 SGT PRB-D	10-300	300	RRO
AJN	4" 150RF	418 FGT PRB-D	10-250	250	RRO
AJP	6" 150RF	618 FGT PRB-D	10-250	250	RRP

NOTES:

*These parts are recommended spare parts and are stocked as repair kits.
The numbers of a series assigned to a part indicate different line sizes. For example: Stem 137-1", 138-2", 139-3", 140-4", 141-6".
For standard & optional Seals, Metals, Cv values, Material specifications & Dimensions see Technical Data on pages A:I - A:V
† Standard Trim size is same as connection size. For Reduced trim sizes, see A:I
†† Max W.P. valves based on -20°F to 100°F. See page A:V for temps above 100°F

GAS PRESSURE REDUCING BALANCED STEEL 10-285 psig OPER. PRES.



THRU VALVES AVAILABLE:

PART NO.	BODY [†] CONNECTION	MODEL NO.	OPER. PRES.	MAX ^{††} W.P.	REP. KIT
AJR	2" 150RF	227 FGT PRB-S	10-285	285	RRQ
AJS	3" 150RF	327 FGT PRB-S	10-285	285	RRR
AJT	4" 150RF	427 FGT PRB-S	10-285	285	RRS
AJU	6" 150RF	627 FGT PRB-S	10-285	285	RRX

The numbers of a series assigned to a part indicate different line sizes. For example: Stem 137-1", 138-2", 139-3", 140-4", 141-6".

NOTES:

*These parts are recommended spare parts and are stocked as repair kits.

For standard & optional Seals, Metals, Cv values, Material specifications & Dimensions see Technical Data on pages A:I - A:V

[†] Standard Trim size is same as connection size. For Reduced trim sizes, see A:I

^{††} Max W.P. valves based on -20°F to 100°F. See page A:V for temps above 100°F

Kimray is an ISO 9001- certified manufacturer.

NOTES:



Kimray is an ISO 9001- certified manufacturer.

APPLICATION:






Control back pressure in liquid packed systems where an auxiliary source of supply gas pressure is available.

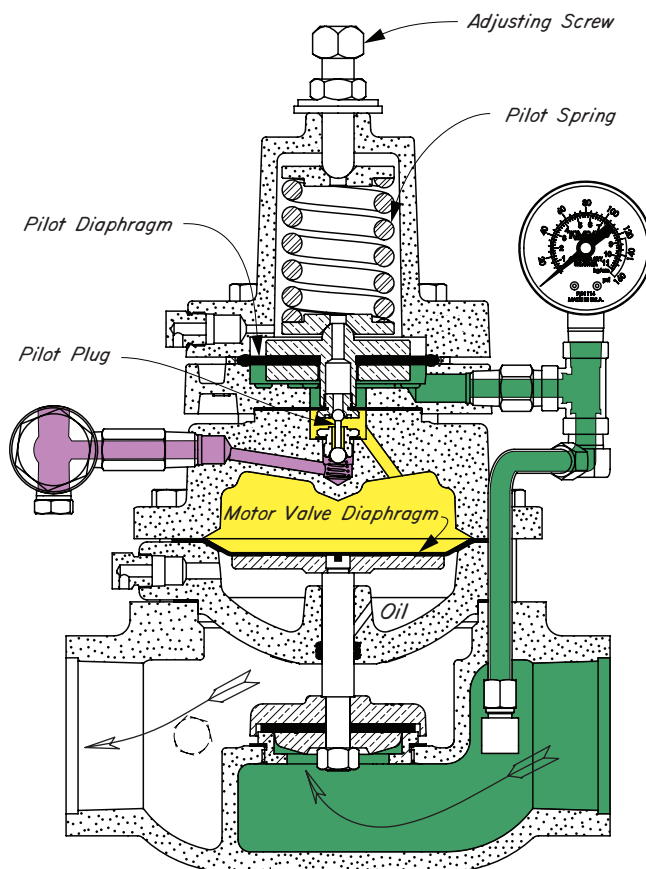
SUPPLY PRESSURE:

Equal to or not less than 60% of controlled pressure upstream

CERTIFICATIONS:

Canadian Registration Number (CRN):
 0C16234.24567890NTY (Ductile)
 0C15604.24567890NTY (Steel)

-  Pilot Assembly
-  Motor Valve Stem Assembly
-  Upstream Liquid Pressure
-  Motor Valve Diaphragm Pressure
-  Supply Pressure (outside source)



OPERATION:

The Pilot Assembly and Motor Valve Stem Assembly (Crosshatched) are the only moving units in the regulator. The PILOT PLUG consists of two stainless balls rigidly connected together. The lower seat for the PILOT PLUG is the Motor Valve Diaphragm Pressure inlet (Purple to Yellow). The upper seat for the PILOT PLUG is the pressure vent (Yellow to Atmosphere).

The PILOT SPRING in the bonnet loads the upper side of the Pilot Assembly and is opposed on the underside by Upstream Liquid Pressure (Green).

Assume the PILOT SPRING is compressed with the ADJUSTING SCREW for a set pressure greater than the Upstream Liquid Pressure (Green). The Pilot Assembly is forced downward by the PILOT SPRING. The upper seat for the PILOT PLUG (Yellow to Atmosphere) is closed and the lower seat for the PILOT PLUG (Purple to Yellow) is open. This lets full Supply Pressure (Purple) load the MOTOR VALVE DIAPHRAGM to close the motor valve. The area of the MOTOR VALVE DIAPHRAGM is twice the area of the motor valve seat, assuring a Class VI positive shut-off.

As the Upstream Liquid Pressure (Green) increases to the set pressure, the Pilot Assembly moves upward against the PILOT SPRING to first close the lower seat (Purple to Yellow) and open the pressure vent (Yellow to Atmosphere). As the Motor Valve Diaphragm Pressure (Yellow) is decreased, the Upstream Liquid Pressure (Green) acting under the motor valve seat, opens the valve. With relief of Upstream Liquid Pressure (Green) through the motor valve, the Pilot Assembly assumes a position in which both seats of the PILOT PLUG are closed.

The intermittent vent pilot, three-way valve action of the PILOT PLUG against its seat adjusts the Motor Valve Diaphragm Pressure (Yellow), repositioning the Motor Valve Stem Assembly to accommodate any rate of flow. The rapid but stable repositioning produces a true throttling action.

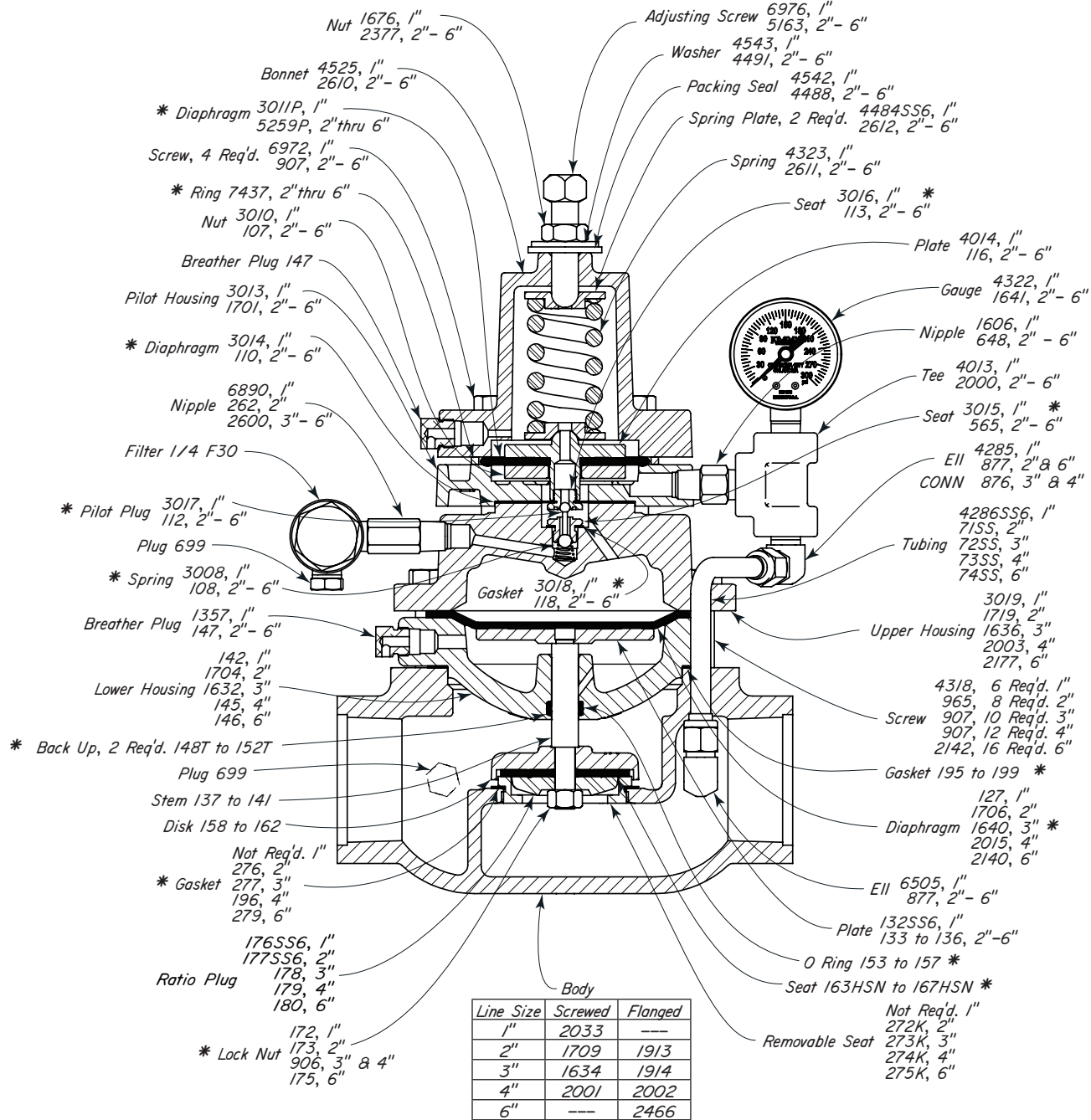


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PRESSURE REGULATORS



LIQUID BACK PRESSURE
DUCTILE IRON 10-300 psig OPER. PRES.



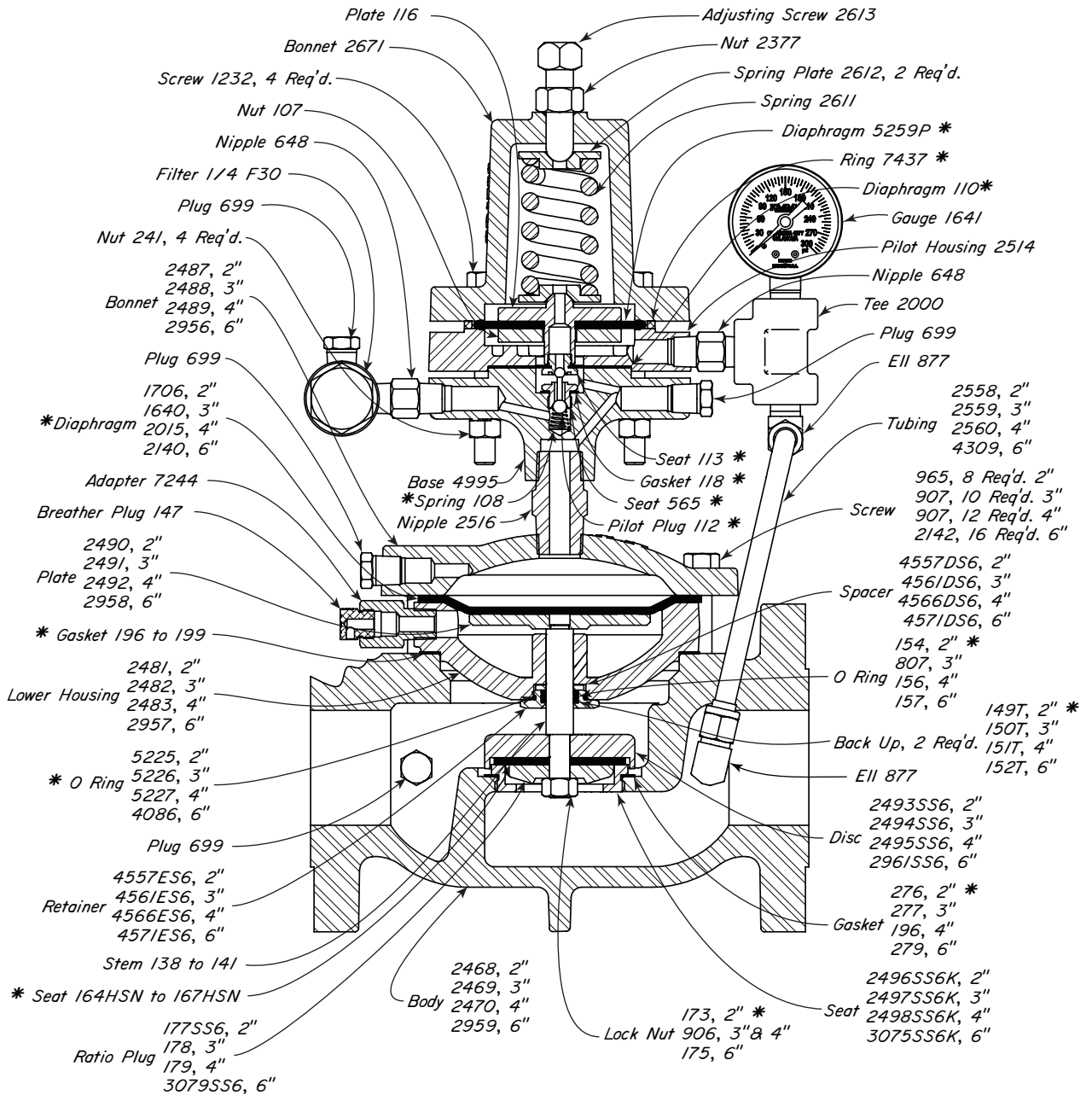
THRU VALVES AVAILABLE:

PART NO.	BODY [†] CONNECTION	MODEL NO.	OPER. PRES.	MAX ^{††} W.P.	REP. KIT
ACG	1" NPT	130 SGT LBP-D	10-300	300	RRU
AEM	2" NPT	230 SGT LBP-D	10-300	300	RDG
AEN	2" 150RF	218 FGT LBP-D	10-250	250	RDG
AEP	3" NPT	330 SGT LBP-D	10-300	300	RDH
AER	3" 150RF	318 FGT LBP-D	10-250	250	RDH
AES	4" NPT	430 SGT LBP-D	10-300	300	RDI
AET	4" 150RF	418 FGT LBP-D	10-250	250	RDI
AEU	6" 150RF	618 FGT LBP-D	10-250	250	RDJ

NOTES:

*These parts are recommended spare parts and are stocked as repair kits.
The numbers of a series assigned to a part indicate different line sizes. For example: Stem 137-1", 138-2", 139-3", 140-4", 141-6".
For standard & optional Seals, Metals, Cv values, Material specifications & Dimensions see Technical Data on pages A:I - A:V
[†] Standard Trim size is same as connection size. For Reduced trim sizes, see A:I
^{††} Max W.P. valves based on -20°F to 100°F. See page A:V for temps above 100°F

LIQUID BACK PRESSURE
STEEL 10-285 psig OPER. PRES.



THRU VALVES AVAILABLE:

PART NO.	BODY [†] CONNECTION	MODEL NO.	OPER. PRES.	MAX ^{††} W.P.	REP. KIT
AGW	2" 150RF	227 FGT LBP-S	10-285	285	RAE
AGX	3" 150RF	327 FGT LBP-S	10-285	285	RAF
AGY	4" 150RF	427 FGT LBP-S	10-285	285	RAG
AGZ	6" 150RF	627 FGT LBP-S	10-285	285	RAH

NOTES:

*These parts are recommended spare parts and are stocked as repair kits.

