

Simple Set Series - 2-Way, 1/2" - 2" — PA(M) Series Actuators

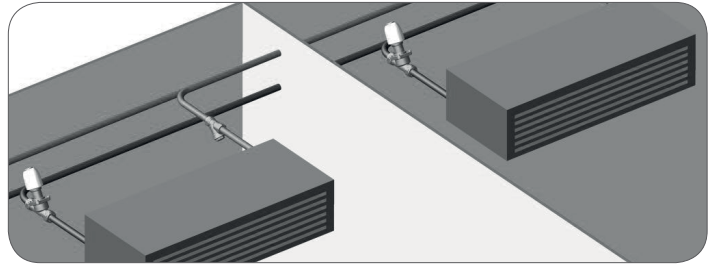
IOM Manual



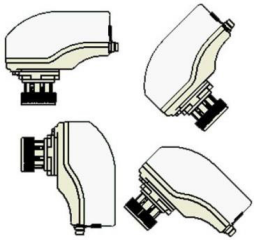
Simple Set - Mounting

The Simple Set combines an externally adjustable automatic balancing valve with a full authority modulating control valve.

The Simple Set can be mounted in either the supply or the return line. To avoid temperature extremes, it is recommended on the return line. Installation of strainers and isolation ball valves are recommended. The temperature in and about the actuator should not be below 32° F (0° C).



Correct Mounting



Incorrect Mounting



1. The actuated valve installation should be easily accessible and provide sufficient clearance for service and replacement.
2. Horizontal and vertical positions are preferred orientations for the installation of actuated valve. However, this actuator can be installed at any in between angle.



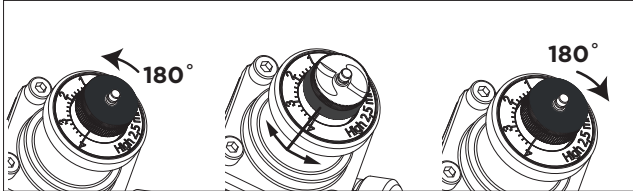
Caution:
Do not install at more than 90° from horizontal

The Pre-Setting Scale on the Simple Set PIC valve must be set to the desired maximum flow rate in accordance with the respective Flow Rate Chart's Pre-Set column (tables are found in this IOM manual).

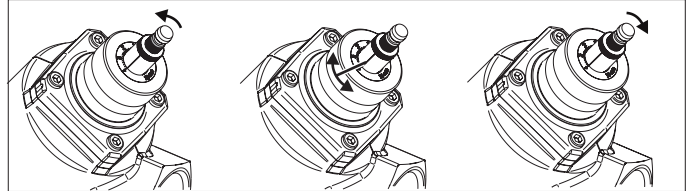
The numerical scale is visible from the top of the valve. The actuator must be removed in order to adjust the dial setting.

Simple Set - Dial Settings

1/2" to 1-1/4"

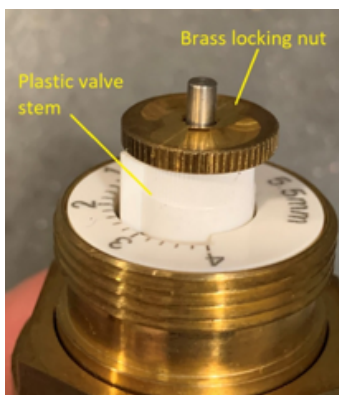


1-1/2" to 2"



After determining the desired setting, read the actual setting. If the valve must be reset, loosen the locking nut and turn the plastic valve stem to the desired setting. Re-tighten the locking nut.

On small valves the locking nut is a brass dial with a knurled edge.



On large valves the locking nut is the stem coupler adapter.



Simple Set - How it Works

Function

Unlike conventional control valve sizing where valves are sized to a Cv, the Simple Set valves are simply sized for flow and pipe size. Refer to the ordering table for the wide range of flow values available.

