

FlowCon Unimizer 3-way 15-80mm

Actuated Control Valves



SPECIFICATIONS

Pressure rating:	2400 kPa / 360 psi
Temperature rating, media:	-20°C to +120°C / -4°F to +248°F
Temperature rating, ambient:	-20°C to +50°C / -4°F to +122°F
Media:	Chilled water, hot water (Fluid grp. 2) For higher glycol content than 50% or additional fluids, please consult factory
Material:	
- Flow Optimizer:	Glass filled polymer
- Body:	Forged brass DZR CW602
- End connections ¹ :	Brass - ISO or NPT ¹
- Field repairable stem:	Dual teflon seals and EPDM o-ring
- Stem seals:	EPDM o-rings
- Ball valve:	Nickel-plated brass ball
- Ball seals:	Teflon seals with EPDM o-rings
Angle of rotation:	0-90°
Installation:	Valve can be installed in mixing or diverting installations.
Leakage rates:	IEC 60534-1 Class IV

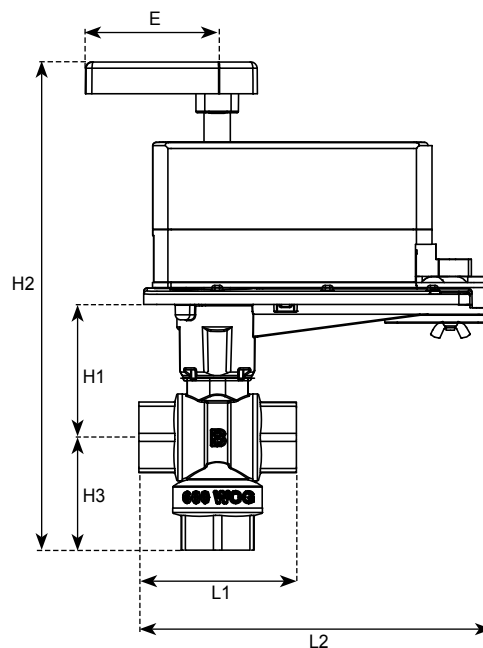
Note1: NPT only available ex. US-factory

DIMENSIONS AND WEIGHTS (NOMINAL) (measured in mm unless noted)

Model no.	Size (mm)	Size (")	Kv (m ³ /h)	L1	L2	H1	H2	H3	D depth (not shown)	E (handle)	Weight ² (kgs)
				ISO/NPT	ISO/NPT						
FUR3.A_	15	1/2	0.28 0.51 0.86 2.1 3.7 6.9	68.6	177.8	86.4	241.3	50.8	76.2	50.8	0.7
FUR3.B_	20	3/4	0.34 0.57 1.1 2.1 3.3 9.5	71.1	165.1	86.4	226.1	50.8	76.2	50.8	0.7
FUR3.C_	25	1	0.34 0.56 1.1 2.0 3.0 8.6	71.1	185.4	86.4	243.8	53.3	76.2	50.8	0.7
			7.4 19.2	76.2	172.7	99.1	251.5	61.0			1.0
			3.9 12.8 26.6	109.2	198.1	104.1	276.9	83.8			1.6
FUR3.D_	32	1 1/4	3.5 7.5 16.7	76.2	172.7	99.1	251.5	61.0	76.2	50.8	1.5
			11.0 23.1 29.4	91.4	185.4	104.1	264.2	71.1			1.6
FUR3.E_	40	1 1/2	3.5 7.2 11.6 27.6	86.4	198.1	104.1	276.9	68.6	76.2	50.8	1.6
			20.3 52.7	101.6	185.4	116.8	281.9	81.3			2.4
FUR3.F_	50	2	20.6 32.9 48.9	101.6	185.4	116.8	281.9	81.3	76.2	50.8	2.4
			71.2 95.5	127.0	198.1	149.9	315.0	96.5			3.9
FUR3.G_	65	2 1/2	32.8 63.9 85.8	134.6	198.1	149.9	315.0	104.1	76.2	50.8	4.1
FUR3.H_	80 ³	3 ³	64.7 86.2 107.8 129.3 150.9 172.4	238.8	256.5	114.3	312.4	71.1	180.3	50.8	10.0

Note 2: The weight is without actuator.

Note 3: Valve shown is 15mm to 65mm. 80mm valve has bypass port in Z plane.



