

SINGLE SEAT TWO WAY CONTROL VALVES



TYPE 2000 EP

with tension opens and closes

Face-to-face EN 558-1

DESCRIPTION

The "UNIWORLD" series type 2000 EP are equipped with EN "straight-through" pattern bodies with EN flanges. Modulating plug suitable for control of virtually all line media. Compact construction assembled with "made in Germany" linear electric actuator fixed to the body by means of two steel columns. The electric actuator works with standard 3 points modulating control signal or can be equipped with a potentiometer and with a pilot positioner having 0 (4) - 20 mA or 0 (2) - 10 V control 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 :

- EQP (DN15-50) EQV (DN65-100) = equal percentage class IV*
- PL (DN15-50) LV (DN65-100) = linear class IV*
- PT (DN15-50) VPT (DN65-100) = quick lift class IV*

BONNET (2) :

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

GLAND ARRANGEMENT (PACKING) (3) with safety "O-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 (flow rate in USGPM with 1 psi of differential pressure)

TECHNICAL CHARACTERISTICS OF ELECTRIC ACTUATOR :

- Standard power supply : 220 V AC
- Degree of protection : IP 65 DIN 40050
- Control signal : 3 points modulating input
- Ambient temperature : -20 ... +60 °C
- Actuator case material : die cast aluminium
- Actuator cover material : polycarbonate
- Manual handwheel : standard included
- Electric connections : cable gland PG13 (2 off)

MAX WORKING CONDITIONS :

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

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)
- Power supply 24 V DC - 24 V AC - 110 V AC
- Potentiometer 1000 Ohm, simple or double
- Positioner 0 (4)-20 mA ... 0 (2)-10 V, 2 wires, c/w potentiometer
- Card with mechanical limit switches
- Card for 4-20 mA feedback signal (2 wires system)
- IP 67 DIN 40050 protection
- Heating resistor for ambient temperature up-to -30 °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"								
EQP	CV	3.4	6.6	10.8	17	23.8	50	70.2	87.9	118.5							
	KV	2.9	5.7	9.3	14.7	20.5	43	60.5	75.2	102.1							
PL	CV	3.4	6.6	11.2	17.6	23.9	51.2	72.7	89.3	123.8							
	KV	2.9	5.7	9.6	15.2	20.6	44	62.7	77	106.7							
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							
Reduced bore*	•	•	1/2"	1/2"	3/4"	3/4"	1"	1"	1.1/4"	1.1/4"	1.1/2"	1.1/2"	2"	2"	2.1/2"	2.1/2"	3"

• DN 15-20	MFP 1/8"	MFP 3/16"	MFP 1/4"	MFP 3/8"	MFS1SG 1/4"	MFS2SG 1/4"	MFS1SG 3/8"	MFS2SG 3/8"
CV	0.26	0.71	1.28	2.62	0.65	1.21	1.22	2.25
KV	0.22	0.61	1.10	2.26	0.56	1.04	1.05	1.94

MFP = Linear..MFS = Equal percentage

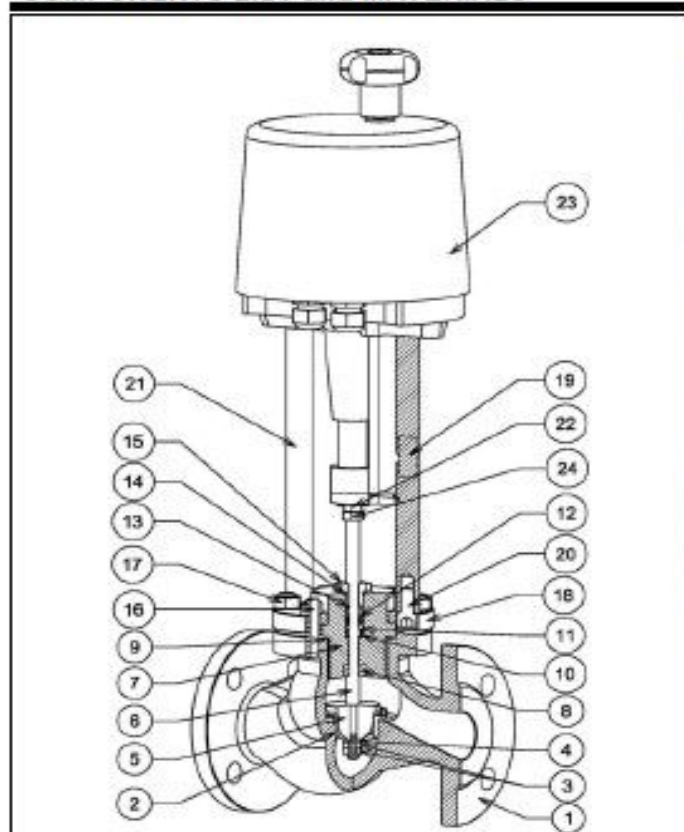
* CV and KV values are referred to the selected diameter and plug type (EQP/EQV-PL/LV only)

