

Description

The 3E-series triple offset butterfly valves are industrial-grade shut-off and control units designed for high-demand process applications in sectors including power generation, oil & gas, petrochemical, and heavy industry. The triple eccentric geometry enables precise metal-to-metal sealing with negligible friction during operation, ensuring extended service life and consistent sealing integrity. Engineered from high-strength alloys with advanced surface treatments, these valves maintain performance across diverse media and process conditions. The design is compliant with international engineering standards and supports direct integration with a full range of manual, pneumatic, and electric actuation systems.

Working medium

Crude Oil	Paper stock
Petroleum products	Natural/Coke/Oven Stack Gas
Fuel	Steam
Oil&Oil derivatives	Condensate
Pulp	Air
Potable/Waste/Hot/Industrial/Supply water	Bitumen

Standards

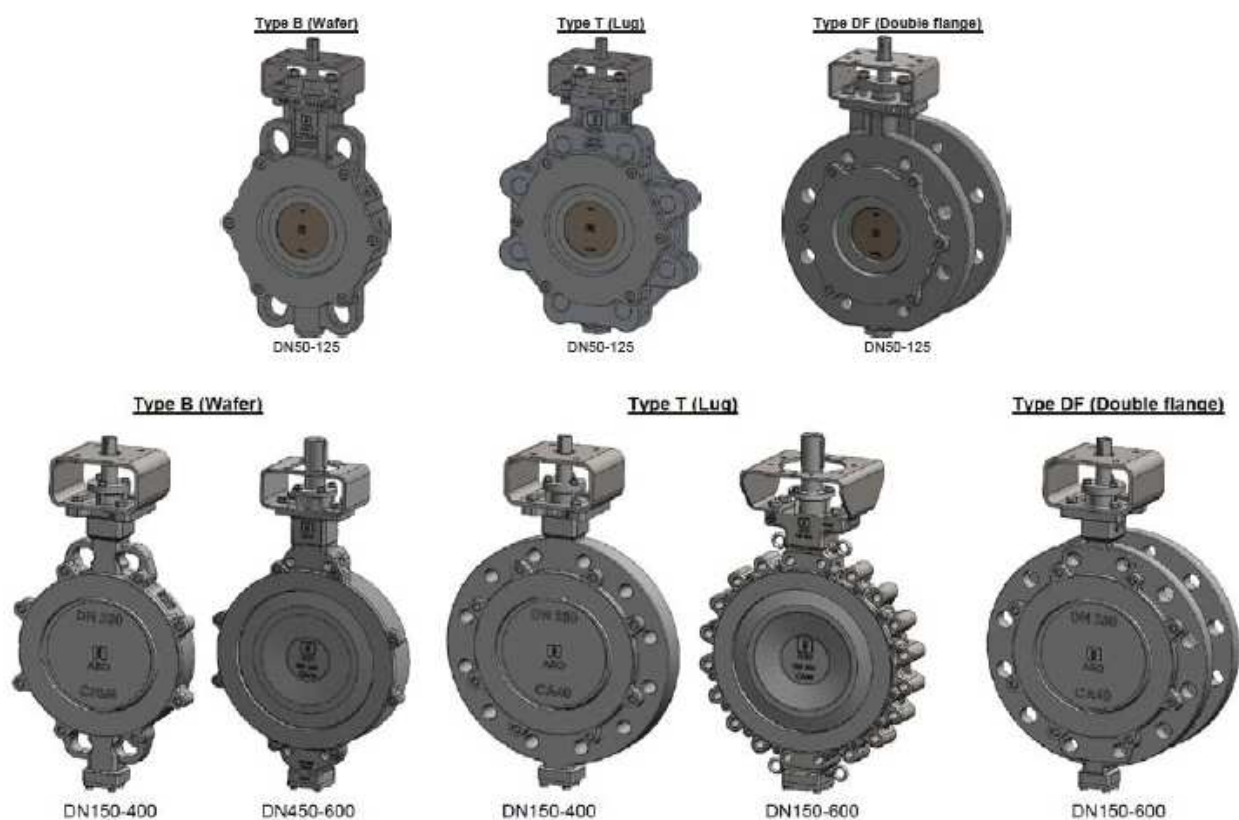
Design standard	EN 593 / ASME B16.34 API 609 - option
Leak test	Uni-directional tightness EN 12266-1, Class A/B (A: liquids, B: gas) ISO 5208, Class A/B (A: liquids, B: gas) API 598, (metal-seated valves) ANSI/FCI 70-2, Class VI
Face-to-face dimension	Wafer „B“ / Lug „T“ EN 558-2, series 20 (series 25 - for DN350) ISO 5752, series 20 (series 25 - for DN350) API 609, category B, Class 150 Double flange „DF“ EN 558-2, series 13 ISO 5752, series 13 API 609, category B (short pattern), Class 150
Fire safe design	EN ISO 10497 API 607
ATEX performance	As option
Anti blow-out design	As option
Top flange	EN ISO 5211
Flange connection	Type B, EN 1092-1 (Type D, EN 1092-1 as option) Raised face, ASME B16.5 (Small groove face, ASME B16.5 as option)
Gasket options	EN 1514-1 / EN 1514-2 ASME B16.21 / ASME B16.20
Marking	EN 19 EN 593 PED 2014/68/EU API 609 ASME B16.34



