



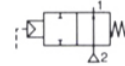
# VALVES

pressure operated  
bronze or stainless steel body  
3/8 to 2 1/2 threaded ports

NC



NO



2/2  
Series  
E290

## FEATURES

- High flow due to angled seat design
- Anti-waterhammer design (fluid entry under the disc)
- Vacuum operation up to  $10^{-2}$  mbar
- A wide range of piston-type operators (32 - 50 - 63 - 90 - 125 mm dia.), rotatable through 360°, for maximum performance at different minimum pilot pressures
- High performance maintenance-free stuffing box
- Valves satisfy Pressure Equipment Directive 97/23/EC, category 1 (DN > 25) or article 3.3 (DN ≤ 25)

## GENERAL

fluids (*)	temperature range	disc seal (*)
DN ≤ 50: air and gas group 1 & 2 DN 65: air and gas group 2 All DN: water, oil, liquids group 1 & 2 and steam	- 10°C to +184°C	PTFE

Differential pressure	See "SPECIFICATIONS" [1 bar = 100 kPa]
Maximum allowable pressure	16 bar
Ambient temperature range	-10°C to +60°C
Maximum viscosity	600 cSt (mm <sup>2</sup> /s)
Pilot fluid	Filtered air or water <sup>(1)</sup>
Max. pilot pressure	10 bar
Min. pilot pressure	See following page
Pilot fluid temperature	-10°C to +60°C
Response time	See sheet V402-5

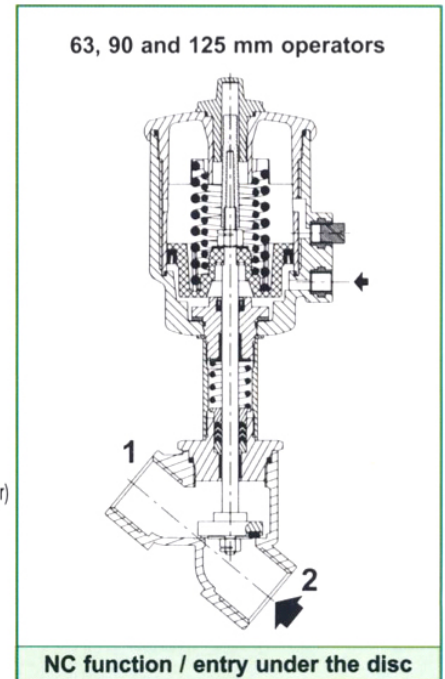
## MATERIALS IN CONTACT WITH FLUID

(\*) Ensure that the compatibility of the fluids in contact with the materials is verified

	Bronze body	Stainless steel body
Valve body	Bronze	AISI 316L
Bonnet	Brass	Stainless steel
Stem	Stainless steel	All AISI 316L on request
Disc	Brass	Stainless steel (Except 32 mm operator)
Stuffing box seal	PTFE chevrons	PTFE chevrons
Disc seal	PTFE	PTFE
Valve body seal	PTFE	PTFE

## OTHER MATERIALS

Operator	Glass fibre filled polyamide (PA + FG)
Optical position indicator	Polyamide 12, supplied standard on valves with 63, 90 and 125 mm operators



<sup>(1)</sup> For dia 32, 50 and 63 mm operators: At service fluid temperatures inside the valve body above 100°C, it is prohibited to pilot the valve with water.



สำนักงานใหญ่ : 163 ถนนบรรทัดทอง แขวงถนนเพชรบุรี เขตราชเทวี กรุงเทพฯ 10400 โทรศัพท์ (662) 216-7268 (อัตโนมัติ 5 สาย) โทรสาร (662) 216-0832  
Head office : 163 Banthadthong Rd., Kwaeng Thanonpetchburi, Rajthevee, Bangkok 10400 Thailand  
E-mail : yo\_general@hotmail.com

สาขา : 1405 ถนนศรีวิภา แขวงวังทองหลาง เขตวังทองหลาง กรุงเทพฯ 10310 โทรศัพท์ (662) 559-3973-5 โทรสาร (662) 559-3268  
Branch : 1405 Sriwara Rd., Kwaeng Wongthonglang Khet Wongthonglang, Bangkok 10310 Thailand  
E-mail : yo\_1983@ego.co.th

