

# MODELS 106-RPS-D / 206-RPS-D /306-RPS-D

## Pressure Differential Sustaining Valve

### KEY FEATURES

- Maintains a minimum differential pressure
- Easily adjustable differential pressure setting
- Valve closes drip-tight when the pressure differential is less than the pilot setting

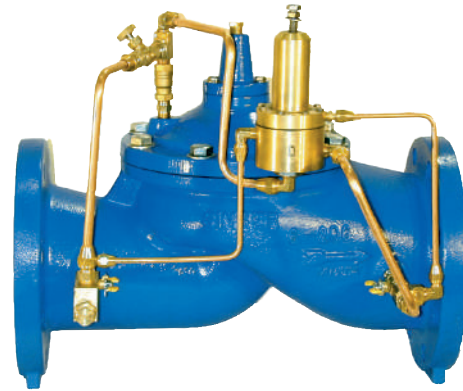
### PRODUCT OVERVIEW

The 106-RPS-D, 206-RPS-D or 306-RPS-D pressure differential sustaining valves are based on the 106-PG, 206-PG or 306-PG main valve.

The RPS-D uses the 81-RPD pilot valve and has two sensing connections. The valve and pilot remain closed until the difference between the two pressures exceeds the pilot setting.

Under flowing conditions, the pilot reacts to small changes in pressure to control the valve position by modulating the pressure above the diaphragm. The pilot setting establishes a differential pressure that is held relatively steady despite changes in system pressure or flow.

### TYPICAL APPLICATION

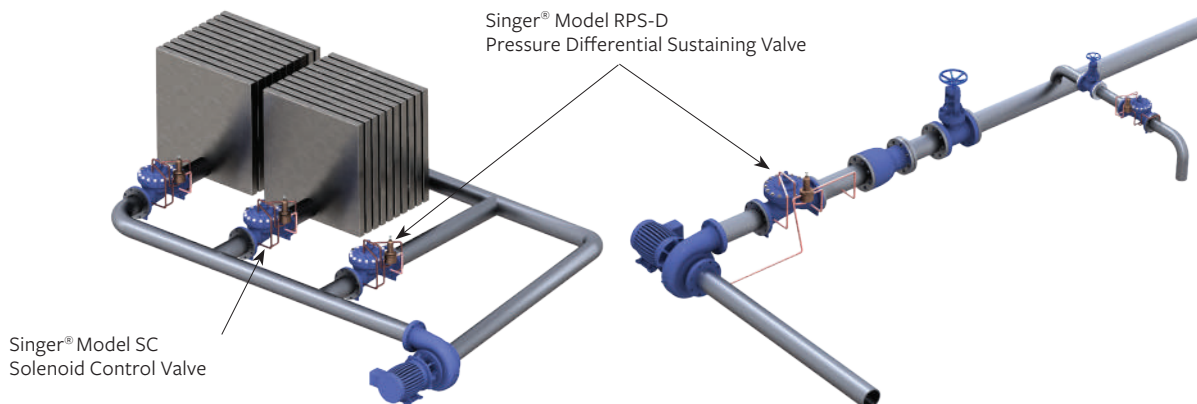


### PARALLEL APPLICATION

As the number of operating heat exchangers in the circuit vary, the Singer® RPS-D maintains a relatively steady differential for maximum chiller efficiency.

### SERIES APPLICATION

In a booster pump application, the Singer® RPS-D ensures the pump operates near its best efficiency and without cavitation or overload, should the suction conditions vary.

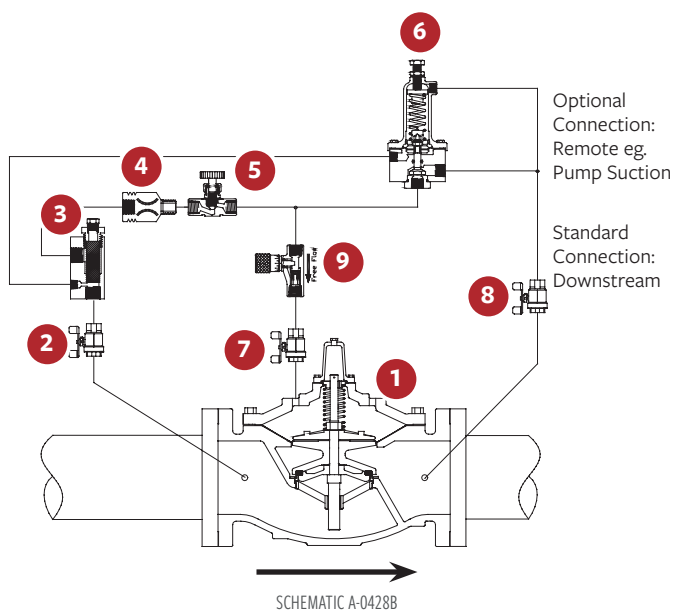


# MODELS 106-RPS-D / 206-RPS-D / 306-RPS-D

## Pressure Differential Sustaining Valve

### SCHEMATIC DRAWING

NO.	PART
1	Main Valve - 106-PG, 206-PG or 306-PG
2	Isolation Valve - Standard 4" / 100 mm and Larger
3	Strainer - Standard 4" / 100 mm and Larger
4	Fixed Restriction - 1/8" / 3.2 mm
5	Model 852-B Closing Speed Control
6	Model 81-RPD Pilot Specify for 5 to 50 psi / 0.35 to 3.5 bar, 10 to 80 psi / 0.70 to 5.5 bar, 20 to 200 psi / 1.38 to 13.8 bar, 100 to 300 psi / 6.9 to 20.7 bar.
7	Isolation Valve - Standard 4" / 100 mm and Larger
8	Isolation Valve - Standard All Sizes
9	Opening Speed Control (Optional)



