

2/2-Way; Direct-Acting; 1/4" NPT - 3/8" NPT; 0-115 PSI



Advantages / Benefits

- ▶ Optimization of process and product quality through proportional control
- ▶ Increase of efficiency
- ▶ Extremely high control accuracy:
 - low hysteresis
 - high repeatability
 - high responsiveness
- ▶ Excellent rangeability
- ▶ Fail safe: Self-closing in case of power failure
- ▶ Easy LINK: Quick and easy connection to Burkert sensors for complete fluid control systems.
- ▶ Brass or stainless steel body
- ▶ CE Approval

Design / Function

The Type 6022 and Type 6023 are direct-acting solenoid control valves with a near linear characteristic curve and C_v values from 0.12 to 0.82. Control deviations, hysteresis and repeatability are maintained within close tolerances, while exhibiting excellent responsiveness.

The solenoid control valve consists of the basic valve and the plug-on, Type 1094, electronic control unit. The electronic control unit is integrated into the DIN 43 650 A plug, but it is also available in a standard DIN-rail mounting configuration.

- Adjustable ramp function from 0-10 s cushions setpoint jumps
- Standard input signals 4-20 mA, 0-10 V
- Monitor signal to assist set-up and indication of coil current
- Tight shut-off due to zero-point suppression
- Compensation for coil heating
- Adjustable zero and span settings
- Simple ordering procedure with one order number for valve and control electronics

Applications

Fluids

- Neutral gases and liquids
- Slightly aggressive liquids

Applications

- Water treatment
- Printing and paper machines
- Bottling plants
- Analytical instruments
- Combustion of natural gas
- Decontamination facilities
- Mechanical engineering
- Autoclave producers
- Chemical process engineering
- Control of temperature, vacuum, humidity and combustion

Burkert Contromatic USA
2602 McGaw Avenue
Irvine, CA 92614
Tel. 949.223.3100
Fax 949.223.3198
www.burkert-usa.com

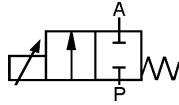
Burkert Contromatic Inc.
760 Pacific Road, Unit 3
Oakville, Ontario, Canada
L6L 6M5
Tel. 905.847.5566
Fax 905.847.9006



Technical Data

Valve Function

A – 2/2-way proportional valve,
normally closed, direct-acting



Function of control electronics

- Temperature compensation for coil heating by internal current control
- Ramp function to dampen fast status changes
- Simple zero and span settings by means of two potentiometers.
- Monitor function with LED display

Operational Data (Process)

Pressure range	0 - 115 PSI, technical vacuum
Port connection	1/4" NPT, 3/8" NPT (see characteristics)
Body material Sealing material	Brass or stainless steel FPM (Viton)
Medium	Neutral gases and liquids, slightly aggressive fluids
Temp. range of medium Max. ambient temperature	14°F to 194°F 131°F
Maximum Viscosity	21 cSt
Installation position	Any, no limitation on function

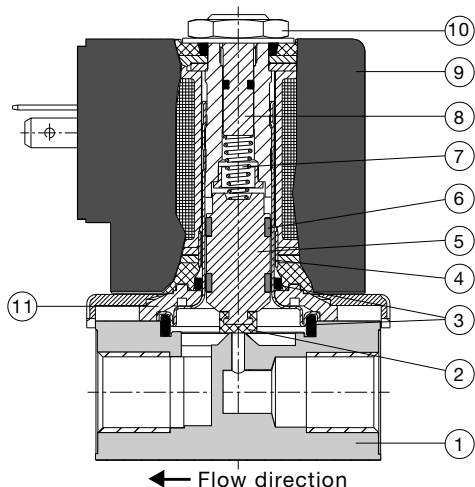
Operational Data for Control Electronics

Design version M	Plug-on module
Design version H	DIN-rail mounting version (on request)
Operational voltage Ripple	24 VDC, (max. 28 VDC) ±10% (We recommend Burkert power supply Type 1610)
Input signal	4-20 mA, 0-10 V (0 - 20 mA on request)
Control signal for valve	PWM (Pulse Width Modul.)
Max. current consumption Power	1.1 A max. 0.5 W
Monitoring signal	Directly proportional to coil current 1 mV = 1 mA as set-up aid, or for external display.
Ramp time	0 - 10 s (adjustable)
Protection class	NEMA 4 (IP 65) (when mounted on valve, version M)
Electrical connection	Plug has screw terminals and accepts a 7mm cable

