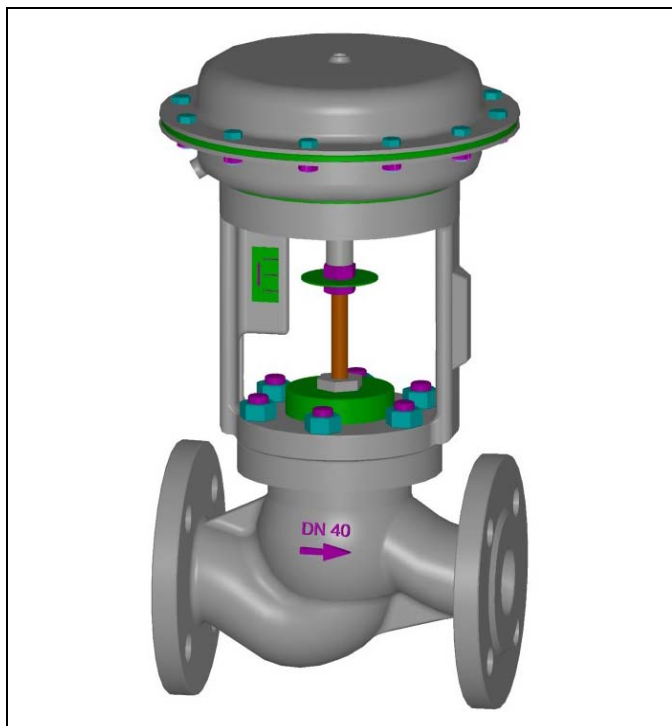


## SINGLE SEAT TWO WAY ON-OFF VALVES

PED 97/23/CE / ATEX 94/9/CE / MACHINERY DIRECTIVE 2006/42/CE



## TYPE 2100 AD

Normally open – air closes

Face-to-face EN 558-1

### DESCRIPTION

The "UNIWORLD" series type 2100 AD are equipped with EN "straight-through" pattern bodies with EN flanges. Quick lift plug with soft seal class VI or with metal seal class V. Compact construction assembled with multisprings pneumatic actuator. The pneumatic actuator is suitable for 2-6 bar pneumatic signal.

**SIZES :** from DN 15 to DN 100

**BODY CONNECTIONS :** 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 :** PT (DN15-50) - VPT (DN 65-100):

- **PT** – metal seal class V°
- **PT/PTFE** – soft seal class VI° for temperatures  $\leq 150$  °C
- **PT/PTFE/GR** – soft seal class VI° for temperatures  $\leq 190$  °C

#### 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  $\leq 150$  °C
- PTFE 85% + GRAPHITE 15% for temperatures  $\leq 200$  °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
- Signal : min.2 ... max 6 bar
- Ambient temperature : 70 °C  $\leq$  3 bar \*see on request
- Ambient temperature : 50 °C > 3 bar \*see on request
- Actuator casing material : 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 : see leaflet n° 101/VP
- Max temperature : see leaflet n° 101/VP
- Valve sizing : see leaflet n° 100/VP

#### ON REQUEST :

- Air filter regulator
- Proximity limit switches
- 3-way solenoid valve
- Lubrifier on finned bonnet for temperatures  $\geq 250$  °C
- Top-work manual handwheel
- ATEX 94/9/CE dedicated configuration according to the fluid
- Kit diaphragm and actuator seals certified for a.t.  $\geq - 50$  °C

