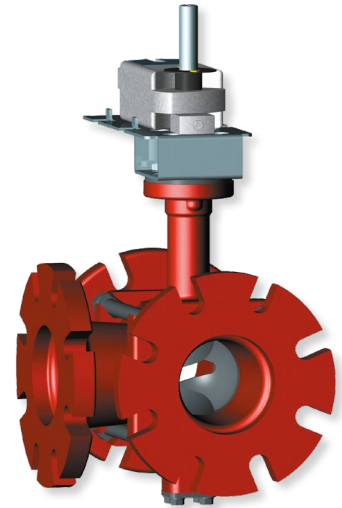


FlowCon Unimizer 3-way 100-150 mm

Actuated Control Valves



SPECIFICATIONS

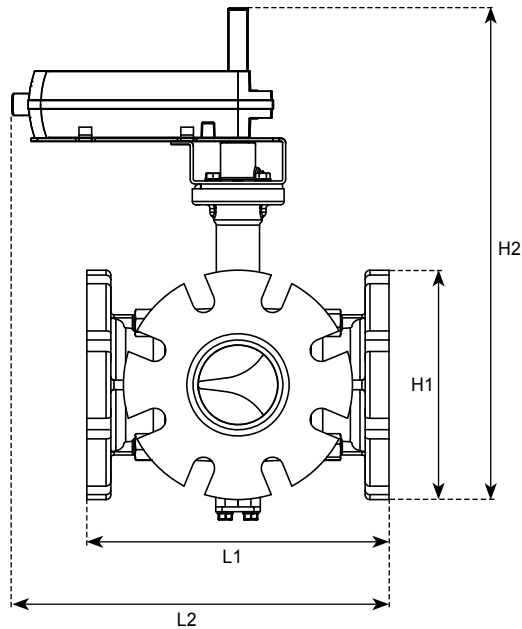
Static pressure:	1600 kPa / 240 psi
Ambient temperature:	-18°C to +50°C / 0°F to +122°F
Media temperature:	-20°C to +120°C / -4°F to +248°F
Media:	Chilled water, hot water (Fluid grp. 2) For higher glycol content than 50% or additional fluids, please consult factory
Material:	
- Housing:	Cast iron ASTM A395, 60-40-18
- Stem:	Stainless steel
- O-rings:	EPDM
- Ball valve:	Stainless steel
- Ball seals:	Teflon
Maximum close off pressure:	500 kPaD / 72 psid
Angel of rotation:	0-90°
Leakage:	Bypass port has IEC 60534-1 Class III Leakage rate when valve is in straight through position ¹
End connections:	EN 1092-1 flanges

Note 1: Bypass flow leakage rate based on largest Kv of the ball

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

Model no.	Size (mm)	Size (")	Kv (m ³ /h)	L1	L2 ²	H1	H2	D depth (not shown)	Weight ³ (kgs)
F3WR.J_	100	4	78 102 131 170 219 282	302	363	229	493	267	34.0
F3WR.K_	125	5	124 159 207 266 345	353	389	254	516	305	40.8
F3WR.L_	150	6	179 231 298 380 497 560	404	414	279	544	340	47.6

Note 2: L2 is maximum length, which is measured from end flange or mounting plate, whichever extends furthest.
 Note 3: The weight is without actuator.



FLANGE MATCH UNIMIZER

Model no.	Unimizer DN (mm)	EN 1092-1:2007 flanges			
		PN 10	PN 16	PN 25	PN 40
F3WR.J_	100	✓	✓	✓	✓
F3WR.K_	125	✓	✓	✓	✓
F3WR.L_	150	✓	✓	✓	✓

MODEL NUMBER SELECTION

F3WR L . S . M

Insert ball size:

J=100 mm, 4" **K**=125 mm, 5" **L**=150 mm, 6"

Insert a Kv value (**A, B, C, D, E** or **F**) (see flow rate table below):

Insert mounting kit number:

1=FlowCon
4=Honeywell
5=Siemens

Insert power supply, FlowCon actuator:

0=if no actuator required
10=24V 2-position or 3-point floating (without end switches) (TT000)
20=240V 2-position or 3-point floating (without end switches) (TT300)
40=24V 2-position or 3-point floating incl. auxiliary switches (TT020)
50=240V 2-position or 3-point floating incl. auxiliary switches (TT320)
60=24V modulating incl. auxiliary switches (TM020)
70=24V modulating (without end switches) (TM000)

T=Optional aluminum hanging ID tag

Example: F3WR.J.C.L.S.M.1.10.T=Unimizer 3-way 100 mm (Kv equal to 131 m³/h) with FlowCon mounting kit, 24V 2-position actuator and ID-tag.