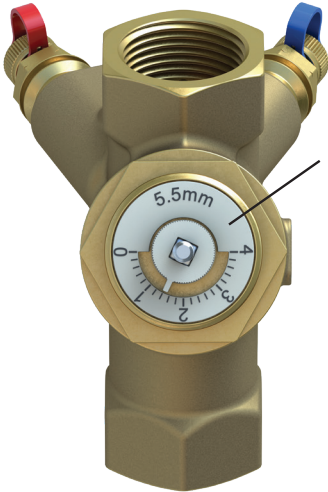
Notice

If valve size differs from pipe size, dP across the valve can not exceed the rating of the valve.

Design

The design of Simple Set combines high performance with small size and compact construction. The main components of the valve are:

Pre-Setting Dial (Detail)



3. Pre-Setting Dial
Sets maximum flow allowed through the valve.

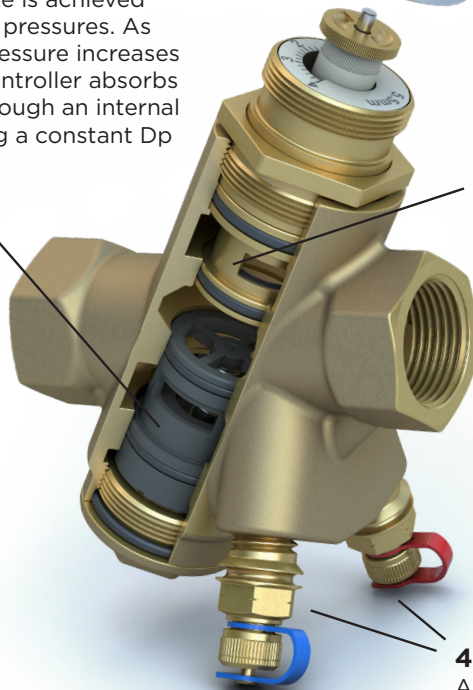
5. Actuator

Reacts to building controller call for more or less flow.



1. Pressure Control Cartridge

Ensures constant flow rate is achieved under fluctuating system pressures. As the system differential pressure increases and decreases, the Dp controller absorbs and releases pressure through an internal capillary tube maintaining a constant Dp across the valve.



2. Modulating Control Component

1. Rotates laterally to limit max flow through the valve per the Pre-Setting Scale.
2. Moves vertically in response to the actuator call for more or less flow.

4. P/T Plugs

Allows for measurement of pressure and temperature.

Simple Set - Flow Rate Charts

1/2"		1/2" Low Flow Rate Cartridge		
Model Number	Pre-Set	Min. PSI	Flow l/h	Flow GPM
SS-050-N-L-0.3	0.3	2.2	75.0	0.3
SS-050-N-L-0.4	0.4	2.2	81.8	0.4
SS-050-N-L-0.5	0.6	2.2	106.7	0.5
SS-050-N-L-0.6	0.8	2.2	134.0	0.6
SS-050-N-L-0.7	1	2.2	161.3	0.7
SS-050-N-L-0.8	1.2	2.5	190.8	0.8
SS-050-N-L-1.0	1.4	2.5	222.6	1.0
SS-050-N-L-1.1	1.6	2.5	256.7	1.1
SS-050-N-L-1.3	1.8	2.5	290.7	1.3
SS-050-N-L-1.4	2	2.5	327.1	1.4
SS-050-N-L-1.6	2.2	2.5	365.7	1.6
SS-050-N-L-1.8	2.4	2.5	404.3	1.8
SS-050-N-L-2.0	2.6	2.5	442.9	2.0
SS-050-N-L-2.1	2.8	2.5	481.5	2.1
SS-050-N-L-2.3	3	2.5	520.1	2.3
SS-050-N-L-2.5	3.2	2.5	556.5	2.5
SS-050-N-L-2.6	3.4	2.5	592.8	2.6
SS-050-N-L-2.8	3.6	2.5	629.1	2.8
SS-050-N-L-3.0	3.8	2.5	672.3	3.0
SS-050-N-L-3.1	4	2.5	699.5	3.1