## SPECIFICATIONS

piping (ISO 6708)		flow coefficient Kv		pilot pressure (bar)		operating pressure differential (bar)				operator diameter  (mm)	catalogue number for valve only	
pipe size (G*)	DN	(m <sup>3</sup> /h)	(l/min)	min.	max.	min.	maximum				BRONZE BODY	STAINLESS STEEL BODY
							air, inert gas, aggressive fluids (*)	water, oil, liquids, aggressive liquids (*)	steam (*) (≤ 184°C)			
<b>NC - normally closed - entry under disc (1)</b>												
3/8	10	2,8	47	4	10	0	16	16	10	32	-	E290A791
1/2	15	4,1	68	4	10	0	12	12	10	32	-	E290A792
		4,9	82	4	10	0	16	16	10	50	E290A384	E290A393
3/4	20	2,5	10	4	10	0	16	16	10	63	E290B002	E290B045
		6,5	108	4	10	0	6	6	6	32	-	E290A793
1	25	9,4	157	4	10	0	10	10	10	50	E290A385	E290A394
		12,8	213	4	10	0	16	16	10	63	E290B005	E290B048
1 1/4	32	16,5	275	4	10	0	6	6	6	50	E290A386	E290A395
		27	450	4	10	0	10	10	10	63	E290B010	E290B053
1 1/2	40	29	483	4	10	0	16	16	10	90	E290B011	E290B054
		45	750	4	10	0	6	4	4	63	E290A016	E290A059
2	50	48	800	4	10	0	12	12	10	90	E290A017	E290A060
		59	983	4	10	0	16	16	10	125	E290A642	E290A646
2 1/2	65	66	1100	4	10	0	4	4	4	63	E290A020	E290A063
		94	1567	4	10	0	8	8	8	90	E290A021	E290A064
3	80	66	1100	4	10	0	16	16	10	125	E290A482	E290A495
		94	1567	4	10	0	2,5	2,5	2,5	63	E290A024	E290A067
3 1/2	90	111	1850	4	10	0	6	6	6	90	E290A025	E290A068
		111	1850	4	10	0	10	10	10	125	E290A485	E290A498
<b>NO - normally open - entry under disc</b>												
3/8	10	2,8	47	IX(*)	10	0	16	16	10	32	-	E290A794
1/2	15	4,1	68	IX(*)	10	0	16	16	10	32	-	E290A795
		4,9	82	I(*)	10	0	16	16	10	50	E290A387	E290A396
3/4	20	6,5	108	IX(*)	10	0	16	16	10	32	-	E290A796
		9,4	157	I(*)	10	0	16	16	10	50	E290A388	E290A397
1	25	12,8	213	II(*)	10	0	16	16	10	63	E290B027	E290B070
		16,5	275	II(*)	10	0	16	16	10	50	E290A389	E290A398
1 1/4	32	16,5	275	III(*)	10	0	16	16	10	90	E290B028	E290B071
		27	450	II(*)	10	0	16	16	10	63	E290B029	E290B072
1 1/2	40	27	450	III(*)	10	0	16	16	10	90	E290A030	E290A073
		45	750	II(*)	10	0	11	11	10	63	E290A031	E290A074
2	50	48	800	III(*)	10	0	16	16	10	90	E290A032	E290A075
		59	983	IV(*)	10	0	16	16	10	125	E290A033	E290A076
2 1/2	65	66	1100	IV(*)	10	0	7	7	7	63	E290A489	E290A502
		94	1567	III(*)	10	0	13	13	10	90	E290A034	E290A077
3	80	111	1850	IV(*)	10	0	16	16	10	125	E290A035	E290A078
		111	1850	IV(*)	10	0	7	7	7	90	E290A490	E290A503
<b>NC - normally closed - entry above disc (Version recommended for rapid-cycling steam applications)</b>												
3/8	10	2,8	47	X(*)	10	0	10	-	10	32	-	E290A797
1/2	15	4,1	68	X(*)	10	0	10	-	10	32	-	E290A798
		4,9	82	V(*)	10	0	10	-	10	50	E290A390	E290A399
3/4	20	6,5	108	X(*)	10	0	10	-	10	32	-	E290A799
		9,4	157	V(*)	10	0	10	-	10	50	E290A391	E290A400
1	25	12,8	213	VI(*)	10	0	10	-	10	63	E290B037	E290B080
		16,5	275	VI(*)	10	0	10	-	10	50	E290A392	E290A401
1 1/4	32	27	450	VII(*)	10	0	10	-	10	63	E290B038	E290B081
		45	750	VII(*)	10	0	10	-	10	90	E290A039	E290A082
1 1/2	40	59	983	VIII(*)	10	0	10	-	10	90	E290A136	E290A137
		66	1100	VIII(*)	10	0	10	-	10	63	E290A040	E290A083
2	50	94	1567	VIII(*)	10	0	10	-	10	90	E290A041	E290A084
		111	1850	VIII(*)	10	0	9	-	9	63	E290A042	E290A085
2 1/2	65	111	1850	VIII(*)	10	0	10	-	10	90	E290A043	E290A086
		111	1850	VIII(*)	10	0	10	-	10	90	E290A623	E290A625