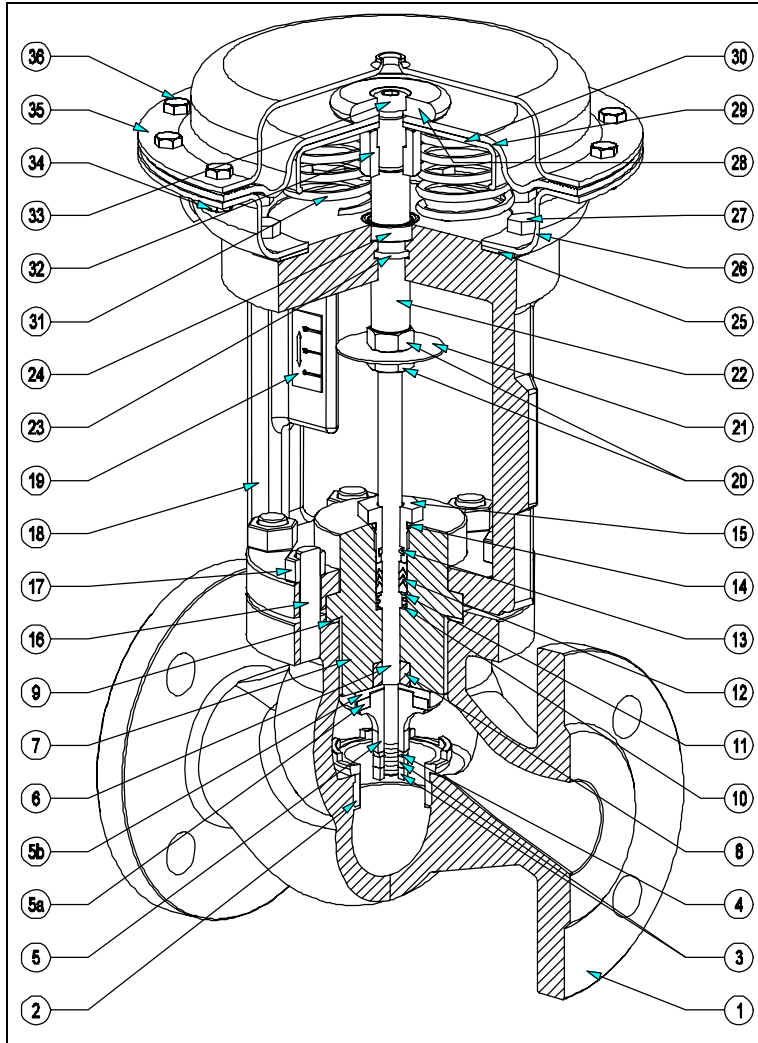
**Kv = metric unit (flowrate in m3/h with 1 bar of differential pressure)**

PLUG	Full bore	DN 15	DN 20	DN 25	DN 32	DN 40	DN 50	DN 65	DN 80	DN 100
		Ø 1/2"	Ø 3/4"	Ø 1"	Ø 1.1/4"	Ø 1.1/2"	Ø 2"	Ø 2.1/2"	Ø 3"	Ø 4"
PT	CV	3.4	6.6	12.1	19	24	52.7	107.3	129.3	175.4
	KV	2.9	5.7	10.4	16.4	20.7	45.3	92.5	111.5	151.2

## Maximum permissible pressure drops in Kg/cm<sup>2</sup>

Function			NORMALLY OPENS ON AIR FAILURE				
Fluid direction			OPEN (under the plug)				
Air pressure in bar			2	3	4	5	6
DN	Stroke in mm	Actuator	$\Delta p$ permissible				
15	11	T200	35	40	40	40	40
20	11	T200	30	40	40	40	40
25	11	T200	20	40	40	40	40
32	19	T200	17	30	35	40	40
40	19	T200	7	18	22	36	40
50	19	T200	3	15	20	30	38
65	19	T250	3	6.5	9	13	18
80	19	T250	1.5	4	5.5	8	11
100	19	T250	0.9	2.1	3	4.5	7

## COMPONENTS LIST AND MATERIALS



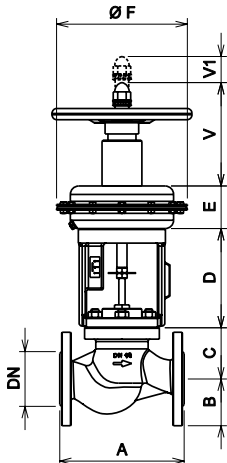
### COMPONENTS LIST

1. Body
2. Seat
3. Plug locknuts
4. Spring washer
5. Lower plug profile
- 5a. Soft ring
- 5b. Upper plug profile
6. Stem
7. Bonnet
8. Guide bush
9. Body gasket
10. Packing spring
11. Packing washer
12. Packing rings
13. Internal "O" ring
14. External "O" ring
15. Packing adjusting nut
16. Stud-bolts
17. Body locknuts
18. Yoke
19. Travel indicator plate
20. Position indicator locknuts
21. Position indicator
22. Diaphragm rod
23. "O" ring
24. Airtight
25. Yoke gasket
26. Lower diaphragm casing
27. Lower diaphragm casing internal bolts
28. Diaphragm spacer
29. Diaphragm
30. Diaphragm plate
31. Springs
32. Diaphragm bush
33. Diaphragm locknut
34. Diaphragm casing bolts
35. Upper diaphragm casing
36. Diaphragm casing locknuts

