CIRCOR | Circle Seal Controls

technical data booklet

Circle Seal Controls
2301 Wardlow Circle • Corona, CA 92880-3300
Phone (951) 270-6200
www.circlesealcontrols.com • www.circor.com/circle-seal-controls
circleseal@circor.com

For Your Safety

It is solely the responsibility of the system designer and user to select products suitable for their specific application requirements and to ensure proper installation, operation, and maintenance of these products. When selecting products, the total system design must be considered to ensure safe, trouble-free performance. Material compatibility, product ratings and application details should be considered in the selection. Improper selection or use of products described herein can cause personal injury or property damage.

Contact your authorized Atkomatic sales and service representative for information about additional sizes and special alloys.

SAFETY WARNING:

Circle Seal products are designed for installation only by professional suitably qualified licensed system installers experienced in the applications and environments for which the products are intended. These products are intended for integration into a system. Where these products are to be used with flammable or hazardous media, precautions must be taken by the system designer and installer to ensure the safety of persons and property. Flammable or hazardous media pose risks associated with fire or explosion, as well as burning, poisoning or other injury or death to persons and/or destruction of property. The system designer and installer must provide for the capture and control of such substances from any vents in the product(s). The system installer must not permit any leakage or uncontrolled escape of hazardous or flammable substances. The system operator must be trained to follow appropriate precautions and must inspect and maintain the system and its components including the product(s) and at regular intervals in accordance with timescales recommended by the supplier to prevent unacceptable wear or failure.

CIRCOR | Circle Seal Controls

CORROSION CHART

DISCLAIMER
The data presented is of value when the user is aware of the numerous variables involved in dealing with corrosion. Among the important variables are temperature, concentration, pressure, agitation, aeration, and impurities. The corrosion problem is made more complex by these and other variables.

The precise rate of attack under a prescribed set of conditions can only be achieved by actual performance tests under such conditions. Understanding these limitations, data obtained from this table is offered only as a basic guide to the user for the selection of materials of construction.

Note that it is the sole responsibility of the system designer and user to select products suitable for their specific application requirements and to ensure proper installation, operation and maintenance of these products. Material compatability, product ratings, and application details should be considered in the selection. Unless otherwise indicated, all information is based on atmospheric pressure and ambient temperature conditions. Data presented is based on tests believed to be reliable, however they cannot be guaranteed.

GUIDE TO SELECTION
A - Substantial Resistance - Preferred material of construction
B - Moderate Resistance - Satisfactory for use under most conditions; very slight swelling for elastomers
C - Questionable Resistance - Use with caution
D - Inadequate Resistance - Not recommended
Blank - No data available

NOTES:
1 - To 220° F (100° C)
2 - To 150° F (66° C)
3 - Subject to stress corrosion at high temperatures and in concentrated solutions
4 - B rating for Amyl, Ethyl, Methyl, and Propyl Alcohols at 70° F (21° C)
5 - Subject to pitting at air solution line when solution is allowed to dry on the metal surface
6 - Water presumed absent
7 - to 20%
8 - to 30%
9 - to 50%

Special Note: The chemicals listed in this guide highlighted in YELLOW are experimental carcinogens, according to the ninth edition of Sax' Dangerous Properties of Industrial Materials. Chemicals highlighted in GRAY are listed as suspected carcinogens, experimental carcinogens at low doses, and other other materials which pose a lesser risk of cancer.

	Aluminum	Brass, yellow	Carbon Steel	Carpenter 20Cb-3	HASTELLOY® B-2	HASTELLOY® C-276	Haynes #25	INCONEL® 600	INCONEL® 625	MONEL® R-2	Nickel	Stainless 316	Stainless 416	Stainless 17-4PH	Stainless XM-19	Titanium	Zirconium	Buna N	PCTFE	Nylon	PTFE	Viton
Acetaldehyde 100%	B	D	C	A	A	A		B	A	A	B	A	A	A	A	B	A	D	A	B	A	C
Acetate Solvents Crude	A	C3	D	A		A		A	A	B	B	A	B	A	A	A	A	D	A	A	A	D
Acetate Solvents Pure	A	A	C	A		A		A	A	A	A	A	A	A	A	A	A	D	A	A	A	D
Acetic Acid 95%	B	D	D	B	A	A	A	C	A	B	B	A	C	B	A	A	A	D	A	D	A	C
Acetic Acid Vapors 100% Hot	C	D	D	B	A	A	A	B	A	B	C	B	D	D	B	A	A	D	C	D	A	D
Acetic Anhydride Boiling	D	D	D	A	B	A		B	A	B	A	B	D	B	B	A	A	D	C	D	A	D
Acetone	A	A	B	A	A	A		A	A	A	B	A	A	A	A	A	A	D	A	B	A	D
Alcohols	B	B	B	A	A	A		A	A	A	A	A	B	A	A	B	A	B4	A	A	A	C
Alum. Potassium 10%	C	D	D	B	C	B		C	B	C	C	B	D	C	B	A	A	A	A	D	A	A
Aluminum Chloride 10%	D	D	D	B	A	A		B	B	B	B	C	D	D	C	A	A	A	A	A	A	A
Aluminum Chloride 10% Boiling	D	D	D	B	A	A		C	C	C	B	D	D	D	D	D	A	C	A	D	A	A
Aluminum Sulfate 10%	D	D	D	A	A	A		B	A	B	B	B	D	C	B	A	A	A	A	A	A	A
Aluminum Sulfate <10% Boiling	D	D	D	A	B	B		B	A	B	B	B	D	C	B	A	A	B	A	D	A	A
Aluminum Sulfate >10% Boiling	D	D	D	B	B	B		D	B	C	C	B	D	D	B	A	A	D	A	D	A	A
Amines	B	B	B	A	A	A		A	A	A	A	A	A	A	A	B		D	A	A	A	D
Ammonia Anhydrous	A	D	B	A	A	A		A	A	A	A	A	A	A	A	A	A	B	A	A	A	D