(\*) Minimum pilot pressure varies with differential pressure, see V402-5

(1) Minimum pilot pressure 1,5 and 2,5 bar, optional

Calculation of the minimum pilot pressure with backpressure acceptable, within ΔP max. 10 bar (not recommended with liquids as waterhammer effect).

• 50 mm operator: 4 bar minimum pilot pressure version: add 2 bar to the minimum pilot pressure of Chart V, page V402-5.

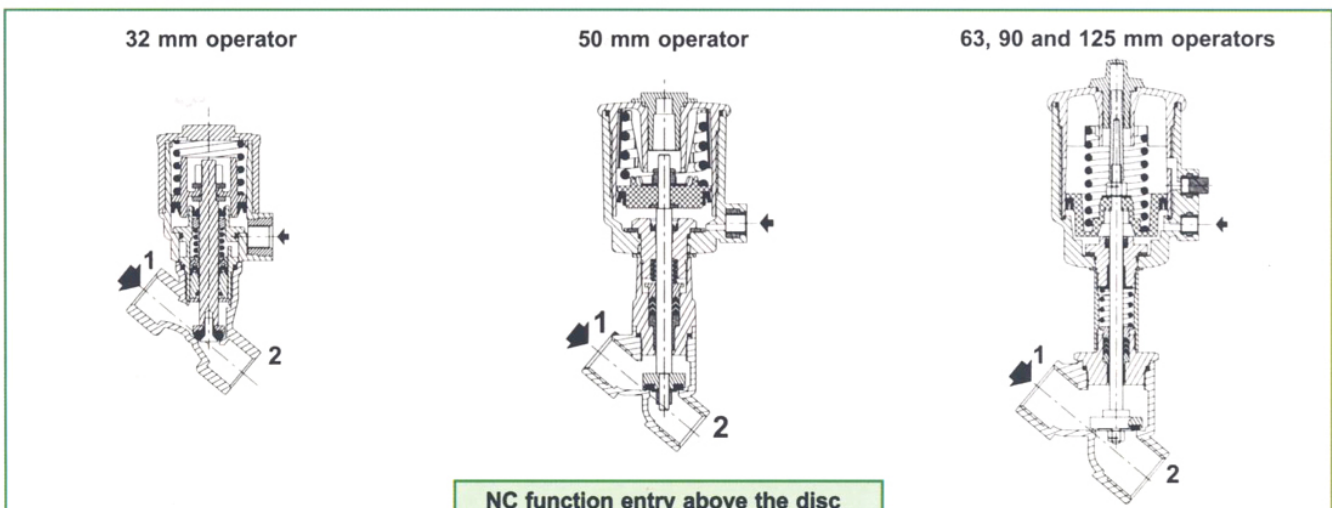
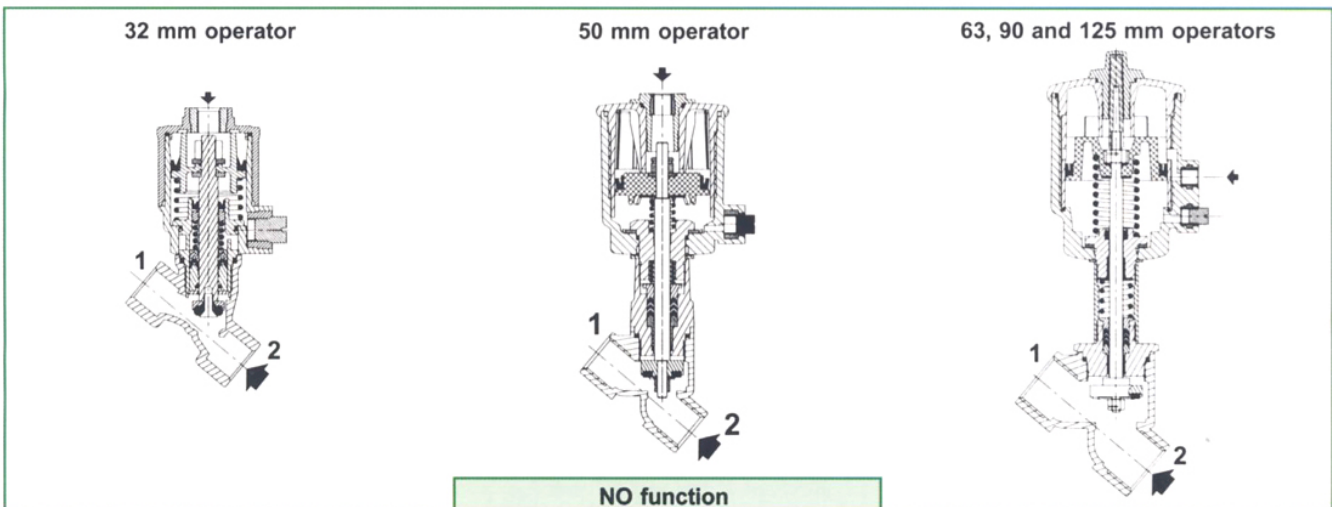
• 63, 90 and 125 mm operators: 4 bar minimum pilot pressure version: add 1,5 bar to the minimum pilot pressure of Chart VI, VII or VIII, page V402-5.

**OPTIONS AND ACCESSORIES (See V435)**

- Signaling box or compact signaling unit
- Stroke limiter for opening
- Manual safety device
- Optical position indicator on 32-50 mm operators, function NC