The numbers of a series assigned to a part indicate different line sizes. For example: Stem 137-1", 138-2", 139-3", 140-4", 141-6".

For standard & optional Seals, Metals, Cv values, Material specifications & Dimensions see Technical Data on pages A:I - A:V

[†] Standard Trim size is same as connection size. For Reduced trim sizes, see A:I

^{††} Max W.P. valves based on -20°F to 100°F. See page A:V for temps above 100°F

Kimray is an ISO 9001- certified manufacturer.

NOTES:



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APPLICATION:

For maintaining a constant pressure drop across meter systems.

CERTIFICATIONS:

Canadian Registration Number (CRN):
 0C16234.24567890NTY (Ductile)
 0C15604.24567890NTY (Steel)

OPERATION:






This regulator is designed to control a set difference between Upstream Pressure (Red) and Downstream Pressure (blue). The differential pressure is set by changing the PILOT SPRING load with the ADJUSTING SCREW.

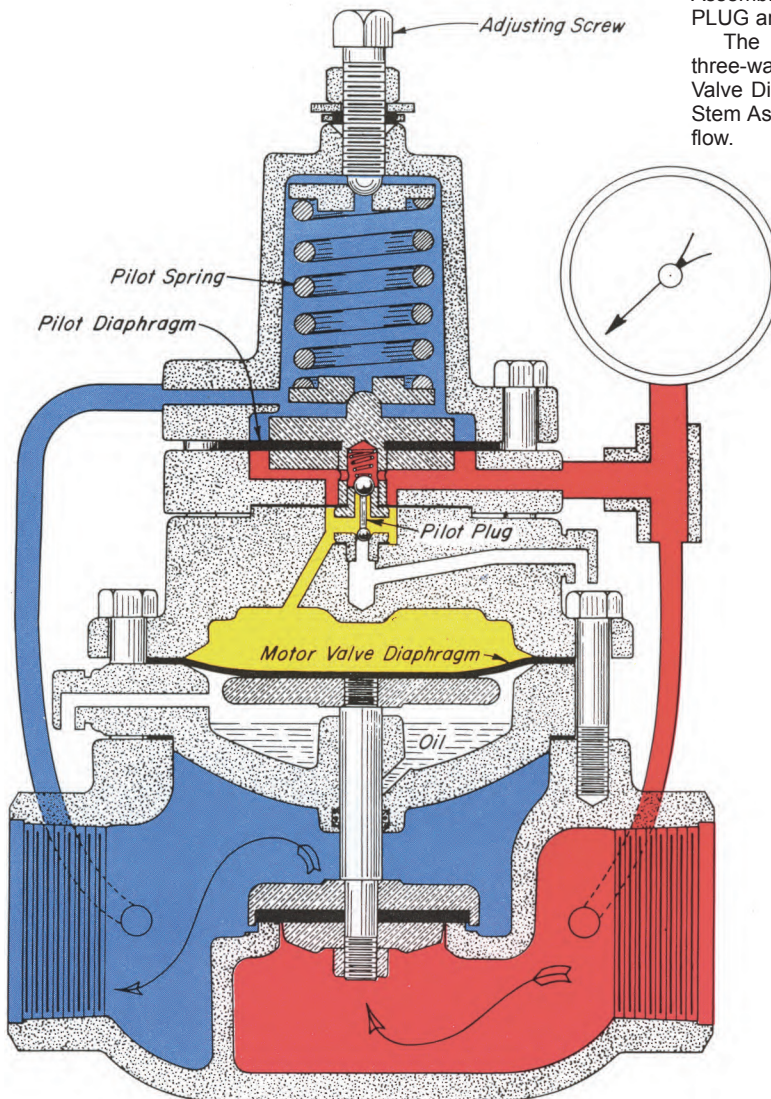
Any change in Downstream Pressure (Blue) will position the Motor Valve Stem Assembly until a like change in Upstream Pressure (Red) has occurred to maintain the set differential pressure.

Assume the load produced by the PILOT SPRING and Downstream Pressure (Blue) acting on the Pilot Assembly has caused it to move downward. This opens the upper seat of the PILOT PLUG (Red to Yellow) and closes the lower seat (Yellow to Atmosphere) admitting full Upstream Pressure (Red) to the MOTOR VALVE DIAPHRAGM, closing the motor valve seat. The area of the MOTOR VALVE DIAPHRAGM is twice the area of the motor valve seat, assuring a Class VI positive shut-off.

As the Upstream Pressure (Red) increases to the set differential pressure, the Pilot Assembly moves upward to first close the upper seat (Red to Yellow) and open the pressure vent (Yellow to Atmosphere). The resulting decrease in Motor Valve Diaphragm Pressure (Yellow) permits the increased Upstream Pressure (Red), acting under the motor valve seat, to open the valve. With the motor valve open, the Upstream Pressure (Red) will decrease until the differential pressure across the PILOT DIAPHRAGM reaches the set point at which time the Pilot Assembly assumes a position in which both seats of the PILOT PLUG are closed.

The rapid but stable repositioning, intermittent vent pilot, three-way valve action of the PILOT PLUG adjust the Motor Valve Diaphragm Pressure (Yellow) to position the Motor Valve Stem Assembly and provide true throttling action for any rate of flow.

-  Pilot Assembly
-  Motor Valve Stem Assembly
-  Downstream Pressure
-  Upstream Pressure
-  Motor Valve Diaphragm Pressure

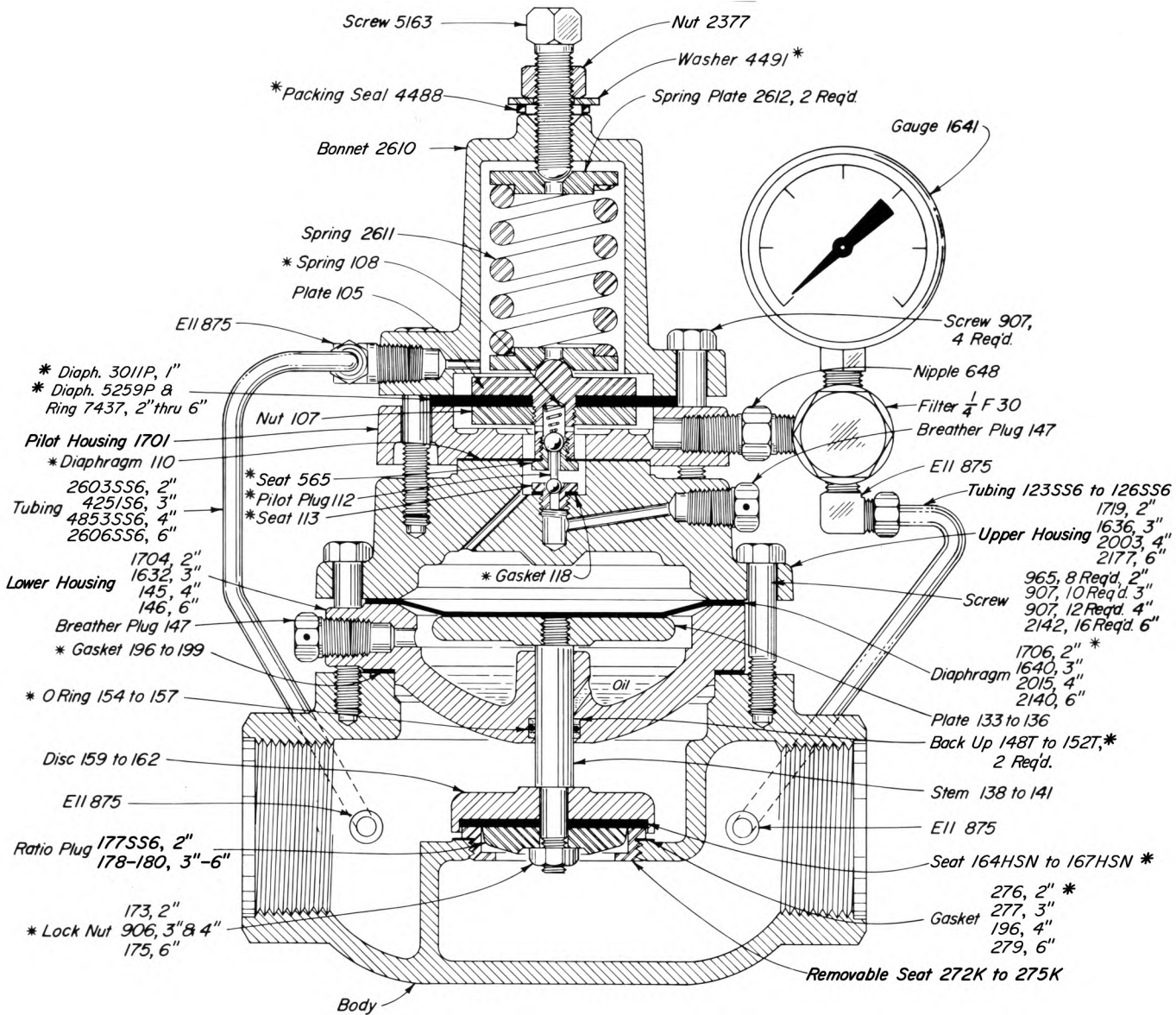


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PRESSURE REGULATORS



GAS PRESSURE DIFFERENTIAL
DUCTILE IRON 10-300 psig OPER. PRES.



LINE SIZE	THRU	
	SCREWED	FLANGED
2"	1709	1913
3"	1634	1914
4"	2001	2002
6"	-----	2466

THRU VALVES AVAILABLE:

PART NO.	BODY [†] CONNECTION	MODEL NO.	OPER. PRES.	MAX ^{††} W.P.	REP. KIT
ACU	2" NPT	230 SGT PD-D	10-300	300	RPK
ACW	2" 150RF	218 FGT PD-D	10-250	250	RPK
ACX	3" NPT	330 SGT PD-D	10-300	300	RPL
ACY	3" 150RF	318 FGT PD-D	10-250	250	RPL
ADA	4" NPT	430 SGT PD-D	10-300	300	RPM
ADB	4" 150RF	418 FGT PD-D	10-250	250	RPM
ADC	6" 150RF	618 FGT PD-D	10-250	250	RPN

NOTES:

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The numbers of a series assigned to a part indicate different line sizes. For example: Stem 137-1", 138-2", 139-3", 140-4", 141-6".

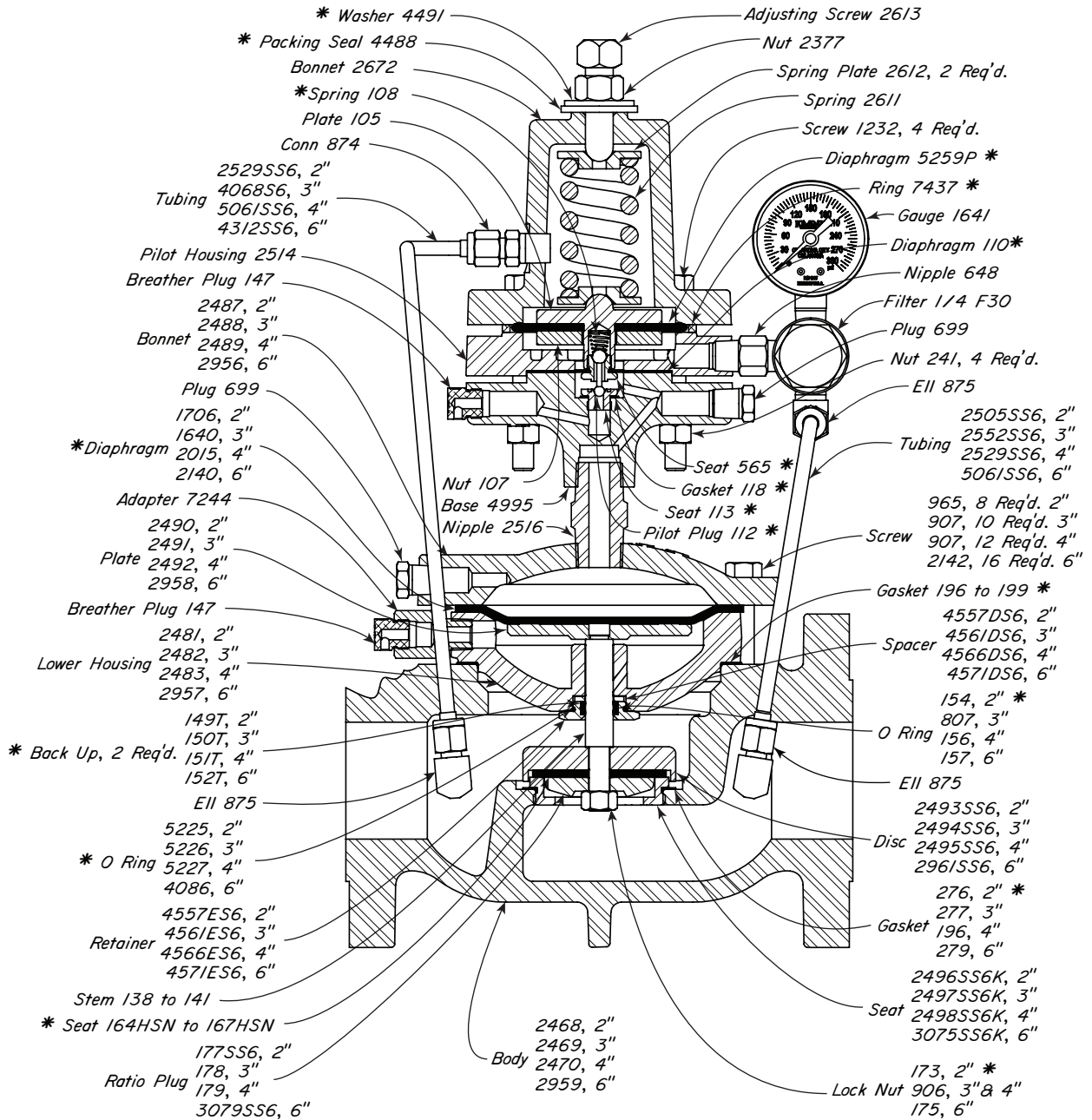
For standard & optional Seals, Metals, Cv values, Material specifications & Dimensions see Technical Data on pages A:1 - A:V

[†] Standard Trim size is same as connection size. For Reduced trim sizes, see A:1

^{††} Max W.P. valves based on -20°F to 100°F. See page A:V for temps above 100°F

Kimray is an ISO 9001- certified manufacturer.

GAS PRESSURE DIFFERENTIAL
STEEL 10-285 psig OPER. PRES.



THRU VALVES AVAILABLE:

PART NO.	BODY [†] CONNECTION	MODEL NO.	OPER. PRES.	MAX ^{††} W.P.	REP. KIT
AGL	2" 150RF	227 FGT PD-S	10-285	285	RBV
AGM	3" 150RF	327 FGT PD-S	10-285	285	RBZ
AGN	4" 150RF	427 FGT PD-S	10-285	285	RCA
AGO	6" 150RF	627 FGT PD-S	10-285	285	RBW

NOTES:

*These parts are recommended spare parts and are stocked as repair kits.

The numbers of a series assigned to a part indicate different line sizes. For example: Stem 137-1", 138-2", 139-3", 140-4", 141-6".