1/2"		1/2" Standard Flow Rate Cartridge		
Model Number	Pre-Set	Min. PSI	Flow l/h	Flow GPM
SS-050-N-S-1.3	0.3	2.8	291.0	1.3
SS-050-N-S-1.4	0.4	2.8	308.0	1.4
SS-050-N-S-1.7	0.6	2.8	378.0	1.7
SS-050-N-S-2.0	0.8	2.8	459.0	2.0
SS-050-N-S-2.5	1	2.8	575.0	2.5
SS-050-N-S-2.9	1.2	2.8	654.0	2.9
SS-050-N-S-3.4	1.4	2.8	765.0	3.4
SS-050-N-S-3.9	1.6	2.9	875.0	3.9
SS-050-N-S-4.3	1.8	2.9	977.0	4.3
SS-050-N-S-4.7	2	2.9	1066.0	4.7
SS-050-N-S-5.0	2.2	3.0	1145.0	5.0
SS-050-N-S-5.3	2.4	3.0	1213.0	5.3
SS-050-N-S-5.6	2.6	3.0	1274.0	5.6
SS-050-N-S-5.9	2.8	3.0	1329.0	5.9
SS-050-N-S-6.1	3	3.0	1390.0	6.1
SS-050-N-S-6.3	3.2	3.1	1424.0	6.3
SS-050-N-S-6.5	3.4	3.2	1466.0	6.5
SS-050-N-S-6.6	3.6	3.2	1505.0	6.6
SS-050-N-S-6.8	3.8	3.3	1542.0	6.8
SS-050-N-S-6.9	4	3.3	1576.0	6.9

3/4"		3/4" Low Flow Rate Cartridge		
Model Number	Pre-Set	Min. PSI	Flow l/h	Flow GPM
SS-075-N-L-0.3	0.3	2.3	77.2	0.3
SS-075-N-L-0.4	0.4	2.3	81.8	0.4
SS-075-N-L-0.5	0.6	2.3	106.7	0.5
SS-075-N-L-0.6	0.8	2.3	136.3	0.6
SS-075-N-L-0.7	1	2.3	168.1	0.7
SS-075-N-L-0.9	1.2	2.6	197.6	0.9
SS-075-N-L-1.0	1.4	2.6	227.1	1.0
SS-075-N-L-1.2	1.6	2.6	268.0	1.2
SS-075-N-L-1.3	1.8	2.6	304.3	1.3
SS-075-N-L-1.5	2	2.6	345.2	1.5
SS-075-N-L-1.7	2.2	2.6	388.4	1.7
SS-075-N-L-1.9	2.4	2.6	431.5	1.9
SS-075-N-L-2.1	2.6	2.6	474.7	2.1
SS-075-N-L-2.3	2.8	2.6	517.8	2.3
SS-075-N-L-2.5	3	2.6	567.8	2.5
SS-075-N-L-2.6	3.2	2.6	599.6	2.6
SS-075-N-L-2.8	3.4	2.6	635.9	2.8
SS-075-N-L-3.0	3.6	2.6	672.3	3.0
SS-075-N-L-3.1	3.8	2.6	706.4	3.1
SS-075-N-L-3.3	4	2.6	745.0	3.3

