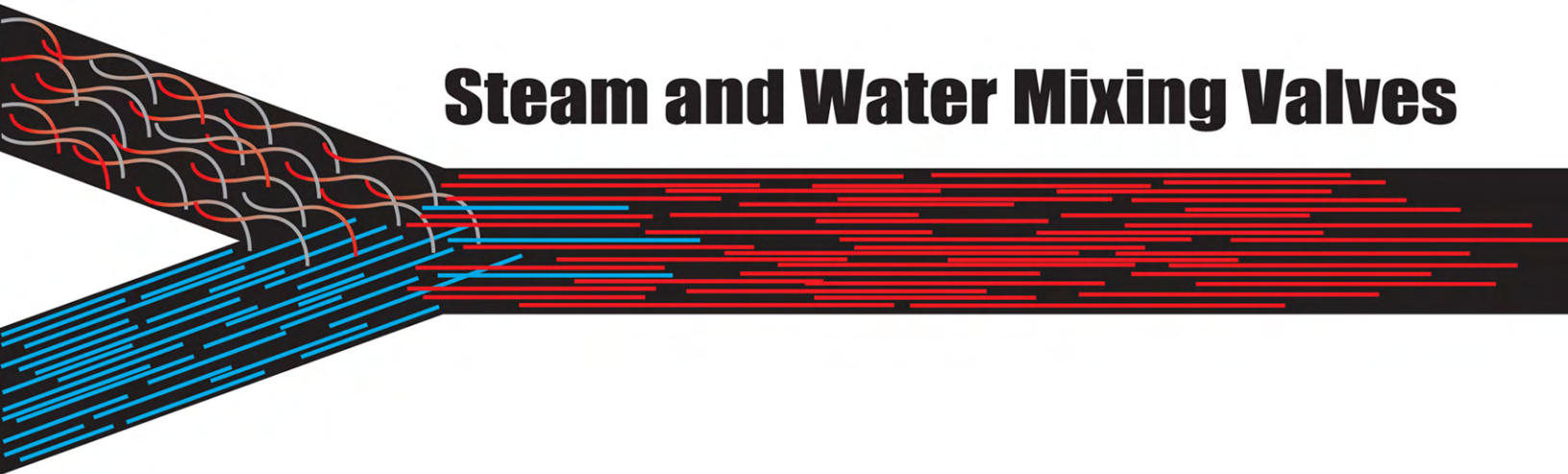




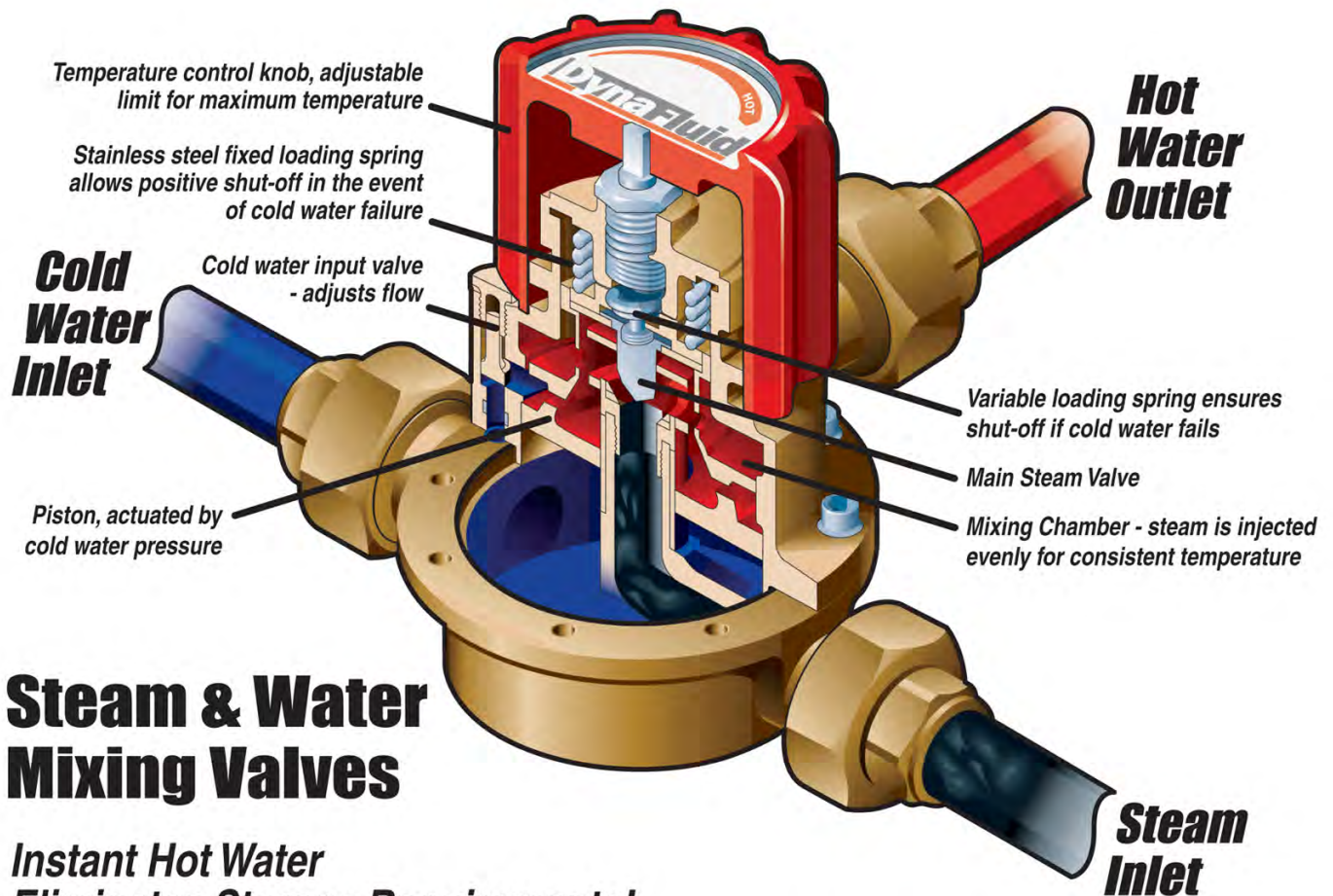
**DynaFluid<sup>®</sup>**  
**2000**

## Steam and Water Mixing Valves









## Steam & Water Mixing Valves

### Instant Hot Water Eliminates Storage Requirements!

The Dynafluid 2000 line of automatic hot water generators are steam and water mixing valves that combine the functions of temperature control, a reducing valve, and a heat exchanger into one compact, multi-purpose unit that is unique in the field.

It automatically mixes steam and water proportionally - heating it to a selected temperature - and providing a ready supply of hot water when and where it's needed for a variety of purposes.

The valves are "fail-safe" and cannot pass live steam from the outlet without water flow. The Dynafluid 2000 valve is available in four sizes - 1/2", 3/4", 1" and 1 1/2"-models. Max. temp. 200F; max. pressure - 150 psig.

### Steam and Water Mixing Valve -

**How it works:** When the outlet control is opened, cold water flows into the valve body. The change in differential pressure raises the piston, lifting the steam valve from its seat. The controlled steam then combines with the cold water in the mixing chamber to create instantaneous hot water.

Once the outlet control is closed, the fixed loading spring, reinforced with static water pressure, forces the piston down and closes the steam valve. In the absence of cold water flow, steam cannot escape through the outlet. It's fast, simple, efficient, and cost effective.

**DynaFluid**<sup>®</sup>  
2000

## **"Customizing" the Dynafluid 2000 –**

By changing the factory installed fixed loading spring, the valve can be customized for varying steam pressures. Unless otherwise specified, the spring is normally factory set for steam pressures of 50-100 psi. Other ranges (5-50 psi or 100-150 psi) are available.

## **Construction –**

Dynafluid 2000 valves are manufactured and assembled to high quality standards. The body is of high density cast bronze. Springs and steam valve are 300 series stainless steel for corrosion and heat resistance. Steam valve seats are glass filled PTFE for high temperature resistance, positive seal and long life. Temperature control knob is molded from a glass filled high temperature resistant plastic resin.

The valves are thoroughly use-tested and inspected prior to shipment. They are guaranteed to be free of defects in workmanship and materials for a period of one year from date of purchase.