Operational Data (Solenoid)

Operational voltage	24VDC
Nominal power	See characteristics
Duty cycle	100% continuously rated
Protection class with plug-on module	NEMA 4 (IP 65)

Materials



1 Valve body:	Brass or 316 Stainless Steel
2 Plunger seal:	FPM (Viton)
3 O-rings:	FPM (Viton)
4 Armature guide tube:	305 Stainless Steel
5 Plunger:	430F Stainless Steel
6 Slip-rings:	PTFE-Compound
7 Spring:	301 Stainless Steel
8 Stopper:	430F Stainless Steel
9 Coil:	PA (Polyamid)
10 Locknut:	Zinc Plated
11 Flange:	Cadmium Plated

Characteristic Values with Ordering Information (Other Versions on Request)

Brass or Stainless Steel Body; Sealing FPM (Viton)

Port Connection [inch]	Orifice [inch]	Body Material	C _v	Pressure Range [PSI]	Power Consumption [W]	Maximum Coil Current [mA]	Controller Signal	Weight [lbs.]	Item No.		
									Controller	Valve	Valve with Controller
1/4 NPT	5/64	Brass	0.12	0 - 115	8	300	4 - 20 mA	1.1	060 644 J	456 967 U	702 618 M
1/4 NPT	5/64	Brass	0.12	0 - 115	8	300	0 - 10 V	1.1	060 459 R	456 967 U	702 619 N
1/4 NPT	5/32	Brass	0.38	0 - 28	8	300	4 - 20 mA	1.1	060 644 J	456 968 D	702 620 K
1/4 NPT	5/32	Brass	0.38	0 - 28	8	300	0 - 10 V	1.1	060 459 R	456 968 D	702 621 G
3/8 NPT	5/32	Brass	0.47	0 - 55	15	530	4 - 20 mA	2.0	060 644 J	456 965 S	702 623 A
3/8 NPT	5/32	Brass	0.47	0 - 55	15	530	0 - 10 V	2.0	060 459 R	456 965 S	702 624 B
3/8 NPT	1/4	Brass	0.82	0 - 28	15	530	4 - 20 mA	2.0	060 644 J	456 966 T	702 625 C
3/8 NPT	1/4	Brass	0.82	0 - 28	15	530	0 - 10 V	2.0	060 459 R	456 966 T	702 626 D
1/4 NPT	5/64	Stainless Steel	0.12	0 - 115	8	300	4 - 20 mA	1.1	060 644 J	458 402 H	704 241 M
1/4 NPT	5/64	Stainless Steel	0.12	0 - 116	8	300	0 - 10 V	1.1	060 459 R	458 402 H	704 242 N
1/4 NPT	5/32	Stainless Steel	0.38	0 - 28	8	300	4 - 20 mA	1.1	060 644 J	458 403 A	704 243 P
1/4 NPT	5/32	Stainless Steel	0.38	0 - 28	8	300	0 - 10 V	1.1	060 459 R	458 403 A	704 244 Q

Regulation Data - Characteristics

Characteristic	see diagram
Hysteresis	< 5%
Repeatability	< 0.5% F.S.
Responsiveness	< 0.5% F.S.
Setting time (90%)	< 50 ms
Turn down ratio	1:10

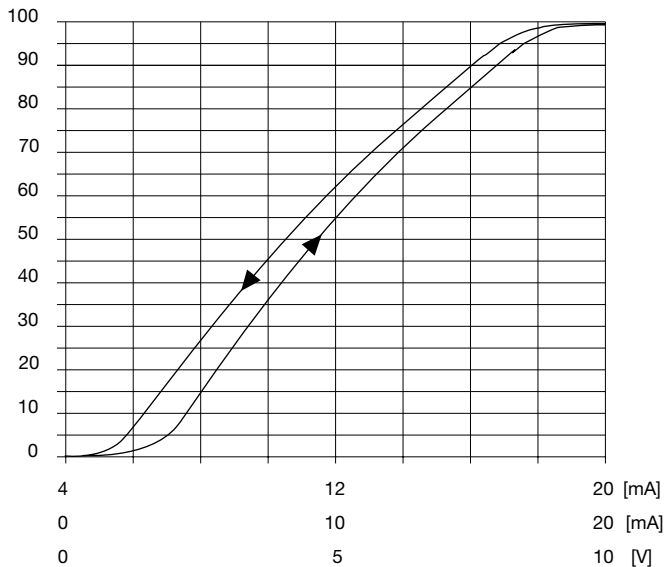
Advice for Selection of Valve Sizing

In continuous flow applications, the choice of appropriate valve size is much more important than with on/off valves. The optimum valve size should be selected such that the resulting flow in the system is not unnecessarily reduced by the valve. However, a sufficient part of the pressure drop should be taken across the valve even when it is fully opened.

