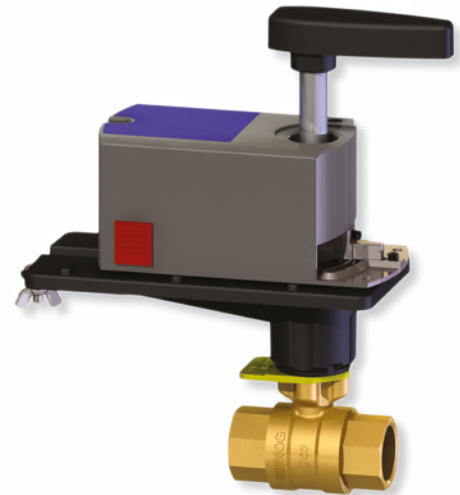


FlowCon Unimizer 2-way 15-80mm

Actuated Control Valves



SPECIFICATIONS

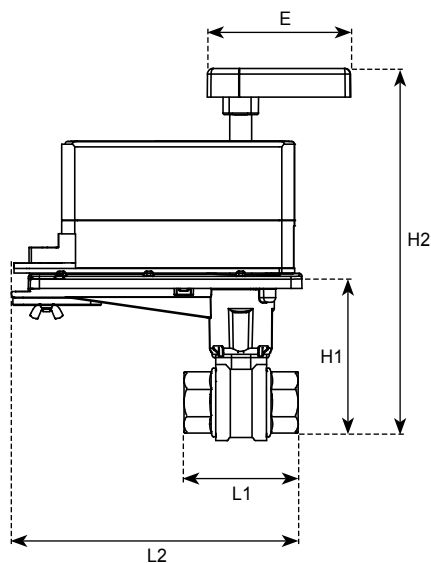
Pressure rating:	2400 kPa / 360 psi
Temperature rating, media:	-20°C to +120°C / -4°F to +248°F
Temperature rating, ambient:	-20°C to +50°C / -4°F to +122°F
Media:	Chilled water, hot water (Fluid grp. 2) For higher glycol content than 50% or additional fluids, please consult factory
Material:	
- Flow 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 Optional: Stainless steel ball
- Ball seals:	Teflon seals with EPDM o-rings
Angel of rotation:	0-90°
Leakage rates:	IEC 60534-1 Class IV

Note 1: 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	D depth (not shown)	E (handle)	Weight ² (kgs)
				ISO/NPT	ISO/NPT					
FUR2.A_	15	1/2	0.33 0.59 1.12 2.24 4.05 6.90 10.09	60.2	168.9	96.0	211.3	76.2	51.3	0.5
FUR2.B_	20	3/4	0.27 0.54 1.03 2.16 3.71 12.67	61.2	168.9	96.0	218.9	76.2	51.3	0.5
			8.71 24.66	70.1	168.9	102.9				
FUR2.C_	25	1	7.76 24.48	70.1	168.9	104.1	219.5	76.2	51.3	0.5
			3.79 13.19 22.50 37.84 46.72	77.2	170.9	111.5	227.6			0.7
FUR2.D_	32	1 1/4	3.79 7.16 12.84 35.43	76.5	170.4	114.1	229.1	76.2	51.3	0.7
			31.47 88.19	92.0	179.1	123.7	240.0			1.2
FUR2.E_	40	1 1/2	19.66 63.71	87.1	176.8	123.7	240.0	76.2	51.3	1.2
			35.60 148.02	103.1	184.7	138.2	254.5			1.5
FUR2.F_	50	2	35.95 93.10	101.1	183.1	138.2	254.5	88.9	51.3	1.5
			49.14 61.29 86.21 181.03 220.69	124.5	195.3	153.9	270.5			2.3
FUR2.G_	65	2 1/2	38.79 47.41 62.33 87.07 139.66 174.14	135.9	200.9	153.9	270.5	88.9	51.3	2.5
FUR2.H_	80	3	42.24 54.31 70.69 106.90 125.00	145.5	205.7	162.1	277.1	101.6	51.3	2.9

Note 2: The weight is without actuator.