## **FEATURES:**

- Fail Safe - immediate and positive shut-off in the event of cold water failure.
- Automatically mixes steam and water proportionately, heating it to a selected temperature.
- Eliminates the need for hot water storage.
- Easy to install in any position.
- Simple to maintain and service.
- Top and bottom outlet.
- Operates with uneven steam and water pressure.
- Quiet and economical operation.
- Four sizes to suit requirements.

## **DYNAFLUID VALVE APPLICATIONS:**

- Primary Hot-water generators
- Supplemental booster heaters
- Washdown stations – for clean-up purposes in food processing plants, chemical and pharmaceutical facilities.
- Food, Meat and Dairy-In-Plant sanitizing and clean-up. Process operations.
- Industrial operations - In-plant clean-up operations. Process cleaning and degreasing.
- Commercial/Institutional - Food service areas, dry cleaner/laundries, cart wash areas, general clean-up.

## **CHECKLIST FOR SIZING DYNAFLUID 2000**

### **Information needed to size valve:**

- Running water Pressure (psi) (at point of installation)
- Running Steam Pressure (psi) (at point of installation)
- Inlet water temperature
- Water temperature desired
- Gallons per minute required
- Finish required (i.e. rough bronze, chrome plated, Teflon coated (hard water applications), stainless steel - 3/4" only).

### **To size the valve:**

- Determine maximum cold water capacity of heater using "Cold Water Capacity" column with "Water Pressure" column at point of installation.
- Using "Steam Pressure" column, locate the steam pressure available at point of installation. Determine temperature rise required by subtracting inlet water temperature from water temperature desired. Go across columns to locate temperature rise required to find the GPM the unit can heat to required temperature.
- Compare the capacities found in steps 1 and 2. The lower of these two capacities is the maximum amount of hot water that size heater can produce to the desired temperature.

### **NOTE:**

- A minimum flow rate must be established to lift the piston and open the internal steam valve.

### **Minimum flows are:**

- 1/2" = 1 GPM
- 3/4" = 2 GPM
- 1" = 10 GPM
- 1 1/2" = 15 GPM

- Valves require a 15 PSI pressure drop on the water side to lift the piston and open the internal steam valve.

### **EXAMPLE:**

*(Using 3/4" size) assume water is 60 PSI and steam is 40 PSI. Mixer can pass 19 GPM of cold water but can only heat 10 GPM with a 105F rise.*

*Therefore the capacity of the mixer is only 10 GPM.*

*If the steam pressure were raised to 100 PSI, the capacity of the same unit would be 19 GPM, 105F rise.*



# Output Capacity Tables



<b>1/2" Valve</b>			<b>Output Capacity Tables</b>											
Water Pressure (PSI)	Cold Water Capacity (GPM)	Steam Pressure (PSI)	Temperature Rise											
			45°	55°	65°	75°	85°	95°	105°	115°	125°	135°	145°	155°
20	8	20	8	6	5	5	4	4	-	-	-	-	-	-
30	10	30	10	7	6	5	5	4	4	4	3	3	-	-
40	11	40	13	9	8	7	6	5	5	5	4	4	3	3
50	13	50	16	12	10	9	8	7	6	6	5	5	5	4
60	14	60	18	13	11	9	8	7	7	6	6	5	5	5
70	15	70	19	14	12	10	9	8	7	7	6	6	5	5
80	16	80	20	15	12	11	10	9	8	8	7	6	6	6
90	17	90	22	16	13	12	10	9	8	8	7	6	6	6
100	18	100	+	17	14	12	11	10	9	8	7	7	6	6
110	19	110	+	18	15	13	12	10	9	8	8	7	7	6
120	20	120	+	19	16	14	12	11	10	9	8	8	7	7
130	21	130	+	19	17	14	13	11	10	9	9	8	7	7
140	22	140	+	20	17	15	3	12	11	10	9	8	8	7
150	22	150	+	22	18	16	14	12	11	10	10	9	8	8

