

SINGLE SEAT TWO WAY CONTROL VALVES



TYPE 5000 EP

with tension opens and closes

Face-to-face ASME / ANSI B16.10

DESCRIPTION

The "UNIWORLD" series type 5000 EP are equipped with "straight-through" pattern bodies having ANSI face-to-face dimensions and EN - ANSI - JIS 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 200

BODY CONNECTIONS : flanged EN 1092-1 PN16 PN40
flanged ANSI B 16.5 150 RF 300 RF
flanged JIS B2220 10K 20K

MATERIALS OF BODY GROUP (1) :

- **Cast iron EN-GJL-250 UNI EN 1561 PN 16 ANSI 150 JIS10**
AISI 316 st. st. trim - C40 nickel plated steel bonnet
- **Carbon steel ASTM A216 WCB PN16/40 ANSI 150/300 JIS10/20**
AISI 316 st. st. trim - C40 nickel plated steel bonnet
- **Stainless steel AISI 316 CF8M PN16/40 ANSI 150/300 JIS10/20**
AISI 316 st. st. trim - AISI 316 st. st. bonnet

PLUG :

- **EQP** (DN15-50 & DN125-200) **EQV** (DN65-100) = equal % class IV°
- **PL** (DN15-50 & DN125-200) **LV** (DN65-100) = linear class IV°
- **PT** (DN15-50 & DN125-200) **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 (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 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° GRAFICI/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	Full bore	DN15	DN 20	DN25	DN32	DN40	DN50	DN65	DN80	DN100	DN125	DN150	DN200							
		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"	Ø 5"	Ø 6"	Ø 8"							
EQP	CV	3.4	6.6	10.8	17	23.8	50	70.2	87.9	118.5	236	322	612							
	KV	2.9	5.7	9.3	14.7	20.5	43	60.5	75.2	102.1	203	278	528							
PL	CV	3.4	6.6	11.2	17.6	23.9	51.2	72.7	89.3	123.8	299	352	666							
	KV	2.9	5.7	9.6	15.2	20.6	44	62.7	77	106.7	258	304	574							
PT	CV	3.4	6.6	12.1	19	24	52.7	107.3	129.3	175.4	354	517	929							
	KV	2.9	5.7	10.4	16.4	20.7	45.3	92.5	111.5	151.2	305	445	800							
Reduced bore *		•	•	1/2"	3/4"	1"	1 1/4"	1 1/2"	1 1/2"	2"	2"	2 1/2"	2 1/2"	3"	3"	4"	4"	5"	5"	6"
• 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

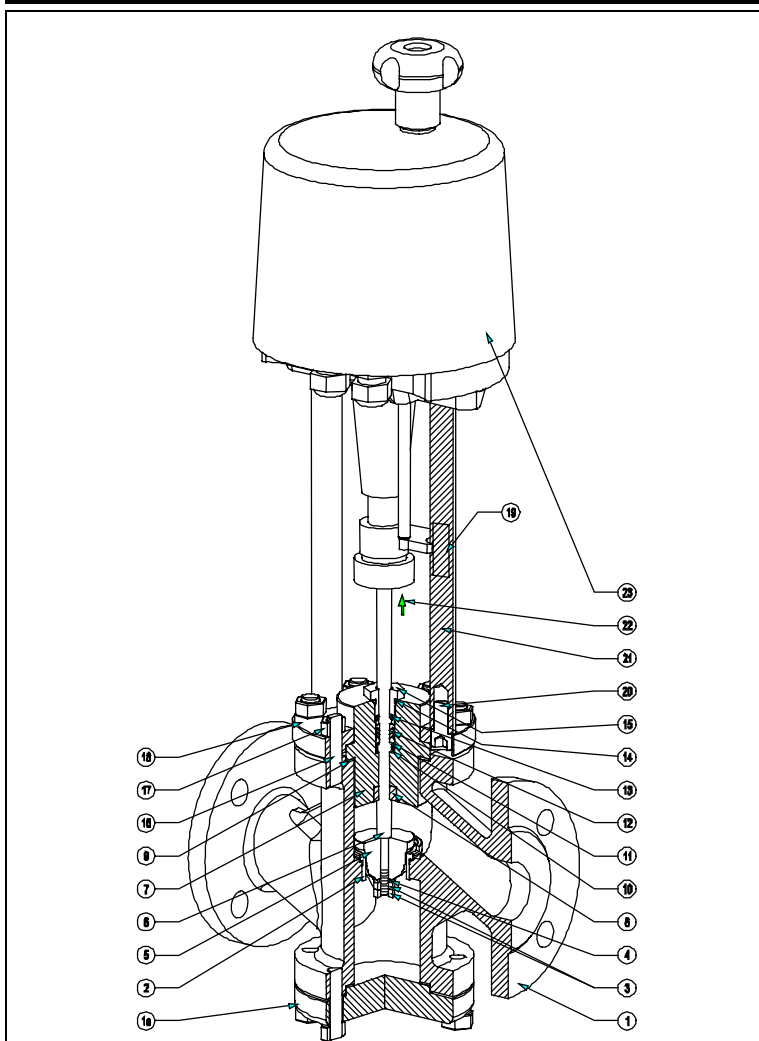
* CV and KV values are referred to the selected diameter and plug type (EQP/EQV-PL/LV only)