### 1. MATERIALI

1. See note (1) at page 1
2. AISI 316 stainless steel
3. AISI 304 stainless steel
4. AISI 304 stainless steel
5. AISI 316 stainless steel
- 5a. PTFE or PTFE/graphite
- 5b. AISI 316 stainless steel
6. AISI 316 stainless steel
7. See notes (1)-(2) at page 1
8. AISI 304 stainless steel
9. Europil WS 3640 or PTFE
10. AISI 302 stainless steel
11. AISI 304 stainless steel
12. See note (3) at page 1
13. Viton FPM 70
14. Viton FPM 70
15. AISI 303 stainless steel
16. Galvanized steel
17. DIN 934 galvanized steel
18. GGG50 spheroidal c. iron
19. Polycarbonate
20. DIN 936 galvanized steel
21. Aluminium
22. AISI 303 stainless steel
23. NBR
24. NBR
25. Cork - rubber
26. P11 steel
27. DIN 933 galvanized steel
28. Galvanized steel
29. EPDM 70
30. P01 steel
31. C98 UNI 3823
32. AISI 303 stainless steel
33. ISO 7380 galvanized steel
34. DIN 934 galvanized steel
35. P11 steel
36. DIN 933 galvanized steel

## DIMENSIONS in mm.



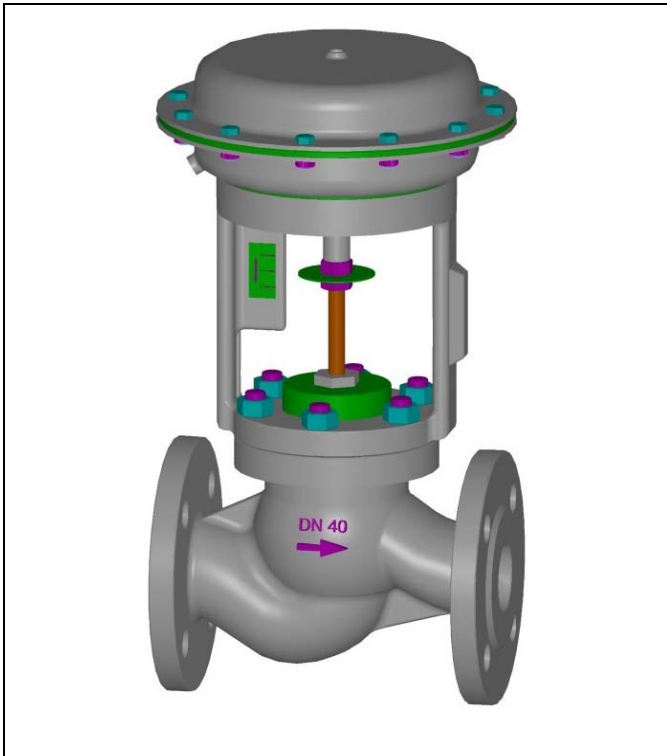
DN	Ø	A	B	C - Bonnet			D	V	V1
				Std	Finned	Bellows			
15	1/2 "	130	47.5	49	181	181	147	166	11
20	3/4 "	150	52.5	58	190	190	147	166	11
25	1 "	160	57.5	68	200	200	147	166	11
32	1.1/4 "	180	70	70	202	202	147	166	19
40	1.1/2 "	200	75	82	214	214	160	166	19
50	2 "	230	82.5	86	218	218	160	166	19
65	2.1/2 "	290	92.5	111	309	309	160	166	19
80	3 "	310	100	135	333	333	160	166	19
100	4 "	350	118	160	363	363	204	166	19

Actuator.	E	Ø F
T200	70	210
T200	70	210
T200	70	210
T200	70	210
T200	70	210
T200	70	210
T250	70	292
T250	70	292
T250	70	292

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## SINGLE SEAT TWO WAY ON-OFF VALVES

PED 97/23/CE / ATEX 94/9/CE / MACHINERY DIRECTIVE 2006/42/CE



## TYPE 2100 AR

Normally closed – air opens

Face-to-face EN 558-1

### DESCRIPTION

The "UNIWORLD" series type 2100 AR are equipped with EN "straight-through" pattern bodies with EN flanges. Quick lift plug with soft seal class VI or with metal seal class V. Compact construction assembled with multisprings pneumatic actuator. The pneumatic actuator is suitable for 2-6 bar pneumatic signal.