<b>3/4" Valve</b>														
Water Pressure (PSI)	Cold Water Capacity (GPM)	Steam Pressure (PSI)	Temperature Rise											
			45°	55°	65°	75°	85°	95°	105°	115°	125°	135°	145°	155°
20	9	20	15	12	10	9	8	7	6	6	5	5	5	4
30	14	30	17	14	12	10	9	8	8	7	6	6	5	5
40	15	40	23	19	16	14	12	11	10	9	8	8	7	7
50	17	50	25	23	20	17	15	14	12	11	10	10	9	8
60	19	60	31	25	21	18	16	15	13	12	11	10	10	9
70	20	70	33	27	23	20	17	16	14	13	12	11	10	10
80	22	80	35	29	24	21	18	17	15	14	13	12	11	10
90	23	90	39	32	27	24	21	19	17	15	14	13	12	11
100	25	100	+	25	30	26	23	21	19	17	16	15	14	13
110	26	110	+	26	31	29	26	23	21	19	17	16	15	14
120	27	120	+	+	31	32	28	25	23	21	19	18	16	15
130	28	130	+	+	32	33	29	26	23	21	20	18	17	16
140	29	140	+	+	33	33	29	26	24	22	20	18	17	16
150	33	150	+	+	33	33	30	27	24	22	20	19	17	16

<b>1" Valve</b>														
Water Pressure (PSI)	Cold Water Capacity (GPM)	Steam Pressure (PSI)	Temperature Rise											
			45°	55°	65°	75°	85°	95°	105°	115°	125°	135°	145°	155°
20	24	20	33	24	20	18	16	-	-	-	-	-	-	-
30	28	30	40	29	24	21	19	17	15	14	13	12	11	10
40	31	40	45	32	28	24	21	19	17	16	14	13	12	12
50	34	50	50	37	31	27	24	21	19	17	16	15	14	13
60	37	60	+	40	34	30	25	23	21	19	18	17	16	14
70	40	70	+	44	37	32	28	25	23	21	19	18	17	16
80	43	80	+	48	40	35	31	28	25	23	21	19	18	17
90	44	90	+	52	44	38	33	30	27	25	23	21	20	18
100	47	100	+	+	47	41	36	32	29	26	24	23	21	20
110	48	110	+	+	50	43	38	34	31	28	26	24	22	21
120	50	120	+	+	53	46	41	36	33	30	28	26	24	22
130	53	130	+	+	+	49	43	39	35	32	29	27	25	24
140	53	140	+	+	+	52	46	41	37	34	31	29	27	25
150	55	150	+	+	+	53	47	42	38	35	32	30	28	25

<b>1 1/2" Valve</b>														
Water Pressure (PSI)	Cold Water Capacity (GPM)	Steam Pressure (PSI)	Temperature Rise											
			45°	55°	65°	75°	85°	95°	105°	115°	125°	135°	145°	155°
20	37	20	34	25	21	18	16	-	-	-	-	-	-	-
30	43	30	45	33	28	24	21	19	-	-	-	-	-	-
40	51	40	57	42	35	30	27	24	22	20	18	17	16	14
50	57	50	68	50	42	36	32	29	26	24	22	20	19	17
60	62	60	79	58	49	42	37	33	30	28	25	23	22	20
70	63	70	90	65	55	48	42	38	34	31	29	27	25	23
80	70	80	100	73	62	53	47	42	38	35	32	30	28	25
90	75	90	+	+	67	58	52	46	42	38	35	32	30	29
100	79	100	+	+	73	63	55	50	45	41	38	35	33	30
110	83	110	+	+	77	67	59	53	48	44	40	37	35	32
120	86	120	+	+	81	70	62	55	50	46	42	39	37	33
130	90	130	+	+	84	73	64	58	52	48	44	40	38	35
140	93	140	+	+	87	75	66	59	54	49	45	42	39	36
150	96	150	+	+	89	77	68	61	55	50	46	43	40	37

- Steam Pressure Too Low    + Steam Pressure Too High





**WaterBoss™ Water Nozzles**



**Thermostatic Hot & Cold Water Mixer**



**522 Series**



**516 Series**



**Washdown Stations**



**S.S. Hose Rack**

All sizes (includes all mounting hardware)



**Steam Trap**

L200W



**Strainer**

1/2", 3/4", 1", 1 1/2"  
(please specify finish)



**Steam Check Valve**

1/2", 3/4", 1", 1 1/2"  
(please specify finish)



**Thermometer**

All sizes - acrylic face



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John Neher Design: 630.663.9244



**Thermometer Tee**

1/2", 3/4", 1"  
(please specify finish)



**Swivels:**

3500-1/2-SS  
1000-1/2-BR