For standard & optional Seals, Metals, Cv values, Material specifications & Dimensions see Technical Data on pages A:I - A:V

[†] Standard Trim size is same as connection size. For Reduced trim sizes, see A:I

^{††} Max W.P. valves based on -20°F to 100°F. See page A:V for temps above 100°F

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NOTES:








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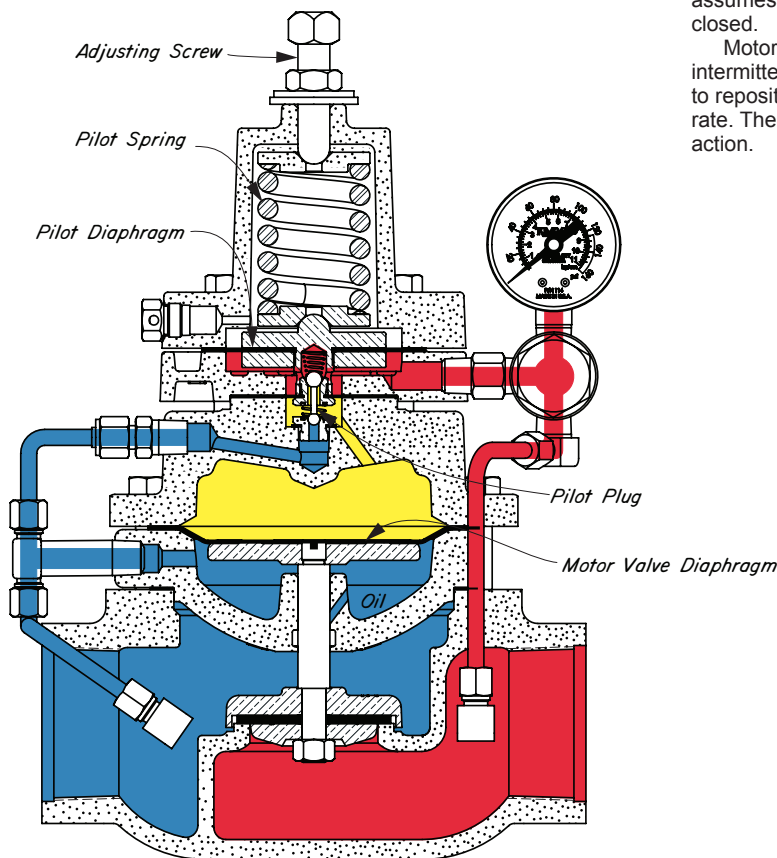
APPLICATION:

Positive pressure control of systems flowing into downstream vacuum gathering line.

CERTIFICATIONS:

Canadian Registration Number (CRN):
0C16234.24567890NTY (Ductile)

-  Pilot Assembly
-  Motor Valve Stem Assembly
-  Upstream Pressure
-  Motor Valve Diaphragm Pressure
-  Downstream Pressure



OPERATION:

Assume the PILOT SPRING is compressed with the ADJUSTING SCREW for a set pressure greater than the Upstream Pressure (Red). The Pilot Assembly is forced downward by the PILOT SPRING. The lower seat for the PILOT PLUG (Yellow to Blue) is closed and the upper seat for the PILOT PLUG (Red to Yellow) is open. This lets full Upstream Pressure (Red) load the MOTOR VALVE DIAPHRAGM to close the valve. Additional closing effort is provided by Downstream Vacuum Pressure (Blue) under the MOTOR VALVE DIAPHRAGM.

As the Upstream Pressure (Red) increases to the set pressure, the Pilot Assembly moves upward against the PILOT SPRING to first close the upper seat (Red to Yellow) and open the lower seat (Yellow to Blue). Motor Valve Diaphragm Pressure (Yellow) is vented to the Downstream Vacuum Pressure (Blue).

As the Motor Valve Diaphragm Pressure (Yellow) is decreased, the Upstream Pressure (Red) acting under the motor valve seat and the Downstream Vacuum Pressure (Blue) acting on top of the motor valve seat, opens the valve. With relief of the Upstream Pressure (Red) through the valve, the Pilot Assembly assumes a position in which both seats of the PILOT PLUG are closed.

Motor Valve Diaphragm Pressure (Yellow) is regulated by the intermittent vent pilot three-way valve action of the PILOT PLUG to reposition the Motor Valve Stem Assembly for changes in flow rate. The rapid but stable repositioning produces a true throttling action.

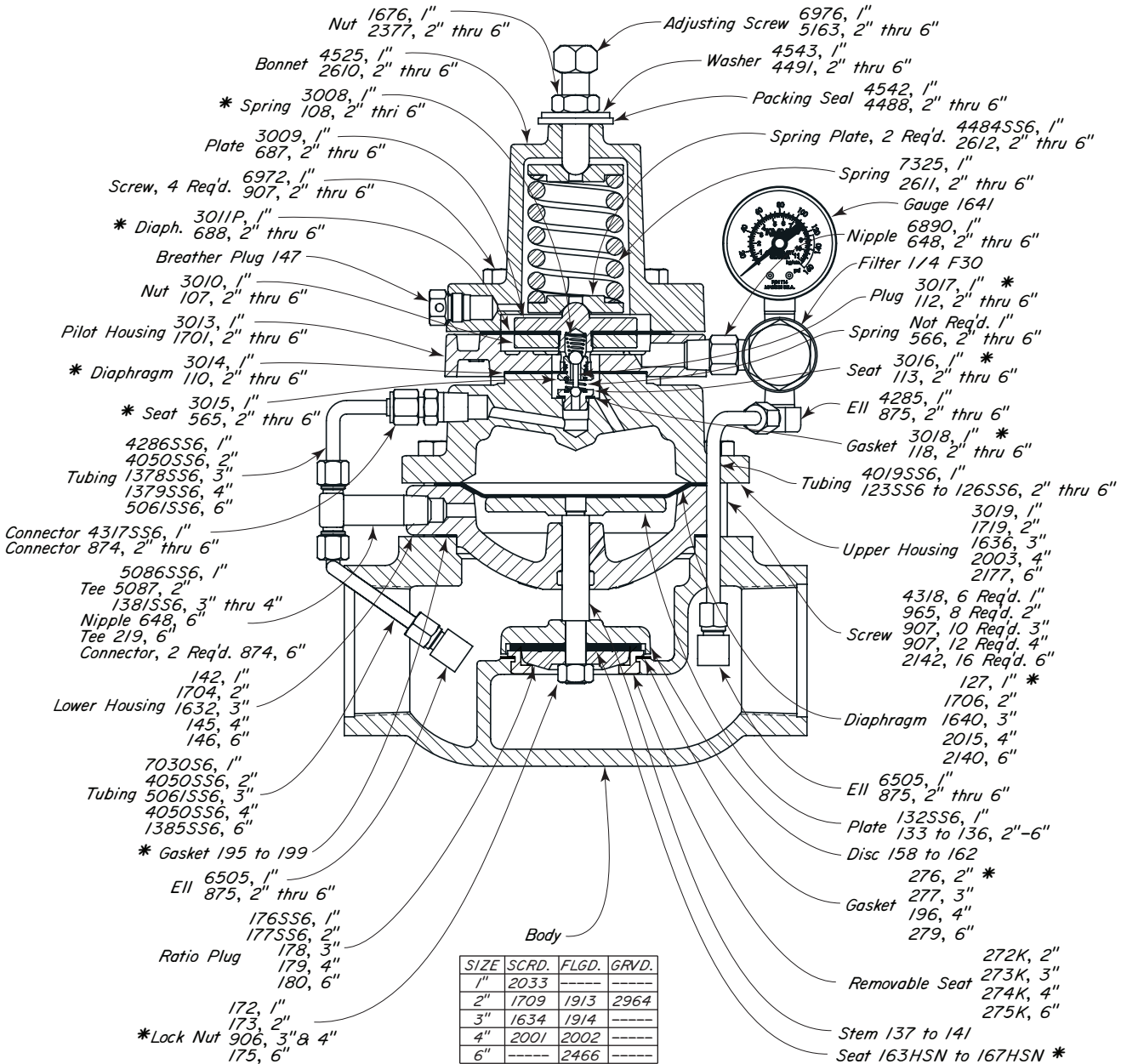


Kimray is an ISO 9001- certified manufacturer.

PRESSURE REGULATORS



GAS BACK PRESSURE TO VACUUM
DUCTILE IRON 10-300 psig OPER. PRES.



THRU VALVES AVAILABLE:

PART NO.	BODY [†] CONNECTION	MODEL NO.	OPER. PRES.	MAX ^{††} W.P.	REP. KIT
AMSD	1" NPT	130 SGT BPV-D	10-300	300	RBB
ADUD	2" NPT	230 SGT BPV-D	10-300	300	RBC
ADWD	2" 150RF	218 FGT BPV-D	10-250	250	RBC
ADXD	2" GRVD.	230 GGT BPV-D	10-300	300	RBC
ADYD	3" NPT	330 SGT BPV-D	10-300	300	RBD
AEAD	3" 150RF	318 FGT BPV-D	10-250	250	RBD
AEBD	4" NPT	430 SGT BPV-D	10-300	300	RBE
AECD	4" 150RF	418 FGT BPV-D	10-250	250	RBE
AEDD	6" 150RF	618 FGT BPV-D	10-250	250	RBF

NOTES:

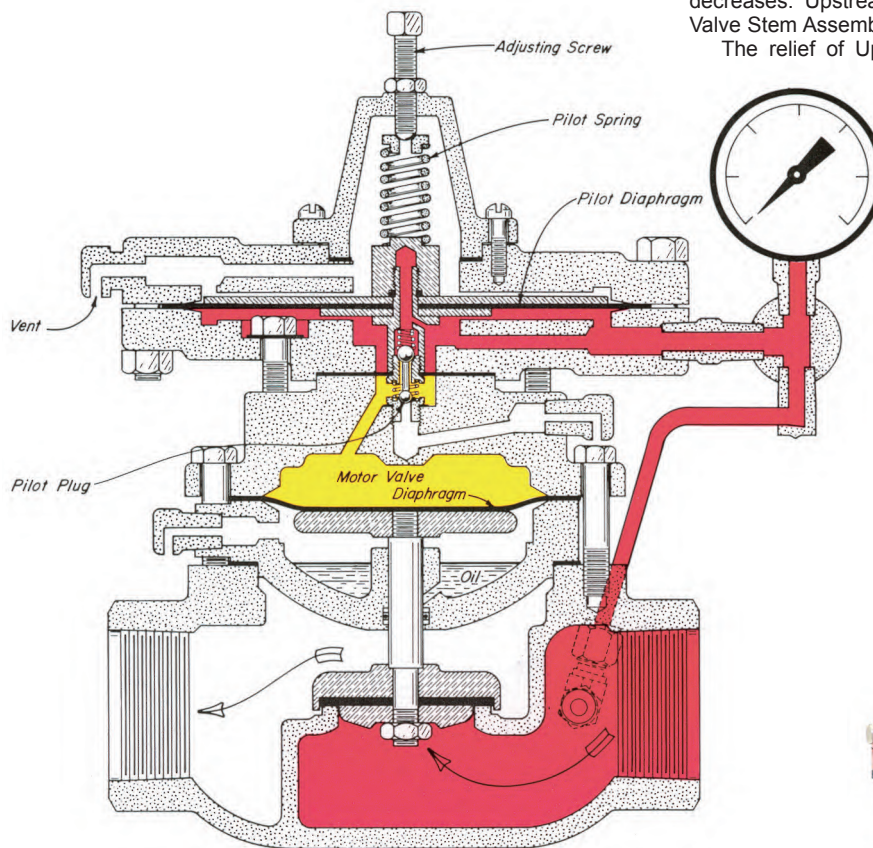
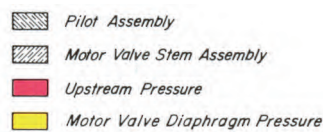
*These parts are recommended spare parts and are stocked as repair kits.
The numbers of a series assigned to a part indicate different line sizes. For example: Stem 137-1", 138-2", 139-3", 140-4", 141-6".
For standard & optional Seals, Metals, Cv values, Material specifications & Dimensions see Technical Data on pages A:I - A:V
[†] Standard Trim size is same as connection size. For Reduced trim sizes, see A:I
^{††} Max W.P. valves based on -20°F to 100°F. See page A:V for temps above 100°F

APPLICATIONS:

Control 5 to 20 psig back pressure on low pressure vessels and vent lines of separators, treaters, compressors, and gas gathering systems.

CERTIFICATIONS:

Canadian Registration Number (CRN):
0C16234.24567890NTY (Ductile)



OPERATION:

This valve maintains a constant back pressure (upstream of the valve) in the 5 psig to 20 psig range. It has a high degree of sensitivity to upstream changes and extremely fine set-point adjustment capability.

The moving parts in this regulator are the Pilot Assembly and the Motor Valve Stem Assembly (crosshatched). The PILOT PLUG consists of two stainless balls rigidly connected. The upper seat for the PILOT PLUG is the Motor Valve Diaphragm Pressure vent (Yellow to Atmosphere). The lower seat for the PILOT PLUG is the Motor Valve Diaphragm Pressure inlet (Red to Yellow).

The PILOT SPRING loads the upper side of the Pilot Assembly. Upstream Pressure (Red) opposes the PILOT SPRING from the under side of the Pilot Assembly.

Assume a desired pressure setting greater than current Upstream Pressure (Red). The ADJUSTING SCREW compresses the PILOT SPRING. The PILOT SPRING forces the Pilot Assembly downward. The upper seat for the PILOT PLUG (Yellow to Atmosphere) closes. The lower seat for the PILOT PLUG (Red to Yellow) opens. Motor Valve Diaphragm Pressure (Yellow) increases. The Motor Valve Stem Assembly moves downward closing the valve.

The Upstream Pressure (Red) increases towards the set pressure. The Pilot Assembly moves upward closing the lower seat (Red to Yellow) then opening the upper seat (Yellow to Atmosphere). The Motor Valve Diaphragm Pressure (Yellow) decreases. Upstream Pressure (Red) acting under the Motor Valve Stem Assembly opens the motor valve.

The relief of Upstream Pressure (Red) through the motor valve brings the Pilot assembly to a position closing both seats of the PILOT PLUG.

The intermittent vent pilot, three-way valve action of the PILOT PLUG against its seat adjusts the Motor Valve Diaphragm Pressure (Yellow) to reposition the Motor Valve Stem Assembly to accommodate any rate of flow. The rapid but stable repositioning produces a true throttling action.

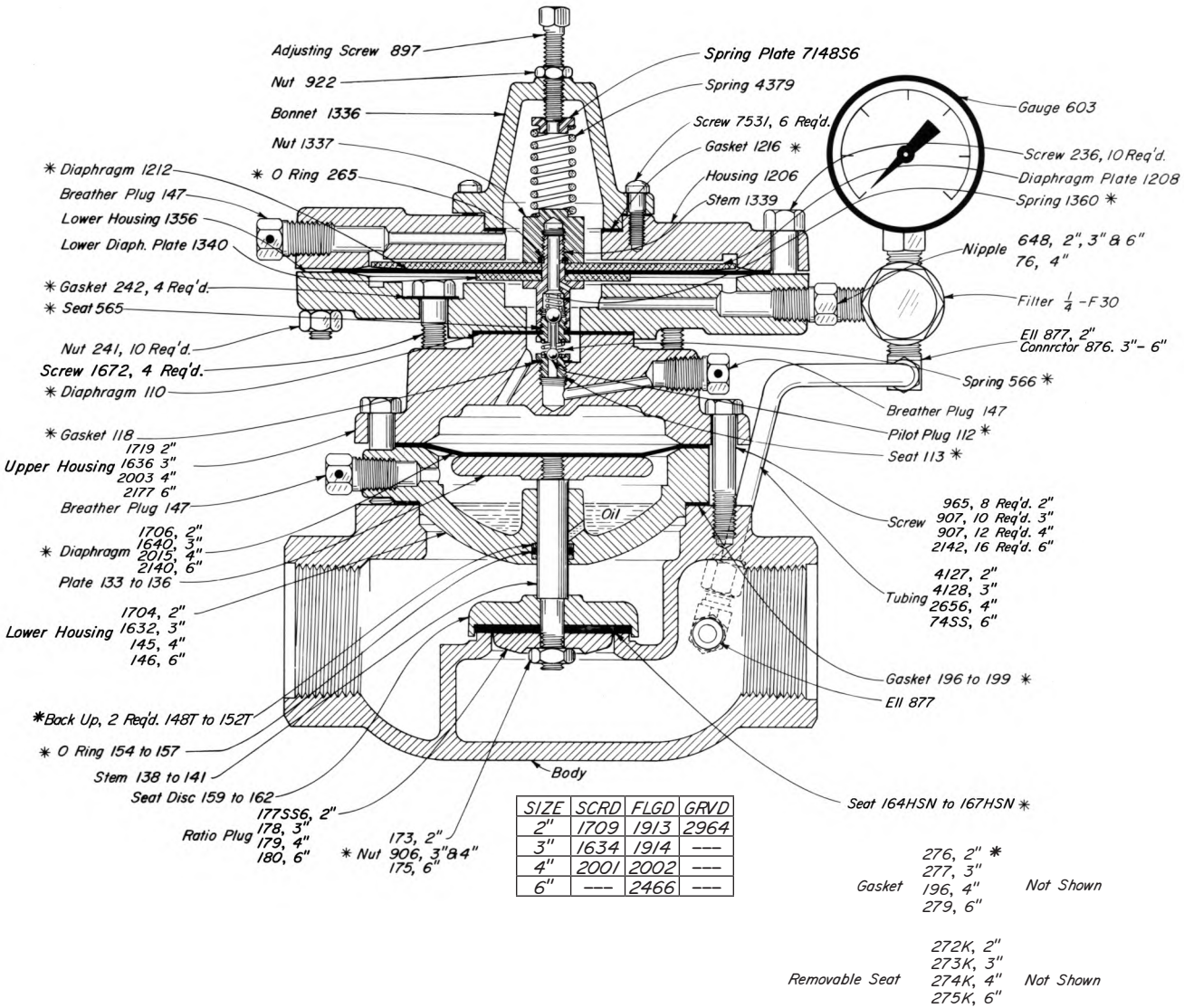


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PRESSURE REGULATORS



GAS LOW PRESSURE BACK PRESSURE
DUCTILE IRON 5-20 psig OPER. PRES.



