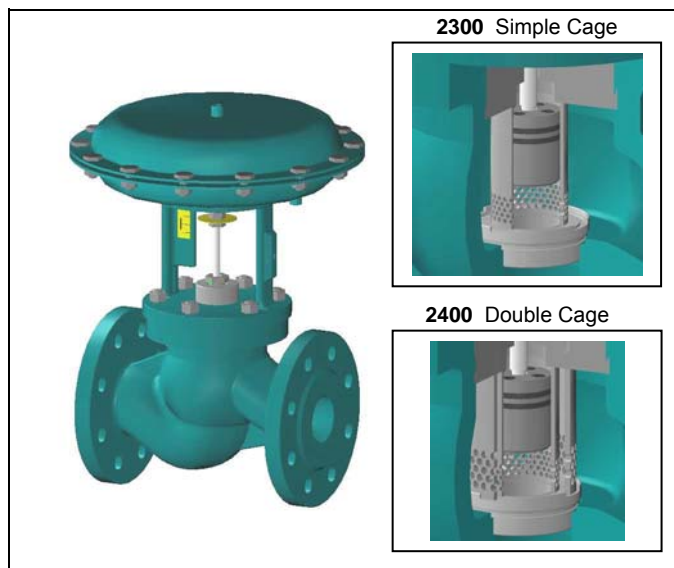


SINGLE SEAT TWO WAY CONTROL VALVES – LOW NOISE CE PED 97/23/CE / ATEX 94/9/CE / MACHINERY DIRECTIVE 2006/42/CE



TYPE 2300 AD Simple Cage

TYPE 2400 AD Double Cage

Normally open – air closes

Face-to-face EN 558-1

DESCRIPTION

The "UNIWORLD" series type 2300/2400 AD are equipped with EN "straight-through" pattern bodies with EN flanges.

Modulating balanced piston plug (low-noise), with high temperature sealing rings made of carbon graphite with antimony, self lapping, sliding in a single or double cage suitable for regulation of all type of media.

Compact construction assembled with multisprings pneumatic actuator having 3-15 psi ...6-30 psi standard control signals.

On request can be equipped with a pneumatic or electro-pneumatic pilot positioner.

SIZES : from DN 65 to DN 100

BODY CONNECT. : flanged EN 1092-1 PN 16 PN 40

MATERIALS OF BODY GROUP (1) :

- **Cast iron EN-GJL-250 UNI EN 1561 PN 16**
AISI 316 st. st. trim - C40 nickel plated steel bonnet
- **Carbon steel 1.0619 PN 16 ... PN 40**
AISI 316 st. st. trim - C40 nickel plated steel bonnet
- **Stainless steel AISI 316 1.4408 PN 16 ... PN 40**
AISI 316 st. st. trim – AISI 316 st. st. bonnet

PLUG :

- **SIMPLE CAGE** = linear balanced class IV°
- **RANGEABILITY DN 65/100** = 1/100

BONNET (2) :

- Standard : -5 to +200 °C
- Finned : > 200 °C
- Extended : below -5 °C
- Bellows sealed : for thermal oil or hazardous media with (PN 16 - 25 - 40) standard safety gland arrangement

GLAND ARRANGEMENT (PACKING) (3) with safety "0-rings" :

- PTFE 100% for temperatures ≤ 150 °C
- PTFE 85% + GRAPHITE 15% for temperatures ≤ 200 °C
- PURE GRAPHITE 100% for temperatures from 200° to 400 °C to be used with finned bonnet

CV = american unit (flowrate in USGPM with 1 psi of differential pressure)

TECHNICAL CHARACTERISTICS OF PNEUMATIC ACTUATOR :

- Actuator : diaphragm type
- Control signals : 3-15 psi ...6-30 psi
- Max air supply pressure : 35 psi (2,5 bar)
- Ambient temperature : -20 ... +70 °C *see on request
- Actuator casings material : Fe P11 carbon steel
- Diaphragm material : EPDM 700
- Yoke material : EN-GJS500-7 spheroidal cast iron
- Pneumatic connections : ISO 7 Rp – 1/8"

MAX WORKING CONDITIONS :

- Max inlet pressure and temperature : see leaflet n° 101/VP
- Valve sizing : see leaflet n° 100/VP

ON REQUEST :

