Control Valve Design Data Form

Please complete the form to define the project and operating parameters. Include as much information as possible. Shaded areas are required.
Email your inquiry to support@redvalve.com.

CUSTOMER				PHONE	
CONTACT PERSON				EMAIL	
PROJECT REFERENCE		DELIVERY REQUIRED		DRAWING APPROVAL	
LINE SIZE		BODY MATERIAL	Select One	FLANGE CLASS DRILLING	Select One
PIPE SCH.					
MODEL	Select One	SLEEVE MATERIAL	Select One	FLOW MEDIUM (Describe):	

FLOW DATA	**MINIMUM FLOW TO BE CONTROLLED**	**NORMAL FLOW TO BE CONTROLLED**	**MAXIMUM FLOW TO BE CONTROLLED**
Q (Flow Rate in U.S. GPM)			
P1 (Inlet Pressure at Controlled Flow Rate) psig			
P (Outlet Pressure at Controlled Flow Rate) psig			
SPECIFIC GRAVITY			
cP (Dynamic Viscosity)			
INLET TEMPERATURE (°F)			
Cv (Flow Coefficient)			
ΔP MAX (Calculated)			
MAXIMUM ALLOWABLE APPROACH VELOCITY (fps)			
ATMOSPHERIC PRESSURE (psig)			

SHUTOFF

☐ YES ☐ NO

ANSI/FCI LEAKAGE CLASS

According to ANSI/FCI Spec 70-2.

The information on classifications can be found on next page.

SLEEVE STYLE	Select One	**ACTUATOR TYPE**	Select One
ACTUATOR BRAND		FUNCTION	Select One

TYPE SPECIFICATION

Pneumatic Type:

Plant Air Supply: psi minimum

Voltage: V Frequency: Hz Phase:

Hydraulic Pressure: psi minimum

Maximum Shutoff Pressure Required (psig):

OPTIONS

Select One

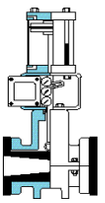
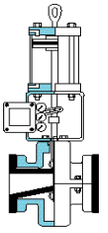
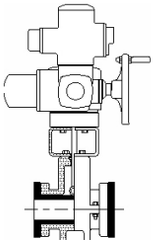
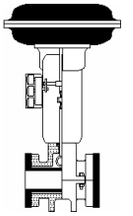
Please use separate form for each control valve.

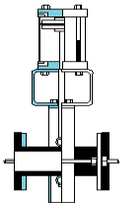
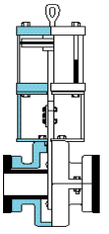
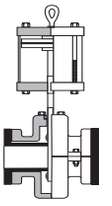
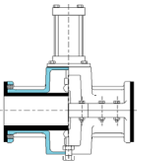
PREPARED BY: **DATE:**

CUSTOMER APPROVAL: **DATE:**

Control Valve Seat Leakage Classifications

Per Information in ANSI/FCI 70-2

BODY STYLE	 Series 5200	 Series 5200 D-Port	 Series 5200E Electrically Actuated	 Series 5200 Diaphragm Actuated
Sizes	1" - 4"	6" - 48"	1" - 48"	1" - 3"
Flange Drilling	ASME B16.1 Class 125 ASME B 16.5 Class 150	ASME B16.1 Class 125 ASME B 16.5 Class 150	ASME B16.1 Class 125 ASME B 16.5 Class 150	ASME B16.1 Class 125 ASME B 16.5 Class 150
Body Materials	Ductile Iron A536-65-45-12	Ductile Iron A536-65-45-12	Ductile Iron A536-65-45-12	Ductile Iron A536-65-45-12
Class of Shutoff*	Class V	Class V	Class V	Class V
Actuator	ATO/ATC ATO/FCS ATC/FOS	ATO/ATC ATO/FCS ATC/FOS	Pneumatic Hydraulic Electric Modulating	ATO/ATC ATO/FCS ATC/FOS
Cv	Pre-pinched	Pre-pinched	Pre-pinched	Pre-pinched

BODY STYLE	 Series 5300	 Series 5400	 Series 5700	 Series 9000
Sizes	2" - 48"	4" - 48"	2" - 48"	1" - 12"
Flange Drilling	ASME B16.1 Class 125 ASME B 16.5 Class 150	ASME B16.1 Class 125 ASME B 16.5 Class 150	ASME B16.1 Class 125 ASME B 16.5 Class 150	ASME B16.1 Class 125 ASME B 16.5 Class 150
Body Materials	Steel Fabricated Stainless Steel Fabricated	Ductile Iron A536-65-45-12	Ductile Iron A536-65-45-12	Ductile Iron A536-65-45-12
Class of Shutoff*	Class V	Class V	Class V	Class IV
Actuator	Pneumatic Hydraulic Electric Modulating	Pneumatic Hydraulic Electric	Pneumatic Hydraulic Electric Modulating	Manual Hydraulic Electric Modulating
Cv	Pre-pinched	Centerline Pinch	Centerline Pinch	Pre-pinched

* See following page for leakage class information.

Control Valve Seat Leakage Classifications

Per Information in ANSI/FCI 70-2

TABLE 1				
Leakage Class	**Maximum Seat Leakage**	**Test Medium**	**Test Pressure**	**Test Procedure**
I	- - -	- - -	- - -	By agreement between user and seller, no test required
II	0.5% of rated capacity	Air or water at 50-125 ºF (10-51 ºC)	45-60 psig or maximum operating differential, whichever is lower	Type A
III	0.1% of rated capacity	Air or water at 50-125 ºF (10-51 ºC)	45-60 psig or maximum operating differential, whichever is lower	Type A
IV	0.01% of rated capacity	Air or water at 50-125 ºF (10-51 ºC)	45-60 psig or maximum operating differential, whichever is lower	Type A
V	0.0005 ml per minute of water per inch of port diameter per psi differential	Water at 50-125 ºF (10-51 ºC)	Maximum service pressure drop across valve plug; not to exceed ANSI body rating	Type B
VI	Not to exceed amounts in Table 2	Air or nitrogen at 50-125 ºF (10-51 ºC)	50 psig or maximum rated differential pressure across valve plug, whichever is lower	Type C

Type A: Leakage flow and pressure data accurate to +/- 10% of reading; pressure applied to valve inlet with outlet open to atmosphere or connected to low head loss measuring device; full normal closing thrust from actuator

Type B: Leakage flow and pressure data accurate to +/- 10% of reading after letting leakage flow stabilize; pressure applied to valve inlet after filling entire body cavity and connected plumbing and stroking valve plug closed; net actuator thrust to be specified max;

Type C: Pressure applied to inlet with outlet connected to suitable measuring device; actuator adjusted to operating conditions specified with full normal closing thrust; allow sufficient time for leakage flow to stabilize

TABLE 2* *directly from ANSI/FCI 70-2, p. 3		
Nominal Seat Diameter		
Millimeters (Inches)	**ml per Minute**	**Bubbles per Minute**
≤ 25 (≤ 1)	0.15	1
38 (1.5)	0.30	2
51 (2)	0.45	3
64 (2.5)	0.60	4
76 (3)	0.90	6
102 (4)	1.70	11
152 (6)	4.00	27
203 (8)	6.75	45
250 (10)	11.1	- - -
300 (12)	16.0	- - -
350 (14)	21.6	- - -
400 (16)	28.4	- - -