SIZE	SCRD	FLGD	GRVD
2"	1709	1913	2964
3"	1634	1914	---
4"	2001	2002	---
6"	---	2466	---

THRU VALVES AVAILABLE:

PART NO.	BODY [†] CONNECTION	MODEL NO.	OPER. PRES.	MAX ^{††} W.P.	REP. KIT
ASE	2" NPT	202 SGT BP-D	5-20	300	RUID
ASF	2" 150RF	202 FGT BP-D	5-20	250	RUID
ASH	3" NPT	302 SGT BP-D	5-20	300	RUJD
AOHD	3" 150RF	302 FGT BP-D	5-20	250	RUJD
ASJ	4" NPT	402 SGT BP-D	5-20	300	RUKD
ASK	4" 150RF	402 FGT BP-D	5-20	250	RUKD
AOO	6" 150RF	602 FGT BP-D	5-20	250	RUPD

NOTES:

*These parts are recommended spare parts and are stocked as repair kits.

The numbers of a series assigned to a part indicate different line sizes. For example: Stem 137-1", 138-2", 139-3", 140-4", 141-6".

For standard & optional Seals, Metals, Cv values, Material specifications & Dimensions see Technical Data on pages A:I - A:V

[†] Standard Trim size is same as connection size. For Reduced trim sizes, see A:I

^{††} Max W.P. valves based on -20°F to 100°F. See page A:V for temps above 100°F

Kimray is an ISO 9001- certified manufacturer.

APPLICATIONS:







Valve designed to regulate ounces (0.5 oz to 2.5 psig) back pressure on a tank and vent to atmosphere when pressure exceeds set point. A minimum outside supply of 10 psig is required to operate motor valve.

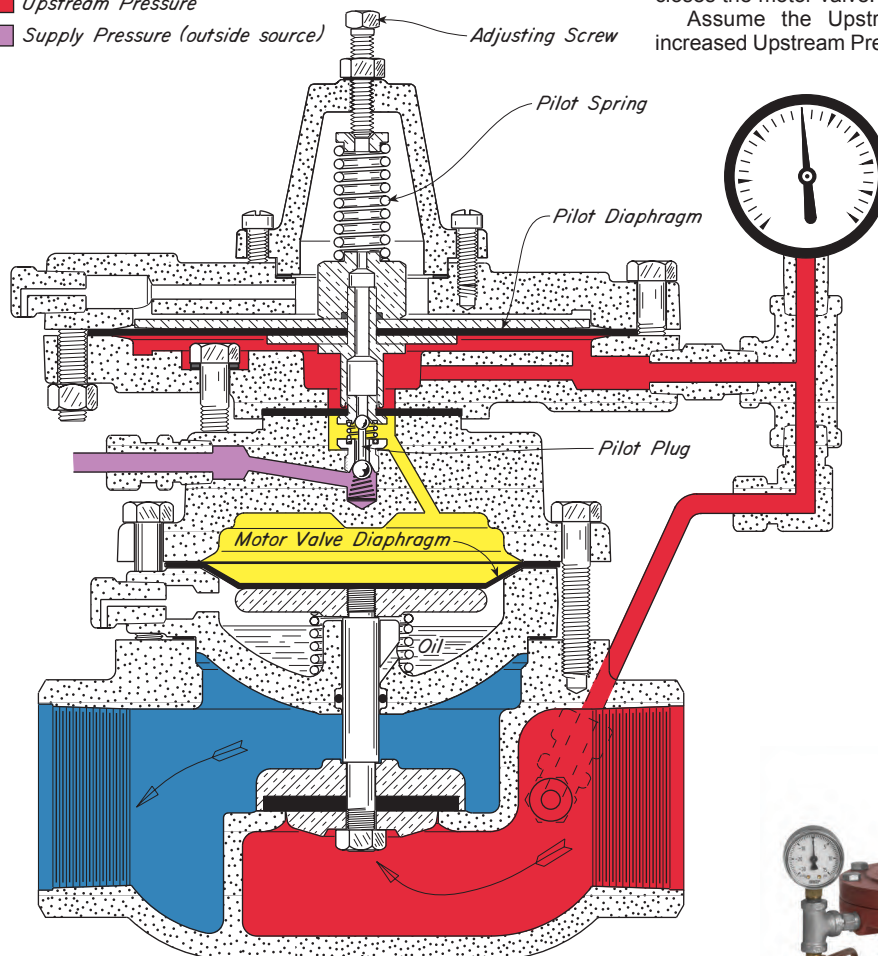
CERTIFICATIONS:

Canadian Registration Number (CRN):
0C16234.24567890NTY (Ductile)

UPSTREAM PRESSURE RANGE:

- 1 Inch valves:
Full port 10 psig min. or outside supply source is required
Reduced port 5 psig min. or outside supply source is required
- 2 thru 6 inch valves:
5 psig min. or outside supply source is required

-  Motor Valve Assembly
-  Pilot Assembly
-  Motor Valve Diaphragm Pressure
-  Downstream Pressure
-  Upstream Pressure
-  Supply Pressure (outside source)



OPERATION:

This Regulator maintains a low pressure back pressure by relieving to a lower pressure or atmosphere. The pressure to operate the valve is an outside pressure source. The Regulator consists of a three-way pilot operating a motor valve. The only moving parts are the Pilot Assembly and the Motor Valve Stem Assembly (Crosshatched). The three-way pilot action is due to the operation of the PILOT PLUG. The PILOT PLUG consists of two stainless balls rigidly connected. The upper PILOT PLUG seat is the Motor Valve Diaphragm Pressure vent (Yellow to Atmosphere). The lower PILOT PLUG seat is the Motor Valve Diaphragm Pressure inlet (Violet to Yellow). The Pilot Assembly actuates the PILOT PLUG. The force of the PILOT SPRING above the PILOT DIAPHRAGM acts against the Upstream Pressure (Red) below the PILOT DIAPHRAGM to determine the motion of the Pilot Assembly.

Assume a desired Upstream Pressure (Red) greater than the current setting. The ADJUSTING SCREW compresses the PILOT SPRING. The PILOT SPRING forces the Pilot Assembly downward. First, the upper PILOT PLUG seat (Yellow to Atmosphere) closes, then the lower PILOT PLUG seat (Violet to Yellow) opens. Increased Motor Valve Diaphragm Pressure (Yellow) pushes the Motor Valve Stem Assembly downward and closes the motor valve.

Assume the Upstream Pressure (Red) increases. The increased Upstream Pressure pushes the Pilot Assembly upward against the PILOT SPRING. This first, closes the lower PILOT PLUG seat (Violet to Yellow), then opens the upper PILOT PLUG seat (Yellow to Atmosphere). Motor Valve Diaphragm Pressure (Yellow) decreases, Upstream Pressure (Red) pushes the Motor Valve Diaphragm Assembly upward. The motor valve opens.

This rapid but stable interaction of the Pilot Assembly and Motor Valve Diaphragm Assembly produce a true throttling action.

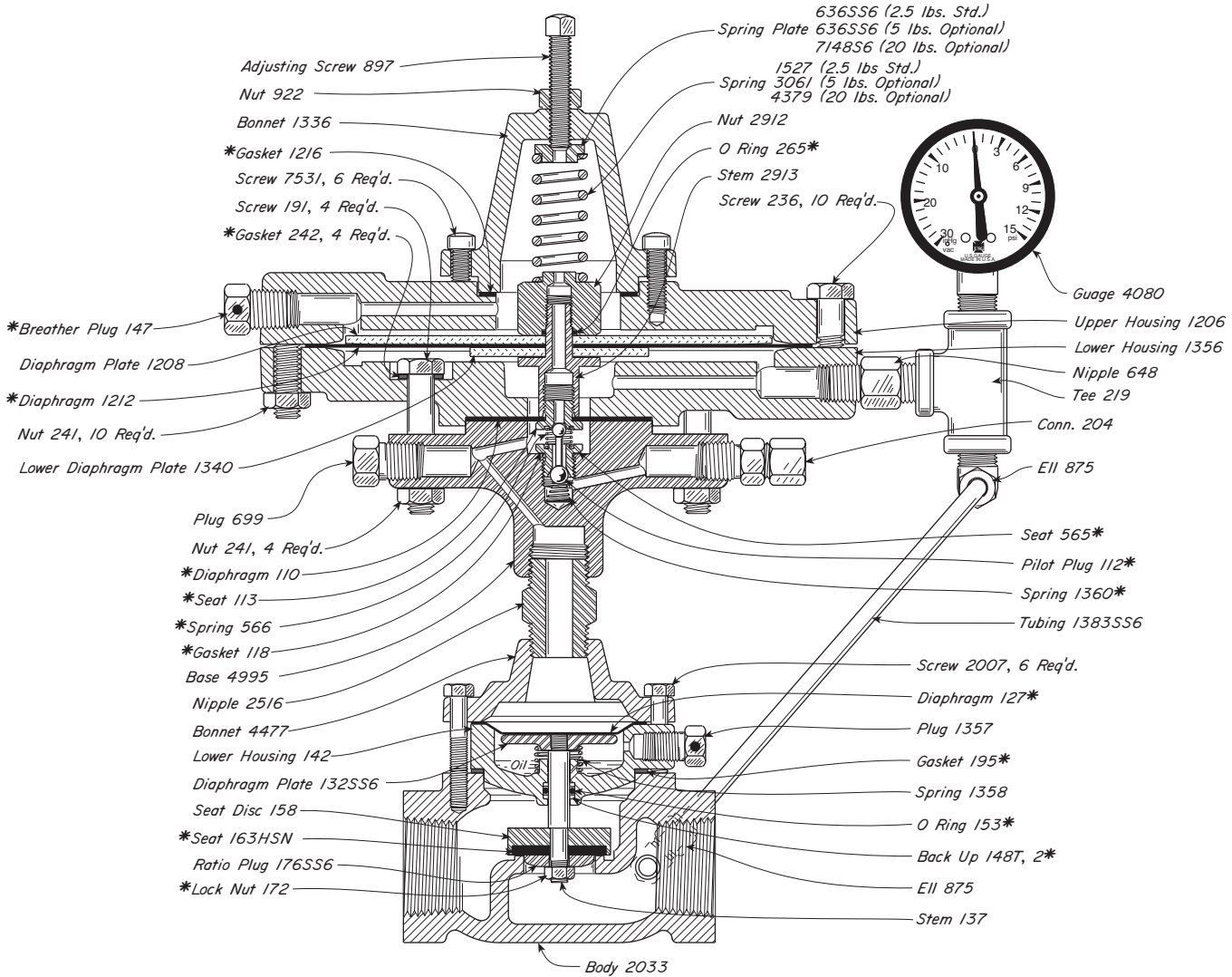


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PRESSURE REGULATORS



GAS OUNCES BACK PRESSURE TO ATMOSPHERE W/OUTSIDE SUPPLY
 DUCTILE IRON .5 oz - 20 psig OPER. PRES.



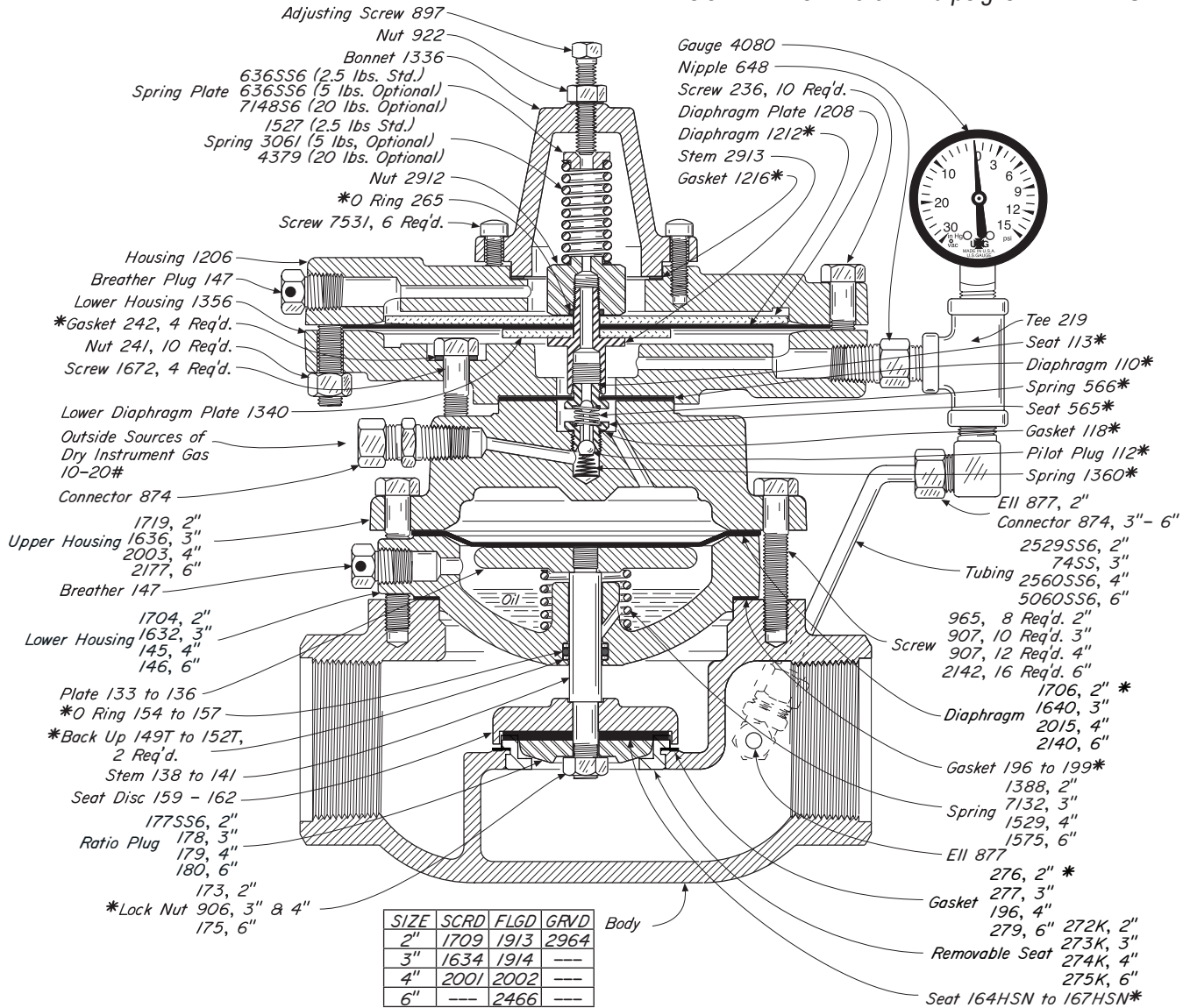
THRU VALVES AVAILABLE:

PART NO.	BODY CONNECTION	MODEL NO.	OPER. PRES.	MAX W.P. ††	REP. KIT
ABGD2.5	1" NPT	1.2 SGT OBPAD	.5 oz - 2.5 psig	300	RRYD
ABGD5	1" NPT	1.5 SGT OBPAD	1 oz - 5 psig	300	RRYD
ABGD20	1" NPT	102 SGT OBPAD	1 psig - 20 psig	300	RRYD

NOTES:

*These parts are recommended spare parts and are stocked as repair kits.
 The numbers of a series assigned to a part indicate different line sizes. For example: Stem 137-1", 138-2", 139-3", 140-4", 141-6".
 For standard & optional Seals, Metals, Cv values, Material specifications & Dimensions see Technical Data on pages A:I - A:V
 † Standard Trim size is same as connection size. For Reduced trim sizes, see A:I
 †† Max W.P. valves based on -20°F to 100°F. See page A:V for temps above 100°F

GAS OUNCES BACK PRESSURE TO ATMOSPHERE W/OUTSIDE SUPPLY
DUCTILE IRON .5 oz - 20 psig OPER. PRES.