MODEL NUMBER SELECTION

FUR3

M

Insert ball size:

A=15mm, 1/2" **B**=20mm, 3/4" **C**=25mm, 1" **D**=32mm, 1 1/4"
E=40mm, 1 1/2" **F**=50mm, 2" **G**=65mm, 2 1/2" **H**=80mm, 3"

Insert a Kv value (**A, B, C, D, E, F, G, H, J, K or M**) (see flow rate table next page):

Select connection standard:

I=ISO **N**=NPT (NPT only available ex. US-factory)

Select ball and stem:

B=Standard **S**=Optional 316 SS **C**=Standard ball with SS stem

Insert mounting kit number:

1=FlowCon
2=Johnson Controls
3=Invensys
4=Honeywell
5=Siemens
6=Belimo
7=KMC Controls

Insert power supply, actuator:

0=if no actuator required
10=24V 2-position or 3-point floating (without end switches) (BBTS1000)
20=240V 2-position or 3-point floating (without end switches) (BBTHV1200A)
30=24V modulating (without end switches) (BBMS2000)
40=24V 2-position or 3-point floating incl. auxiliary switches (BBTS1021)
50=240V 2-position or 3-point floating incl. auxiliary switches (BBTHV1221A)
60=24V modulating incl. auxiliary switches (BBMS2021)

T=Optional aluminum hanging ID tag

Example: FUR3.A.C.I.B.M.1.10.T=Unimizer 3-way 15mm (Kv equal to 0.86 m³/h) with ISO end connections, standard ball and stem, FlowCon mounting kit, 24V 2-position actuator and ID-tag.

Kv SELECTION AND FLOW RATE TABLE (l/h)

Line size (mm)	Model no	Full ⁴ port	Close OFF ΔP ⁵ (bar)	Flow rate (l/h) differential pressure (kPa) across valve											Kv ⁶ (m ³ /h)	Through Kv	
				5	10	15	20	25	30	40	50	60	70	80			90
15	FUR3.A_		3.5	63	89	108	125	140	153	177	198	217	234	250	266	0.28	A
	FUR3.A_			114	161	198	228	255	279	323	361	395	427	456	484	0.51	B
	FUR3.A_			192	272	333	385	430	471	544	608	666	720	769	816	0.86	C
	FUR3.A_			463	655	802	926	1035	1134	1309	1464	1603	1732	1851	1964	2.07	D
	FUR3.A_			830	1173	1437	1659	1855	2032	2346	2623	2874	3104	3318	3520	3.71	E
	FUR3.A_			1543	2182	2672	3086	3450	3779	4364	4879	5345	5773	6172	6546	6.90	F
20	FUR3.B_		3.5	76	108	132	152	170	186	215	240	263	284	304	323	0.34	A
	FUR3.B_			127	180	221	255	285	312	360	403	442	477	510	541	0.57	B
	FUR3.B_			25	35	43	50	56	61	71	79	87	94	100	106	0.11	C
	FUR3.B_			463	655	802	926	1035	1134	1309	1464	1603	1732	1851	1964	2.07	D
	FUR3.B_			733	1037	1270	1467	1640	1797	2074	2319	2541	2744	2934	3112	3.28	E
	FUR3.B_	•		2120	2998	3672	4240	4740	5192	5996	6703	7343	7932	8479	8994	9.48	F
25	FUR3.C_		3.5	76	108	132	152	170	186	215	240	263	284	304	323	0.34	A
	FUR3.C_			125	177	217	250	280	307	354	396	434	469	501	531	0.56	B
	FUR3.C_			250	354	434	501	560	613	708	792	868	937	1002	1063	1.12	C
	FUR3.C_			443	626	767	885	990	1084	1252	1400	1534	1657	1771	1878	1.98	D
	FUR3.C_			675	955	1170	1351	1510	1654	1910	2135	2339	2527	2701	2865	3.02	E
	FUR3.C_			1927	2726	3339	3855	4310	4721	5452	6095	6677	7212	7710	8178	8.62	F
	FUR3.C_			1657	2343	2870	3314	3705	4059	4686	5240	5740	6200	6628	7030	7.41	G
	FUR3.C_			4298	6078	7444	8595	9610	10527	12156	13591	14888	16081	17191	18234	19.22	H
	FUR3.C_			2871	4060	4973	5742	6420	7033	8121	9079	9946	10743	11484	12181	12.84	J
	FUR3.C_			868	1227	1503	1735	1940	2125	2454	2744	3005	3246	3470	3681	3.88	K
FUR3.C_		5937	8396	10283	11874	13275	14542	16792	18774	20566	22213	23747	25188	26.55	M		
32	FUR3.D_	•	3	3739	5287	6476	7477	8360	9158	10575	11823	12951	13989	14955	15862	16.72	B
	FUR3.D_			2448	3463	4241	4897	5475	5998	6925	7743	8482	9161	9794	10388	10.95	C
	FUR3.D_			792	1119	1371	1583	1770	1939	2239	2503	2742	2962	3166	3358	3.54	D
	FUR3.D_			1677	2372	2905	3354	3750	4108	4743	5303	5809	6275	6708	7115	7.50	E
	FUR3.D_	•		6574	9297	11387	13148	14700	16103	18594	20789	22773	24598	26296	27891	29.40	F
	FUR3.D_			5165	7305	8947	10331	11550	12652	14610	16334	17893	19327	20661	21915	23.10	G
40	FUR3.E_		3	2583	3652	4473	5165	5775	6326	7305	8167	8947	9663	10331	10957	11.55	A
	FUR3.E_			771	1091	1336	1543	1725	1890	2182	2440	2672	2886	3086	3273	3.45	B
	FUR3.E_			1601	2264	2773	3202	3580	3922	4528	5063	5546	5990	6404	6793	7.16	C
	FUR3.E_	•		6169	8725	10686	12339	13795	15112	17449	19509	21371	23083	24677	26174	27.59	D
	FUR3.E_			4530	6407	7847	9061	10130	11097	12814	14326	15693	16951	18121	19220	20.26	E
	FUR3.E_			11777	16656	20399	23555	26335	28849	33311	37243	40798	44067	47109	49967	52.67	F
50	FUR3.F_		3	4606	6514	7978	9213	10300	11283	13029	14566	15957	17235	18425	19543	20.60	A
	FUR3.F_			10930	15457	18931	21860	24440	26773	30914	34563	37862	40896	43720	46372	48.88	B
	FUR3.F_			7363	10413	12754	14727	16465	18037	20827	23285	25507	27551	29453	31240	32.93	C
	FUR3.F_			20914	29577	36224	41828	46765	51228	59154	66136	72448	78253	83656	88730	93.53	D
	FUR3.F_			15923	22519	27580	31846	35605	39003	45037	50353	55159	59579	63692	67556	71.21	E
65	FUR3.G_		3	7343	10385	12719	14686	16420	17987	20770	23221	25438	27476	29373	31155	32.84	A
	FUR3.G_			14284	20201	24741	28568	31940	34989	40401	45170	49481	53446	57136	60602	63.88	B
	FUR3.G_	•		19181	27126	33222	38362	42890	46984	54252	60656	66445	71769	76724	81378	85.78	C
80	FUR3.H_		5	14458	20447	25043	28917	32330	35416	40895	45722	50085	54098	57834	61342	64.66	A
	FUR3.H_			19277	27262	33389	38554	43105	47219	54524	60960	66778	72128	77109	81786	86.21	B
	FUR3.H_			24096	34077	41735	48192	53880	59023	68153	76198	83471	90158	96383	102230	107.76	C
	FUR3.H_			28915	40891	50082	57829	64655	70826	81783	91436	100163	108189	115658	122674	129.31	D
	FUR3.H_			33733	47706	58428	67467	75430	82629	95412	106674	116856	126219	134933	143118	150.86	E
	FUR3.H_	•		38552	54521	66774	77104	86205	94433	109042	121912	133548	144249	154208	163562	172.41	F

