COTSWOLD VALVES LTD
27 Upper Mills Estate Bristol Rd Stonehouse Glos GL10 2BJ
INDUSTRIAL & PROCESS VALVES & CONTROLS

tyco
Flow Control

KEYSTONE

CompoSeal Butterfly Valves
Wafer style

Resilient seated butterfly valves with valve body and disc in high engineered composite material providing excellent internal and external chemical resistance.

Features

- Patented wafer style body and disc in high engineered composite results in excellent internal and external chemical resistance.
- Light weight construction results in lower cost and simplified installation.
- No extra pipe support needed when installed in plastic or GRP piping.
- Disc in high engineered composite material provides excellent corrosion resistance.
- All fasteners in Stainless Steel 316 as standard.
- Bubble tight shut-off in both directions, in accordance with EN 12266-1 leakrate A.
- Pressure range up to PN 10 at elevated temperature.
- Valve can be used in high line velocity applications up to 12 m/sec.
- Spindle and primary valve seals are not influenced by the flange bolting force or pipe flange type.
- High K_V value.
- No need for flange gaskets.
- Primary stem sealing exceeds the pressure rating of the valve and prevents leakage through the shaft area to atmosphere.
- A secondary (shaft) sealing provides back-up safety.
- 4 integrated locating holes ease installation and centering between the pipe flanges.
- Actuator flange acc. ISO 5211.
- Sustainable production philosophy as the valve materials are 100% recyclable.
- Use of composite material eliminates the need for machining and painting.
- Composite hand lever available.
- Available approvals: KIWA, ACS, WRAS, NSF.

General application

Since the entire valve exists of high engineered composite materials, it is perfectly suited for a wide range of applications such as; building services, hot water applications, industrial waste water and industrial water treatment like purification, ozone or demineralization.
The light weight valve can be perfectly used in transportation and cargo containers and in applications using plastic or glass reinforced pipe lines.

Technical data

Size (mm)	: 40 - 300
Temperature (°C)	: -40 up to +120
Pressure rating	: 10 bar
Flange connections	: DIN PN 6/10/16/ ANSI 150
Face to face	: EN 558-1/T5, API 609