THRU VALVES AVAILABLE:

PART NO.	BODY CONNECTION	MODEL NO.	OPER. PRES.	MAX W.P.	REP. KIT
AAID2.5	2" NPT	2.2 SGT OBPAD	.5 oz - 2.5 psig	300	RUID
AAID5	2" NPT	2.5 SGT OBPAD	1 oz - 5 psig	300	RUID
AAID20	2" NPT	202 SGT OBPAD	1 psig - 20 psig	300	RUID
AAJD2.5	2" 150RF	2.2 FGT OBPAD	.5 oz - 2.5 psig	250	RUID
AAJD5	2" 150RF	2.5 FGT OBPAD	1 oz - 5 psig	250	RUID
AAJD20	2" 150RF	202 FGT OBPAD	1 psig - 20 psig	250	RUID
AAKD2.5	2" GRVD.	2.2 GGT OBPAD	.5 oz - 2.5 psig	300	RUID
AAKD5	2" GRVD.	2.5 GGT OBPAD	1 oz - 5 psig	300	RUID
AAKD20	2" GRVD.	202 GGT OBPAD	1 psig - 20 psig	300	RUID
AALD2.5	3" NPT	3.2 SGT OBPAD	.5 oz - 2.5 psig	300	RUJD
AALD5	3" NPT	3.5 SGT OBPAD	1 oz - 5 psig	300	RUJD
AALD20	3" NPT	302 SGT OBPAD	1 psig - 20 psig	300	RUJD
AAMD2.5	3" 150RF	3.2 FGT OBPAD	.5 oz - 2.5 psig	250	RUJD
AAMD5	3" 150RF	3.5 FGT OBPAD	1 oz - 5 psig	250	RUJD
AAMD20	3" 150RF	302 FGT OBPAD	1 psig - 20 psig	250	RUJD
AAND2.5	4" NPT	4.2 SGT OBPAD	.5 oz - 2.5 psig	300	RUKD
AAND5	4" NPT	4.5 SGT OBPAD	1 oz - 5 psig	300	RUKD
AAND20	4" NPT	402 SGT OBPAD	1 psig - 20 psig	300	RUKD
AAOD2.5	4" 150RF	4.2 FGT OBPAD	.5 oz - 2.5 psig	250	RUKD
AAOD5	4" 150RF	4.5 FGT OBPAD	1 oz - 5 psig	250	RUKD

THRU VALVES AVAILABLE:

PART NO.	BODY CONNECTION	MODEL NO.	OPER. PRES.	MAX W.P.	REP. KIT
AAOD20	4" 150RF	402 FGT OBPAD	1 psig - 20 psig	250	RUKD
AAPD2.5	6" 150RF	6.2 FGT OBPAD	.5 oz - 2.5 psig	250	RTYD
AAPD5	6" 150RF	6.5 FGT OBPAD	1 oz - 5 psig	250	RTYD
AAPD20	6" 150RF	602 FGT OBPAD	1 psig - 20 psig	250	RTYD

NOTES:

*These parts are recommended spare parts and are stocked as repair kits.

The numbers of a series assigned to a part indicate different line sizes. For example: Stem 137-1", 138-2", 139-3", 140-4", 141-6".

For standard & optional Seals, Metals, Cv values, Material specifications & Dimensions see Technical Data on pages A:I - A:V

† Standard Trim size is same as connection size. For Reduced trim sizes, see A:I

†† Max W.P. valves based on -20°F to 100°F. See page A:V for temps above 100°F

Kimray is an ISO 9001- certified manufacturer.

NOTES:



Kimray is an ISO 9001- certified manufacturer.

APPLICATIONS:

To maintain ounces of positive pressure on systems flowing into a downstream vacuum, such as vapor recovery systems.

CERTIFICATIONS:

Canadian Registration Number (CRN):
0C16234.24567890NTY (Ductile)

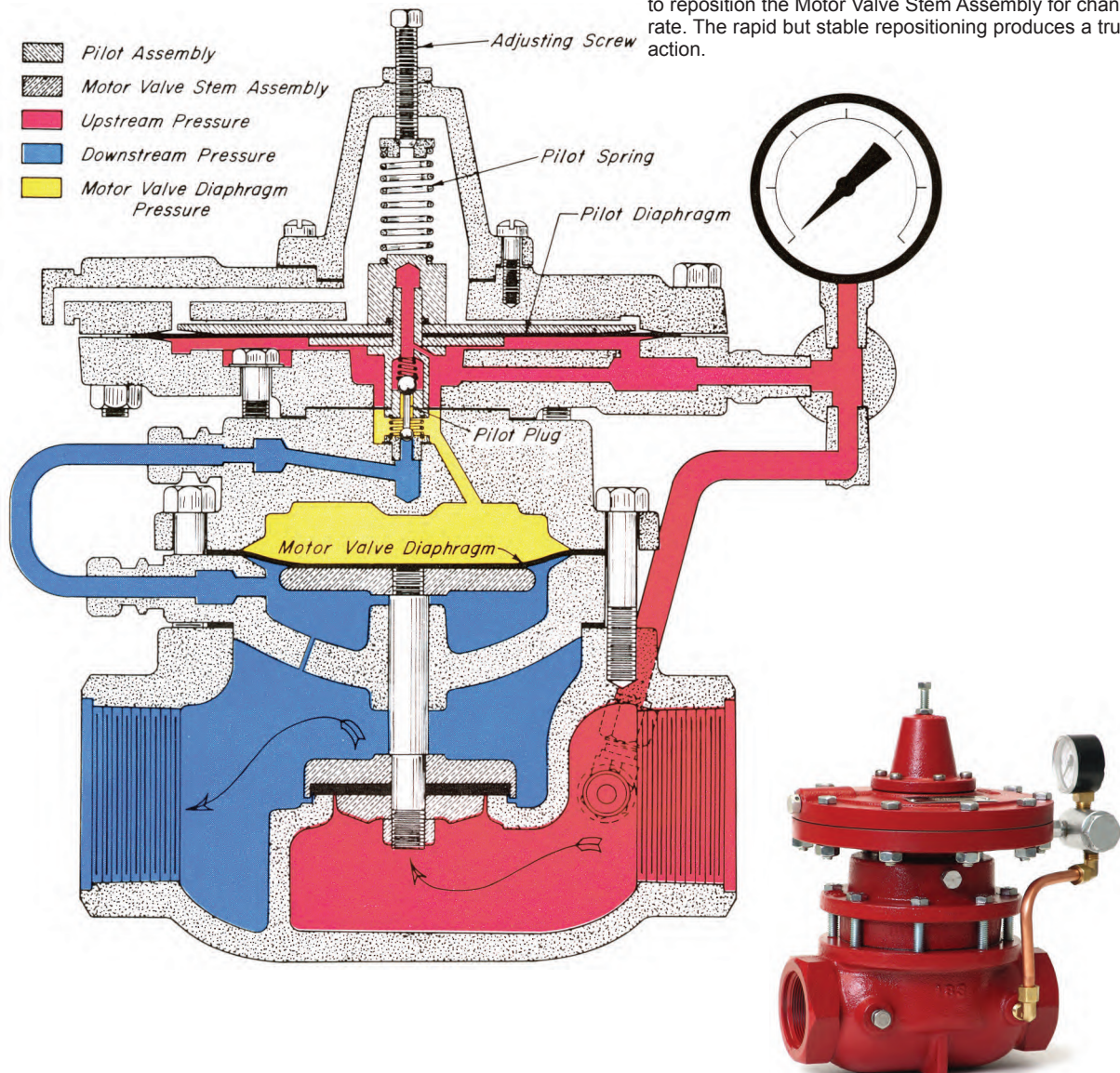
OPERATION:

Assume the PILOT SPRING is compressed with the ADJUSTING SCREW for a set pressure greater than the Upstream Pressure (Red). The Pilot Assembly is forced downward by the PILOT SPRING. The lower seat for the PILOT PLUG (Yellow to Blue) is closed and the upper seat for the PILOT PLUG (Red to Yellow) is open. This lets full Upstream Pressure (Red) load the MOTOR VALVE DIAPHRAGM to close the valve. Additional closing effort is provided by Downstream Vacuum (Blue) under the MOTOR VALVE DIAPHRAGM.

As the Upstream Pressure (Red) increases to the set pressure, the Pilot Assembly moves upward against the PILOT SPRING to first close the upper seat (Red to Yellow) and open the lower seat (Yellow to Blue). Motor Valve Diaphragm Pressure (Yellow) is vented to the Downstream Vacuum (Blue).

As the Motor Valve Diaphragm Pressure (Yellow) is decreased the Upstream Pressure (Red) acting under the motor valve seat and the Downstream Vacuum (Blue) acting on top of the motor valve seat, opens the valve. With relief of the Upstream Pressure (Red) through the valve, the Pilot Assembly assumes a position in which both seats of the PILOT PLUG are closed.

Motor Valve Diaphragm Pressure (Yellow) is regulated by the intermittent vent pilot three-way valve action of the PILOT PLUG to reposition the Motor Valve Stem Assembly for changes in flow rate. The rapid but stable repositioning produces a true throttling action.

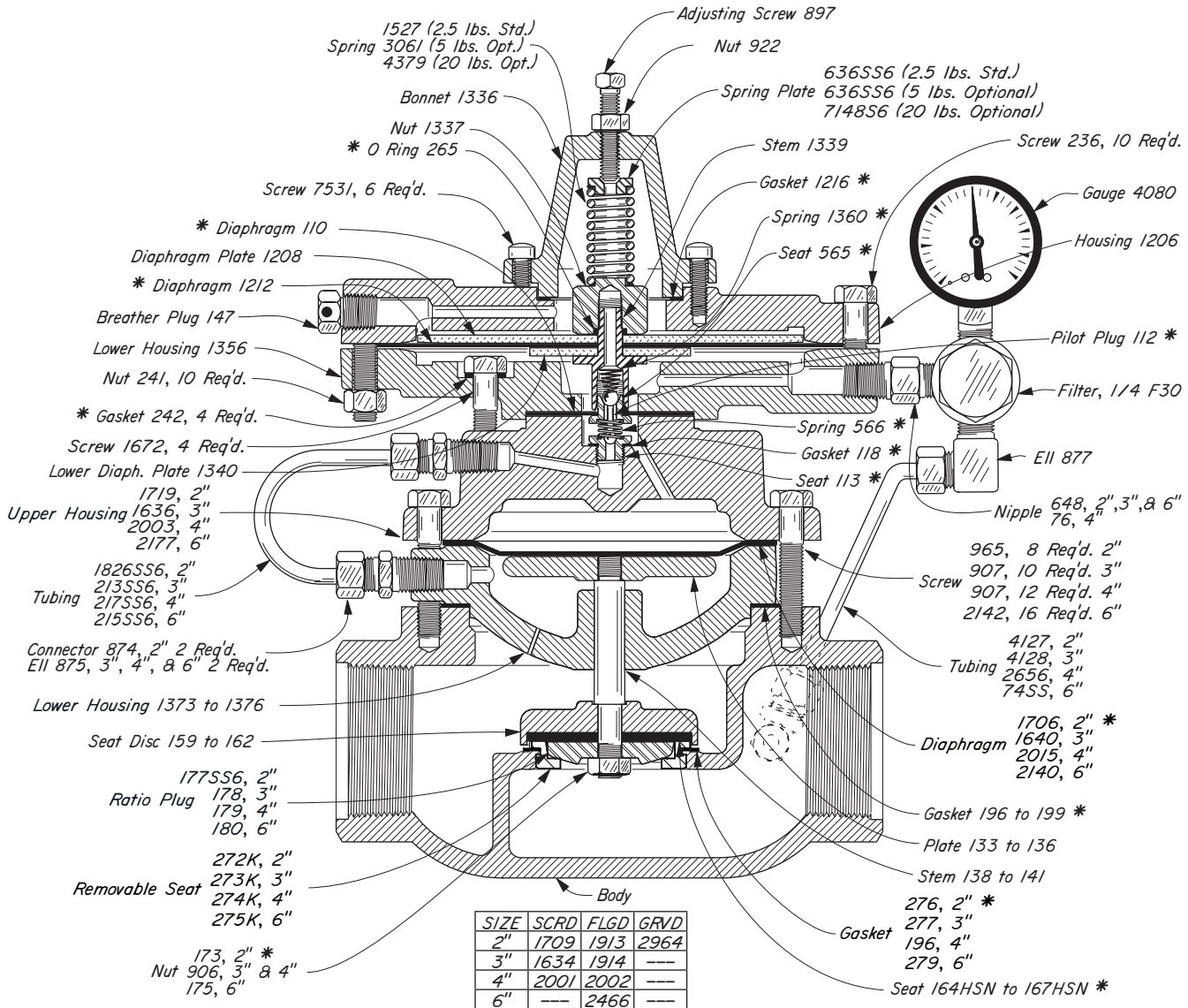


Kimray is an ISO 9001- certified manufacturer.

PRESSURE REGULATORS



GAS OUNCES BACK PRESSURE TO VACUUM
DUCTILE IRON .5 oz - 20 psig OPER. PRES.



THRU VALVES AVAILABLE:

PART NO.	BODY CONNECTION	MODEL NO.	OPER. PRES.	MAX W.P.	REP. KIT
AFED2.5	2" NPT	2.2 SGT OBPVD	.5 oz - 2.5 psig	300	RBGD
AFED5	2" NPT	2.5 SGT OBPVD	1 oz - 5 psig	300	RBGD
AFED20	2" NPT	202 SGT OBPVD	1 psig - 20 psig	300	RBGD
AFFD2.5	2" 150RF	2.2 FGT OBPVD	.5 oz - 2.5 psig	250	RBGD
AFFD5	2" 150RF	2.5 FGT OBPVD	1 oz - 5 psig	250	RBGD
AFFD20	2" 150RF	202 FGT OBPVD	1 psig - 20 psig	250	RBGD
AFGD2.5	2" GRVD.	2.2 GGT OBPVD	.5 oz - 2.5 psig	300	RBGD
AFGD5	2" GRVD.	2.5 GGT OBPVD	1 oz - 5 psig	300	RBGD
AFGD20	2" GRVD.	202 GGT OBPVD	1 psig - 20 psig	300	RBGD
AFHD2.5	3" NPT	3.2 SGT OBPVD	.5 oz - 2.5 psig	300	RBHD
AFHD5	3" NPT	3.5 SGT OBPVD	1 oz - 5 psig	300	RBHD
AFHD20	3" NPT	302 SGT OBPVD	1 psig - 20 psig	300	RBHD
AFID2.5	3" 150RF	3.2 FGT OBPVD	.5 oz - 2.5 psig	250	RBHD
AFID5	3" 150RF	3.5 FGT OBPVD	1 oz - 5 psig	250	RBHD
AFID20	3" 150RF	302 FGT OBPVD	1 psig - 20 psig	250	RBHD
AFJD2.5	4" NPT	4.2 SGT OBPVD	.5 oz - 2.5 psig	300	RBID
AFJD5	4" NPT	4.5 SGT OBPVD	1 oz - 5 psig	300	RBID
AFJD20	4" NPT	402 SGT OBPVD	1 psig - 20 psig	300	RBID
AFKD2.5	4" 150RF	4.2 FGT OBPVD	.5 oz - 2.5 psig	250	RBID
AFKD5	4" 150RF	4.5 FGT OBPVD	1 oz - 5 psig	250	RBID
AFKD20	4" 150RF	402 FGT OBPVD	1 psig - 20 psig	250	RBID

THRU VALVES AVAILABLE:

PART NO.	BODY CONNECTION	MODEL NO.	OPER. PRES.	MAX W.P.	REP. KIT
AFLD2.5	6" 150RF	6.2 FGT OBPVD	.5 oz - 2.5 psig	250	RBKD
AFLD5	6" 150RF	6.5 FGT OBPVD	1 oz - 5 psig	250	RBKD
AFLD20	6" 150RF	602 FGT OBPVD	1 psig - 20 psig	250	RBKD

DOWNSTREAM PRESSURE: 6" Hg. Vacuum, minimum

NOTES:

*These parts are recommended spare parts and are stocked as repair kits.