3/4"		3/4" Standard Flow Rate Cartridge		
Model Number	Pre-Set	Min. PSI	Flow l/h	Flow GPM
SS-075-N-S-1.3	0.3	2.8	305.0	1.3
SS-075-N-S-1.5	0.4	2.8	333.0	1.5
SS-075-N-S-1.8	0.6	2.9	406.0	1.8
SS-075-N-S-2.1	0.8	3	487.0	2.1
SS-075-N-S-2.6	1	3.2	598.0	2.6
SS-075-N-S-3.0	1.2	3.2	672.0	3.0
SS-075-N-S-3.4	1.4	3.2	775.0	3.4
SS-075-N-S-3.9	1.6	3.2	884.0	3.9
SS-075-N-S-4.4	1.8	3.2	993.0	4.4
SS-075-N-S-4.8	2	3.2	1100.0	4.8
SS-075-N-S-5.3	2.2	3.2	1201.0	5.3
SS-075-N-S-5.7	2.4	3.2	1294.0	5.7
SS-075-N-S-6.1	2.6	3.2	1379.0	6.1
SS-075-N-S-6.4	2.8	3.2	1457.0	6.4
SS-075-N-S-6.8	3	3.2	1544.0	6.8
SS-075-N-S-7.0	3.2	3.2	1593.0	7.0
SS-075-N-S-7.3	3.4	3.2	1653.0	7.3
SS-075-N-S-7.5	3.6	3.3	1709.0	7.5
SS-075-N-S-7.8	3.8	3.3	1761.0	7.8
SS-075-N-S-8.0	4	3.3	1821.0	8.0

Note: Min. Delta P Available at Selected Flow Rate.
See Website for Specific Flow Rate Settings Calculator

Simple Set - Flow Rate Charts

1"		1" Standard Flow Rate Cartridge		
Model Number	Pre-Set	Min. PSI	Flow l/h	Flow GPM
SS-1-N-S-1.8	0.3	3.9	400.0	1.8
SS-1-N-S-1.8	0.4	3.9	414.0	1.8
SS-1-N-S-2.1	0.6	3.9	470.0	2.1
SS-1-N-S-2.3	0.8	3.9	532.0	2.3
SS-1-N-S-2.7	1	3.9	618.0	2.7
SS-1-N-S-3.0	1.2	3.9	676.0	3.0
SS-1-N-S-3.4	1.4	3.9	762.0	3.4
SS-1-N-S-3.8	1.6	4	857.0	3.8
SS-1-N-S-4.2	1.8	4	961.0	4.2
SS-1-N-S-4.7	2	4	1071.0	4.7
SS-1-N-S-5.2	2.2	4	1182.0	5.2
SS-1-N-S-5.7	2.4	4	1286.0	5.7
SS-1-N-S-6.1	2.6	4	1381.0	6.1
SS-1-N-S-6.5	2.8	4	1467.0	6.5
SS-1-N-S-6.9	3	4.1	1560.0	6.9
SS-1-N-S-7.1	3.2	4.1	1611.0	7.1
SS-1-N-S-7.4	3.4	4.2	1673.0	7.4
SS-1-N-S-7.6	3.6	4.3	1730.0	7.6
SS-1-N-S-7.8	3.8	4.4	1781.0	7.8
SS-1-N-S-8.1	4	4.5	1830.0	8.1

1-1/4"		1-1/4" Standard Flow Rate Cartridge		
Model Number	Pre-Set	Min. PSI	Flow l/h	Flow GPM
SS-125-N-S-3.0	0.3	3	690.0	3.0
SS-125-N-S-3.2	0.4	3.1	735.0	3.2
SS-125-N-S-4.0	0.6	3.1	910.0	4.0
SS-125-N-S-4.8	0.8	3.1	1079.0	4.8
SS-125-N-S-5.5	1	3.2	1245.0	5.5
SS-125-N-S-6.2	1.2	3.2	1406.0	6.2
SS-125-N-S-6.9	1.4	3.2	1564.0	6.9
SS-125-N-S-7.6	1.6	3.2	1718.0	7.6
SS-125-N-S-8.2	1.8	3.2	1869.0	8.2
SS-125-N-S-8.9	2	3.2	2017.0	8.9
SS-125-N-S-9.5	2.2	3.2	2162.0	9.5
SS-125-N-S-10.1	2.4	3.2	2304.0	10.1
SS-125-N-S-10.8	2.6	3.2	2444.0	10.8
SS-125-N-S-11.4	2.8	3.2	2581.0	11.4
SS-125-N-S-12.1	3	3.2	2748.0	12.1
SS-125-N-S-12.3	3.2	3.2	2787.0	12.3
SS-125-N-S-12.5	3.4	3.3	2837.0	12.5
SS-125-N-S-12.7	3.6	3.3	2887.0	12.7
SS-125-N-S-12.9	3.8	3.4	2938.0	12.9
SS-125-N-S-13.2	4	3.5	3000.0	13.2