Kv SELECTION AND FLOW RATE TABLE (l/h)

Line size (mm)	Model no	Close off ΔP^4 (bar)	Flow rate (l/h) differential pressure (kPa) across valve												Kv ⁵ m ³ /h	Kv for model no. selection
			5	10	15	20	25	30	40	50	60	70	80	90		
100	F3WR.J.A_	5	17350	24536	30050	34699	38795	42498	49072	54864	60101	64916	69399	73608	78	A
	F3WR.J.B_		22748	32170	39400	45495	50865	55720	64340	71934	78800	85113	90990	96510	102	B
	F3WR.J.C_		29299	41435	50748	58598	65515	71768	82871	92652	101495	109628	117197	124306	131	C
	F3WR.J.D_		37975	53705	65775	75950	84915	93020	107410	120088	131550	142090	151901	161115	170	D
	F3WR.J.E_		48970	69254	84818	97940	109500	119951	138508	154856	169637	183229	195880	207762 ⁶	219	E
	F3WR.J.F_		63035	89145	109179	126070	140950	154403	178289	199333	218359 ⁶	235854 ⁶	252139 ⁶	-	282	F
125	F3WR.K.A_	5	27759	39257	48079	55517	62070	67994	78513	87780	96158	103863	111034	117770	124	A
	F3WR.K.B_		35665	50438	61774	71331	79750	87362	100877	112784	123548	133447	142661	151315	159	B
	F3WR.K.C_		46264	65428	80132	92528	103450	113324	130855	146300	160264	173105	185057	196283	207	C
	F3WR.K.D_		59569	84243	103176	119138	133200	145913	168486	188373	206353 ⁶	222886 ⁶	238275 ⁶	-	266	D
	F3WR.K.E_		77106	109045	133552	154213	172415	188871	218090 ⁶	243832 ⁶	267104 ⁶	288505 ⁶	308425 ⁶	-	345	E
150	F3WR.L.A_	5	40093	56700	69443	80185	89650	98207	113399	126784	138885	150013	160371	170099	179	A
	F3WR.L.B_		51653	73049	89466	103306	115500	126524	146097	163342	178932	193268	206613 ⁶	219146 ⁶	231	B
	F3WR.L.C_		66702	94331	115531	133404	149150	163386	188661	210930 ⁶	231062 ⁶	249576 ⁶	266808 ⁶	282992 ⁶	298	C
	F3WR.L.D_		85015	120230	147251	170031	190100	208244 ⁶	240460 ⁶	268842 ⁶	294502 ⁶	318098 ⁶	-	-	380	D
	F3WR.L.E_		111222	157292	192642	222444 ⁶	248700 ⁶	272437 ⁶	-	-	-	-	-	-	497	E
	F3WR.L.F_		125287	177182	217003 ⁶	250574 ⁶	-	-	-	-	-	-	-	-	560	F

Note 4: Close off pressures measured with 10Nm actuator for 100-125 mm valves. Close off pressures measured with 15Nm actuator for 150 mm valve, up to 159000 l/h. For flowrates greater than 159000 l/h a 20Nm actuator is recommended.

The "Close off pressure" is the maximum allowable pressure drop across the valve body when the valve is fully closed.

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.

Note 6: Due to high velocity, flowrates of 204500 l/h and higher may result in water noise.