MODEL NUMBER SELECTION

FUR2 .

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 (**1, 2, 3, 4, 5, 6, 7** or **8**) (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: FUR2.A.3.I.B.1.10.T=Unimixer 2-way 15mm (Kv equal to 1.12 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 ³ port	Close OFF ΔP^4 (bar)	Flow rate (l/h) differential pressure (kPa) across valve												Kv ⁵ (m ³ /h)	Through Kv
				5	10	15	20	25	30	40	50	60	70	80	90		
15	FUR2.A.1_		9	72	101	124	143	160	175	202	226	248	268	286	304	0.32	1
	FUR2.A.2_			132	187	229	264	295	323	373	417	457	494	528	560	0.59	2
	FUR2.A.3_			250	354	434	501	560	613	708	792	868	937	1002	1063	1.12	3
	FUR2.A.4_			501	708	868	1002	1120	1227	1417	1584	1735	1874	2004	2125	2.24	4
	FUR2.A.5_			906	1281	1569	1811	2025	2218	2561	2864	3137	3388	3622	3842	4.05	5
	FUR2.A.6_	•		2254	3188	3904	4508	5040	5521	6375	7128	7808	8434	9016	9563	10.08	6
	FUR2.A.7_			1543	2182	2672	3086	3450	3779	4364	4879	5345	5773	6172	6546	6.90	7
20	FUR2.B.6_		9	60	85	105	121	135	148	171	191	209	226	241	256	0.27	6
	FUR2.B.7_			121	171	209	241	270	296	342	382	418	452	483	512	0.54	7
	FUR2.B.8_			230	326	399	461	515	564	651	728	798	862	921	977	1.03	8
	FUR2.B.1_			483	683	837	966	1080	1183	1366	1527	1673	1807	1932	2049	2.16	1
	FUR2.B.2_			827	1170	1433	1655	1850	2027	2340	2616	2866	3096	3309	3510	3.70	2
	FUR2.B.3_	•		2833	4007	4907	5666	6335	6940	8013	8959	9814	10600	11332	12020	12.67	3
	FUR2.B.4_			1948	2754	3373	3895	4355	4771	5509	6159	6747	7287	7790	8263	8.71	4
FUR2.B.5_	•	5514	7798	9551	11028	12330	13507	15596	17437	19102	20632	22057	23395	24.66	5		
25	FUR2.C.1_		7	1735	2454	3005	3470	3880	4250	4908	5487	6011	6492	6941	7362	7.76	1
	FUR2.C.2_	•		5474	7741	9481	10948	12240	13408	15483	17310	18962	20481	21896	23224	24.48	2
	FUR2.C.7_			847	1199	1468	1695	1895	2076	2397	2680	2936	3171	3390	3596	3.79	7
	FUR2.C.3_			2949	4171	5108	5899	6595	7224	8342	9327	10217	11036	11797	12513	13.19	3
	FUR2.C.4_	•		10447	14774	18095	20894	23360	25590	29548	33036	36189	39089	41788	44322	46.72	4
	FUR2.C.5_			5031	7115	8714	10062	11250	12324	14230	15910	17428	18825	20125	21345	22.50	5
	FUR2.C.6_			8461	11966	14655	16923	18920	20726	23932	26757	29311	31659	33845	35898	37.84	6
32	FUR2.D.5_		7	847	1199	1468	1695	1895	2076	2397	2680	2936	3171	3390	3596	3.79	5
	FUR2.D.6_			1601	2264	2773	3202	3580	3922	4528	5063	5546	5990	6404	6793	7.16	6
	FUR2.D.1_			2871	4060	4973	5742	6420	7033	8121	9079	9946	10743	11484	12181	12.84	1
	FUR2.D.2_	•		7922	11204	13722	15845	17715	19406	22408	25053	27444	29643	31690	33612	35.43	2
	FUR2.D.3_			7035	9949	12184	14069	15730	17231	19897	22246	24369	26321	28139	29846	31.46	3
	FUR2.D.4_	•		19720	27888	34156	39440	44095	48304	55776	62360	68312	73785	78880	83664	88.19	4
40	FUR2.E.1_		7	4396	6217	7614	8792	9830	10768	12434	13902	15229	16449	17584	18651	19.66	1