1-1/2"		1-1/2" Standard Flow Rate Cartridge		
Model Number	Pre-Set	Min. PSI	Flow l/h	Flow GPM
SS-150-N-S-2.4	0.3	3.0	541.0	2.4
SS-150-N-S-3.1	0.4	3.0	695.0	3.1
SS-150-N-S-5.7	0.6	3.0	1291.0	5.7
SS-150-N-S-8.2	0.8	3.0	1856.0	8.2
SS-150-N-S-10.9	1	3.0	2480.0	10.9
SS-150-N-S-12.8	1.2	3.1	2912.0	12.8
SS-150-N-S-15.0	1.4	3.2	3409.0	15.0
SS-150-N-S-17.1	1.6	3.4	3887.0	17.1
SS-150-N-S-19.1	1.8	3.5	4346.0	19.1
SS-150-N-S-21.1	2	3.6	4797.0	21.1
SS-150-N-S-23.0	2.2	3.7	5231.0	23.0
SS-150-N-S-24.9	2.4	3.8	5653.0	24.9
SS-150-N-S-26.7	2.6	3.9	6064.0	26.7
SS-150-N-S-28.5	2.8	3.9	6465.0	28.5
SS-150-N-S-30.3	3	4.0	6875.0	30.3
SS-150-N-S-31.0	3.2	4.2	7051.0	31.0
SS-150-N-S-31.6	3.4	4.4	7183.0	31.6
SS-150-N-S-32.2	3.6	4.5	7315.0	32.2
SS-150-N-S-32.8	3.8	4.7	7447.0	32.8
SS-150-N-S-33.4	4	4.9	7582	33.4

2"		2" Standard Flow Rate Cartridge		
Model Number	Pre-Set	Min. PSI	Flow l/h	Flow GPM
SS-2-N-S-2.6	0.3	4.9	596.0	2.6
SS-2-N-S-3.5	0.4	4.9	797.0	3.5
SS-2-N-S-7.1	0.6	4.9	1613.0	7.1
SS-2-N-S-10.8	0.8	4.9	2449.0	10.8
SS-2-N-S-15.5	1	4.9	3514.0	15.5
SS-2-N-S-18.3	1.2	4.9	4161.0	18.3
SS-2-N-S-22.1	1.4	4.9	5025.0	22.1
SS-2-N-S-25.9	1.6	4.9	5885.0	25.9
SS-2-N-S-29.7	1.8	4.9	6736.0	29.7
SS-2-N-S-33.3	2	4.9	7572.0	33.3
SS-2-N-S-36.9	2.2	4.9	8387.0	36.9
SS-2-N-S-40.4	2.4	4.9	9180.0	40.4
SS-2-N-S-43.8	2.6	4.9	9946.0	43.8
SS-2-N-S-47.1	2.8	4.9	10686.0	47.1
SS-2-N-S-50.9	3	4.9	11568.0	50.9
SS-2-N-S-53.2	3.2	5.0	12082.0	53.2
SS-2-N-S-56.1	3.4	5.1	12740.0	56.1
SS-2-N-S-58.9	3.6	5.3	13372.0	58.9
SS-2-N-S-61.6	3.8	5.4	13988.0	61.6
SS-2-N-S-64.7	4	5.5	14700.0	64.7

Note: Min. Delta P Available at Selected Flow Rate.
See Website for Specific Flow Rate Settings Calculator