The numbers of a series assigned to a part indicate different line sizes. For example: Stem 137-1", 138-2", 139-3", 140-4", 141-6".

For standard & optional Seals, Metals, Cv values, Material specifications & Dimensions see Technical Data on pages A:1 - A:V

† Standard Trim size is same as connection size. For Reduced trim sizes, see A:1

†† Max W.P. valves based on -20°F to 100°F. See page A:V for temps above 100°F

Kimray is an ISO 9001- certified manufacturer.

APPLICATIONS:

Low pressure regulator for maintaining vapor pressure on storage tanks, controlling compressor by-pass for gas recirculation and maintaining low pressure head on flash separators.

CERTIFICATIONS:

Canadian Registration Number (CRN):
0C16234.24567890NTY (Ductile)

UPSTREAM PRESSURE RANGE:

- 1 Inch valves:
Full port 10 psig min. or outside supply source is required
Reduced port 5 psig min. or outside supply source is required
- 2 thru 6 inch valves:
5 psig min. or outside supply source is required

OPERATION:

This valve is used to regulate Downstream Pressure (Blue) from 0.5 oz to 20 psig by metering gas from the upstream source to the downstream side as required.

The Pilot Assembly and Motor Valve Stem Assembly (Crosshatched) are the only moving units in the regulator.

The PILOT PLUG consists of two stainless balls rigidly connected together. Upstream Pressure (Red) is the supply pressure to the pilot and is also in constant communication with the top side of the MOTOR VALVE DIAPHRAGM. The area of the MOTOR VALVE DIAPHRAGM is twice the area of the motor valve seat, assuring a Class VI positive shut-off.

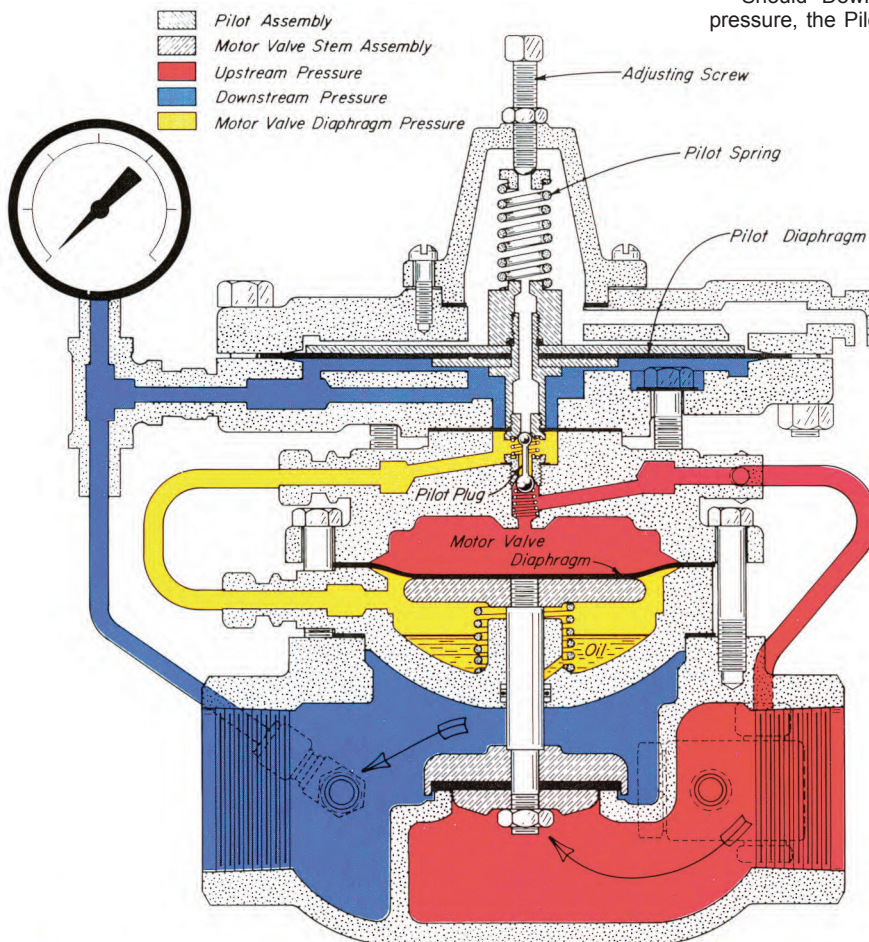
The upper seat for the PILOT PLUG is the pressure vent (Yellow to Atmosphere). The lower PILOT PLUG seat is the Motor Valve Diaphragm Pressure inlet (Red to Yellow). The Pilot Assembly actuates the PILOT PLUG. The PILOT SPRING loads the upper side of the Pilot Assembly and is opposed on the underneath side by the controlled Downstream Pressure (Blue).

Assume the PILOT SPRING is compressed with the ADJUSTING SCREW for a desired Downstream Pressure setting. With Downstream Pressure (Blue) too low, the PILOT SPRING forces the Pilot Assembly downward to close the upper seat (Yellow to Atmosphere) and open the lower seat (Red to Yellow).

This lets full Upstream Pressure (Red) load the underneath side of the MOTOR VALVE DIAPHRAGM to balance the pressure on the top side. Upstream Pressure (Red) acting under the motor valve seat, opens the valve. As Downstream Pressure (Blue) increases to the set pressure, the Pilot Assembly assumes a position in which both seats of the PILOT PLUG are closed.

Should Downstream Pressure (Blue) rise above the set pressure, the Pilot Assembly moves upward against the PILOT SPRING to open the pressure vent (Yellow to Atmosphere). Motor Valve Diaphragm Pressure (Yellow) decreases to reposition the Motor Valve Stem Assembly.

The intermittent vent pilot three-way valve action of the PILOT PLUG against its seat adjusts the Motor Valve Diaphragm Pressure (Yellow) to reposition the Motor Valve Stem Assembly to accommodate any rate of flow. The rapid but stable repositioning produces a true throttling action.

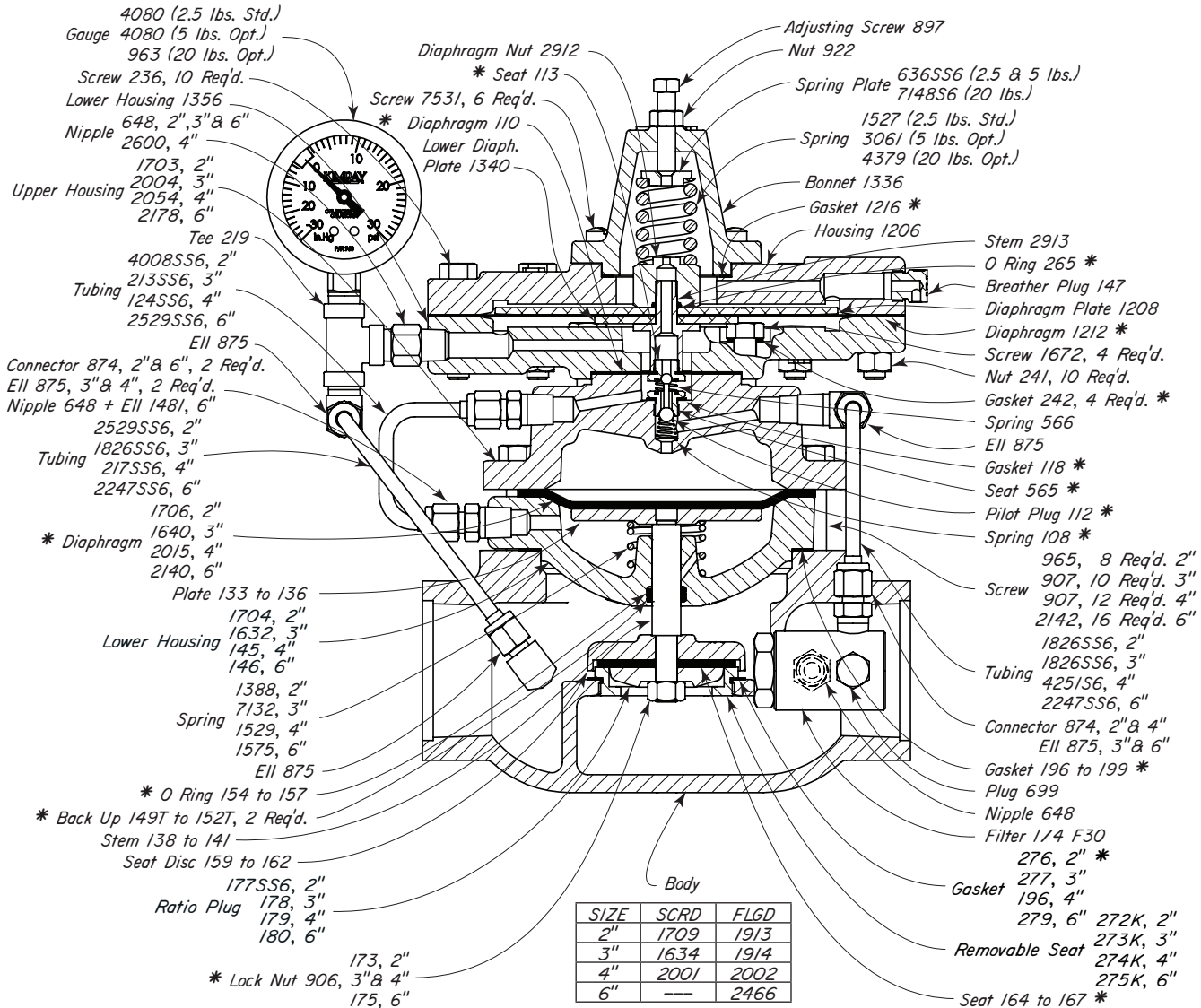


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PRESSURE REGULATORS



GAS LOW PRESSURE PRESSURE REDUCING
DUCTILE IRON .5 oz - 20 psig OPER. PRES.



THRU VALVES AVAILABLE:

PART NO.	BODY [†] CONNECTION	MODEL NO.	OPER. PRES.	MAX ^{††} W.P.	REP. KIT
AOSD2.5	2" NPT	2.2 SGT OPR-D	.5 oz - 2.5 psig	300	RUAD
AOSD5	2" NPT	2.5 SGT OPR-D	1 oz - 5 psig	300	RUAD
AOSD20	2" NPT	202 SGT OPR-D	1 psig - 20 psig	300	RUAD
AOTD2.5	2" 150RF	2.2 FGT OPR-D	.5 oz - 2.5 psig	250	RUAD
AOTD5	2" 150RF	2.5 FGT OPR-D	1 oz - 5 psig	250	RUAD
AOTD20	2" 150RF	202 FGT OPR-D	1 psig - 20 psig	250	RUAD
AOVD2.5	3" NPT	3.2 SGT OPR-D	.5 oz - 2.5 psig	300	RUZD
AOVD5	3" NPT	3.5 SGT OPR-D	1 oz - 5 psig	300	RUZD
AOVD20	3" NPT	302 SGT OPR-D	1 psig - 20 psig	300	RUZD
AOWD2.5	3" 150RF	3.2 FGT OPR-D	.5 oz - 2.5 psig	250	RUZD
AOWD5	3" 150RF	3.5 FGT OPR-D	1 oz - 5 psig	250	RUZD
AOWD20	3" 150RF	302 FGT OPR-D	1 psig - 20 psig	250	RUZD
AOYD2.5	4" NPT	4.2 SGT OPR-D	.5 oz - 2.5 psig	300	RUCD
AOYD5	4" NPT	4.5 SGT OPR-D	1 oz - 5 psig	300	RUCD
AOYD20	4" NPT	402 SGT OPR-D	1 psig - 20 psig	300	RUCD
AOZD2.5	4" 150RF	4.2 FGT OPR-D	.5 oz - 2.5 psig	250	RUCD
AOZD5	4" 150RF	4.5 FGT OPR-D	1 oz - 5 psig	250	RUCD
AOZD20	4" 150RF	402 FGT OPR-D	1 psig - 20 psig	250	RUCD

THRU VALVES AVAILABLE:

PART NO.	BODY [†] CONNECTION	MODEL NO.	OPER. PRES.	MAX ^{††} W.P.	REP. KIT
APCD2.5	6" 150RF	6.2 FGT OPR-D	.5 oz - 2.5 psig	250	RUDD
APCD5	6" 150RF	6.5 FGT OPR-D	1 oz - 5 psig	250	RUDD
APCD20	6" 150RF	602 FGT OPR-D	1 psig - 20 psig	250	RUDD

NOTES:

*These parts are recommended spare parts and are stocked as repair kits.

The numbers of a series assigned to a part indicate different line sizes. For example: Stem 137-1", 138-2", 139-3", 140-4", 141-6".

For standard & optional Seals, Metals, Cv values, Material specifications & Dimensions see Technical Data on pages A:1 - A:V

[†] Standard Trim size is same as connection size. For Reduced trim sizes, see A:1

^{††} Max W.P. valves based on -20°F to 100°F. See page A:V for temps above 100°F

Kimray is an ISO 9001- certified manufacturer.

APPLICATIONS:

Gas compressor suction regulation. Vapor pressure recovering systems and vacuum distribution systems, and compressor by-pass lines.