Type designation

3 5 L 4 B 150 03	Control 0 - bare shaft 3 - manual gearbox with handwheel 4 - pneumatic actuator 5 - electric actuator
	Nominal size (DN)
	Design of the body B - Wafer T - Lug F - Double flanged
	Disc material 4 - stainless steel nitridated 4s - stainless steel + stellite
	Seat material L - lamellar stainless steel + graphite
	Body material 4 - stainless steel 5 - carbon steel 6 - low-temperature carbon steel
	Series designation Series 3E

DESIGN MODELS B / T / DF DN50-125

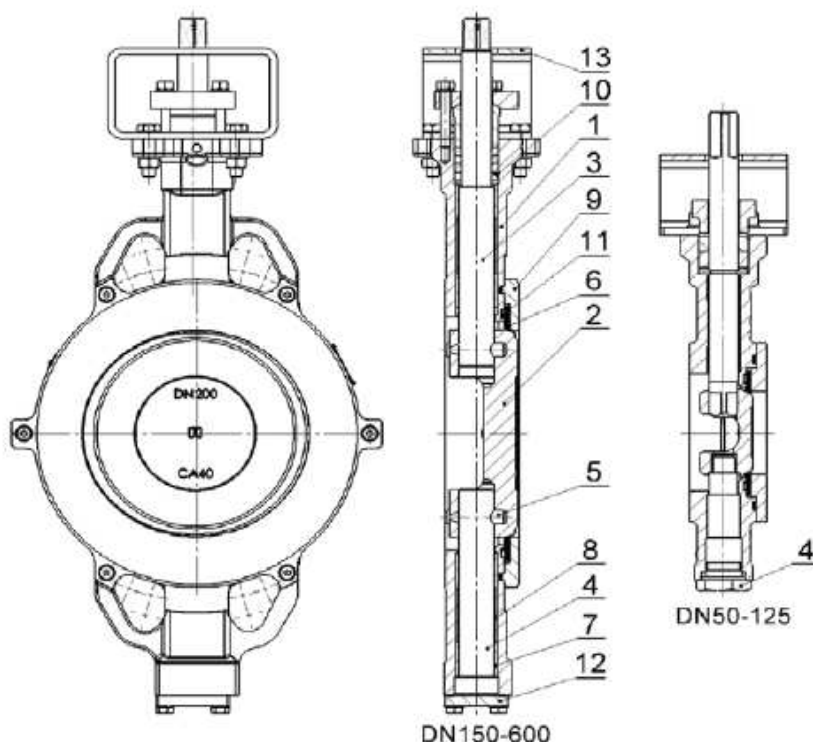


TORQUES

OPENING TORQUES [Nm] V8. WORKING PRESSURE [bar]													
DN	50	65	80	100	125	150	200	250	300	350	400	500	600
NPS	2"	2 1/2"	3"	4"	5"	6"	8"	10"	12"	14"	16"	20"	24"
Pmax 10 bar	33	42	55	65	85	110	280	283	600	1100	1600	2490	3900
Pmax 16 bar	42	53	70	70	95	140	330	418	900	1500	2270	4100	5150
Pmax 20 bar	48	61	80	70	110	190	370	460	1030	1900	2430	5200	6100
Pmax 25 bar	54	68	90	85	130	210	490	656	1150	2500	3100	6500	8500
Pmax 30 bar	60	76	100	100	150	261	530						
Pmax 40 bar	66	84	110	125	170	350	630						
Pmax 50 bar	75	95	125	150	200								

