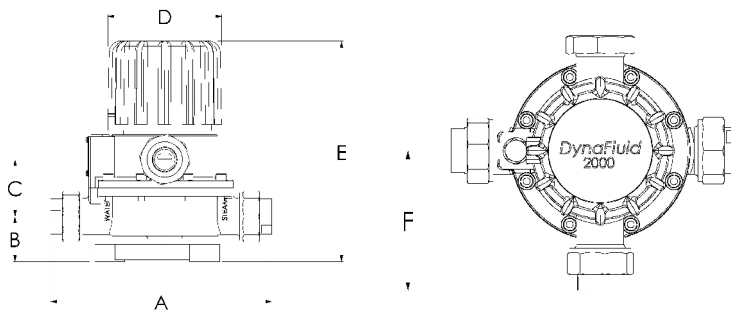
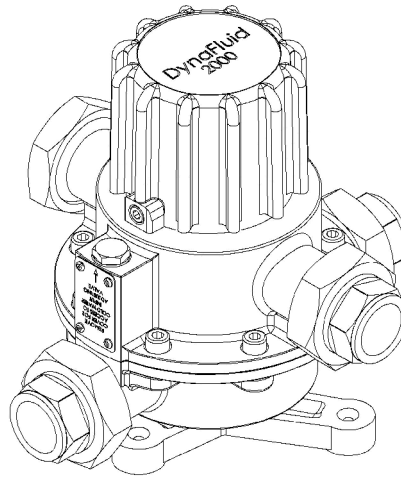




DYNAFLUID 2000 HIGH ECONOMY STEAM AND WATER MIXING VALVE

- Outstanding economy - up to 80% cost savings
- Instantaneous hot water
- Unrivalled operator safety
- Available in four sizes for flow rates up to 350 l/min



DIMENSIONS (mm)

<u>Size</u>	A	B	C	D	E	F	G	H	I
½"	208.0	41.0	51.0	110.0	198.0	158.0	77.0	77.0	53.0
¾"	212.0	45.0	55.0	110.0	210.0	158.0	77.0	77.0	53.0
1"	261.0	58.0	64.0	110.0	237.0	158.0	77.0	77.0	53.0
1½"	442.0	60.0	98.0	143.0	286.0	200.0	101.6	106.6	101.6

Description

The Dynafluid 2000 range comprises 4 sizes of steam and water mixing valve - ½", ¾", 1" and 1½". The valve mixes steam with cold water to provide an extremely economical supply of hot water instantaneously and at the point where it is required. Typical applications include washing down floors or wall surfaces, cleaning vessels, and supplying hot water to laundry machines. Dynafluid valves can be used by any industry which has a ready supply of steam, such as abattoirs, breweries, food production and processing plants, chemical plants, laundrettes etc.

Connections

Steam inlet - left
Cold water inlet - right
Outlet - top or bottom

Every valve is supplied with flat faced unions for each inlet and for one of the outlets. Each union terminates in a BSP female tail piece for connection to supply pipework (NPT female available on request). A cap is provided to close off the unused outlet. Every valve is supplied with a check valve for the steam inlet.

Materials of Manufacture

Main valve body and connections : gunmetal
Main steam valve : stainless steel with PTFE seat
Screws and springs : stainless steel
Main 'O' ringseal : Viton
Knob and mounting bracket : engineering plastics

All materials are UKWFBS Listed.

Installation

Installations must comply with local and national regulations, codes and byelaws. Checkvalves and strainers must be installed on the inlets to ensure optimum performance and service life. To reduce the risk of condensate building up in the steam line, it is recommended that a steam trap is installed near the steam inlet.

See below for recommended installation layout.

Pressure Range

Water : Minimum pressure 1.0 bar
Maximum pressure 10.0 bar
Steam : Minimum pressure 0.35 bar
Maximum pressure 10.0 bar

Minimum pressure loss across the mixing valve must be 1.0 bar to ensure that the steam valve will open. Maximum pressure loss ratio is 10:1 in favour of the water or the steam. Pressure loss ratio is the ratio of water to steam after the back pressure caused by outlet restrictions has been deducted equally from the water and steam inlet pressures.

Flow Control

The maximum flow rate achievable will depend on the pressure of water available (see Table 1 opposite). The flow rate can be adjusted via the cold water input valve near the cold water inlet e.g. turn clockwise to reduce flow.

The design of the valve allows the ON-OFF control of the hot water to be On the outlet e.g. by trigger operated watergun or ball valve. Separate flow controls on the inlets are not required.

Temperature Control

The maximum temperature achievable will depend on the pressure of steam available (see Table 2 opposite). The temperature of the hot water can be adjusted by turning the temperature control knob e.g. clockwise to obtain hotter water.

Repairs and Maintenance

Repairs and maintenance can be carried out on site using standard pumping tools. Alternatively the valve can be easily removed from the pipework to a maintenance area. A full range of spares is available, including a Repair Kit for each valve size.