ACTUATOR SPECIFICATIONS⁷

Supply voltage:	24V:	22-26V AC / 28-32V DC
	120V:	110-130V AC / 50/60 Hz
	240V:	220-250V AC 50/60 Hz
	Modulating:	22-26V AC / 28-32V DC
Control signal:		2-position / 3-point-floating or modulating 2-10V DC / 4-20mA
Max. power consumption:	24V:	8 VA
	120V:	10 VA
	240V:	10 VA
	Modulating:	8 VA
Electrical connection:		18 AWG (0.8 mm ²) minimum
Angle of rotation:	Digital:	0°-90°, mechanically adjustable
	Modulating:	0°-90°, electronically adjustable
Torque at rated voltage:		20Nm
Direction of rotation:		Reversible
Rotation time through 90°:		60-85 sec, torque dependent
Auxiliary switches:		2 mechanical, fixed at 10° and 80° (only on types 40, 50 and 60)
Auxiliary switch rating:		5 Amp resistive, 250V AC
Housing material:		Electronic enclosure: flammability rating UL94-5V
Ambient temperature:		-18°C to +50°C
Humidity rating:		5..95% rH no condensation
Protection:		IP22, NEMA type 2
Weight:		2.0 kg (24V and modulating)
		2.3 kg (120V and 240V)
Cable:		Actuators do not include length of cable.