Type 2100 AR valves are produced for two different applications :

- for steam, air and gases with fluid direction CLOSE (F.C.) over the plug
- for water and liquid with fluid direction OPEN (F.O.) under the plug

**SIZES :** from DN 15 to DN 100

**BODY CONNECTIONS :** 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 :** PT (DN15-50) - VPT (DN 65-100):

- **PT** – metal seal class V°
- **PT/PTFE** – soft seal class VI° for temperatures  $\leq 150$  °C
- **PT/PTFE/GR** – soft seal class VI° for temperatures  $\leq 190$  °C

#### 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  $\leq 150$  °C
- PTFE 85% + GRAPHITE 15% for temperatures  $\leq 200$  °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
- Signal : min.2 ... max 6 bar
- Ambient temperature : 70 °C  $\leq$  3 bar \*see on request
- Ambient temperature : 50 °C > 3 bar \*see on request
- Actuator casing material : 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 : see leaflet n° 101/VP
- Max temperature : see leaflet n° 101/VP
- Valve sizing : see leaflet n° 100/VP

#### ON REQUEST :

- Air filter regulator
- Proximity limit switches
- 3-way solenoid valve
- Lubrificator on finned bonnet for temperatures  $\geq 250$  °C
- Top-work manual handwheel
- ATEX 94/9/CE dedicated configuration according to the fluid
- Kit diaphragm and actuator seals certified for a.t.  $\geq -50$  °C

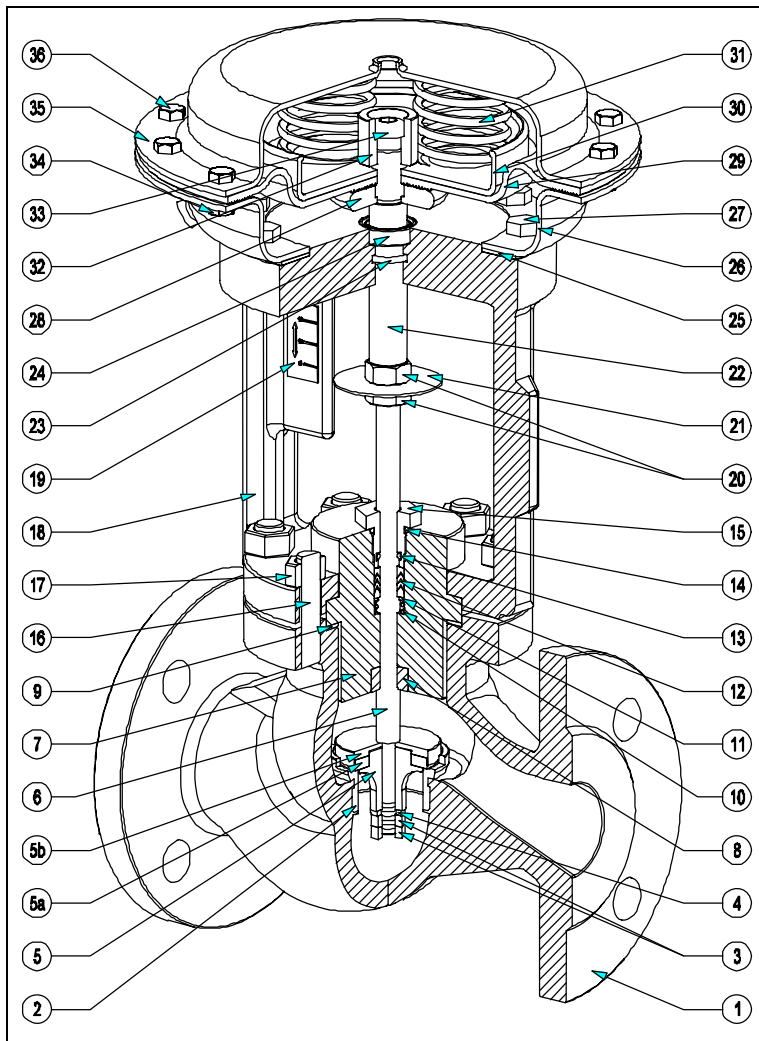
**Kv = metric unit (flowrate in m3/h with 1 bar of differential pressure)**