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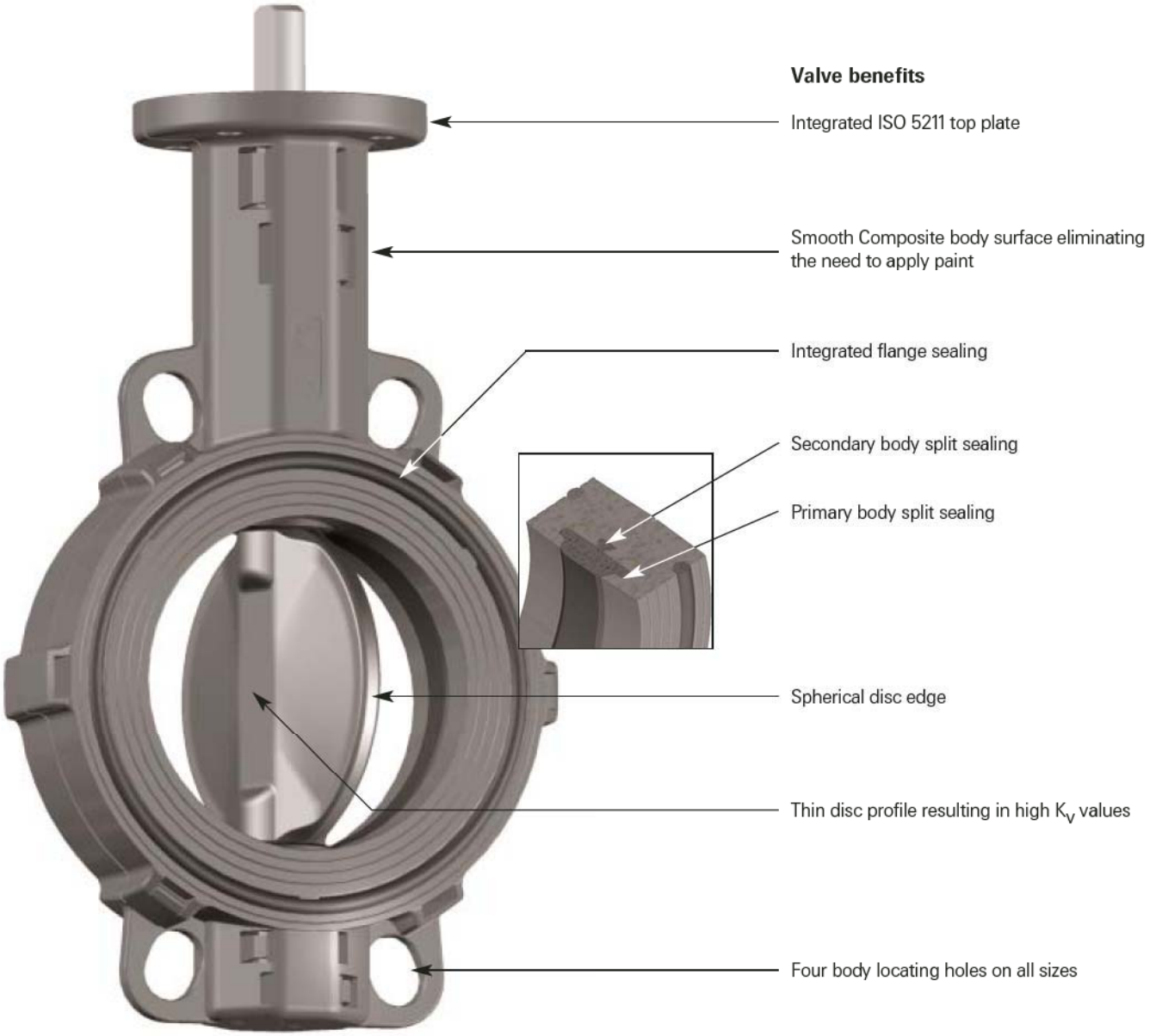
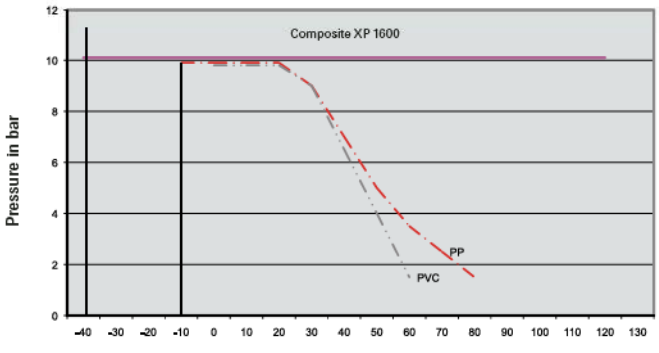
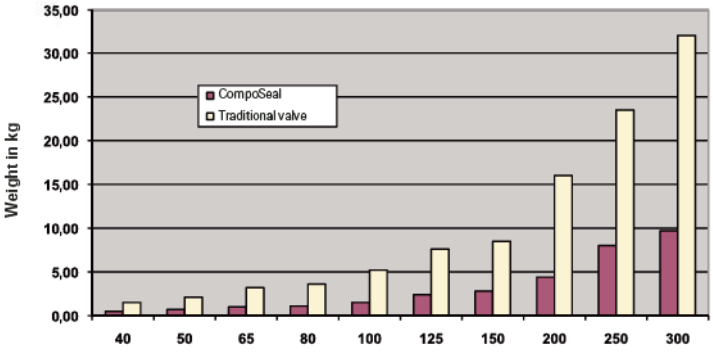