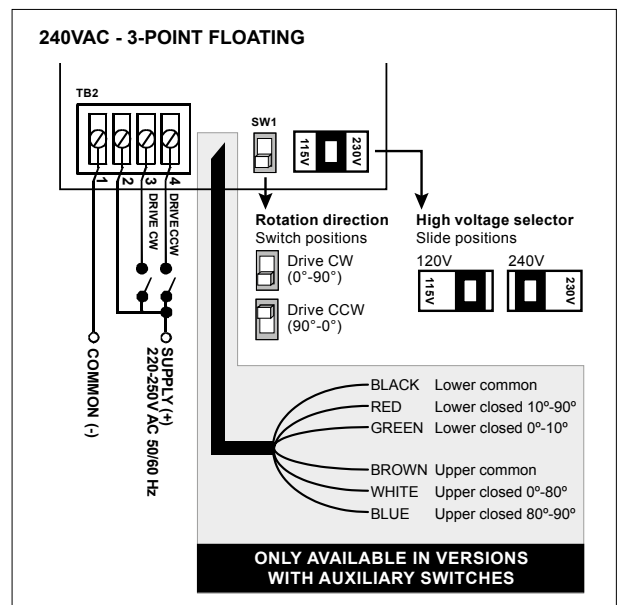
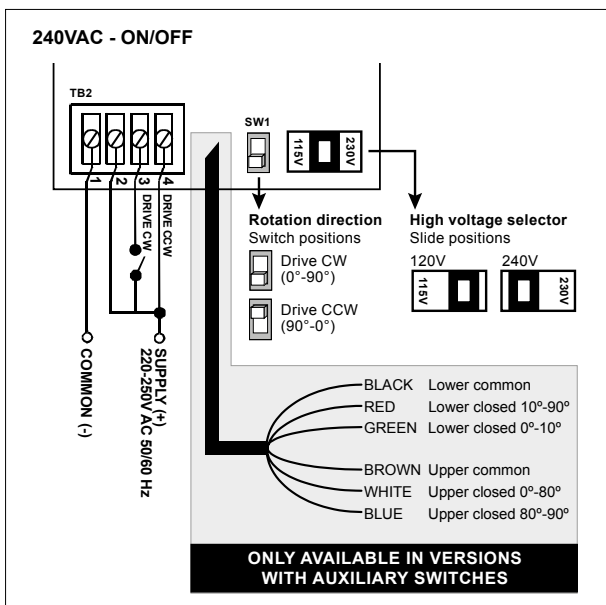
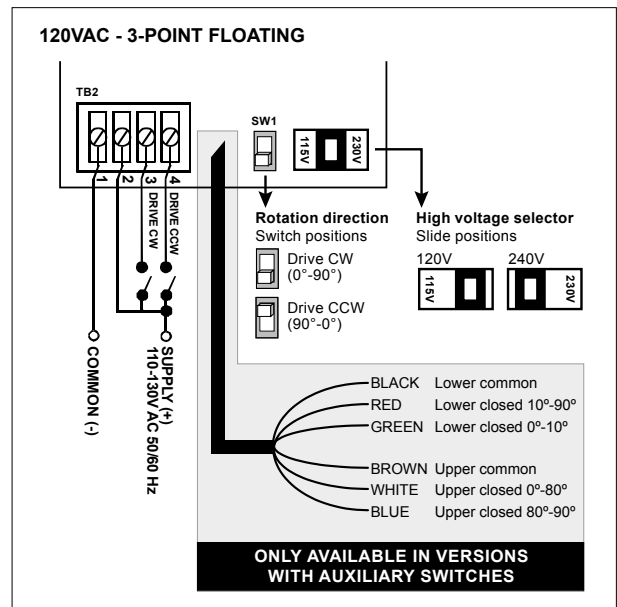
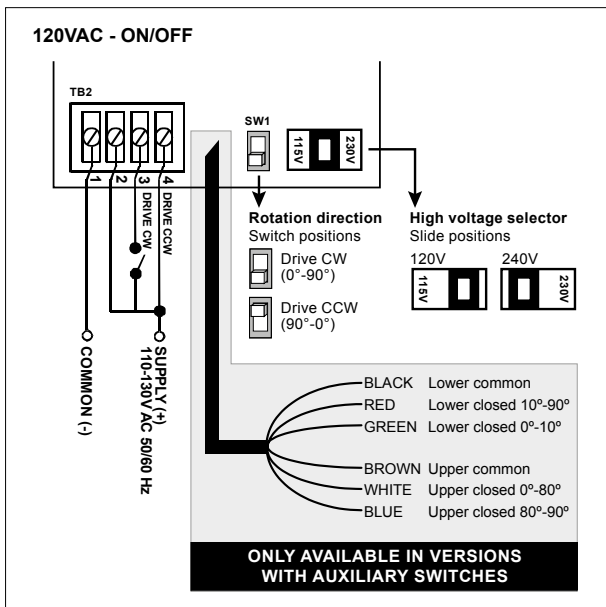
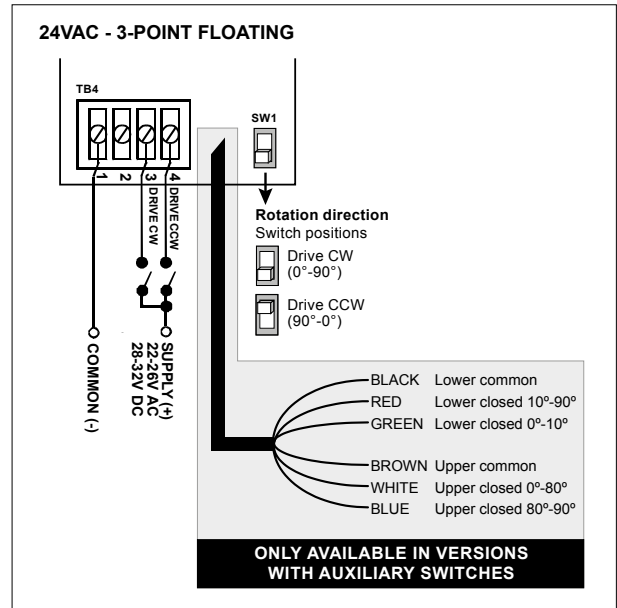
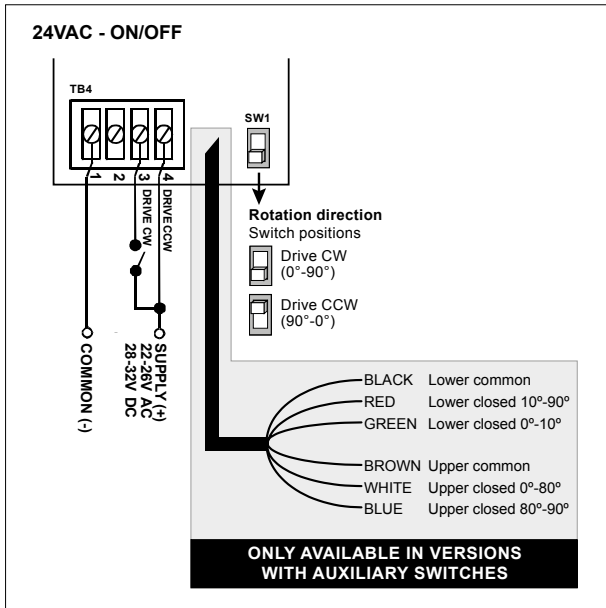
Note 7: FlowCon warranty is voided using other actuators than supplied or recommended by FlowCon International.