CLOSING TORQUES [Nm]													
DN	50	65	80	100	125	150	200	250	300	350	400	500	600
NPS	2"	2 1/2"	3"	4"	5"	6"	8"	10"	12"	14"	16"	20"	24"
Closing torque (water)	75	85	105	140	175	220	450	420	400	450	500	1750	2500
Closing torque (air)	75	85	105	140	175	220	450	565	550	1000	1300	3590	5050

MATERIAL CONFIGURATION



For standard option with cast body. Valid for B / T / DF types

Part NO	Item	35L4	34L4	36L4
1	Body	WCB	CF8M	LCC
2	Disc (3xL4), (DN50-125)	CF8M + nitrided	CF8M + nitrided	CF8M + nitrided
	Disc (3xL4), (DN150-600)	CA40 + nitrided		
	Disc (3xL4s), (DN50-125)	CF8M + stellit	CF8M + stellit	CF8M + stellit
	Disc (3xL4s), (DN150-600)	CA40 + stellit		
3	Shaft (DN50-125)	1.4542	1.4542	1.4542
	Shaft (DN150-600, 150-600)	1.4021	1.4462	1.4462
4	Pivot (DN50-125)	1.4404	1.4404	1.4404
	Pivot (DN150-600)	1.4021	1.4462	1.4462
5 *	Pin (DN150-600)	1.4021	1.4462	1.4462
6	Seat	1.4401 + graphite	1.4401 + graphite	1.4401 + graphite
7	Bearing	1.4404+Ni	1.4404+Ni	1.4404+Ni
8	Bushing	1.4404	1.4404	1.4404
9	Ring flange	1.0425 + Zn	1.4404	1.4404
10	Packing	Graphite	Graphite	Graphite
11	Spiral seal	1.4541 + graphite	1.4541 + graphite	1.4541 + graphite
12 *	Cover (DN150-600)	1.0425	1.4404	1.4404
13	Bracket	Carbon steel	Carbon steel	Carbon steel

Fastener material is A4 for all material configuration.

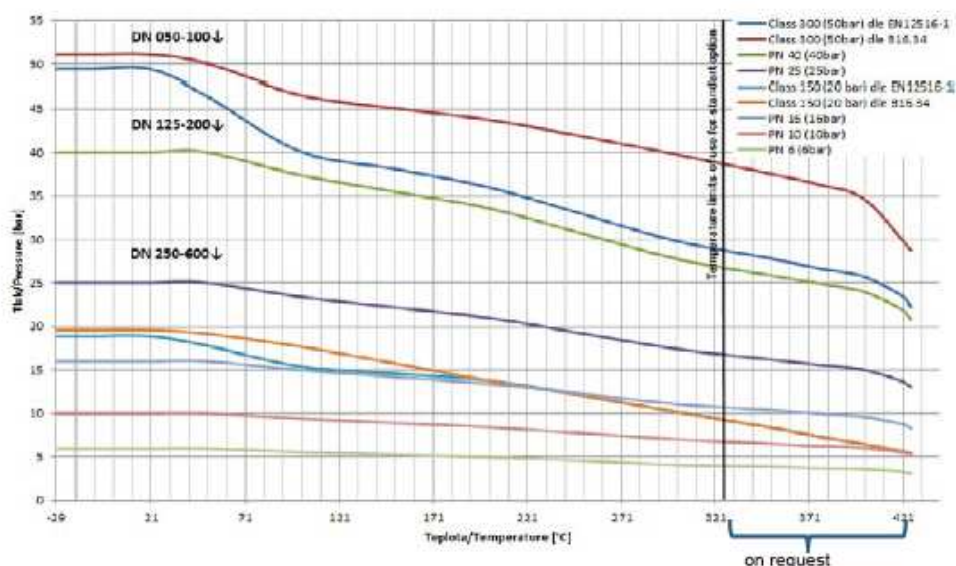
* Only DN150-600 valves have a cover (position 12) and pins (position 5);

DN50-125 valves have a pivot with thread (position 4), picture DN50-125.