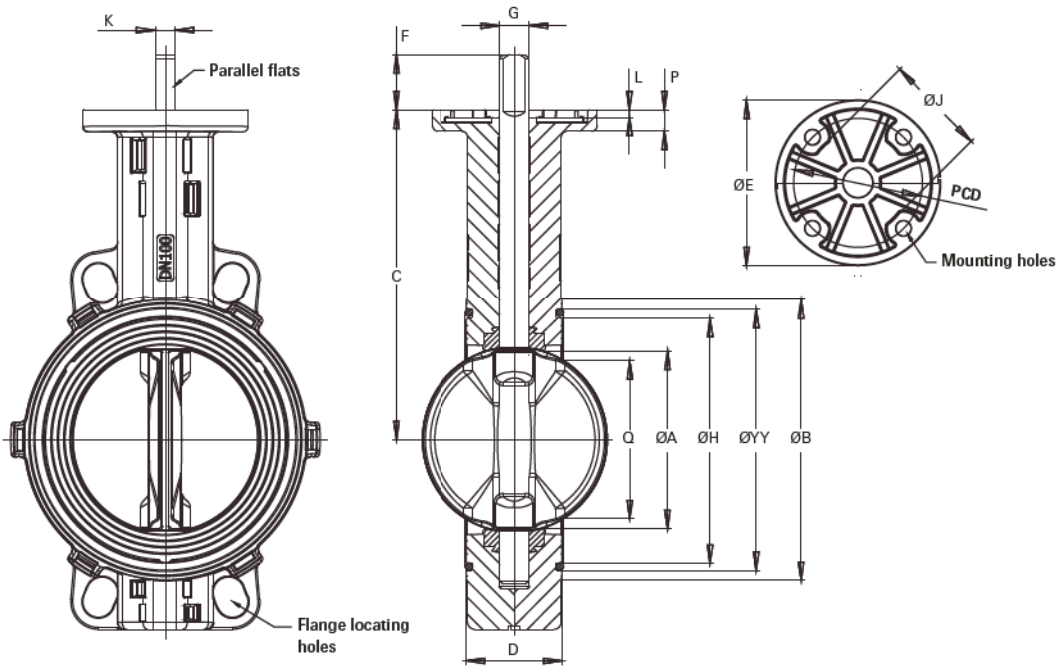


Pressure temperature comparison.
CompoSeal vs. traditional plastic valves such as PVC and PP.



Weight comparison CompoSeal vs. traditional Iron valves.

Actuator flange according ISO 5211



Valve dimensions in mm

size	A	B	C	D	H	YY	Q	G_{h9}	F	$K_{-0.05}^{0}$	Type	E	J	L	P	PCD	hole	Mass (kg)
								Parallel flats										
40	40	77	130	33	62	70	25	12	25	8	F-05	65	35	4	10	50	6.6	0.5
50	52	93	135	43	78	86	31	12	25	8	F-05	65	35	4	10	50	6.6	0.6
65	62	108	150	46	91	99	43	16	30	11	F-07	90	55	4	12	70	8.6	1.0
80	78	125	160	46	106	116	65	16	30	11	F-07	90	55	4	12	70	8.6	1.1
100	100	153	180	52	132	142	87	16	30	11	F-07	90	55	4	12	70	8.6	1.4
125	125	182	195	56	160	170	113	20	30	14	F-07	90	55	4	15	70	8.6	2.2
150	150	208	210	56	185	195	140	20	30	14	F-07	90	55	4	15	70	8.6	2.6
200	200	262	240	60	240	250	192	20	30	14	F-07	90	55	4	15	70	8.6	4.0
250	246	317	275	68	293	305	239	25	50	18	F-12	150	85	4	20	125	13	7.5
300	297	373	310	78	345	357	289	25	50	18	F-12	150	85	4	20	125	13	9.7

K_V values

Disc opening \ Size in mm	40	50	65	80	100	125	150	200	250	300
10°	-	-	-	-	-	-	-	-	19.5	47.3
20°	0.6	0.9	2.4	5.0	9.2	14.8	22.4	53.0	151	314
30°	3.8	5.9	11.1	20.4	37.6	66.8	108	204	300	369
40°	9.2	14.3	26.2	47.4	84.8	143	221	392	572	718
50°	18.1	28.3	49.7	87.9	154	254	381	657	956	1212
60°	33.5	51.6	87.4	151	260	420	621	1050	1540	1993
70°	50	88.6	156	274	471	743	1062	1731	2628	3624
80°	53	101	210	420	789	1261	1802	2946	4616	6613
90°	54	102	216	437	812	1291	1886	3199	5948	9872