- PTFE/GR soft seal ≤ 190 °C class VI°
- PTFE soft seal ≤ 150 °C class VI°
- Lapping on seat and plug class V°
- Stellite (degree 6°) on seat and plug and guide bush
- Reduced bore (see below table)
- Pneumatic pilot positioner 3-15 psi...3-9 psi...9-15 psi
- Electro-pneumatic pilot positioner 4-20 mA...4-12 mA...12-20 mA
- Air filter regulator
- Proximity limit switches
- 3-way solenoid valve
- Lubrifier on finned bonnet for temperatures ≥ 250 °C
- Top-work manual handwheel
- Diaphragm and Actuator sealing kit certified for ambient temperature ≤ -50 °C
- ATEX 94/9/CE dedicated configuration according to the fluid
- Kit diaphragm and actuator seals certified for a.t. ≥ -50 °C

Kv = metric unit (flowrate in m3/h with 1 bar of differential pressure)

Plug	DN 65		DN 80		DN 100	
	$\text{Ø } 2.1/2''$		$\text{Ø } 3''$		$\text{Ø } 4''$	
Full bore						
CV	56.79		75.31		129.91	
KV	48.44		64.24		110.81	
CV	$(\text{Ø } 2'')^*$	40.82	$(\text{Ø } 2.1/2'')$	56.79	$(\text{Ø } 3'')$	75.31
KV	$(\text{Ø } 2'')^*$	34.82	$(\text{Ø } 2.1/2'')$	48.44	$(\text{Ø } 3'')$	64.24
CV	$(\text{Ø } 1.1/2'')^*$	24.15	$(\text{Ø } 2'')^*$	40.82	$(\text{Ø } 2.1/2'')$	56.79
KV	$(\text{Ø } 1.1/2'')^*$	20.60	$(\text{Ø } 2'')^*$	34.82	$(\text{Ø } 2.1/2'')$	48.44
CV	$(\text{Ø } 1.1/4'')^*$	16.77	$(\text{Ø } 1.1/2'')^*$	24.15	$(\text{Ø } 2'')^*$	40.82
KV	$(\text{Ø } 1.1/4'')^*$	14.30	$(\text{Ø } 1.1/2'')^*$	20.60	$(\text{Ø } 2'')^*$	34.82

* Integral plug version with simple cage only (see leaflet 2200AD/E)

CONFLOW s.p.a.

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== ISO 9001 ==

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Maximum permissible pressure drops in Kg/cm² (fluid opens) Strokes in mm – Signals in psi

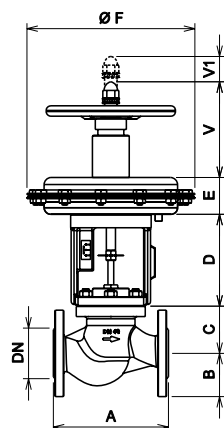
Actuator type	signal psi	DN 65	DN 80	DN 100
		stroke 28	stroke 28	stroke 28
T310	3-15 psi	80	64	32
	6-30 psi	200	160	80
T400	3-15 psi	118	94	47
	6-30 psi	295	236	118
T500	3-15 psi	197	158	79
	6-30 psi	493	395	197

1. The values given are referred to the force of actuator and they can be used within the limit of the body rating
2. The actuator DELTA-PI (PRESSURE DROPS with CLOSED VALVE) given in the column 3-15 psi are obtained with a thrust of 18 psi
3. The actuator DELTA-PI (PRESSURE DROPS with CLOSED VALVE) given in the column 6-30 psi are obtained with a thrust of 30 psi
4. For the reduced passage valve consider the DELTA-PI given in the right column.