**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											
		DN15	DN20	DN25	DN32	DN40	DN50	DN65	DN80	DN100	DN125	DN150	DN200
PSL201 50/60 Hz 26 VA	Kg/cm ²	50	31	18	12	8	4.5	-	-	-	-	-	-
	speed sec	44	44	44	76	76	76	-	-	-	-	-	-
	stroke mm	11	11	11	19	19	19	-	-	-	-	-	-
PSL202 50/60 Hz 37/40 VA	Kg/cm ²	-	62	36	24	16	9	6	4	2.2	-	-	-
	speed sec	-	22	22	38	38	38	56	56	56	-	-	-
	stroke mm	-	11	11	19	19	19	28	28	28	-	-	-
PSL204 50/60 Hz 44/47 VA	Kg/cm ²	-	-	85	55	38	22	13.5	9.4	5.3	3.4	2.3	1.3
	speed sec	-	-	22	38	38	38	56	56	56	100	100	100
	stroke mm	-	-	11	19	19	19	28	28	28	50	50	50
PSL210 50/60 Hz 72/68 VA	Kg/cm ²	-	-	-	-	94	54	33.5	23.5	13	8.5	5.5	3.3
	speed sec	-	-	-	-	38	57	84	84	84	150	150	150
	stroke mm	-	-	-	-	19	19	28	28	28	50	50	50

- 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



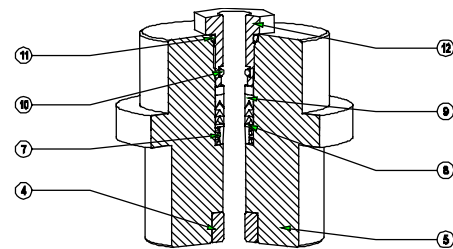
COMPONENTS LIST

- Body
- 1a Bottom flange
- Seat
- Plug locknuts
- Spring washer
- Plug
- Stem
- Bonnet
- Guide bush
- Body gasket
- Packing spring
- Packing washer
- Packing rings
- Internal "O" ring
- External "O"
- Packing adjusting nut
- Stud-bolts
- Body locknuts
- Upper bonnet flange
- Travel indicator plate
- Column fixing screws
- Actuator columns
- Grub screw
- Electric actuator

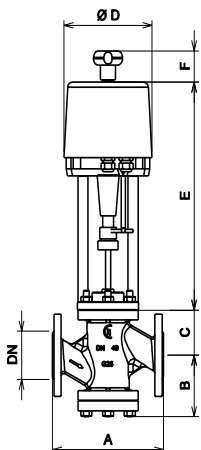
MATERIALS

- See note (1) at page 1
- 1a C40 carbon steel
- AISI 316 stainless steel
- AISI 304 stainless steel
- AISI 316 stainless steel
- AISI 316 stainless steel
- See notes (1)(2) at page 1
- AISI 304 stainless steel
- Europil WS 3640 or PTFE on request
- AISI 302 stainless steel
- AISI 304 stainless steel
- See note (3) at page 1
- Viton FPM 70
- Viton FPM 70
- AISI 303 stainless steel
- Galvanized steel
- DIN 934 galvanized steel
- C40 nickel plated steel
- Polycarbonate
- DIN 912 galvanized steel
- AISI 430 stainless steel
- DIN 914 galvanized steel
- See technical data at page 1

BONNET DETAILS



DIMENSIONS in mm.



BODY GROUP

DN	Ø	A(1)	A(2)	B	C - Bonnet		
					Std	Finned	Bellows
15	1/2"	184	196	67	49	181	181
20	3/4"	184	196	67	58	190	190
25	1"	184	196	90	68	200	200
32	1.1/4"	200	212	92	70	202	202
40	1.1/2"	222	234	108	82	214	214
50	2"	254	266	108	86	218	218
65	2.1/2"	276	292	148	111	309	309
80	3"	298	317	148	135	333	333
100	4"	352	368	176	160	363	363
125	5"	403	425	223	252	435	435
150	6"	450	472	229	258	442	442
200	8"	543	568	254	283	465	465

ACTUATOR

PSL201-202-204-210		
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	417	50
176	419	50
176	430	50
176	430	50
176	430	50

A(1) cast iron = PN16 – ANSI150 – JIS10K

A(2) carbon and st. steel = PN16 – PN40 – ANSI150 – ANSI300 – JIS10K – JIS20K

Specifications given are only indicative and not binding for the manufacturer who reserve the right to carry-out any modification deemed necessary without prior notice