PLUG	DN 15	DN 20	DN 25	DN 32	DN 40	DN 50	DN 65	DN 80	DN 100	
	Full bore	Ø 1/2"	Ø 3/4"	Ø 1"	Ø 1.1/4"	Ø 1.1/2"	Ø 2"	Ø 2.1/2"	Ø 3"	Ø 4"
PT	CV	3.4	6.6	12.1	19	24	52.7	107.3	129.3	175.4
	KV	2.9	5.7	10.4	16.4	20.7	45.3	92.5	111.5	151.2

# Maximum permissible pressure drops in Kg/cm<sup>2</sup>

Function			NORMALLY CLOSED ON AIR FAILURE					NORMALLY CLOSED ON AIR FAILURE				
Fluid direction			CLOSE (over the plug)					OPEN (under the plug)				
Air pressure in bar			2	3	4	5	6	2	3	4	5	6
DN	Stroke in mm	Actuator	$\Delta p$ permissible					$\Delta p$ permissible				
15	11	T200	40	40	40	40	40	65	65	65	65	65
20	11	T200	40	40	40	40	40	40	40	40	40	40
25	11	T200	35	40	40	40	40	22	22	22	22	22
32	19	T200	27	40	40	40	40	11	11	11	11	11
40	19	T200	18	28	40	40	40	8	8	8	8	8
50	19	T200	11	16	21	27	32	6	6	6	6	6
65	19	T250	14	22	29	36	40	5.7	5.7	5.7	5.7	5.7
80	19	T250	10	15	20	25	30	4	4	4	4	4
100	19	T250	4.5	7	8.3	10	12	2.2	2.2	2.2	2.2	2.2

## COMPONENTS LIST AND MATERIALS



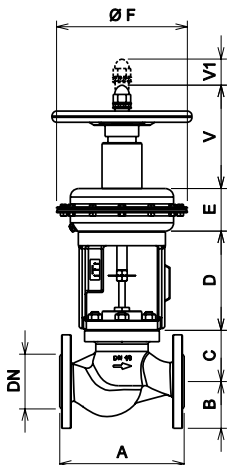
### COMPONENTS LIST

1. Body
2. Seat
3. Plug locknuts
4. Spring washer
5. Lower plug profile
- 5a. Soft ring
- 5b. Upper plug profile
6. Stem
7. Bonnet
8. Guide bush
9. Body gasket
10. Packing spring
11. Packing washer
12. Packing rings
13. Internal "O" ring
14. External "O" ring
15. Packing adjusting nut
16. Stud-bolts
17. Body locknuts
18. Yoke
19. Travel indicator plate
20. Position indicator locknuts
21. Position indicator
22. Diaphragm rod
23. "O" ring
24. Airtight
25. Yoke gasket
26. Lower diaphragm casing
27. Lower diaphragm casing internal bolts
28. Diaphragm spacer
29. Diaphragm
30. Diaphragm plate
31. Springs
32. Diaphragm bush
33. Diaphragm locknut
34. Diaphragm casing bolts
35. Upper diaphragm casing
36. Diaphragm casing locknuts