CERTIFICATIONS:

Canadian Registration Number (CRN):
0C16234.24567890NTY (Ductile)

UPSTREAM PRESSURE RANGE:

- 1 Inch valves:
Full port 10 psig min. or outside supply source is required
Reduced port 5 psig min. or outside supply source is required
- 2 thru 6 inch valves:
5 psig min. or outside supply source is required






OPERATION:

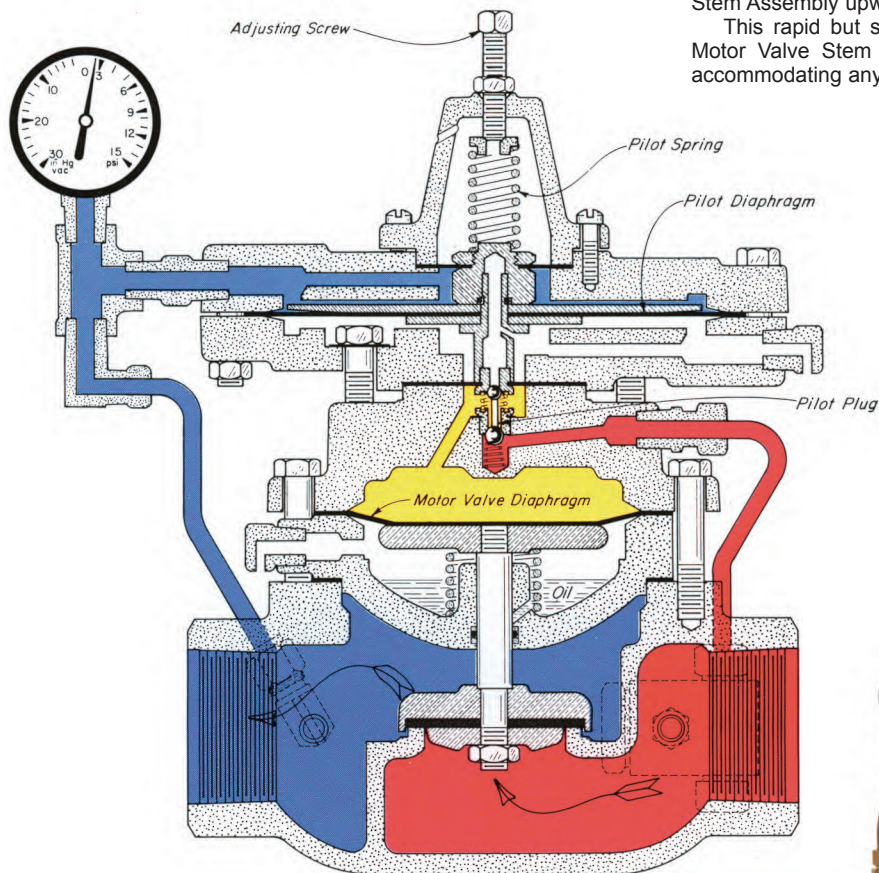
This valve is used to regulate a downstream vacuum from 1" to 6" Hg. with an upstream pressure of 0.5 psig or more. The only moving parts are the Pilot Assembly and the Motor Valve Stem Assembly (Crosshatched). The three-way pilot action is due to the operation of the PILOT PLUG. The PILOT PLUG consists of two stainless balls rigidly connected. The upper PILOT PLUG seat is the Motor Valve Diaphragm Pressure vent (Yellow to Atmosphere). The lower PILOT PLUG seat is the Motor Valve Diaphragm Pressure inlet (Red to Yellow). The Pilot Assembly actuates the PILOT PLUG. The combined forces of the PILOT SPRING and the Downstream Vacuum (Blue) above the PILOT DIAPHRAGM working against atmosphere below the PILOT DIAPHRAGM determine the motion of the Pilot Assembly.

Assume a desired Downstream Vacuum greater than the current gauge reading. The ADJUSTING SCREW compresses the PILOT SPRING. The PILOT SPRING forces the Pilot Assembly downward. First, the upper PILOT PLUG (Yellow to Atmosphere) closes, then the lower PILOT PLUG seat (Red to Yellow) opens. Increasing Motor Valve Diaphragm Pressure (Yellow) pushes the Motor Valve Stem Assembly downward and closes the motor valve.

Assume Downstream Vacuum increases. The increased vacuum pulls the Pilot Assembly upward against the PILOT SPRING. This first, closes the lower PILOT PLUG seat (Red to Yellow), then opens the upper PILOT PLUG seat (Yellow to Atmosphere). Motor Valve Diaphragm Pressure (Yellow) decreases, The force of the spring and Upstream Pressure (Red), acting under the motor valve seat, pushes the Motor Valve Stem Assembly upward. The motor valve opens.

This rapid but stable interaction of the Pilot Assembly and Motor Valve Stem Assembly produce a true throttling action accommodating any rate of flow.

-  Pilot Assembly
-  Motor Valve Stem Assembly
-  Upstream Pressure
-  Downstream Vacuum
-  Motor Valve Diaphragm Pressure

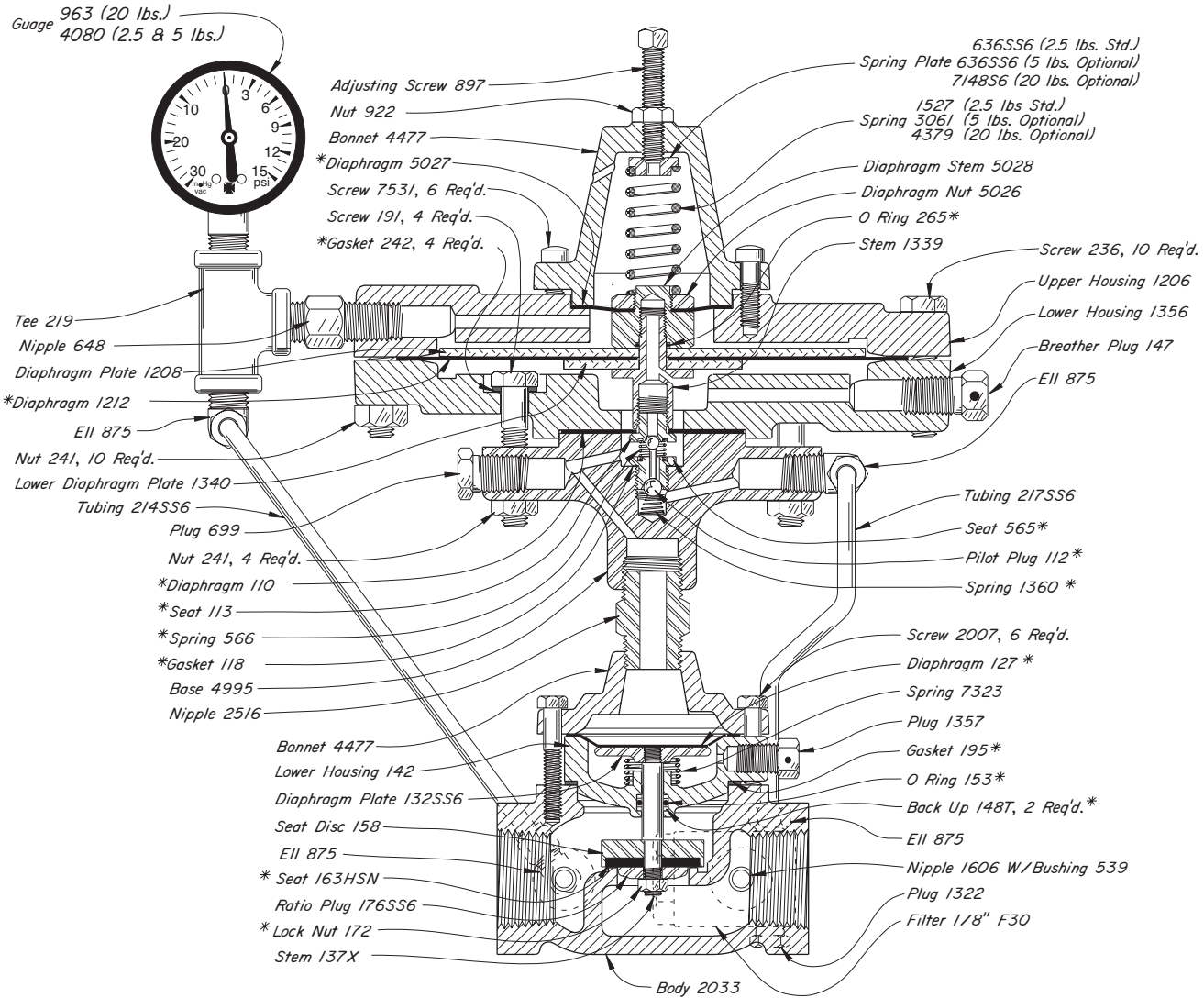


Kimray is an ISO 9001- certified manufacturer.

PRESSURE REGULATORS



GAS OUNCES PRESSURE REDUCING VACUUM
DUCTILE IRON 0.1 - 5 Hg OPER. PRES. VAC.



THRU VALVES AVAILABLE:

PART NO.	BODY CONNECTION	† MODEL NO.	OPER. PRES.	MAX W.P.	†† REP. KIT
APED2.5	1" NPT	1.2 SGT OPRVD	0.1 - 5 Hg	300	RULD
APED5	1" NPT	1.5 SGT OPRVD	3 - 10 Hg	300	RULD
APED20	1" NPT	102 SGT OPRVD	8 - 30 Hg	300	RULD

NOTES:

*These parts are recommended spare parts and are stocked as repair kits.

The numbers of a series assigned to a part indicate different line sizes. For example: Stem 137-1", 138-2", 139-3", 140-4", 141-6".

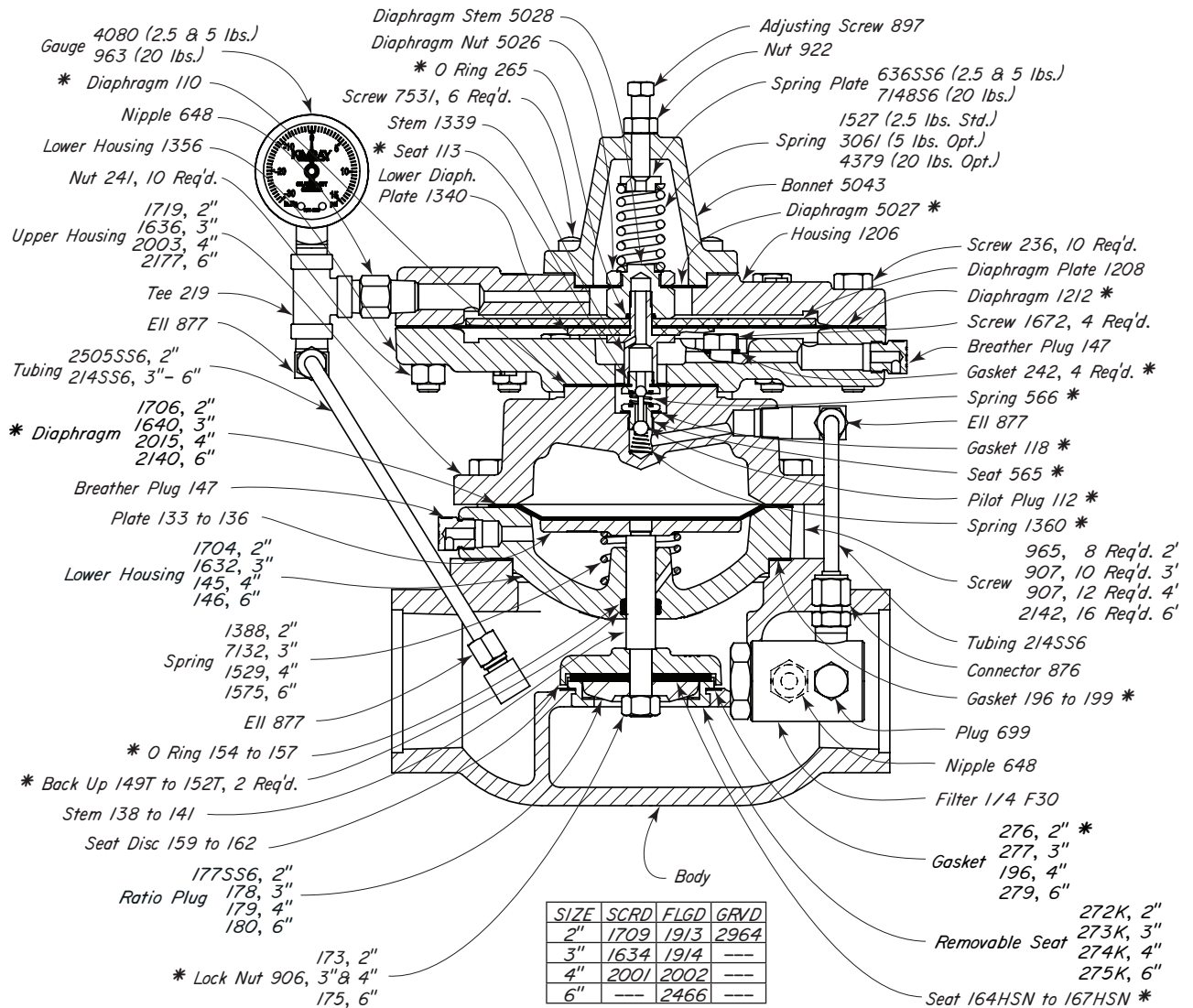
For standard & optional Seals, Metals, Cv values, Material specifications & Dimensions see Technical Data on pages A:I - A:V

† Standard Trim size is same as connection size. For Reduced trim sizes, see A:I

†† Max W.P. valves based on -20°F to 100°F. See page A:V for temps above 100°F

Kimray is an ISO 9001- certified manufacturer.

GAS OUNCES PRESSURE REDUCING VACUUM DUCTILE IRON 0.1 - 5 Hg OPER. PRES. VAC.



THRU VALVES AVAILABLE:

PART NO.	BODY† CONNECTION	OPER. PRES. MODEL NO.	MAX VACUUM	REP. W.P.	KIT
APHD2.5	2" NPT	2.2 SGT OPRVD	0.1 - 5 Hg	300	RUED
APHD5	2" NPT	2.5 SGT OPRVD	3 - 10 Hg	300	RUED
APHD20	2" NPT	202 SGT OPRVD	8 - 30 Hg	300	RUED
APID2.5	2" 150RF	2.2 FGT OPRVD	0.1 - 5 Hg	250	RUED
APID5	2" 150RF	2.5 FGT OPRVD	3 - 10 Hg	250	RUED
APID20	2" 150RF	202 FGT OPRVD	8 - 30 Hg	250	RUED
APJD2.5	2" GRVD	2.2 GGT OPRVD	0.1 - 5 Hg	300	RUED
APJD5	2" GRVD	2.5 GGT OPRVD	3 - 10 Hg	300	RUED
APJD20	2" GRVD	202 GGT OPRVD	8 - 30 Hg	300	RUED
APKD2.5	3" NPT	3.2 SGT OPRVD	0.1 - 5 Hg	300	RUF
APKD5	3" NPT	3.5 SGT OPRVD	3 - 10 Hg	300	RUF
APKD20	3" NPT	302 SGT OPRVD	8 - 30 Hg	300	RUF
APLD2.5	3" 150RF	3.2 FGT OPRVD	0.1 - 5 Hg	250	RUF
APLD5	3" 150RF	3.5 FGT OPRVD	3 - 10 Hg	250	RUF
APLD20	3" 150RF	302 FGT OPRVD	8 - 30 Hg	250	RUF
APND2.5	4" NPT	4.2 SGT OPRVD	0.1 - 5 Hg	300	RUGD
APND5	4" NPT	4.5 SGT OPRVD	3 - 10 Hg	300	RUGD
APND20	4" NPT	402 SGT OPRVD	8 - 30 Hg	300	RUGD
APOD2.5	4" 150RF	4.2 FGT OPRVD	0.1 - 5 Hg	250	RUGD
APOD5	4" 150RF	4.5 FGT OPRVD	3 - 10 Hg	250	RUGD

THRU VALVES AVAILABLE:

PART NO.	BODY† CONNECTION	OPER. PRES. MODEL NO.	MAX VACUUM	REP. W.P.	KIT
APOD20	4" 150RF	402 FGT OPRVD	8 - 30 Hg	250	RUGD
APRD2.5	6" 150RF	6.2 FGT OPRVD	0.1 - 5 Hg	250	RUHD
APRD5	6" 150RF	6.5 FGT OPRVD	3 - 10 Hg	250	RUHD
APRD20	6" 150RF	602 FGT OPRVD	8 - 30 Hg	250	RUHD

NOTES:

*These parts are recommended spare parts and are stocked as repair kits.

The numbers of a series assigned to a part indicate different line sizes. For example: Stem 137-1", 138-2", 139-3", 140-4", 141-6".

For standard & optional Seals, Metals, Cv values, Material specifications & Dimensions see Technical Data on pages A:1 - A:V

† Standard Trim size is same as connection size. For Reduced trim sizes, see A:1

†† Max W.P. valves based on -20°F to 100°F. See page A:V for temps above 100°F

Kimray is an ISO 9001- certified manufacturer.

NOTES:



Kimray is an ISO 9001- certified manufacturer.