**Maximum permissible pressure drops in Kg/cm² (fluid opens) with alive motor
Power and Current absorbed – Speed in second for total stroke in mm**

Actuator Type	Power absorbed	NOMINAL DIAMETER								
		DN 15	DN 20	DN 25	DN 32	DN 40	DN 50	DN 65	DN 80	DN 100
PSL201	Kg/cm ²	50	31	18	12	8	4,5	-	-	-
50/60 Hz	speed sec	44	44	44	76	76	76	-	-	-
26 VA	stroke mm	11	11	11	19	19	19	-	-	-
PSL202	Kg/cm ²	-	62	36	24	16	9	6	4	2,2
50/60 Hz	speed sec	-	22	22	38	38	38	55	55	55
37/40 VA	stroke mm	-	11	11	19	19	19	28	28	28
PSL204	Kg/cm ²	-	-	85	55	38	22	13,5	9,5	5,2
50/60 Hz	speed sec	-	-	22	38	38	38	55	55	55
44/47 VA	stroke mm	-	-	11	19	19	19	28	28	28
PSL210	Kg/cm ²	-	-	-	-	94	54	33,5	23,5	13
50/60 Hz	speed sec	-	-	-	-	38	57	84	84	84
72/68 VA	stroke mm	-	-	-	-	19	19	28	28	28

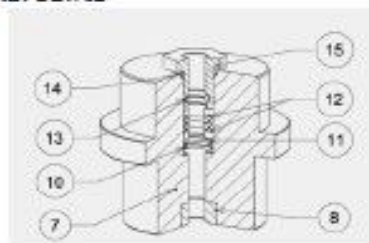
- The values given are referred to the force of the actuator and they can be used within the limit of the body rating.
- Electric actuators suitable for operating force up-to 25 kN are available on request.

COMPONENTS LIST and MATERIALS



COMPONENTS LIST	MATERIALS
1. Body	1. See note (1) at page 1
2. Seat	2. AISI 316 stainless steel
3. Plug locknuts	3. AISI 304 stainless steel
4. Spring washer	4. AISI 304 stainless steel
5. Plug	5. AISI 316 stainless steel
6. Stem	6. AISI 316 stainless steel
7. Bonnet	7. See notes (1)(2) at page 1
8. Guide bush	8. AISI 304 stainless steel
9. Body gasket	9. Europil WS 3640 or PTFE on request
10. Packing spring	10. AISI 302 stainless steel
11. Packing washer	11. AISI 304 stainless steel
12. Packing rings	12. See note (3) at page 1
13. Internal "O" ring	13. Viton FPM 70
14. External "O"	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. Upper bonnet flange	18. C40 nickel plated steel
19. Travel indicator plate	19. Polycarbonate
20. Column fixing screws	20. DIN 912 galvanized steel
21. Actuator columns	21. AISI 430 stainless steel
22. Flange + locking screws	22. A2 stainless steel
23. Electric actuator	23. See technical data at page 1
24. Stem nut	24. DIN 936 galvanized steel

BONNET DETAIL



DIMENSIONS in mm.



BODY GROUP

DN	Ø	A	B	C - Bonnet		
				Std	Finned	Bellows
15	1/2"	130	47,5	49	181	181
20	3/4"	150	52,5	58	190	190
25	1"	160	57,5	68	200	200
32	1.1/4"	180	70	70	202	202
40	1.1/2"	200	75	82	214	214
50	2"	230	82,5	86	218	218
65	2.1/2"	290	92,5	111	309	309
80	3"	310	100	135	333	333
100	4"	350	118	160	363	363

ACTUATOR

PSL201 - PSL202 PSL 204 - PSL 210		
Ø D	E	F
176	410	50
176	410	50
176	410	50
176	410	50
176	410	50
176	410	50
176	417	50
176	419	50