### 1. MATERIALI

1. See note (1) at page 1
2. AISI 316 stainless steel
3. AISI 304 stainless steel
4. AISI 304 stainless steel
5. AISI 316 stainless steel
- 5a. PTFE or PTFE/graphite
- 5b. AISI 316 stainless steel
6. AISI 316 stainless steel
7. See notes (1)-(2) at page 1
8. AISI 304 stainless steel
9. Europil WS 3640 or PTFE
10. AISI 302 stainless steel
11. AISI 304 stainless steel
12. See note (3) at page 1
13. Viton FPM 70
14. Viton FPM 70
15. AISI 303 stainless steel
16. Galvanized steel
17. DIN 934 galvanized steel
18. GGG50 spheroidal c. iron
19. Polycarbonate
20. DIN 936 galvanized steel
21. Aluminium
22. AISI 303 stainless steel
23. NBR
24. NBR
25. Cork - rubber
26. P11 steel
27. DIN 933 galvanized steel
28. Galvanized steel
29. EPDM 70
30. P01 steel
31. C98 UNI 3823
32. AISI 303 stainless steel
33. ISO 7380 galvanized steel
34. DIN 934 galvanized steel
35. P11 steel
36. DIN 933 galvanized steel

## DIMENSIONS in mm.



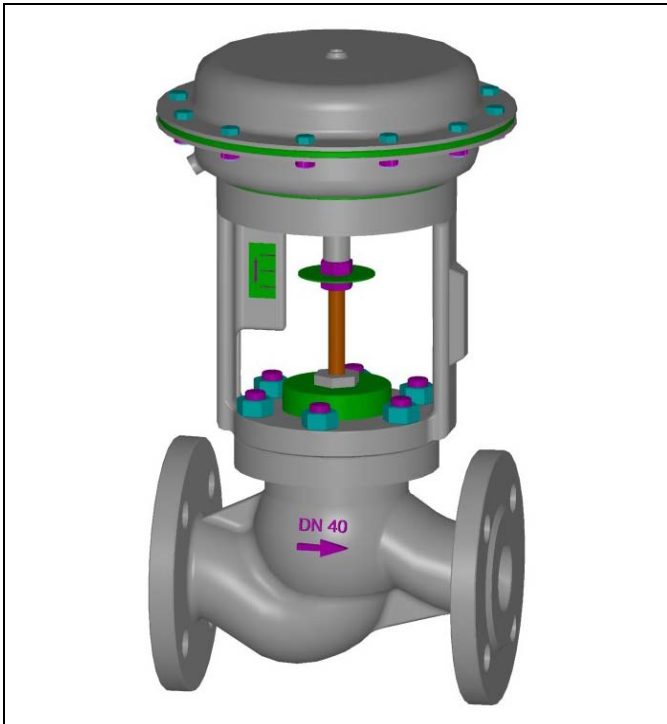
DN	Ø	A	B	C - Bonnet			D	V	V1
				Std	Finned	Bellows			
15	1/2 "	130	47.5	49	181	181	147	166	11
20	3/4 "	150	52.5	58	190	190	147	166	11
25	1 "	160	57.5	68	200	200	147	166	11
32	1.1/4 "	180	70	70	202	202	147	166	19
40	1.1/2 "	200	75	82	214	214	160	166	19
50	2 "	230	82.5	86	218	218	160	166	19
65	2.1/2 "	290	92.5	111	309	309	160	166	19
80	3 "	310	100	135	333	333	160	166	19
100	4 "	350	118	160	363	363	204	166	19

Actuator	E	Ø F
T200	70	210
T200	70	210
T200	70	210
T200	70	210
T200	70	210
T200	70	210
T250	70	292
T250	70	292
T250	70	292

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## SINGLE SEAT TWO WAY ON-OFF VALVES

PED 97/23/CE / ATEX 94/9/CE / MACHINERY DIRECTIVE 2006/42/CE



## TYPE 2100 DE

Double acting – air closes – air opens

Face-to-face EN 558-1

### DESCRIPTION

The "UNIWORLD" series type 2100 DE are equipped with EN "straight-through" pattern bodies with EN flanges. Quick lift plug with soft seal class VI or with metal seal class V. Compact construction assembled with double acting pneumatic actuator : air closes, air opens. The pneumatic actuator is suitable for 2-6 bar pneumatic signal from DN 15 to DN 50 and for 2-4 bar pneumatic signal from DN 65 to DN 100.