- Adapter plate for NAMUR pad mounting pilot (63-90-125 mm operators only)
- Oxygen service (Except DN 65)
- Vacuum application up to  $1,33 \cdot 10^{-3}$  mbar
- NET-INOX passivation treatment on stainless steel body valve
- All AISI 316L stainless steel version (NET-INOX passivation treatment included) recommended for very aggressive fluids (Except 32 mm operator)
- ATEX 94/9/EC versions for potentially explosive atmospheres

**INSTALLATION**

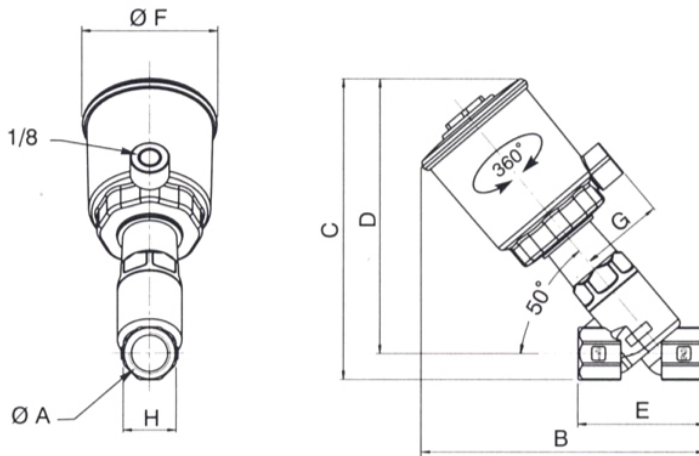
- The valves can be mounted in any position without affecting operation
- Compatible with ASTM 1, 2 and 3 oils
- Pipe connections (G<sup>+</sup>) have standard combination thread according to ISO 228/1 and ISO 7/1
- Other pipe threads available on request
- Installation/maintenance instructions are included with each valve
- Spare parts kits are available