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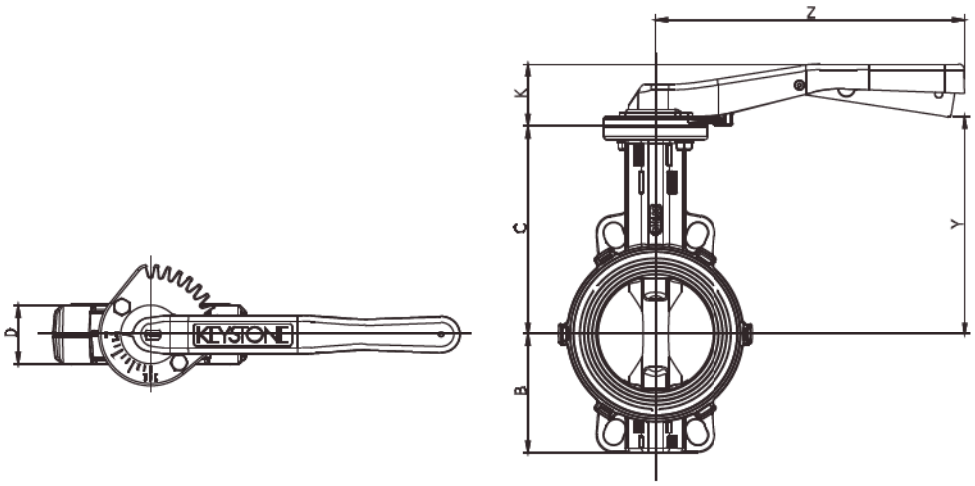

Handle dimensions / Valve dimensions F419

Size	Type	B	C	D	K	Y	Z	Mass (kg)
40	F419	56	130	33	40	133	180	0.6
50	F419	63	135	43	40	138	180	0.7
65	F419	76	150	46	54	154	267	1.2
80	F419	88	160	46	54	164	267	1.3
100	F419	102	180	52	54	184	267	1.7
125	F419	120	195	56	54	199	267	2.4
150	F419	132	210	56	54	214	267	2.8

Sizing torques in Nm (for standard EPDM seat only, see note 5 for potable water approved EPDM seat)

ΔP in bar \ size in mm	40	50	65	80	100	125	150	200	250	300
Application I										
3.5	8	10	15	21	30	46	65	119	193	276
7	8	11	16	22	32	50	71	131	216	310
10	9	11	17	24	35	56	79	150	252	361
Application II										
3.5	9	11	17	23	34	53	74	135	219	313
7	9	12	18	24	36	57	80	148	242	347
10	9	12	19	26	39	63	88	167	278	398
Application III										
3.5	12	15	23	32	48	74	105	190	306	439
7	12	16	24	34	50	79	112	206	336	481
10	12	16	26	36	54	86	122	229	380	545

Maximum allowable shaft torques in Nm

valve size in mm	40	50	65	80	100	125	150	200	250	300
SS 1.4057	60	60	110	160	210	350	450	550	970	970

Notes

1. **Application I:**
   Water, seawater, lubricating types of hydrocarbons. Temp.: 0-80°C;
   Valve opens at least once a month.
   Application II:
   All other liquid applications and lubricating gasses.
   Application III:
   Non lubricating and dry media.
2. The charted maximum sizing operating torque is the sum of all friction and resistance for opening and closing of the disc against the indicated pressure differential.
3. The effect of dynamic torque is not considered in tabulation.
4. In sizing operators it is not necessary to include safety-factors.
5. The specified sizing torque applicable for standard EPDM seat (used in trim 441). Torque values for potable water approved version (trim 442 with EPDM-WA seat) are based on the following factors:
   Application I: as listed
   Application II: multiplier 1.5
   Application III: multiplier 2

Valve material selection

Trim number	Body	Disc	Shaft	Seat	Flange O-ring	Sizes	Remarks
441	Composite XP 1600	Composite XP 1620	Stainless Steel 1.4057	EPDM	EPDM	DN 40-300	
442	Composite XP 1600	Composite XP 1620	Stainless Steel 1.4057	EPDM-WA	EPDM-WA	DN 40-300	Potable water approved

Item number clarification

Type	Body style	Flange pattern / face to face	Operation/Connection	Variant
CSW = CompoSeal	W = Wafer	M1= Multidrilled PN6/10/16 and ANSI 150	B = Bare shaft L = Lever operated	00 = Standard

Example set-up Item number

Type	Size (mm)	Trim	Body style	Flange pattern	Operation	Variant
CSW	050	441	W	M1	L	00