### STANDARD MATERIALS

Standard materials for pilot system components are:

- ASTM B-62 bronze or ASTM B-16 brass
- AISI 316 stainless-steel trim

### SELECTION SUMMARY

1. Select the valve with sufficient capacity using the available pressure drop.
2. Usually operating in the continuous, "C", service range up to 20 ft/s / 6 m/s.
3. If the outlet pressure is less than 35% of the inlet pressure, check for cavitation.
4. Ensure that the maximum working pressure rating of the valve and of the flange exceeds the maximum operating pressure.

### ORDERING INSTRUCTIONS

Refer to the order form and ordering instructions.

Additionally, include the following information for this product:

1. Single chamber (106), (206) or (306)
2. Pilot range

# MODELS 106-RPS-D / 206-RPS-D / 306-RPS-D

## Pressure Differential Sustaining Valve

### 106-RPS-D

#### FLOW CAPACITY

(SEE 106-PG IN MAIN VALVE SECTION FOR OTHER VALVE DATA)

Size (Inches)	½"	¾"	1"	1 ¼"	1 ½"	2"	2 ½"	3"	4"
Size (mm)	15 mm	19 mm	25 mm	32 mm	40 mm	50 mm	65 mm	80 mm	100 mm
Minimum (USGPM) Flat Diaphragm	1	1	1	1	1	5	5	5	10
Minimum (L/s) Flat Diaphragm	0.1	0.1	0.1	0.1	0.1	0.3	0.3	0.3	0.6
Maximum Continuous (USGPM)	12	19	49	93	125	210	300	460	800
Maximum Continuous (L/s)	0.8	1	3	6	8	13	19	29	50

### 106-RPS-D

#### FLOW CAPACITY

(SEE 106-PG IN MAIN VALVE SECTION FOR OTHER VALVE DATA)

Size (Inches)	6"	8"	10"	12"	14"	16"	20"	24"	36"
Size (mm)	150 mm	200 mm	250 mm	300 mm	350 mm	400 mm	500 mm	600 mm	900 mm
Minimum (USGPM) Flat Diaphragm	20	40	-	-	-	-	-	-	-
Minimum (USGPM) Rolling Diaphragm	1	1	3	3	3	3	10	10	20
Minimum (L/s) Flat Diaphragm	1.3	2.5	-	-	-	-	-	-	-
Minimum (L/s) Rolling Diaphragm	0.1	0.1	0.2	0.2	0.2	0.2	0.6	0.6	1.3
Maximum Continuous (USGPM)	1800	3100	4900	7000	8500	11000	17500	25800	55475
Maximum Continuous (L/s)	114	196	309	442	536	694	1104	1628	3500

### 206-RPS-D

#### FLOW CAPACITY

(SEE 206-PG IN MAIN VALVE SECTION FOR OTHER VALVE DATA)

Size (Inches)	3"	4"	6"	8"	10"	12"	16"	18"	20"
Size (mm)	80 mm	100 mm	150 mm	200 mm	250 mm	300 mm	400 mm	450 mm	500 mm
Minimum (USGPM) Flat Diaphragm	5	5	10	20	40	-	-	-	-
Minimum (USGPM) Rolling Diaphragm	-	-	-	-	-	3	3	3	3
Minimum (L/s) Flat Diaphragm	0.3	0.3	0.6	1.3	2.5	-	-	-	-
Minimum (L/s) Rolling Diaphragm	-	-	-	-	-	0.2	0.2	0.2	0.2
Maximum Continuous (USGPM)	300	580	1025	2300	4100	6400	9230	16500	16500
Maximum Continuous (L/s)	19	37	65	145	260	404	582	1040	1040

### 206-RPS-D

#### FLOW CAPACITY

(SEE 206-PG IN MAIN VALVE SECTION FOR OTHER VALVE DATA)

Size (Inches)	24 x 16"	24 x 20"	28"	30"	32"	36"	40"	48"
Size (mm)	600 x 400 mm	600 x 500 mm	700 mm	750 mm	800 mm	900 mm	1000 mm	1200 mm
Minimum (USGPM) Rolling Diaphragm	3	3	10	10	10	10	20	20
Minimum (L/s) Rolling Diaphragm	0.2	0.2	0.6	0.6	0.6	0.6	1.3	1.3
Maximum Continuous (USGPM)	16500	21700	33600	33650	33700	33800	55475	55475
Maximum Continuous (L/s)	1040	1370	2120	2123	2126	2132	3500	3500

### 306-RPS-D

#### FLOW CAPACITY

(SEE 306-PG IN MAIN VALVE SECTION FOR OTHER VALVE DATA)

Size	DN50	DN65	DN80	DN100	DN150	DN200	DN250	DN300	DN350	DN400
Minimum (L/s) Flat Diaphragm	0.06	0.06	0.06	0.06	0.25	-	-	-	-	-
Minimum (L/s) Rolling Diaphragm	-	-	-	-	-	0.06	0.06	0.20	0.20	0.20
Maximum Continuous (L/s)	9	16	22	37	67	150	267	417	560	600