COMPONENTS LIST AND MATERIALS

COMPONENT LIST		MATERIALS
1.	Body	1. See note (1) at pag.1
2.	Seat	2. AISI 316 stainless steel
5.	Piston plug with sealing rings	5. AISI 316 st.st.+ n°2 rings EK 3245
5a	Internal Simple Cage	5a AISI 316 stainless steel
5b	External Double Cage	5b AISI 316 stainless steel
6.	Stem	6. AISI 316 stainless steel
7.	Bonnet	7. See notes (1) (2) at pag.1
8.	Guide Bush	8. AISI 304
9.	Body gaskets	9. Europil WS 3640 or PTFE
9a.	Upper internal cage gasket	9a. WS 3640/C-4500 or PTFE
9b.	Upper external cage gasket	9b. WS 3640/C-4500 or PTFE
9c.	Lower internal cage gasket	9c. WS 3640/C-4500 or PTFE
9d.	Lower external cage gasket	9d. WS 3640/C-4500 or PTFE
10.	Packing spring	10. AISI 302 stainless steel
11.	Packing washer	11. AISI 304 stainless steel
12.	Packing rings	12. See note (3) at pag.1
13.	Internal "O" ring	13. Viton FPM 70
14.	External "O" ring	14. Viton FPM 70
15.	Packing adjusting nut	15. AISI 303 stainless steel
16.	Stud-bolts	16. Galvanized steel
17.	Body locknuts	17. DIN 934 galvanized steel
18.	Yoke	18. GGG50 spheroidal c. iron
19.	Travel indicator plate	19. Polycarbonate
20.	Position indicator nuts	20. DIN 936 galvanized steel
21.	Position indicator	21. Aluminium
22.	Diaphragm rod	22. AISI 303 stainless steel
23.	"O" ring	23. NBR
24.	Airtight	24. NBR
25.	Yoke gasket	25. Cork – rubber
26.	Lower diaphragm casing	26. P11 steel
27.	Yoke locknuts	27. DIN 933 galvanized steel
28.	Diaphragm spacer	28. Galvanized steel
29.	Diaphragm	29. EPDM 70
30.	Diaphragm plate	30. P01 steel
31.	Springs	31. C98 UNI 3823
32.	Diaphragm bush	32. AISI 303 stainless steel
33.	Diaphragm locknut	33. ISO 7380 galvanized steel
34.	Diaphragm casing bolts	34. DIN 934 galvanized steel
35.	Upper diaphragm casing	35. P11 steel
36.	Diaphragm casing locknuts	36. DIN 933 galvanized steel

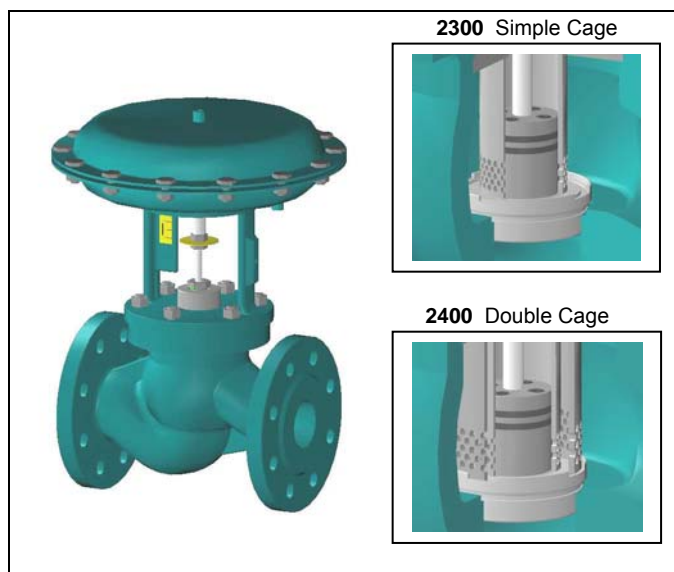
DIMENSIONI in mm.



DN	Ø	A	B	C- Bonnet			D	V	V1	Actuatora	E	Ø F
				Std	Finned	Bellows						
65	2.1/2 "	290	92.5	111	309	309	160	166	28	310	95	336
80	3"	310	100	135	333	333	160	166	28	400	119	408
100	4"	350	118	160	363	363	204	166	28	500	119	520

Specifications given are only indicative and not binding for the manufacturer who reserve the right to carry-out any modifications deemed necessary without prior notice. All data sheets by CONFLOW SpA. are available last update on our internet web site www.conflo.it.

SINGLE SEAT TWO WAY CONTROL VALVES – LOW NOISE CE PED 97/23/CE / ATEX 94/9/CE / MACHINERY DIRECTIVE 2006/42/CE



TYPE **2300 AR** Simple Cage

TYPE **2400 AR** Double Cage

Normally close – air opens

Face-to-face EN 558-1

DESCRIPTION

The “UNIWORLD” series type 2300/2400 AR are equipped with EN “straight-through” pattern bodies with EN flanges.

Modulating balanced piston plug (low-noise), with high temperature sealing rings made of carbon graphite with antimony, self lapping, sliding in a single or double cage suitable for regulation of all type of media.