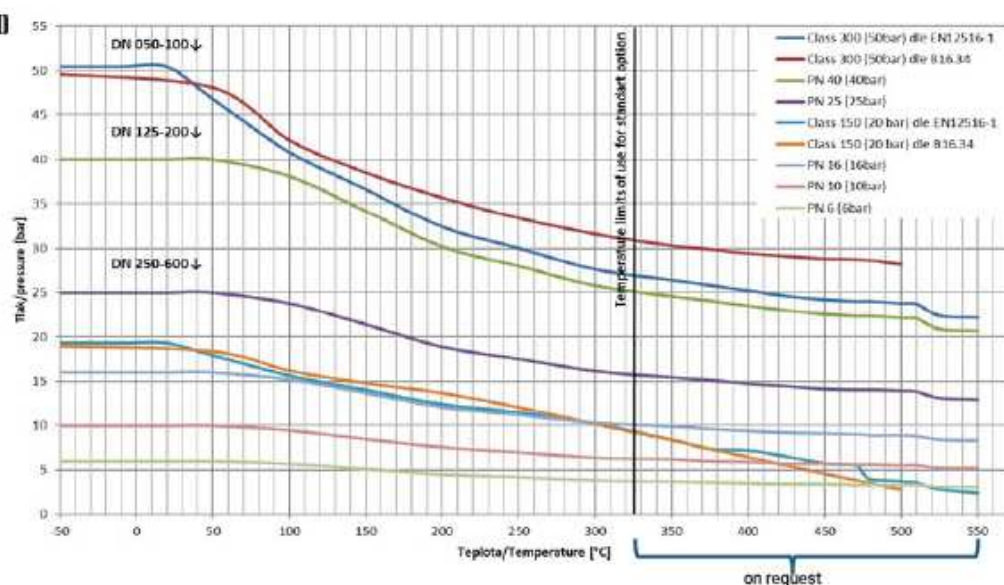
Other material performance upon request.

Pressure-temperature diagram

Body: carbon steel 1.0625 (WCB)



Body: stainless steel 1.4408 (CF8M)



KV Values

Size	Valve open angle with Kv								
	10°	20°	30°	40°	50°	60°	70°	80°	90°
DN50	6	14	25	37	47	55	61	64	62
DN65	10	22	39	59	79	100	120	132	129
DN80	16	34	57	80	105	138	186	223	230
DN100	25	54	84	115	166	231	300	355	356
DN125	36	80	133	189	280	399	518	601	613
DN150	45	92	165	252	361	484	610	715	755
DN200	80	162	279	442	659	939	1 292	1 580	1 658
DN250	150	307	514	784	1 143	1 617	2 169	2 551	2 677
DN300	200	431	708	1 068	1 553	2 175	2 954	3 600	3 710
DN350	220	514	838	1 289	1 925	2 787	3 927	4 825	4 982
DN400	250	590	1 017	1 589	2 444	3 657	5 291	7 068	7 704
DN450	300	660	1 121	1 860	2 963	4 539	6 729	9 483	10 541
DN500	360	740	1 403	2 398	3 791	5 747	8 378	11 347	12 679
DN600	600	1 247	2 214	3 620	5 605	8 380	12 336	16 650	17 971

FLANGE CONNECTION

B type (Wafer)

DN	50	65	80	100	125	150	200	250	300	350	400	450	500	600
NPS	2"	2 1/2"	3"	4"	5"	6"	8"	10"	12"	14"	16"	18"	20"	24"
PN6														
PN10														
PN16														
PN25														
PN40														
ANSI150														
ANSI300														
JIS 10K														
JIS 16K														

for cast bodies, all connections are possible at the same time

connections available, should be specified in an order

additional machining required

only in case of face-to-face in accordance with CLASS300 or Series 25

not available

T type (Lug type)

DN	50	65	80	100	125	150	200	250	300	350	400	450	500	600
NPS	2"	2 1/2"	3"	4"	5"	6"	8"	10"	12"	14"	16"	18"	20"	24"
PN6														
PN10														
PN16														
PN25														
PN40														
ANSI150														
ANSI300														
JIS 10K														
JIS 16K														

connections available, should be specified in an order

additional machining required

only in case of face-to-face in accordance with CLASS300 or Series 25

not available

DF type (Double flange)

DN	80	100	125	150	200	250	300	350	400	450	500	600
NPS	3"	4"	5"	6"	8"	10"	12"	14"	16"	18"	20"	24"
PN6												
PN10												
PN16												
PN25												
PN40												
ANSI150												
ANSI300												
JIS 10K												
JIS 16K												

connections available, should be specified in an order

additional machining required

not available