Recommended value: $\Delta p_{\text{valve}} > 30\%$ of total Δp within the system

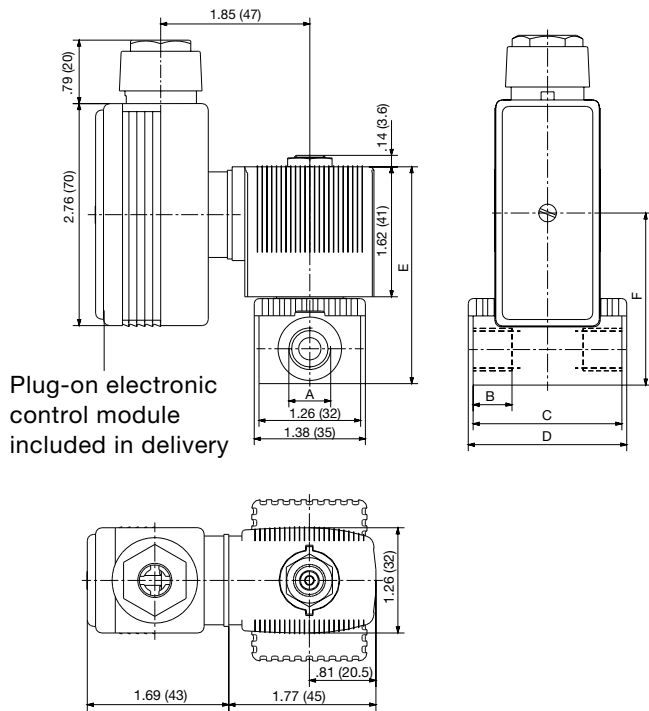
Contact Burkert should you require assistance with valve sizing or valve selection.

% of Maximum C_v



Dimensions [inch (mm)]

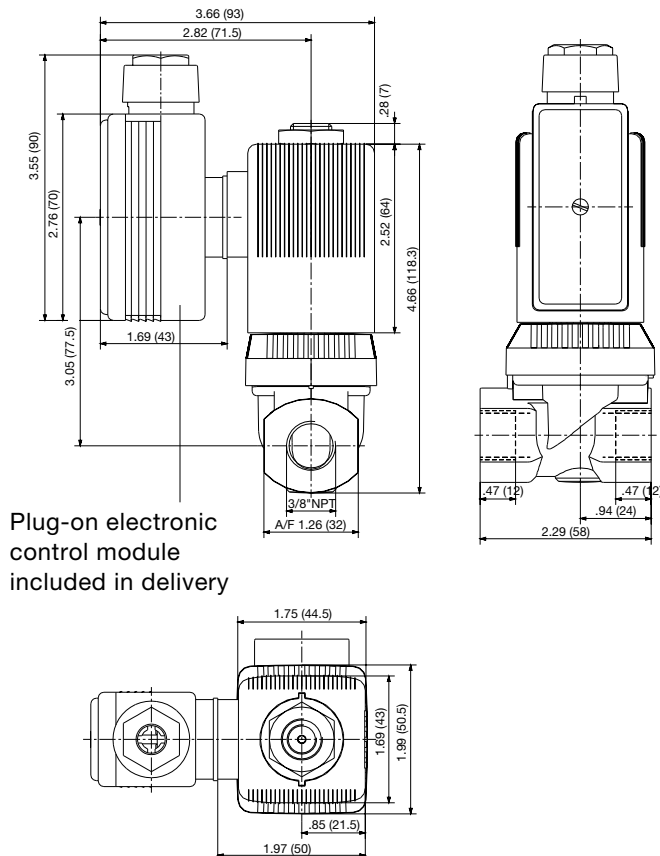
Type 6022; 1/4" NPT



Variable Dimensions

Port Connection	Orifice [inch]	A	B	C	D	E	F
1/4" NPT	5/32	1/4"	.47	1.81	1.93	2.69	2.1

Type 6023; 3/8" NPT



DIN-rail mounting version of control electronics on request (design version H).