Compact construction assembled with multisprings pneumatic actuator having 3-15 psi ...6-18 psi ...6-30 psi standard control signals.

On request can be equipped with a pneumatic or electro-pneumatic pilot positioner.

SIZES : from DN 65 to DN 100

BODY CONNECT. : flanged EN 1092-1 PN16 PN40

MATERIALS OF BODY GROUP (1) :

- **Cast iron EN-GJL-250 UNI EN 1561 PN 16**
AISI 316 st. st. trim - C40 nickel plated steel bonnet
- **Carbon steel 1.0619 PN 16 ... PN 40**
AISI 316 st. st. trim - C40 nickel plated steel bonnet
- **Stainless steel AISI 316 1.4408 PN 16 ... PN 40**
AISI 316 st. st. trim – AISI 316 st. st. bonnet

PLUG :

- **SIMPLE CAGE** = linear balanced class IV°
- **RANGEABILITY DN 65/100** = 1/100

BONNET (2) :

- Standard : -5 to +200 °C
- Finned : > 200 °C
- Extended : below -5 °C
- Bellows sealed : for thermal oil or hazardous media with (PN 16 - 25 - 40) standard safety gland arrangement

GLAND ARRANGEMENT (PACKING) (3) with safety “0-rings” :

- PTFE 100% for temperatures ≤ 150 °C
- PTFE 85% + GRAPHITE 15% for temperatures ≤ 200 °C
- PURE GRAPHITE 100% for temperatures from 200° to 400 °C to be used with finned bonnet

CV = american unit (flowrate in USGPM with 1 psi of differential pressure)

TECHNICAL CHARACTERISTICS OF PNEUMATIC ACTUATOR :

- Actuator : diaphragm type
- Control signals : 3-15 psi ...6-18 psi... 6-30 psi
- Max air supply pressure : 35 psi (2,5 bar)
- Ambient temperature : -20 ... +70 °C *see on request
- Actuator casings material : Fe P11 carbon steel
- Diaphragm material : EPDM 70
- Yoke material : EN-GJS500-7 spheroidal cast iron
- Pneumatic connections : ISO 7 Rp – 1/8”

MAX WORKING CONDITIONS :

- Max inlet pressure and temperature : see leaflet n° 101/VP
- Valve sizing : see leaflet n° 100/VP

ON REQUEST :

- PTFE/GR soft seal ≤ 190 °C class VI°
- PTFE soft seal ≤ 150 °C class VI°
- Lapping on seat and plug class V°
- Stellite (degree 6°) on seat and plug and guide bush
- Reduced bore (see below table)
- Pneumatic pilot positioner 3-15 psi...3-9 psi...9-15 psi
- Electro-pneumatic pilot positioner 4-20 mA...4-12 mA...12-20 mA
- Air filter regulator
- Proximity limit switches
- 3-way solenoid valve
- Lubrificator on finned bonnet for temperatures ≥ 250 °C
- Top-work manual handwheel
- Diaphragm and Actuator sealing kit certified for ambient temperature ≤ -50 °C
- ATEX 94/9/CE dedicated configuration according to the fluid
- Kit diaphragm and actuator seals certified for a.t. ≥ -50 °C

Kv = metric unit (flowrate in m3/h with 1 bar of differential pressure)

Plug	DN 65		DN 80		DN 100	
	$\text{Ø } 2.1/2''$		$\text{Ø } 3''$		$\text{Ø } 4''$	
Full bore						
CV	56.79		75.31		129.91	
KV	48.44		64.24		110.81	
CV	$(\text{Ø } 2'')^*$	40.82	$(\text{Ø } 2.1/2'')$	56.79	$(\text{Ø } 3'')$	75.31
KV	$(\text{Ø } 2'')$	34.82	$(\text{Ø } 2.1/2'')$	48.44	$(\text{Ø } 3'')$	64.24
CV	$(\text{Ø } 1.1/2'')$	24.15	$(\text{Ø } 2'')$	40.82	$(\text{Ø } 2.1/2'')$	56.79
KV	$(\text{Ø } 1.1/2'')$	20.60	$(\text{Ø } 2'')$	34.82	$(\text{Ø } 2.1/2'')$	48.44
CV	$(\text{Ø } 1.1/4'')$	16.77	$(\text{Ø } 1.1/2'')$	24.15	$(\text{Ø } 2'')$	40.82
KV	$(\text{Ø } 1.1/4'')$	14.30	$(\text{Ø } 1.1/2'')$	20.60	$(\text{Ø } 2'')$	34.82