	Aluminum	Brass, yellow	Carbon Steel	Carpenter 20Cb-3	HASTELLOY® B-2	HASTELLOY® C-276	Haynes #25	INCONEL® 600	INCONEL® 625	MONEL® B-2	Nicklel	Stainless 316	Stainless 416	Stainless 17-4PH	Stainless XM-19	Titanium	Zirconium	Buna N	PCTFE	Nylon	PTFE	Viton
Ammonia Aqueous	A	D	A	A	A	A		A	A	A	A	A	A	A	A	A	A	B	A	A	A	D
Ammonium Chloride 10%	D	D	C	A	A	A		A	A	B	B	A	C5	B5	A	A	A	B	A	A	A	A
Ammonium Chloride <10% Boiling	D	D	D	A	B	B		B	B	B	B	C5	D	D	C	A	A	D	A	D	A	A
Ammonium Chloride > l0% Boiling	D	D	D	B	B	B		B	B	B	B	C5	D	D	C	A	A	D	A	D	A	A
Ammonium Hydroxide Hot	D	D	D	A	B	B		B	B	D	D	B	B	B	B	A	A	B2	A	A	A	C
Ammonium Nitrate	B	D	B	A	C	B		B	A	D	C	A	B	A	A	A	A	A	A	B	A	A
Ammonium Persulfate 5%	D	D	D	B	D	B		B	B	D	D	A	C	B	A	A		A	A	D	A	A
Ammonium Phosphate Dibasic 5%	B	D	D	B	B	A		B	A	B	C	B	B	B	B	A	A	A	A	C	A	A
Ammonium Sulfate <10%	D	D	D	B	B	B		B	B	B	B	B	C	C	B	A	A	A	A	D	A	A
Ammonium Sulfate >10% Boiling	D	D	D	B	B	B		B	B	B	B	B5	D	C5	B	A	A	B2	A	D	A	A
Ammonium Sulfite Boiling	D	D	D	A	B	A		D	B	D	D	B	D	C	B			B2	A	D	A	A
Aniline Hydrochloride	D	D	D	B	B	D		C	C	D	D	C	D	D	C	A	A	D	A	D	A	B
Antimony Trichloride	D	D	D	B	B	B		B	B	B	B	D	D	D	D	B		B	A	D	A	B
Barium Chloride 5%	D	D	C	A	B	A		B	B	B	B	B	C	B	B	A	A	A	A	A	A	A
Barium Chloride >5% Hot	D	D	D	B	B	A		B	B	B	B	B5	D	D	B	A	A	B	A	A	A	A
Barium Hydroxide	D	D	B	A	A	A		A	A	A	A	A	B	B	A	A	A	B	A	A	A	A
Barium Nitrate	B	D	C	B	B	B		B	B	C	C	B	B	B	B	A	A	B	A	A	A	A
Beer 160° F	A	B	C	A	A	A		A	A	A	A	A	C	A	A	A	A	B2	A	D	A	A
Beet Sugar Liquor Hot	A	C	C	A				A	A	A	A	B	A	A	A	A		A	A	C	A	A
Benzene Hot	B	B	B	A	B	B		B	B	B	B	A	B	A	A	A	A	D	B	D	A	D
Benzoic Acid	B	B	B	B	A	B		B	B	B	B	B	B	B	B	A	A	D	A	D	A	A
Blood	A		D	A	A			A	A	A	A	A	A	A5	A	A	A	C	A		A	A
Borax Hot	D	C	B	A	A	A		B	B	B	B	B	B	B	B	A		B2	A	A	A	A
Boric Acid 5% Hot	C	D	D	B	A	A		B	B	B	B	B	B	B	B	A	A	B2	A	A2	A	B
Bromine Dry Gas	D	D	D	A	A	A		B	A	A	A	D	D	D	D	D		D	A	D	A	A
Bromine Moist Gas	D	D	D	D	B	A		D	B	C	C	D	D	D	D	D	A	D	A	D	A	A
Butyric Acid Dilute	C	D	C	B	A	A		B	B	B	B	C	B	B	A	A	A	D	A	B	A	B
Butyric Acid Hot Concentrated	B	D	D	A	A	A		C	C	B	C	D	D	C	B	A	A	D	A	D	A	C
Calcium Bisulfite Hot	D	D	D	B	B	B		D	D	D	D	B	D	C	B	A		B2	A	A2	A	B
Calcium Chloride Dilute	D	C	C	A	A	A		A	A	A	A	B5	C5	B5	B	A	A	B	A	A	A	A
Calcium Hydroxide 30% Boiling	D	D	D	B	A2	A		A	A	B	B	B	C	C	B	A	A	B2	A	A2	A	A
Calcium Hypochlorite 100%	D	D	C	B	B7	B7		B	B	D	C	D	D	D	D	A	A	C	A	A	A	A
Carbolic Acid 90%	B	C	C	A	A	A		A	A	B	A	B	B5	B5	B	B	A	D	A	D	A	A
Carbon Dioxide Dry	A	A	A	A	A	A		A	A	A	A	A	A	A	A	A	A	A	A	A	A	A
Carbon Disulphide	A	C	B	A	A	A		A	A	B	B	A	B	B	A	A		D	A	B	A	A
Carbon Tetrachloride Dry Hot	D	B	C	A	A	A		A	A	A	A	B5	C	B5	B5	A	A	D	D	D	A	A
Carbonic Acid Saturated	B	C	D	A	A	A		A	A	A	A	A	B	A	A	A	A	B	A	D	A	A
Chloric Acid	D	D	D	A		A		C	B	D	D	D	D	D	A			D	A	D	A	B
Chlorinated Water Saturated	D	D	D	A		A		C	B	C	C	C5	D	C5	C5	A	A	C	A	D	A	A
Chlorine Dry Gas	D	C	D	A	B	A		B	A	A	A	B	D	A	B	D	A	D	D	D	A	A
Chlorine Moist Gas	D	D	D	B	A	A	A	D	D	B	C	C	D	D	C	B	D	D	B2	D	A	C
Chloroacetic Acid	D	D	D	C	B	B		B	B	B	B	D	D	D	D	A	A	D	A	D	A	B
Chlorosulfonic Acid Dilute	D	D	D	B	A	A		C	B	C	C	B	D	D	D	A	D	D	A	D	A	D
Chromic Acid Dilute	D	D	D	B	A	A	A	B	B	B	B	B	C	C	B	A	A	D	A	D	A	A
Chromic Acid <10% Boiling	D	D	D	D	D	A	B	C	C	C	C	D	D	C	D	B	A	D	A	D	A	C
Chromic Acid >10% Boiling	D	D	D	D	D	D	D	C	C	D	D	D	D	D	D	B	A9	D	A2	D	A	C
Citric Acid Dilute	B	C	D	A	A	A		B	B	B	B	A	C	B	A	A	A		A	B	A	A
Citric Acid Hot Concentrate	C	D	D	B	A	A		B	B	B	B	D	B	C	B	B	A	B	A2	D	A	A
Copper Nitrate Hot Concentrate	D	D	D	B	C	B		D	D	D	D	B	B	B	B	A	D	B	A	D	A	A
Copper Sulfate Hot Concentrate	D	D	D	B	B	A		C	C	C	C	B	B	B	B	A	D	B	A	D	A	A
Cupric Chloride <2%	D	D	D	B	B	A	A	C	C	B	B	B5	C5	B5	B5	A	D	B	A	B	A	A
Cupric Chloride 5%	D	D	D	B	B	A	A	D	D	D	D	C5	D	D	C5	A	D	B	A	B	A	A
Dichlorethane Boiling	C	D	A	B	B		B	B	A	A	B		B	B	C			D	C	D	A	B
Ethyl Acetate	B	B	B	A	A	A		B	B	A	B	B	B	B	B	A	A	D	B2	A2	A	D
Ethyl Chloride Wet	B	B	D	A	B	B		A	A	A	A	A	D	B	A	A	A	A	A	A	A	A
Ethylene Glycol	B	B	B	A	A	A		A	A	A	A	A	B	A	A	A	A	A	A	B	A	A
Fatty Acids 212° F	A	C	C	A	A	A		B	A	B	B	A	B	B	A	B		B	B	C	A	A
Ferric Chloride <1%	D	D	D	A	B	A	A	B	B	C	C	B5	C5	C5	A	A	A	A	A	A	A	A
Ferric Chloride >1%	D	D	D	C	D	B	A	D	C	D	D	D	D	D	B	D	D	A	A	C	A	A
Ferric Chloride <1% Boiling	D	D	D	D	D	D	A	D	D	D	D	C5	D	D	B5	C	C	B	A	D	A	B