	FUR2.E.2_	•		14244	20144	24671	28488	31850	34890	40287	45043	49342	53295	56975	60431	63.70	2
	FUR2.E.3_			7960	11258	13788	15921	17800	19499	22515	25173	27576	29785	31842	33773	35.60	3
	FUR2.E.4_	•		33094	46802	57320	66188	74000	81063	93603	104652	114640	123826	132375	140405	148.00	4
50	FUR2.F.1_		7	8039	11368	13923	16077	17975	19691	22737	25420	27847	30078	32155	34105	35.95	1
	FUR2.F.2_	•		20818	29441	36057	41636	46550	50993	58882	65832	72115	77893	83271	88322	93.10	2
	FUR2.F.5_			10988	15539	19032	21976	24570	26915	31079	34747	38064	41113	43952	46618	49.14	5
	FUR2.F.3_			13705	19382	23738	27410	30645	33570	38763	43339	47475	51279	54819	58145	61.29	3
	FUR2.F.6_			19275	27259	33385	38550	43100	47214	54518	60953	66770	72120	77100	81777	86.20	6
	FUR2.F.7_			40473	57237	70101	80946	90500	99138	114474	127986	140202	151435	161891	171712	181.00	7
	FUR2.F.4_	•		51273	72511	88808	102546	114650	125593	145022	162140	177615	191846	205092	217533	229.30	4
65	FUR2.G.2_		7	8676	12270	15027	17352	19400	21252	24539	27436	30054	32462	34704	36809	38.80	2
	FUR2.G.3_			10601	14992	18362	21202	23705	25968	29985	33524	36724	39666	42405	44977	47.41	3
	FUR2.G.4_			13864	19606	24012	27727	31000	33959	39212	43841	48025	51873	55454	58818	62.00	4
	FUR2.G.5_			19454	27512	33695	38908	43500	47652	55024	61518	67390	72789	77815	82535	87.00	5
	FUR2.G.6_			31229	44164	54090	62458	69830	76495	88329	98755	108180	116848	124916	132493	139.66	6
	FUR2.G.7_	•		38930	55055	67429	77860	87050	95358	110111	123107	134857	145663	155720	165166	174.10	7
	80	FUR2.H.1_			7	9445	13357	16359	18890	21120	23136	26715	29868	32719	35341	37781	40072
FUR2.H.2_			12142	17171		21030	24284	27150	29741	34342	38396	42061	45431	48567	51514	54.30	2
FUR2.H.3_			15807	22354		27378	31614	35345	38719	44708	49985	54756	59143	63227	67062	70.69	3
FUR2.H.4_			23904	33805		41402	47807	53450	58552	67609	75590	82804	89439	95614	101414	106.90	4
FUR2.H.5_		•	27951	39528		48412	55902	62500	68465	79057	88388	96825	104583	111803	118585	125.00	5

Note 3: These valves are full port and do not have the Optimizer insert.

Note 4: 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 5: 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. Manufacturer shall be able to provide optional 316 SS ball and stem.
- 1.4. Valve shall have EPDM O-Rings behind ball seals to allow for a minimum close-off pressure of 690 kPa with 4 Nm of torque for 15mm-50mm sizes.
- 1.5. Valve shall be available with a minimum of 25 unique Kv values.
- 1.6. Stem shall be removable/replaceable without removing valve from line and shall include both teflon seals and EPDM O-ring.

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 0.9 m 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, Neponics 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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