DIMENSIONS (mm), WEIGHT (kg)



### 32 and 50 mm operator



NC and NO valves  
entry under disc at 2  
entry above disc at 1

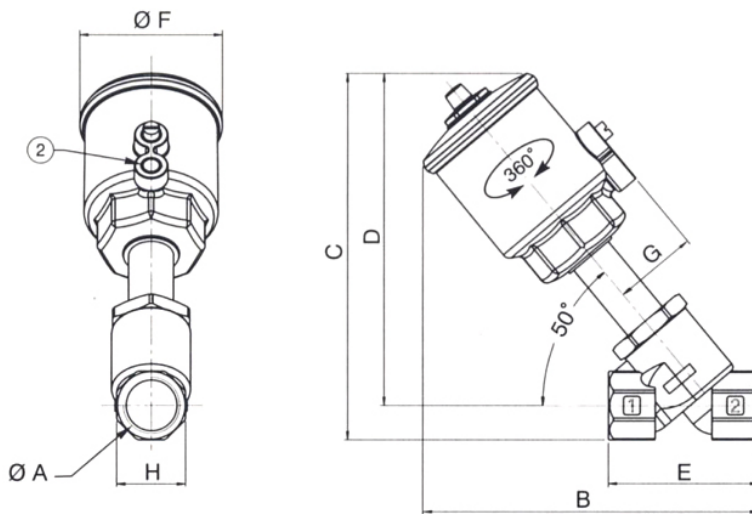
#### Construction with 32 mm operator

Ø A	B	C	D	E	ØF	G	ØH	weight (1)
3/8	92	93	81,5	55	43,5	27	23,5	0,35
1/2	99	97	83,5	65	43,5	27	28	0,4
3/4	107	104,5	88	75	43,5	27	30	0,45

#### Construction with 50 mm operator

Ø A	B	C	D	E	ØF	G	H	weight (1)
1/2	142	154,5	141	65	69	43	27	0,9
3/4	150,5	159	143	75	69	43	32	1
1	155	165	145	90	69	43	41	1,4

### 63, 90 or 125 mm operator



NC and NO valves  
entry under disc at 2  
entry above disc at 1

#### Construction with 63 mm operator

Ø A	B	C	D	E	ØF	G	H	weight (1)
1/2	170	182	169	65	85	50,5	27	1,2
3/4	175	185	170	75	85	50,5	32	1,3
1	179	192	172	90	85	50,5	41	1,7
1 1/4	217	229	204	110	85	50,5	50	2,1
1 1/2	224	245	215	120	85	50,5	60	2,9
2	249	259	224	150	85	50,5	70	3,7

#### Construction with 90 mm operator

Ø A	B	C	D	E	ØF	G	H	weight (1)
1	197	209	189	90	118	67	41	2,3
1 1/4	236	246	221	110	118	67	50	2,7
1 1/2	243	262	232	120	118	67	60	3,5
2	267	276	241	150	118	67	70	4,3
2 1/2	299	300	257	190	118	67	86	6,3

(1) Weight of valve without pilot. Pilot solenoid valves, see V440 (32 - 50 - 63 mm operator) V443 (90 - 125 mm operators)

(2) Pilot port  
• 1/8 (with 63 mm operator)  
• 1/4 (with 90 or 125 mm operator)

#### Construction with 125 mm operator

Ø A	B	C	D	E	ØF	G	H	weight (1)
1 1/4	284	298	273	110	156	86	50	5,2
1 1/2	291	313,5	283,5	120	156	86	60	6,0
2	315	328	293	150	156	86	70	6,8
2 1/2	347	352	308	190	156	86	86	8,9