	Aluminum	Brass, yellow	Carbon Steel	Carpenter 20Cb-3	HASTELLOY® B-2	HASTELLOY® C-276	Haynes #25	INCONEL® 600	INCONEL® 625	MONEL® R-2	Nickel	Stainless 316	Stainless 416	Stainless 17-4PH	Stainless XM-19	Titanium	Zirconium	Buna N	PCTFE	Nylon	PTEE	Viton
Ferric Chloride >1% Boiling	D	D	D	D	D	D	A	D	D	D	D	D	D	D	C5	D	D	B	A	D	A	B
Ferric Nitrate 5%	D	D	D	A	B	B		C	B	D	D	B	B	B	B	A		B	A	D	A	A
Ferric Sulfate 5%	D	D	D	A	B	A2		B	B	C	D	A	B5	B5	A	A	A	B	A	D	A	A
Ferrous Chloride	D	C	D	B5	B	B		D	D	D	D	B5	D	D	B5	A	A9	A	B	D	A	A
Ferrous Sulfate 10%	C	C	C	B	B	B		B	B	B	B	B	B	B	B	A	A	A	A	D	A	A
Fluorine Dry Gas	B	C	C	A	B	A		A	A	A	A	A	A	A	A	D	D		D	D	A	A
Fluorine Dry 300° F	B	D	D	A		A		A	A	A	A	A	A	A	A	D	D	D	D	O	D	A
Fluorine Moist Gas	D	D	D	D				B	B	A	B	D	D	D	D	D	D	D	A	D	A	B
Formaldehyde 40%	B	C	C	A	B	B		A	A	A	A	A	B	A	A	A	A	A	A	C	A	A
Formic Acid <50%	C	C	D	A	A	A	A	A	A	B	B	A	C	A	A	C	A	B	B	D	A	C
Formic Acid >50%	D	D	D	A	B	A	A	B	B	B	B	A	D	A	A	A	A	C	B	D	A	C
Formic Acid <50% Hot	D	D	D	B	B	B	A	B	B	B	B	C	D	D	C	D	A	D	C	D	A	D
Formic Acid >50% Hot	D	D	D	B	B	B	A	C	C	B	B	C	D	D	C	A	A	D	C	D	A	D
Freon 12	A	A	A	A	A	A		B	B	B	B	A	A	A	A	A		B	A	A	A	C
Freon 22	A	A	A	A				A	A	A	A	A	A	A	A	A		D	A	D	A	D
Freon 113	B	B	A	A	A	A		A	A	B	A	A	A	A	A	A		A	D	A	A	C
Freon Wet	B	A	D	A	A	A		B	B	A	A	C	C	A	C	A		B	A	D	A	D
Fuel Oil 140° F	A	B	A	A	A	A		A	A	B	B	A		A	A	A		A	A	B	A	A
Furfural	B	C	B	B	B	B		B	B	B	B	B	B	B	B	A	A	D	B	B	A	D
Gasoline Refined	A	A	A	A	A	A		A	A	A	A	A	A	A	A	A		A	A	A	A	A
Glycerine	A	B	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A
Hydrobromic Acid	D	D	D	D	B	A2		D	D	D	D	D	D	D	D	A2	D	D	A	D	A	A
Hydrochloric Acid <l%	D	D	D	A	A	A	A	B	B	B	B	D	D	D	D	A	A	B	A	A	A	A
Hydrochloric Acid 1-20%	D	D	D	C	B	B	D	C	C	D	C	D	D	D	D	C	A	B	A	A	A	A
Hydrochloric Acid >20%	D	D	D	D	A	B	B	D	D	D	D	D	D	D	D	D	A	C	A	D	A	A
Hydrochloric Acid <1/2% 175° F	D	D	D	D	B	A		C	C	D	B	D	D	D	D	A	A	D	A	D	A	B
Hydrochloric Acid 1/2 - 2% 175° F	D	D	D	D	B	A		D	D	D	C	D	D	D	D	C	A	D	A	D	A	B
Hydrochloric Acid >2% 175° F	D	D	D	D	B8	C8	D	D	D	D	D	D	D	D	D	D	A	D	A	D	A	D
Hydrochloric Acid <¼% Boiling	D	D	D	A	A	B		C	C	D	B	D	D	D	D	B	A	D	A	D	A	B
Hydrochloric Acid ¼-1% Boiling	D	D	D	A	A	B		C	C	D	C	D	D	D	D	C	A	D	A	D	A	B
Hydrochloric Acid >l% Boiling	D	D	D	D	C7	D	D	D	D	D	D	D	D	D	D	D	D	A8	D	A9	D	A9	D
Hydrofluoric Acid <40%	D	D	D	B	B	A	C	D	D	B	B	D	D	D	D	D	D	C	A	D	A	A
Hydrofluoric Acid >40%	D	D	D	B	B	B	C9	D	D	B	D	D	D	D	D	D	D	D	A	D	A	B
Hydrofluoric Acid Boiling	D	D	D	D	D	B		D	D	B	C	D	D	D	D	D	D	D	A9	D	A	C
Hydrofluosilicic Acid	D	D	D	B	B	B		B	B	A	B	B7	D	D	B7	D	D	B	A	D	A	A
Hydrogen Chloride Dry	D	B	A	A	A	A		A	A	A	A	A	D	A	A	D	D	C	B		A	A
Hydrogen Chloride Moist	D	A	A	B	A			D	D	A	A	B	D	C	B	D	D	C	A		A	A
Hydrogen Fluoride Dry	B	B	C	A	A	A		A	A	A	B	A	C	B	A	D	D	B7	B	D	A	A
Hydrogen Peroxide Boiling	A	D	D	B	D	A		B	B	B	B	B	C	C	B	B	A	D	A	D	A	B
Hydrogen Sulfide Dry	A	B	B	B	A	A		A	A	B	A	A	C	B	A	A		B	A	C	A	D
Hydrogen Sulfide Moist	B	D	C	A	A	A		A	A	C	B	B	C	C	B	A		D	A	D	A	D
Iodine Dry	B	B	D	B	A	A		A	A	A	A	B	C	B	B	D		B	A	D	A	A
Kerosene	A	A	A	A	A	A		A	A	A	A	A	A	A	A	A	A	A	A	A	A	A
Lactic Acid 50%	B	D	D	B	A	A		B	B	B	A	B	B	B	B	A	A	B	A	D	A	A
Lead Acetate Hot	D	D	D	B	B	B		B	B	B	C	B	B	B	B	B		B2	A	B	A	B2
Magnesium Chloride Hot 5%	D	D	D	B	A	A		A	A	B	A	B5	D	C5	B5	A	A	A	A	A	A	A
Magnesium Hydroxide	D	C	B	A	A	A		A	A	A	A	A	B	B	A	A		B	A	B	A	A
Magnesium Sulfate	B	B	B	A	A	A		B	B	B	B	A	B	A	A	A	A	A	A	A	A	A
Magnesium Sulfate, Boiling	B	C	B	A	A	B		B	B	B	B	A	B	A	A	A	A	B	A	D	A	A
Manganese Chloride	D	D	D	A	B	A		D	D	B	B	B	D	C	B	A	A	A	A	A	A	A
Mercuric Chloride <2%	D	D	D	D	C	B		D	D	D	D	D	D	D	D	A	A	A	A	C	A	A
Mercuric Chloride <1/2% Boiling	D	D	D	D	C	B		D	D	D	D	D	D	D	D	A	A	D	A	D	A	C
Mercuric Cyanide	D	D	D	A	D	A		B	B	D	B	B	D	B	B	A		A	A	D	A	A
Mercury	D	D	B	A	A	A		A	A	D	A	A	A	A	A	A		A	A	A	A	A
Methyl Chloride Dry	D	B	D	A	B	A		A	A	A	A	A	B	A	A	A		D	A	A	A	B
Methylene Chloride	C	A	B	A	A	A		B	B	A	B	A	B	A	A	A		D	A	B	A	B
Milk	A	D	D	A	A	A		A	A	C	D	A	B	A	A	A		A	A	A	A	A
Molasses	A	B	B	A	A	A		A	A	A	A	A	A	A	A			A	A	A	A	A
Naphtha	A	B	B	A	B	A		A	A	A	A	A	A	A	A	A		A	A	A	A	A
Nickel Chloride	D	D	D	B	A	A8		B	B	B	B5	C5	D	B5	A	A	A	A2	A	C	A	A