Note 4: These valves are full port and do not have the Optimizer insert.

Note 5: Close OFF pressures measured with 4 Nm actuator. The "Close OFF pressure" is the maximum allowable pressure drop across the valve body when the valve is fully closed. (Do not use actuators with torques higher than 10 Nm).

Note 6: Kv is defined as the quantity of water in m³/h at 15°C that will flow through a given valve with a pressure drop of 1 bar. Hence the 1.0 bar pressure differential column in the table above is equivalent to the Kv value.

GENERAL SPECIFICATIONS

1. ACTUATED BALL VALVE

- 1.1. Valve housing shall consist of forged brass DZR CW602 rated at no less than 2400 kPa at +120°C.
- 1.2. Manufacturer shall be able to provide glass-filled polymer ball insert to make flow control equal percentage.
- 1.3. Valve ball shall consist of chemically nickel-plated brass.
- 1.4. 275 kPa with 4 Nm of torque.
- 1.5. Bypass Kv shall be 80% of through Kv.
- 1.6. Stem shall be removable/replaceable without removing valve from line and shall include both teflon seals and EPDM O-ring.
- 1.7. Valves shall be installed in Tee configuration with actuator perpendicular to shaft. Valve shall not require elbows of any kind.

2. VALVE ACTUATOR

- 2.1. Control valve actuator shall be analog modulating (4-20 mA or 2-10 V), floating (tri-state), pulse width modulation, or two position as indicated in the control sequence.
- 2.2. Actuator shall provide minimum torque required for full valve shutoff position.
- 2.3. A 90 cm cable shall be provided for installation to electrical junction box.
- 2.4. A universal mounting plate shall allow installation of actuators meeting the system electrical requirements and valve torque requirements as provided by FlowCon, Belimo, ELO Drive, Honeywell, Invensys, Johnson Controls, KMC, Neptronics or Siemens. The control valve actuator may be furnished by the controls contractor under Section 15970 or by the valve manufacturer.

3. ACCESSORIES

- 3.1. Identification tags shall be available for all valves; tags shall be indelibly marked with Kv, model number and location; tags shall be aluminum.

UPDATES

For latest updates please see www.flowcon.com

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