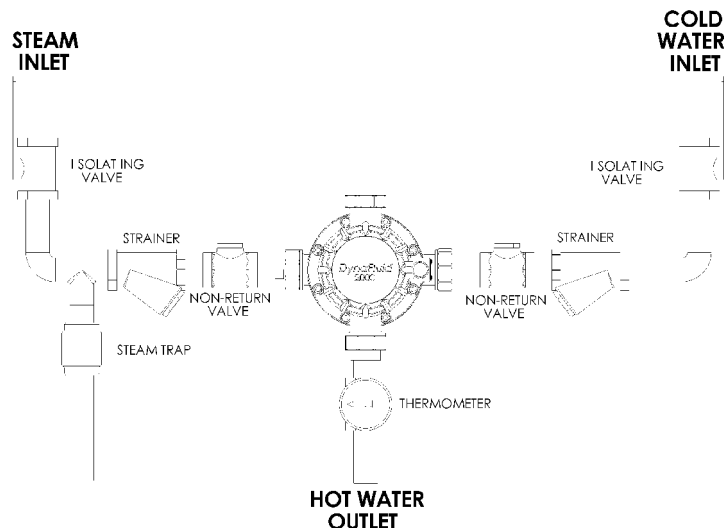
Testing and Guarantees

Every valve is performance tested prior to despatch and carries a unique serial number for traceability. Every valve is guaranteed for 12 months from date of installation against faulty materials or workmanship.

IMPORTANT:

The correct Fixed Loading Spring must be fitted to the valve prior to installation - See back page for selection procedure

Recommended Installation Layout



How to choose the correct size mixing valve for your application

The tables below give the hot water output achievable for a range of temperatures and pressures, for the 4 different sizes of valve.

To choose the correct valve:-

- (i) Ascertain the hot water temperature required - for example: washdown systems typically require **60°C**.
- (ii) Ascertain the amount of hot water required - for example: washdown systems typically use **50 l/min**.
- (iii) Confirm the running water and steam pressures available on site.
- (iv) From Table 1, select the smallest valve which can deliver the required flow rate at the running water pressure available.
- (v) From Table 2, check that this valve can deliver the hot water at the flow rate and temperature required, with the steam pressure available.
- (vi) If there is not enough steam, choose the next size valve and check that this valve can deliver your requirements.
- (vii) Ensure that the minimum flow rate of the valve is lower than the quantity of water which the steam can heat. If it is higher, it will be necessary to increase the steam pressure.

TABLE 1 - COLD WATER CAPACITY			Valve size	TABLE 2 - STEAM CAPACITY							
Running water pressure (bar)	Max flow rate input valve open (l/min)	Min flow rate input valve closed (l/min)		Running steam pressure (bar)	Steam feed requirement (kg/hr)	Max flow rate obtainable with open outlet (l/min)					
						at 40°C	at 50°C	at 60°C	at 70°C	at 80°C	at 90°C
1	23	10	1/2"	1	62	26	16	12	10	STEAM PRESSURE TOO LOW	
2	35	13		2	85	37	24	18	14		
3	43	15		3	125	53	32	25	20	17	14
4	50	16		4	157	61	40	31	26	22	18
5	56	17		5	174	73	45	34	28	24	21
6	63	18		6	191	80	49	38	31	26	22
7	69	19		7	208	STEAM	53	41	33	28	24
8	75	20		8	225	PRESSURE	58	44	36	31	26
9	79	20		9	242	TOO	62	48	39	33	28
10	83	21		10	263	HIGH	67	51	42	35	30