	Aluminum	Brass, yellow	Carbon Steel	Carpenter 20Cb-3	HASTELLOY® B-2	HASTELLOY® C-276	Haynes #25	INCONEL® 600	INCONEL® 625	MONEL® B-2	Nicklel	Stainless 316	Stainless 416	Stainless 17-4PH	Stainless XM-19	Titanium	Zirconium	Buna N	PCTFE	Nylon	PTFE	Viton
Nickel Sulfate Boiling	D	C	D	B	B	B		B	B	B	A	B	D	B	B	B	A	B	A	D	A	A
Nitric Acid 20%	D	D	D	A	A	B		B	B	D	D	A	B	A	A	A	A	D	A	D	A	A
Nitric Acid Fuming >70%	D	D	D	A	A	B		B	B	D	D	A	A	A	A	B	A	D	A	D	A	D
Nitric Acid Boiling 20%	D	D	D	A	D	D		C	C	D	D	A	B	A	A	A	A	D	A	D	A	B
Nitric Acid Boiling 65%	D	D	D	B	D	D		D	D	D	D	B	D	B	B	B	A	D	A	D	A	C
Nitrous Acid	D	D	D	B		A		C	C	D	D	B	B	B	B			D	A	D	A	A
Oxalic Acid <10%	B	B	C	A	A	A		A	A	B	A	A	B	B	A	A	A	B	A	B	A	A
Oxalic Acid 10%	B	B	C	A	A	A		A	A	B	A	A	B	B	A	A	A	B	A	B	A	A
Oxalic Acid Boiling 10%	D	D	D	B8		A		A	C	B	D	D	D	D	D	A	D	A	D	A	A	A2
Oxalic Acid Boiling 50%	D	D	D	C	B	B		B	B	D	C	D	D	D	D	D	A	D	A	D	A	A2
Phosphorlc Acid (Ortho) <10%	D	D	D	A	B	A	A	A	A	B	B	A	D	B	B	A	A	B	A	D	A	A
Phosphorlc Acid (Ortho) 10-50%	D	D	D	A	B	A	A	B	B	B	B	A	D	C	A	B	A	B	A	D	A	A
Phosphoric Acid (Ortho) <20%175 °F	D	D	D	B	B	A	A	B	B	B	D	B	D	B	B	D	B	D	A	D	A	A
Phosphorlc Acid (Ortho) >20%175 °F	D	D	D	B	B	B	A	B	B	B	D	B	D	C	B	D	C	D	A	D	A	B
Phosphoric Acid (Ortho) <10% Boiling	D	D	D	B	C	A	A	B	B	C	D	C	D	D	C	D	B	D	A	D	A	B
Phosphorlc Acid (Ortho) 85% Boiling	D	D	D	B	B	C	D	D	D	D	D	D	D	D	D	D	D	D	A	D	A	C
Picric Acid	C	D	C	B	A	B		D	D	D	D	B	B	B	B			B7	A	D	A	A
Plating Solutions Chrome	D	B	D	A		A		A	A	C	C	A	A7	A	A	C	D	D	A	D	A	A
Potassium Bromide	B7	B	C	A	A	A		B	A	B	B	B5	C	B5	B5	A	A	A	A	A7	A	A
Potassium Carbonate	D	C	B	A	A	A		B	A	A	B	B	B	B	B	A	B	A	A	D	A	A
Potassium Chlorate	D	B	C	B	B	B		A	A	C	B	B	B	B	B	A		B	A	D	A	A
Potassium Chloride	D	C	D	A	A	A		A	A	A	A	A5	B5	A5	A5	A	A	A	A	B	A	A
Potassium Chloride Hot	D	D	D	A9	B	B		B	A9	B	B	B5	D	C5	B5	A	A	B	A	D	A	A
Potassium Cyanide	D	D	B	B	B	B		B	A	B	B	B	B	B	B	A		A	A	A	A	A
Potassium Dichromate Concentrate	A	B	B	A	B	B		B	A	B	B	A	B	A	A	A	A	A	A	D	A	A
Potassium Ferricyanide 5%	B	B	C	B	B	B		B	B	A	B	B	B	B	B	A		D	A	B	A	A
Potassium Ferrocyanide 5%	A	B	A	B	B	B		B	B	B	B	B	B	B	B	A	A	C	A	B	A	A
Potassium Hydroxide 50%	D	D	B	B	B	B		B	B	A	A	B3	B3	B3	B3	A	A	B	A	A	A	A
Potassium Hydroxide 30% 175°F	D	D	C	B	B	B		B	B	A	A	B3	C3	B3	B3	D	A	D	A	D	A	B
Potassium Hydroxide 50% 175°F	D	D	C	B	B	B		B	B	A	A	B3	C3	B3	B3	D	A	D	A	D	A	C
Potassium Hydroxide 50% Boillng	D	D	C	B	B	B		B	B3	A	A	D	C	D	D	D	A	D	B	D	A	D
Potassium Hypochlorite Dilute	D	D	D	A	A	A		C	B	C	C	B5	D	C5	B5	A		B	A		A	A
Potassium Permaganate Dilute	A	B	B	A	A	A		B	A	B	B	A	B	B	A	A		C	A	D	A	A
Potassium Sulfate Dilute	A	B	B	A	A	A		A	A	A	A	A	A	A	A	A	A	A	A	A	A	A
Potassium Sulfate, Dilute Boiling	A	B	D	A	A	A		B	A	A	B	A	B	A	A	A	A	B	A	D	A	B
Potassium Sulfide saturated	D	D	C	B		B		B	B	C	C	B	B	B	B	A	A	A	A	A	A	A
Propane Liquid & Gas	A	A	A	A	A	A		A	A	A	A	A	A	A	A	A	A	A	A	A	A	A
Pyrogallic Acid	B	B	B	B	B	B		B	A	B	B	A	A	A	A	A		C	A		A	A
Rosin Molten	B	C	C	A	A	A		A	A	A	A	A	B	B	A			A	A	D	A	A
Salicylic Acid	D	A	D	B	B	A		B	B	B	B	B	B	B	B	A		B	A	A	A	A
Silver Bromide	D	D	D	A	B	A		C	B	B	C	A5	D	B5	A5			A	A		A	A
Silver Chloride	D	D	D	B	D	B		C	B	B	C	D	D	D	D	A		A	A		A	A
Silver Nitrate	D	D	D	A	B	A		A	A	C	D	A	B	B	A	A	A	B	A	A	A	A
Skydrol 500 & 7000	C	C	A									A	A	A	A			D		C	A	D
Sodium Acetate	B	B	C	A	A	A		B	A	A	B	B	B5	B	B	A	A	B	A	B	A	D
Sodium Bichromate	B	D	C	A	B	A		B	A			A	A	A	A	A		A		B	A	A
Sodium Bisulfate	C	C	D	A	B	B		B	A	B	B	B	B	B	B	A	A	A	A	A	A	A
Sodium Bisulfate 140°F	D	D	D	A	B	B		C	B	B	B	B5	D	B5	B5	A	A	B	A	C	A	A
Sodium Bisulfate	D	B	D	B	B	B		B	B	B	B	A	B	B	A	A		A		B	A	A
Sodium Bromide Dilute	C	B	D	B	B	B		B	B	B	B	B5	C5	B5	B5	A	A	A	A	A	A	A
Sodium Carbonate 5% Hot	D	D	B	A	A	A		A	A	A	A	A	A	A	A	A	A	B	A	D	A	A
Sodium Chloride Dilute	B	B	C	A	A	A		A	A	A	A	B	B	B	B	A	A	A	A	A	A	A
Sodium Chloride Saturated Boiling	C	D	D	B	A	A		A	A	A	B	C5	C5	C5	C5	A	A	C	A	C	A	A
Sodium Cyanide	D	D	B	A	A	A		B	B	D	B	A	A5	B5	A	A	A	A	A	A	A	A
Sodium Fluoride 5%	B	B	D	A	A	A		B	B	A	A	A5	C5	B5	A5	A	A	A		A	A	A
Sodium Hydroxide 50%	D	B	B	A	A	A	A	A	A	A	A	A	B	B	A	A	A	B	A	A	A	B
Sodium Hydroxide 40-80% 175° F	D	D	D	B	A	B		A	A	A	A	B3	D	C3	B3	B	B	B9	A	D	A	D
Sodium Hydroxide <30% Boiling	D	D	D	B	A	B		B	B	A	A	C3	D	C3	C3	B	B	D	B	A	A	D
Sodium Hydroxide >30% Boiling	D	D	D	B	C3	B		B	B	B	B	C3	D	D	C3	C	B	D	C	D	A	D
Sodium Hypochlorite (Still) 5%	D	D	D	A	A	A		C		C	C	B5	D	C5	B5	A	A	B	A	D	A	A