* Integral plug version with simple cage only (see leaflet 2200AR/E)

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Maximum permissible pressure drops in Kg/cm2 (fluid opens)

Strokes in mm – Signals in psi

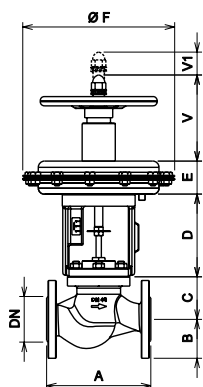
actuator type	signal psi	DN 65	DN 80	DN 100
		Stroke 28	Stroke 28	Stroke 28
T310	3-15 psi	26	21	10
	6-18 psi	53	42	21
	6-30 psi	80	64	32
T400	3-15 psi	39	31	15
	6-18 psi	78	63	31
	6-30 psi	177	141	70
T500	3-15 psi	65	52	26
	6-18 psi	131	105	52
	6-30 psi	329	263	131

1. The values given are referred to the force of actuator and they can be used within the limit of the body rating
2. The actuator DELTA-PI (PRESSURE DROPS with CLOSED VALVE) are obtained without a residual thrust of air into the actuator
3. The actuator DELTA-PI given in the column 6-30 psi are also valid for ON-OFF service with air supply at 30/35 psi
4. For the reduced passage valve consider the DELTA-PI given in the right column.

COMPONENTS LIST AND MATERIALS

COMPONENT LIST	MATERIALS
1. Body	1. See note (1) at pag.1
2. seat	2. AISI 316 stainless steel
5. Piston plug with sealing rings	5. AISI 316 st.st.+ n°2 rings EK 3245
5a Internal Simple Cage	5a AISI 316 stainless steel
5b External Double Cage	5b AISI 316 stainless steel
6. Stem	6. AISI 316 stainless steel
7. Bonnet	7. See notes (1) (2)at pag.1
8. Guide bush	8. AISI 304
9. Body gaskets	9. Europil WS 3640 or PTFE
9a. Upper internal cage gasket	9a WS 3640/C-4500 or PTFE
9b. Upper external cage gasket	9b. WS 3640/C-4500 or PTFE
9c. Lower internal cage gasket	9c. WS 3640/C-4500 or PTFE
9d. Lower external cage gasket	9d. WS 3640/C-4500 or PTFE
10. Packing spring	10. AISI 302 stainless steel
11. Packing washer	11. AISI 304 stainless steel
12. Packing rings	12. See note (3) at pag.1
13. Internal "O" ring	13. Viton FPM 70
14. External "O" ring	14. Viton FPM 70
15. Packing adjusting nut	15. AISI 303 stainless steel
16. Stud-bolts	16. Galvanized steel
17. Body locknuts	17. DIN 934 galvanized steel
18. Yoke	18. GGG50 spheroidal c. iron
19. Travel indicator plate	19. Polycarbonate
20. Position indicator nuts	20. DIN 936 galvanized steel
21. Position indicator	21. Aluminium
22. Diaphragm rod	22. AISI 303 stainless steel
23. "O" ring	23. NBR
24. Airtight	24. NBR
25. Yoke gasket	25. Cork – rubber
26. Lower diaphragm casing	26. P11 steel
27. Yoke locknuts	27. DIN 933 galvanized steel
28. Diaphragm spacer	28. Galvanized steel
29. Diaphragm	29. EPDM 70
30. Diaphragm plate	30. P01 steel
31. Springs	31. C98 UNI 3823
32. Diaphragm bush	32. AISI 303 stainless steel
33. Diaphragm locknut	33. ISO 7380 galvanized steel
34. Diaphragm casing bolts	34. DIN 934 galvanized steel
35. Upper diaphragm casing	35. P11 steel
36. Diaphragm casing locknuts	36. DIN 933 galvanized steel

DIMENSIONS in mm.



DN	Ø	A	B	C- Bonnet			D	V	V1	Actuator	E	Ø F
				Std	Finned	Bellows						
65	2.1/2 "	290	92.5	111	309	309	160	166	28	310	95	336
80	3"	310	100	135	333	333	160	166	28	400	119	408
100	4"	350	118	160	363	363	204	166	28	500	119	520

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