ACTUATOR DESCRIPTION

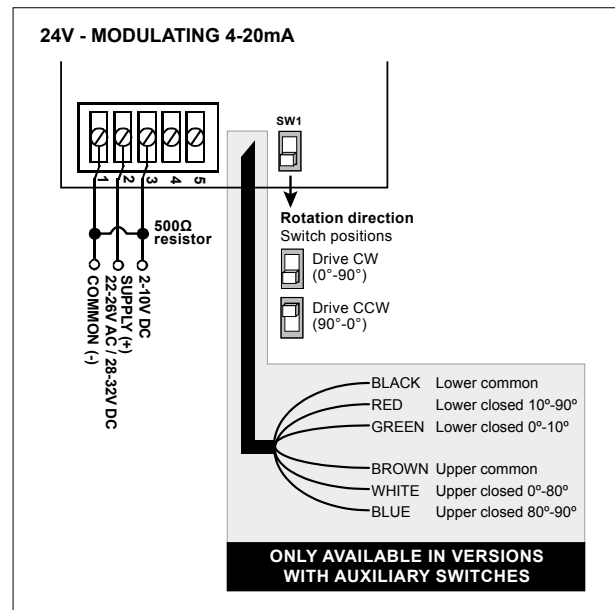
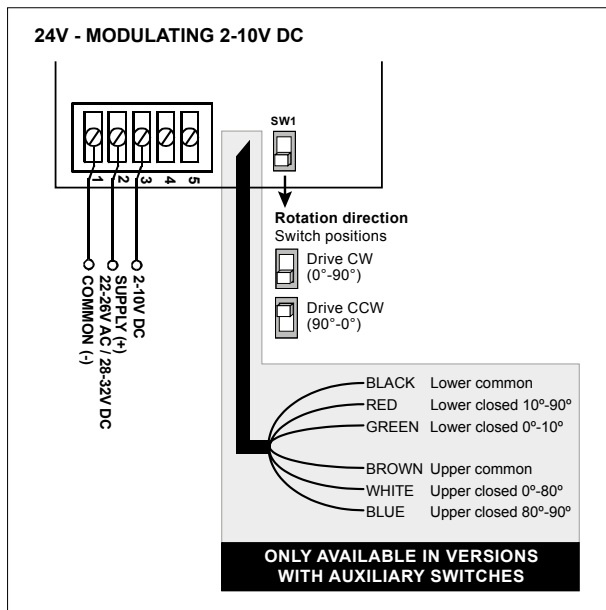
The six standard actuators available for the FlowCon Unimizer 3-way valve are basic digital actuators that operate on 24V AC, 120V AC and 240V AC or a modulating version operating on 24V AC respectively. All models deliver a minimum of 20 Nm torque at rated voltage. The direction of rotation is reversible and the angle of rotation can be adjusted. Versions are available with 2 mechanical auxiliary switches.

Note: Do not press clutch on actuator, when actuator is powered.

WIRING SCHEMATICS



WIRING SCHEMATICS (...continued)



GENERAL SPECIFICATIONS

1. ACTUATED BALL VALVE

- 1.1. Valve housing shall consist of cast iron ASTM A395, 60-40-18 rated at no less than 1600 kPa at +120°C. Valve housing shall have EN 1092-1 flanges.
- 1.2. Valve ball shall consist of stainless steel with parabolic ports to make flow control equal percentage.
- 1.3. Valve shall have a blow-out proof stem with two EPDM o-rings.
- 1.4. Valve shall have EPDM o-rings behind ball seals to allow for a minimum close-off pressure of 500 kPa with 10Nm of torque for 100 mm and 125 mm valves. 150 mm valves shall require actuators with 15Nm of torque for flowrates under 159000 l/h.
- 1.5. Bypass Kv shall be 80% of through Kv.

2. VALVE ACTUATOR

- 2.1. Control valve actuator shall be analog modulating (4-20mA or 2-10V), 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 shut off position.
- 2.3. A universal mounting plate shall allow installation of actuators meeting the system electrical requirements and valve torque requirements as provided by FlowCon, Honeywell, Neptonic 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

FlowCon International can accept no responsibility for possible errors in any printed material. All rights reserved.