	Aluminum	Brass, yellow	Carbon Steel	Carpenter 20Cb-3	HASTELLOY® B-2	HASTELLOY® C-276	Haynes #25	INCONEL® 600	INCONEL® 625	MONEL® R-2	Nicklel	Stainless 316	Stainless 416	Stainless 17-4PH	Stainless XM-19	Titanium	Zirconium	Buna N	PCTFE	Nylon	PTFE	Viton
Sodium Hyposulfite	D	D	D	A	B	B		B	B	A	A	B	C	B	B			A	A		A	A
Sodium Nitrate	A	C	B	A	B	B		A	A	B	A	A	B	B5	A	A	A	B	A	A	A	A
Sodium Perborate	D	D	C	A	B	B		B	A	B	B	A	B	A	A	B		B	A	B	A	A
Sodium Peroxide	D	D	C	A	B	B		A	A	B	B	A	B	A	A		A	B	A	A	A	A
Sodium Phosphate Tribasic	D	B	C	A	B	A		A	A	A	A	A	B	B	A	A	A	A	A	A	A	A
Sodium Silicate	C	B	B	A	B	B		A	A	A	A	A	B	A	A	A	A	A	A	A	A	A
Sodium Sulfate (All Concentrations)	B	B	B	A	A	A		B	B	B	B	A	B	B	A	A	A	A	A	A	A	A
Sodium Sulfate Hot	B	B8	B8	B	B	B		B	B	B	B	B	C3	B	B	A	A	B	A	A	A	A
Sodium Sulfide Saturated	D	D	C	A	B	B		B	A	B	B	B8	C5	B5	B8	A		A	A	A	A	A
Sodium Sulfite Hot	D	B	D	B	D	B		B	B	B	C	B	D	B	B	A		B	A	D	A	B
Sodium Thiosulfate	A	D	D	A	B	B		B	B	A	B	A	B	C	A	A	B	B	A	A7	A	A
Stannic Chloride <5%	D	D	D	A	B	B		D	B	B	B	B	D	D	B	A	A	A	A	D	A	A
Stannic Chloride >5%	D	D	D	A	B	B		D	B	C	D	D	D	D	D	A	A	A	A	D	A	A
Stannic Chloride SG 1.21 Boiling	D	D	D	A	B	B		D	B	D	D	D	D	D	D	A	A8	B	A	D	A	B
Stannous Chloride saturated	D	D	D	A	B	B		B	B	B	B	B	C	C	B	A	B	A	A	D	A	A
Steam 212° F	B	A	A	A	A	A		A	A	A	A	A	A	A	A	A	A	D	A	A	A	A
Steam 600° F	D	D	C	A	A	A		A	A	A	A	A	B	A	A	A	A	D	D	D	D	D
Sulfite Liquors	D	D	D	B		B		D	D	C	D	B	D	B2	B			B	A		A	A
Sulfur Molten 266° F	A	D	B	A	B	A		A	A	B	A	A5	A5	A5	A5	A	A	D	A	D	A	A
Sulfur Chloride	D	D	D	B	A	A		B	B	C	B	C5	D	C5	C5	D		D	A	A	A	A
Sulfur Dioxide 250°F Dry	B	C	B	B	B	B		B	B	B	B	A	B	A	A	A		D	A	D	A	A
Sulfur Dioxide Moist	C	D	D	B	D	B		D	D	D	D	B	D	C	B	A		D	A	C	A	A
Sulfuric Acid <2%	B	B	D	A	A	A	A	B	B	B	B	B	D	B	B	B	B	A	A	D	A	A
Sulfuric Acid 2-40%	D	B8	D	A	A	A	A	B	B	B	C	D	D	D	D	C	D	C	A	D	A	A
Sulfuric Acid 40-60%	D	D	D	B	B	A	A	D	D	B	C	D	D	D	D	C	B	D	A	D	A	A
Sulfuric Acid Concentrated	D	D	B	B	A	A	A	D	D	D	D	B	C	C	B	D	C	D	A	D	A	A
Sulfuric Acid <10% Boiling	D	D	D	D	A	C	D	C	C	B	D	D	D	D	D	D	B	D	A	D	A	B
Sulfuric Acid 10-60% Boiling	D	D	D	D	B	D	D	D	D	D	D	D	D	D	D	C	D	A	D	A	B	
Sulfuric Acid Concentrated Boiling	D	D	D	B	B	D	D	D	D	D	D	D	D	D	D	D	D	D	A	D	A	D
Sulfurous Acid Saturated	C	D	D	A	B	B		D	D	D	D	B	D	C	B	A	A	C	A	D	A	A
Tannic Acid 10%	C	B	D	A	B	B		A	A	A	A	A	B	B	A	A	A	A	A	D	A	A
Tartaric Acid 120° F	D	D	D	B	B	B		A	A	B	C	B9	C	B9	B9	B	A	A	A	B	A	A
Toluene	A	A	A	A	A	A		A	A	A	A	A	A	A	A	A		D	B2	C	A	A
Trichlorethylene	A	B	A	B	A	A		A	A	A	A	A	B	A	A	A	A	D	B2	C	A	A
Turpentine	A	C	B	A	A	A		B	B	B	B	A	B	A	A	A	A	A	A	A	A	A
Uric Acid	D	B	D	B	B	B		B	B	B	B	B	B	B	B	A	A			A	A	
Varnish Hot	A	C	C		A	A		A	A	A	A	A	A	A	A			D	A	D	A	
Vegetable Oils	B	D	B	A	A	A		A	A	A	A	A	B	A	A			A	A	A	A	A
Vinegar	B	D	C	A	A	A		A	A	A	B	A	B	B	A	A	A	B	A	D	A	A
Water Acid Mine	C5	D	D	A	A	A		B	B	C	D	A5	C5	A5	A5	A	A	A	A	A	A	A
Water Boiler Feed	D	C	B	A				A	A	A	A	A	A	A	A				A		A	A
Water Distilled	A	D	D	A	A	A		A	A	A	A	A	A	A	A	A	A	A	A	A	A	A
Water Salt Sea	B	B	D	A	A	A		C5	C	B5	B5	A5	C5	C5	A5	A	A	A	A	A	A	A
Whiskey Boiling	C	B	D	A2				A	A	C	B	A	C	A	A			D	A	D	A	A
Wine	C	B	D	A				A	A	C	B	A	C	A	A			A	A	B	A	A
Xylene Boiling	A	A	B	A	B	A		A	A	A	B	A	A	A	A	A	A	D	D	D	A	A2
Zlnc Chloride 5%	D	D	D	A	B	A		B	B	B	B	B5	D	C5	B5	A	B	A	A	B	A	A
Zinc Chloride 5% Boiling	D	D	D	B	B	A		D	D	C	C	D	D	D	D	A	B	B	A	D	A	A
Zinc Sulfate Boiling	C	D	D	B	B	B		B	B	B	C	B	C	B	B	A	A	B2	A	D	A	A