**SIZES :** from DN 15 to DN 100

**BODY CONNECTIONS :** 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 :** PT (DN15-50) - VPT (DN 65-100):

- **PT** – metal seal class V°
- **PT/PTFE** – soft seal class VI° for temperatures  $\leq 150$  °C
- **PT/PTFE/GR** – soft seal class VI° for temperatures  $\leq 190$  °C

#### 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  $\leq 150$  °C
- PTFE 85% + GRAPHITE 15% for temperatures  $\leq 200$  °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
- Signal : min.2 max.6 bar DN15..DN50
- Signal : min.2 max.4 bar DN65..DN100
- Ambient temperature : 70 °C  $\leq$  3 bar \*see on request
- Ambient temperature : 50 °C > 3 bar \*see on request
- Actuator casing material : 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 : see leaflet n° 101/VP
- Max temperature : see leaflet n° 101/VP
- Valve sizing : see leaflet n° 100/VP

#### ON REQUEST :

- Air filter regulator
- Proximity limit switches
- 3-way solenoid valve
- Lubrificator on finned bonnet for temperatures  $\geq 250$  °C
- Top-work manual handwheel
- ATEX 94/9/CE dedicated configuration according to the fluid
- Kit diaphragm and actuator seals certified for a.t.  $\geq - 50$  °C

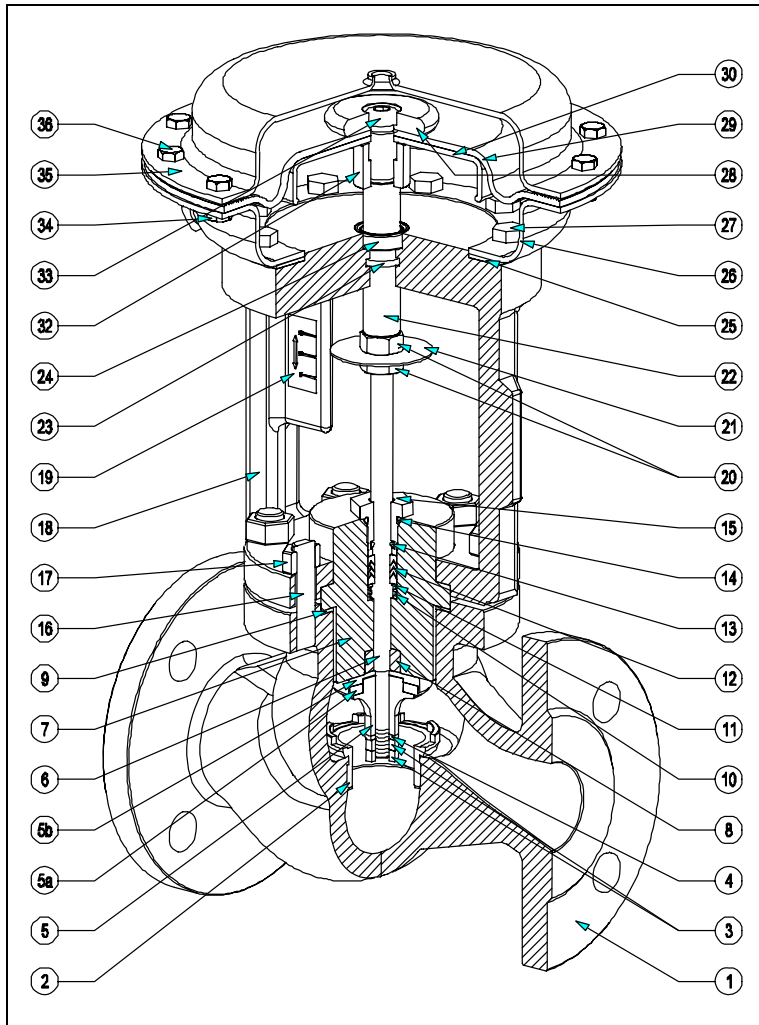
**Kv = metric unit (flowrate in m3/h with 1 bar of differential pressure)**

PLUG	Full bore	DN 15	DN 20	DN 25	DN 32	DN 40	DN 50	DN 65	DN 80	DN 100
		Ø 1/2"	Ø 3/4"	Ø 1"	Ø 1.1/4"	Ø 1.1/2"	Ø 2"	Ø 2.1/2"	Ø 3"	Ø 4"
PT	CV	3.4	6.6	12.1	19	24	52.7	107.3	129.3	175.4
	KV	2.9	5.7	10.4	16.4	20.7	45.3	92.5	111.5	151.2