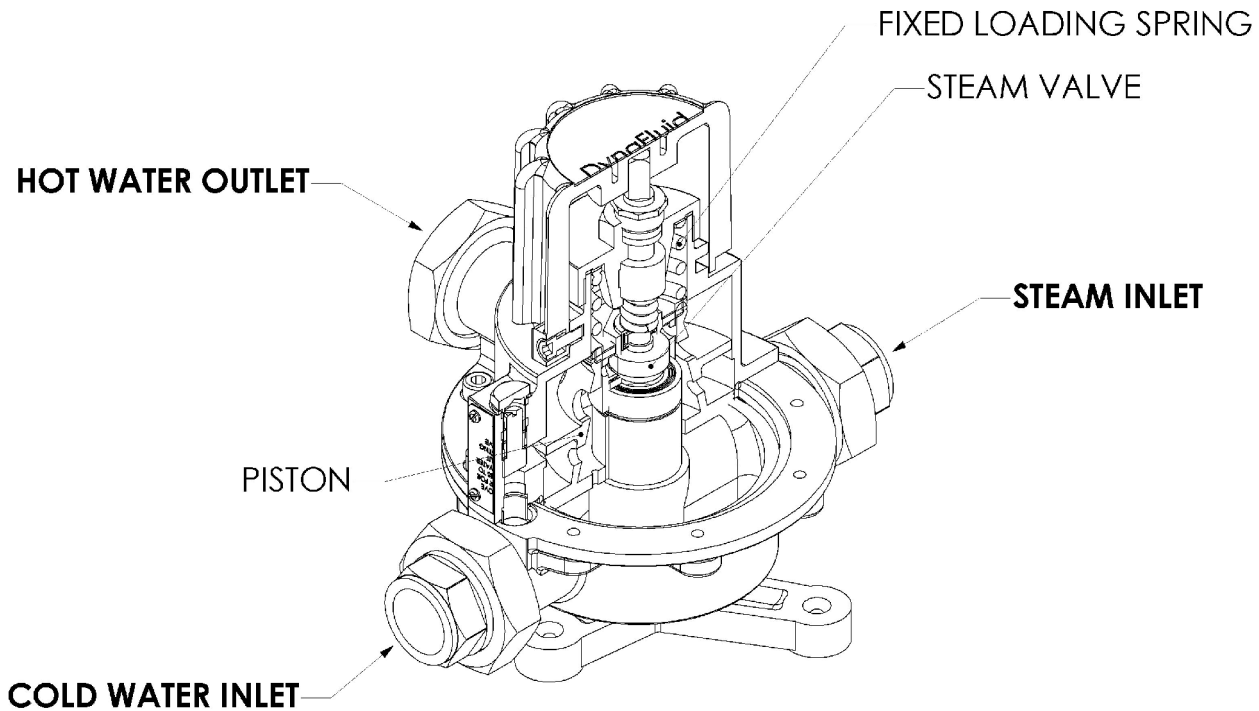
1	26	12	3/4"	1	120	44	30	24	20	16	14
2	44	16		2	174	77	44	34	27	23	19
3	58	22		3	247	88	63	48	40	34	29
4	69	25		4	306	110	79	60	49	41	36
5	78	28		5	337		86	67	54	46	39
6	85	31		6	382		100	75	60	53	44
7	93	33		7	447	STEAM		88	71	60	51
8	100	36		8	506	PRESSURE		100	81	69	59
9	106	38		9	551	TOO		108	88	74	64
10	112	41		10	566	HIGH		111	90	75	66

1	79	22	1"	1	213	90	56	STEAM PRESSURE TOO LOW			
2	104	29		2	350	146	90	68	56	48	40
3	120	33		3	420	175	108	82	67	57	49
4	138	39		4	490		126	94	78	66	57
5	152	46		5	554		142	102	88	74	64
6	164	49		6	622		160	118	99	84	72
7	177	52		7	689	STEAM	177	135	110	92	79
8	187	55		8	757	PRESSURE	195	149	121	102	86
9	194	57		9	824	TOO		162	131	112	94
10	198	60		10	886	HIGH		174	140	120	102

1	112	47	1 1/2"	1	243	105	65	STEAM PRESSURE TOO LOW			
2	162	69		2	394	165	100	70			
3	197	80		3	545	225	140	100	88	72	62
4	230	91		4	688	275	180	132	110	93	80
5	252	100		5	830	345	215	165	132	112	97
6	273	110		6	957		245	190	155	135	110
7	293	119		7	1064	STEAM	275	210	170	147	123
8	315	128		8	1158	PRESSURE	295	230	185	162	135
9	338	135		9	1231	TOO	320	245	198	167	145
10	357	142		10	1285	HIGH	330	255	210	172	150

Principle of Operation

When the outlet control is opened cold water flows into the valve body. This change in differential pressure raises the valves piston lifting the steam valve from its seat. Steam combines with the cold water in a mixing chamber to create instantaneous hot water. Once the control is turned off the differential pressure is hot, allowing a strong spring to push the piston back and close the steam valve completely. So, in the absence of cold water, live steam cannot escape through the outlet.



Fixed Loading Spring Selection

The Dynafluid 2000 valve uses one of three Fixed Loading Springs to give maximum efficiency and safety whilst covering the range of steam pressures (0.35 bar to 10.0 bar). These springs are of different values to suit the steam pressures and it is essential that the correct one is fitted before installation.

The medium spring (3.5 bar - 7.0 bar) is pre-fitted at the factory. The low value spring (0.35 bar - 3.5 bar) is supplied in the packaging. The high value spring (7.0 bar - 10.0 bar) is available on request, at which time the operating conditions can be verified.

Table 3 below indicates how to identify the correct spring by colour and number of notch marks, for each size of mixer. In each case a minimum flow rate will be required to ensure that the steam valve opens.

TABLE 3

Valve size	Spring value	Steam Pressure (bar)	Colour Code	Notch Marks	Min. flow rate (l/min)
½"	High	7.0 - 10.0	Yellow	Three	4.5
½"	Medium	3.5 - 7.0	Green	Two	2.7
½"	Low	0.35 - 3.5	Black	One	2.7
¾"	High	7.0 - 10.0	Red	Three	8.2
¾"	Medium	3.5 - 7.0	Blue	Two	6.8
¾"	Low	0.35 - 3.5	White	One	6.2
1"	High	7.0 - 10.0	Red	Three	36.3
1"	Medium	3.5 - 7.0	Blue	Two	31.8
1"	Low	0.35 - 3.5	White	One	27.2
1½"	High	7.0 - 10.0	Red	Three	54.4
1½"	Medium	3.5 - 7.0	Blue	Two	54.4
1½"	Low	0.35 - 3.5	White	One	54.4