OXYGEN SERVICE

CAUTION

Charging an oxygen system presents inherent **hazards** which cannot always be handled with absolute safety, especially with pressures in excess of 2000 PSI.

This product has been cleaned and must be maintained in accordance with Circle Seal Controls CSC/CCD 29.20 or better for oxygen service. Materials used have been determined to be compatible for use with oxygen. Materials (elastomerics, plastic and other soft substances) have been tested in accordance with MIL-V-5027D @ 2175 PSI. Materials and cleaning are sufficient for oxygen service applications to 3000 PSIG per MIL-V-5027D. For oxygen applications over 3000 PSI the user is responsible for establishing system cleanliness and operational requirements. **Consult with your company's Engineering/Safety or Management personnel before using this product.**

Extreme **CAUTION** should be observed when operating this product for oxygen service. Operate/Turn handle **VERY SLOWLY** when charging a system and when venting a system to prevent **FIRE** and **EXPLOSION.**

System cleanliness must be maintained to prevent ignition causing **FIRE** and **EXPLOSION.**

HOW TO SELECT PNEUMATIC VALVES

OBTAIN THE FOLLOWING INFORMATION:

1. Minimum inlet pressure in pounds per inch (psig).
2. Maximum outlet pressure in pounds per inch (psig).
3. The gas being flowed and the maximum flow rate in standard cubic feet per minute (scfm).

ESTABLISH THE "SIZE" OR C_v OF THE VALVE REQUIRED

An example of determining the required regulator is illustrated in Figure 1. The values used in the example are:

Minimum Inlet Pressure .....2000 psig
Maximum Outlet Pressure .....1500 psig
Flow Rate .....500 SCFM of Helium

NOTE: The Flow Chart in Figure 1 is based upon ambient temperature. Consult the factory for temperature extremes.