Table 1 - Flow Coefficient(Cv) at % stem travel for Pilot Operated Regulators											
1" Pressure Regulator											
Trim Size in.(mm)	Cf	Valve Opening Percentage									
		10	20	30	40	50	60	70	80	90	100
1/2 in (12mm) Reduced	0.75	0.4	0.7	0.9	1.3	1.8	2.5	3.2	3.9	4.5	5
1 in (25mm) Full Port	0.74	1.1	1.8	2.4	3.4	4.8	6.6	8.5	10.2	11.9	13.2
2" Pressure Regulator											
Trim Size in. (mm)	Cf	Valve Opening Percentage									
		10	20	30	40	50	60	70	80	90	100
1 1/4 in (31 mm) Reduced	0.75	1.8	2.8	3.9	5.4	7.7	10.5	13.6	16.2	19.0	21.0
2 in Removable Full Port *	0.84	4.0	6.2	8.6	12.1	17.2	23.5	30.4	36.3	42.5	47.0
2 in (50 mm) Full Port *	0.75	4.4	6.9	9.5	13.4	19.1	26.0	33.6	40.2	47.0	52.0
3" Pressure Regulator											
Trim Size in. (mm)	Cf	Valve Opening Percentage									
		10	20	30	40	50	60	70	80	90	100
1 5/8 in (66 mm) Reduced	0.82	2.9	4.5	6.2	8.8	12.5	17.0	22.0	26.3	30.7	34.0
3 in (76 mm) Full Port	0.75	9.9	15.6	21.5	30.2	42.9	58.6	75.7	90.4	105.7	117.0
4" Pressure Regulator											
Trim Size in. (mm)	Cf	Valve Opening Percentage									
		10	20	30	40	50	60	70	80	90	100
2 in (50 mm) Reduced	0.80	4.7	7.3	10.1	14.2	20.2	27.5	35.6	42.5	49.7	55.0
4 in (100 mm) Full Port	0.75	17.8	27.9	38.6	54.2	77.0	105.2	135.9	162.2	189.8	210.0
6" Pressure Regulator											
Trim Size in. (mm)	Cf	Valve Opening Percentage									
		10	20	30	40	50	60	70	80	90	100
3 in (76 mm) Reduced	0.80	10.2	16.0	22.0	30.9	44.0	60.1	77.7	92.7	108.4	120.0
6 in (152 mm) Full Port	0.75	40.6	63.8	88.1	123.8	176.0	240.4	310.6	370.7	433.7	480.0

Kimray flow equations conform to ANSI/ISA - 75.01.01-2002

Kimray inherent flow characteristics conform to ANSI/ISA 75.11.01 -1985

* Use "2 inch Removable Full Port" values for regulators with operating pressure ranges of 10-250psig, 10-285psig & 10-300psig

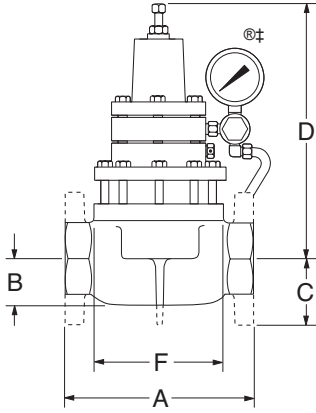
PRESSURE REGULATORS



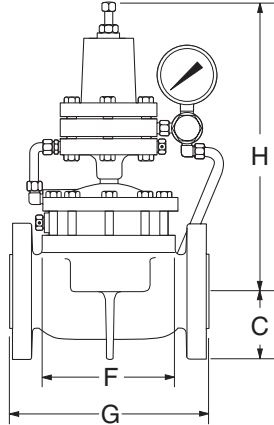
DIMENSIONS

FOR: BACK PRESSURE
UPSTREAM DIFFERENTIAL PRESSURE
PRESSURE REDUCING-BALANCED
PRESSURE REDUCING VACUUM

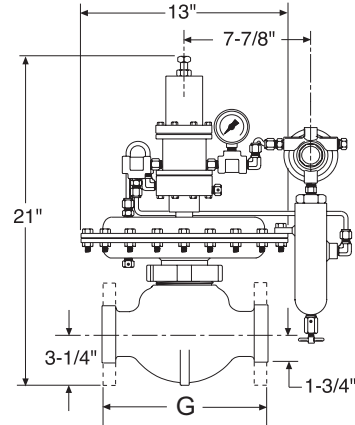
PRESSURE DIFFERENTIAL
PRESSURE REDUCING
BACK PRESSURE VACUUM
LIQUID BACK PRESSURE



DUCTILE

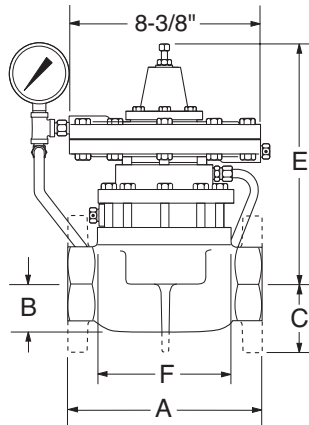


STEEL

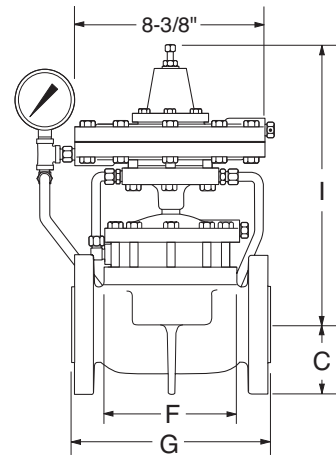


250 S/FGT-BP-S

FOR: LOW PRESSURE BACK PRESSURE
OUNCES BACK PRESSURE TO VACUUM
OUNCES PRESSURE REDUCING
OUNCES PRESSURE REDUCING VACUUM
VACUUM BACK PRESSURE TO VACUUM



DUCTILE

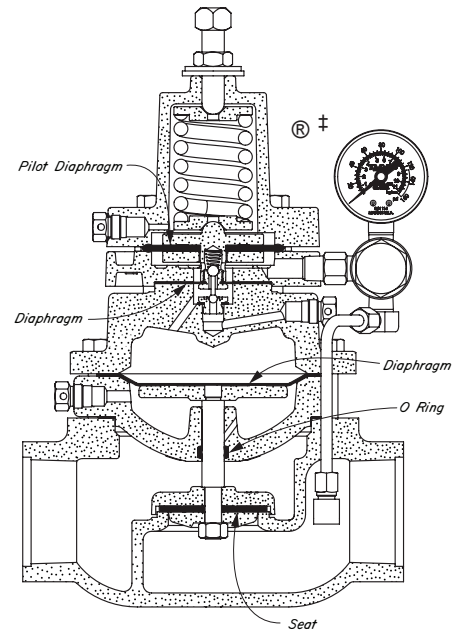


STEEL

LINE SIZE	BODY SIZE	A	B	C	D*	E	F	G	H*	I
1"	NPT	4 3/8"	1 1/8"		7 1/2"	11 5/8"	3 1/4"			
2"	NPT	8 1/2"	2 1/8"		11 1/2"	10 1/2"	6 1/2"			
	FLANGED	9"		3"	11 1/2"	10 1/2"	6 1/2"	9 1/8"	14 1/2"	14"
	GROOVED	8 3/4"	2 1/8"		11 1/2"	10 1/2"	6 1/2"			
250 S/FGT	NPT							10 1/2"		
	FLANGED							10 3/8"		
3"	NPT	12 1/16"	3 1/16"		13"	12"	8 1/2"			
	FLANGED	12 3/16"		3 3/4"	13"	12"	8 1/2"	12 3/8"	16 1/2"	15 1/2"
4"	NPT	15" 1/16"	4"		14 1/2"	13 3/16"	10 1/2"			
	FLANGED	15 1/16"		4 1/2"	14 1/2"	13 3/16"	10 1/2"	15 1/16"	18 1/2"	16 11/16"
6"	FLANGED	22"		5 1/2"	17"	17 7/8"	16"	21 15/16"	20 1/2"	18 3/8"

FLANGE DIMENSIONS ARE ANSI 125/150 STANDARD. *Add 7/8" to Pressure Reducing Balanced and Up Stream Differential Pressure Regulators for this dimension.

Part	Standard Material	Optional Material
Seat	Nitrile	FKM, HSN, AFLAS®, Gylon®
O-rings	Nitrile	FKM, HSN, AFLAS®, Gylon®
All Diaphragms Except Pilot Diaphragm	Nitrile	FKM, HSN, AFLAS®, Gylon®
Pilot Diaphragm	Polyurethane	FKM, HSN, AFLAS®, Gylon®



		NITRILE	HIGHLY SATURATED NITRILE	FKM	AFLAS®	POLY-URETHANE	GYLON
	Kimray Suffix	-	HSN	V	AF	P	GY
Resistance	Abrasion	G	G	G	GE	E	E
	Acid	F	E	E	E	P	E
	Chemical	FG	FG	E	E	FG	E
	Cold	G	G	PF	P	G	E
	Flame	P	P	E	E	P	P
	Heat	G	E	E	E	F	E
	Oil	E	E	E	E	G	E
	Ozone	P	G	E	E	E	E
	Set	GE	GE	E	PF	F	P
	Tear	FG	FG	F	PF	GE	E
	Water/Steam	FG	E	P	GE	P	E
	Weather	F	G	E	E	E	E
	CO2	FG	GE	PG	GE	G	E
H2S	P	FG	P	E	G	E	
Methanol	G	E	PF	PF	P	E	
Properties	Dynamic	GE	GE	GE	GE	E	P
	Electrical	F	F	F	E	FG	E
	Impermeability	G	G	G	G	G	E
	Tensile Strength	GE	E	GE	FG	E	E
	Temp. Range (°F)	-40 to +220°F	-15° to +300°F	-10° to +350°F	+25° to +450°F	-40° to +220°F	-350 to +500°F
	Temp. Range (°C)	-40 to +105°C	-26° to +149°C	-23° to +177°C	0° to +232°C	-40° to +104°C	-212 to +260°C
	Form	O,S,D	O,S,D	O,S,D	O,S,D	S,D	S,D

RATINGS: P-POOR, F-FAIR, G-GOOD, E-EXCELLENT

Table 5 - Materials of Construction

Part Description	Valve Size	Standard Material	Optional Material(s)
Ratio Plug	1" & 2"	316 Powdered Metal SS-316NI-25	N/A
	1" & 2" Reduced Trim	Steel, ASTM A-108	316 Stainless Steel ASTM A-479
	3"	Powdered Metal F-008	316 Stainless Steel ASTM A-479
	4" & 6"	Ductile, ASTM A-395	316 Stainless Steel ASTM A-479
Seat Disc	1"	Powdered Metal F-0008-30	316 Stainless Steel ASTM A-479
	2", 3" & 4"	Ductile, ASTM A-395	Stainless Steel ASTM A-351 CF8M
	6"	Ductile, ASTM A-395	Stainless Steel ASTM A-240
Stem	1" thru 6"	303 Stainless Steel, ASTM A-582	316 Stainless Steel ASTM A-479
Body	1" thru 6"	Ductile, ASTM A-395	N/A
Body	2" thru 6"	Steel, ASTM A-216 WCB	Stainless Steel ASTM A-351 CF8M
Tubing	175 W.P. or Less	Copper Tubing ASTM B-380 UNS C-12200	316 Stainless Steel ASTM A-213
		Copper Tubing ASTM B-280 UNS C-12200	316 Stainless Steel ASTM A-213
	Greater Than 175 W.P.	304 Stainless Steel ASTM A-249	316 Stainless Steel ASTM A-213
Removable Seat	2" thru 6" Ductile Body	Ductile, ASTM A-395	Stainless Steel ASTM A-351 CF8M
	2" thru 6" Steel Body	Stainless Steel ASTM A-351 CF8M	N/A

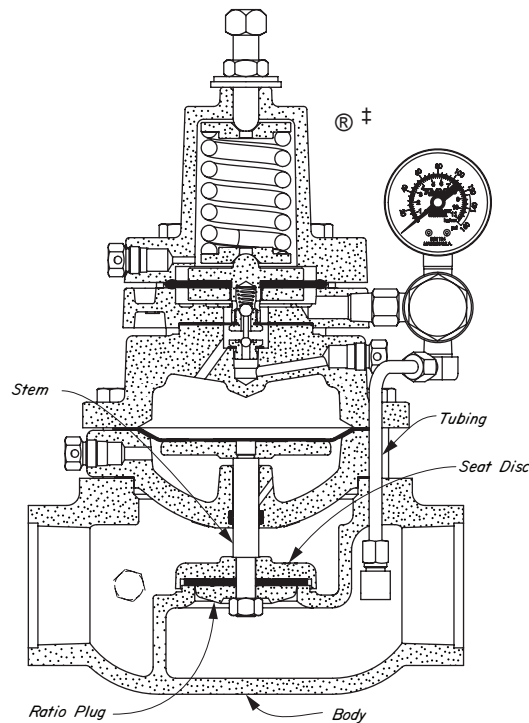
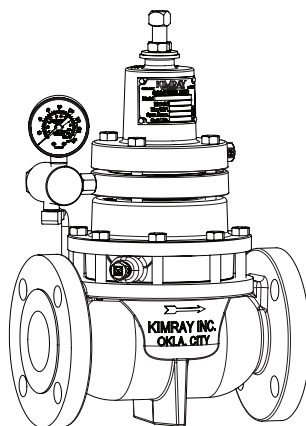


Table 4 - Material Specification

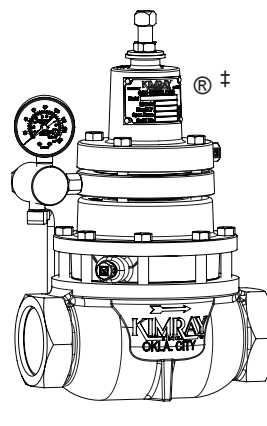
	Body		Inner Parts		
	CAST STEEL	CAST DUCTILE	303 STAINLESS STEEL	316 STAINLESS STEEL	17-4 PH STAINLESS STEEL
KIMRAY SUFFIX	CS	CD	SS6	SS6	PH
ASTM GROUP	ASTM A-216	ASTM A-395	ASTM A-582	ASTM A-479	ASTM A-564
GRADE	WCB	60-40-18	303	316	630
UNS	J03002	F32800	S30300	S31600	S17400
NACE Compliant	Yes	Yes	No	Yes	Yes

Table 6 - Temperature vs. Pressure Rating

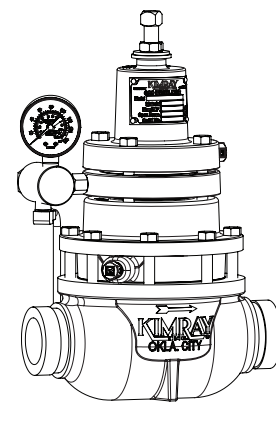
ASTM Class Temperature °F (°C)	Flange Class
	150 RF
	Static Test Pressure (psig)
	450 (31 bar)
Maximum Allowable Non-Shock Pressure (psig)	
CAST DUCTILE ASTM A-395	
	Flange Class
	150 RF
-20 to 100 (-28 to 37)	250 (17.2 bar)
200 (93)	235 (16.2 bar)
300 (148)	215 (14.8 bar)
400 (204)	200 (13.7 bar)
500 (260)	170 (11.7 bar)
600 (315)	140 (9.6 bar)
650 (343)	125 (8.6 bar)
700 (371)	
CAST STEEL ASTM A-216 - WCB	
	Flange Class
	150 RF
-20 to 100 (-28 to 37)	285 (20.0 bar)
200 (93)	260 (17.9 bar)
300 (148)	230 (15.9 bar)
400 (204)	200 (13.8 bar)
500 (260)	170 (11.7 bar)
600 (315)	140 (9.7 bar)
650 (343)	125 (8.6 bar)
700 (371)	110 (7.6 bar)



FLANGED (150RF)



SCREWED (NPT)



GROOVED

Kimray valves conform to ASME B16.34-2009 for working pressure vs working temperature & ASME B16.5-1996 for flanges and flanged fittings.

NOTES:



Kimray is an ISO 9001- certified manufacturer.