# Maximum permissible pressure drops in Kg/cm<sup>2</sup>

Function			DOUBLE ACTING				
Fluid direction			OPEN (under the plug)				
Air pressure in bar			2	3	4	5	6
DN	Stroke in mm	Actuator	$\Delta p$ permissible				
15	11	T200	40	40	40	40	40
20	11	T200	40	40	40	40	40
25	11	T200	40	40	40	40	40
32	19	T200	25	40	40	40	40
40	19	T200	18	28	37	40	40
50	19	T200	11	16	21	27	32
65	19	T250	14	22	29	-	-
80	19	T250	10	15	20	-	-
100	19	T250	5	8	11	-	-

## COMPONENTS LIST AND MATERIALS



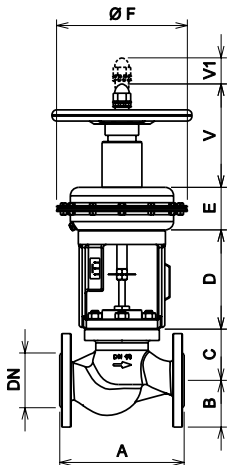
### COMPONENTS LIST

1. Body
2. Seat
3. Plug locknuts
4. Spring washer
5. Lower plug profile
- 5a. Soft ring
- 5b. Upper plug profile
6. Stem
7. Bonnet
8. Guide bush
9. Body gasket
10. Packing spring
11. Packing washer
12. Packing rings
13. Internal "O" ring
14. External "O" ring
15. Packing adjusting nut
16. Stud-bolts
17. Body locknuts
18. Yoke
19. Travel indicator plate
20. Position indicator locknuts
21. Position indicator
22. Diaphragm rod
23. "O" ring
24. Airtight
25. Yoke gasket
26. Lower diaphragm casing
27. Lower diaphragm casing internal bolts
28. Diaphragm spacer
29. Diaphragm
30. Diaphragm plate
31. Springs
32. Diaphragm bush
33. Diaphragm locknut
34. Diaphragm casing bolts
35. Upper diaphragm casing
36. Diaphragm casing locknuts

### 1. MATERIALI

1. See note (1) at page 1
2. AISI 316 stainless steel
3. AISI 304 stainless steel
4. AISI 304 stainless steel
5. AISI 316 stainless steel
- 5a. PTFE or PTFE/graphite
- 5b. AISI 316 stainless steel
6. AISI 316 stainless steel
7. See notes (1)-(2) at page 1
8. AISI 304 stainless steel
9. Europil WS 3640 or PTFE
10. AISI 302 stainless steel
11. AISI 304 stainless steel
12. See note (3) at page 1
13. Viton FPM 70
14. Viton FPM 70
15. AISI 303 stainless steel
16. Galvanized steel
17. DIN 934 galvanized steel
18. GGG50 spheroidal c. iron
19. Polycarbonate
20. DIN 936 galvanized steel
21. Aluminium
22. AISI 303 stainless steel
23. NBR
24. NBR
25. Cork - rubber
26. P11 steel
27. DIN 933 galvanized steel
28. Galvanized steel
29. EPDM 70
30. P01 steel
31. C98 UNI 3823
32. AISI 303 stainless steel
33. ISO 7380 galvanized steel
34. DIN 934 galvanized steel
35. P11 steel
36. DIN 933 galvanized steel

## DIMENSIONS in mm.



DN	Ø	A	B	C - Bonnet			D	V	V1
				Std	Finned	Bellows			
15	1/2 "	130	47.5	49	181	181	147	166	11
20	3/4 "	150	52.5	58	190	190	147	166	11
25	1 "	160	57.5	68	200	200	147	166	11
32	1.1/4 "	180	70	70	202	202	147	166	19
40	1.1/2 "	200	75	82	214	214	160	166	19
50	2 "	230	82.5	86	218	218	160	166	19
65	2.1/2 "	290	92.5	111	309	309	160	166	19
80	3 "	310	100	135	333	333	160	166	19
100	4 "	350	118	160	363	363	204	166	19

Actuator.	E	Ø F
T200	70	210
T200	70	210
T200	70	210
T200	70	210
T200	70	210
T200	70	210
T250	70	292
T250	70	292
T250	70	292

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](http://www.conflo.it).