Step I. Subtract the maximum outlet pressure from the minimum inlet pressure value. Locate this value (500 psi differential pressure) on Scale "A" of Figure 1. Draw a vertical line from this point on Scale "A" to the minimum inlet pressure curve (Scale "B", 2000 psi) and establish the point of intersection.

Step II. Draw a horizontal line from the point established in Step 1 to the left edge of the curve (point a).

Step III. Draw a line from "point a" (where the horizontal line drawn in Step II intersects the left edge of the Flow Chart) through the flow rate, 500 scfm on Scale "C" to C_v (Scale "D"). If the flow rate is less than 10 scfm, use the values on the left sides of Scales "C" and "D".

The point at which this line intersects Scale "D" establishes the size or C_v of the regulator required. C_c = .65

If the gas is not air, multiply the C_v obtained by the C_v correction factor. For helium use .37 C_v = .65 × .37 = .24

Select a regulator from the Regulator Selection Chart on the reverse side of this page. Use the next higher C_v size and select the type of regulator desired, spring reference, dome reference, etc.

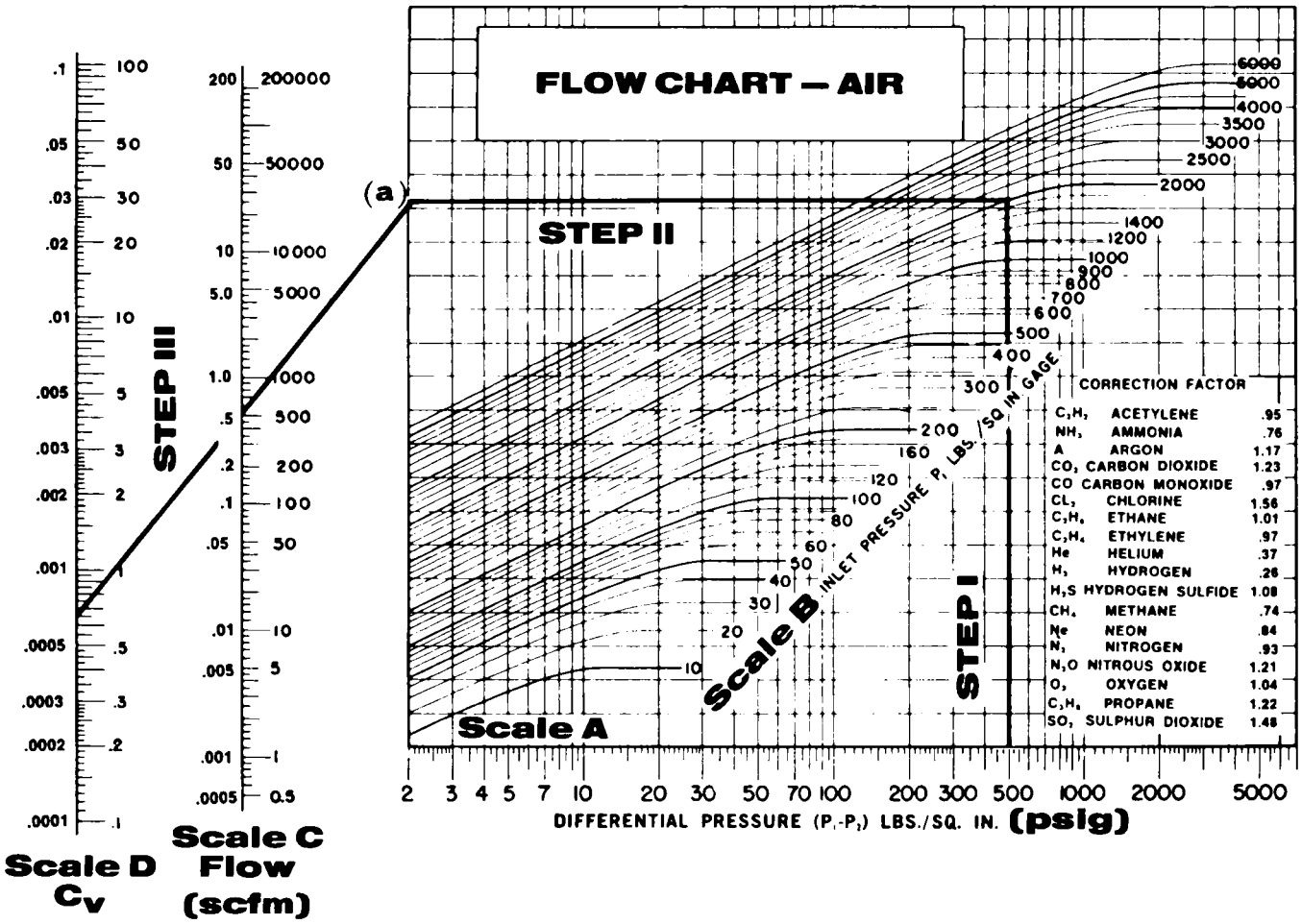


Figure 1

Regulator Selector Chart

Consult Individual Product Brochure for Additional Information

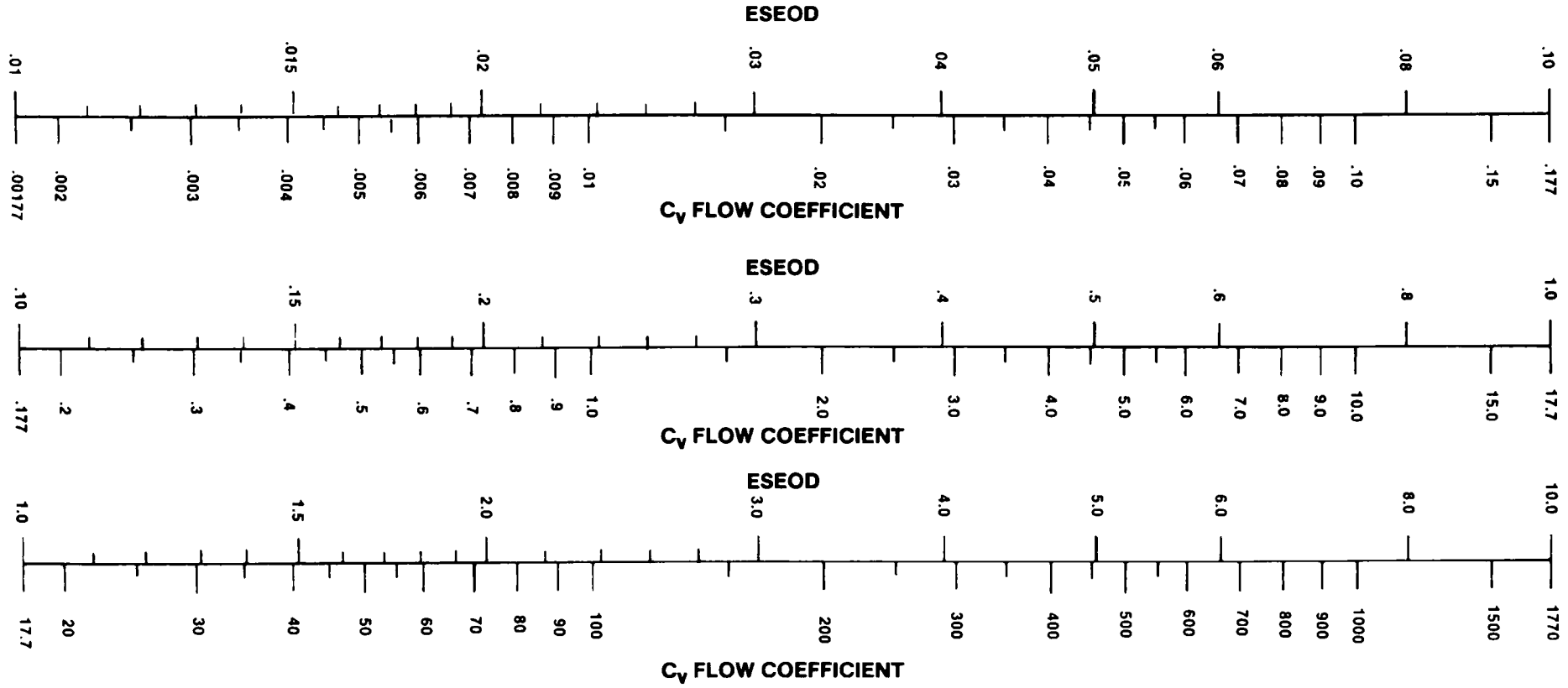
C_v (Max.)	Model No.	Maximum Inlet Pressure PSIG	Outlet Pressure Range PSIG	Control Type			Body Material				Optional Equipment					
				Spring Reference	Externally Dome Loaded	Internally Dome Loaded	PVC & Stainless Steel	Aluminum	Stainless Steel	Brass or Bronze	Gauges	Panel Mounting	CGA Inlet Fittings	Mtg. Provisions	Manually Adjustable	Self Relieving
.004	LR16C	10,000 PSIG	0-200 PSIG	●					●	●	●	●	●		●	●
	LR17C	10,000 PSIG	0-800 PSIG	●					●	●	●	●	●		●	●
	LR18C	10,000 PSIG	0-2000 PSIG	●					●	●	●	●	●		●	●
	LR19C	10,000 PSIG	0-3600 PSIG	●					●	●	●	●	●		●	●
	LR20C	10,000 PSIG	0-7000 PSIG	●					●	●	●	●	●		●	●
	LR21C	10,000 PSIG	0-10,000 PSIG	●					●	●	●	●	●		●	●
.011	PVR-1	3000 PSIG	2"-18" H_2O	●			●					●	●	●	●	
	PVR-2	3000 PSIG	2-6 PSIG	●			●					●	●	●	●	
	PVR-3	3000 PSIG	6-20 PSIG	●			●					●	●	●	●	
	PVR-4	3000 PSIG	20-40 PSIG	●			●					●	●	●	●	
	PVR-5	3000 PSIG	40-60 PSIG	●			●					●	●	●	●	
.018	MR10	3000 PSIG	0-100 PSIG	●					●	●	●	●	●		●	●
	MR11	3000 PSIG	0-250 PSIG	●					●	●	●	●	●		●	●
	MR12	3000 PSIG	0-500 PSIG	●					●	●	●	●	●		●	●
.02	PRO11	3000 PSIG	0-100 PSIG	●				●		●	●	●			●	
	PRO12	3000 PSIG	0-200 PSIG	●				●		●	●	●			●	
	PRO13	3000 PSIG	0-400 PSIG	●				●		●	●	●			●	
	PRO14	3000 PSIG	0-800 PSIG	●				●		●	●	●			●	
.032	CRR20	3000 PSIG	0-80 PSIG	●					●		●	●	●		●	
	CRR21	3000 PSIG	0-180 PSIG	●					●		●	●	●		●	
	CRR22	3000 PSIG	0-400 PSIG	●					●		●	●	●		●	
.3	*PR51	0-7500 PSIG	0-250 PSIG	●					●	●	●	●	●		●	●
	*PR52	0-7500 PSIG	0-400 PSIG	●					●	●	●	●	●		●	●
	*PR53	0-7500 PSIG	0-800 PSIG	●					●	●	●	●	●		●	●
	*PR54	0-7500 PSIG	0-1500 PSIG	●					●	●	●	●	●		●	●
	*PR55	0-7500 PSIG	0-3000 PSIG	●					●	●	●	●	●		●	●
	*PR56	0-7500 PSIG	0-4500 PSIG	●					●	●	●	●	●		●	●
	*PR57	0-7500 PSIG	0-6000 PSIG	●					●	●	●	●	●		●	●
.3	CRR 50	3000 PSIG	60 PSIG	●					●		●	●	●		●	
	CRR 51	3000 PSIG	200 PSIG	●					●		●	●	●		●	
	CRR 52	3000 PSIG	400 PSIG	●					●		●	●	●		●	
.350	GD31	3600 PSIG	0-3600 PISG							●	●		●	●	●	
	GD31R	3600 PSIG	0-3600 PSIG		●	●			●	●	●		●	●		
.365	GD80A	10,000 PSIG	0-10,000 PSIG			●				●				●	●	
	GD81B	10,000 PSIG	0-10,000 PSIG		●				●					●		
	GD67A	6000 PSIG	0-6000 PSIG		●	●			●	●				●		
.402	GD723	10,000 PSIG	0-200 PSIG	●					●	●	●	●	●		●	●
	GD722	10,000 PSIG	0-800 PSIG	●					●	●	●	●	●		●	●
	GD721	10,000 PSIG	0-2000 PSIG	●					●	●	●	●	●		●	●
	GD720	10,000 PSIG	0-3600 PSIG	●					●	●	●	●	●		●	●
	GD724	10,000 PSIG	0-6000 PSIG	●					●	●	●	●	●		●	●
.42	IR10	4000 PSIG	0-500 PSIG	●						●	●	●	●	●	●	
	IR11	4000 PSIG	0-1000 PSIG	●						●	●	●	●	●	●	
	IR12	4000 PSIG	0-2500 PSIG	●						●	●	●	●	●	●	
.5	BLR50	6000 PSIG	50-5800 PSIG	●					●	●	●	●	●		●	●
1.65	SR830	3600 PSIG	0-125 PSIG	●					●	●	●	●			●	
	SR800	3600 PSIG	0-250 PSIG	●					●	●	●	●			●	
5.0	GD91	6000 PSIG	6000 PSIG	●	●				●	●				●		
	GD92	6000 PSIG	6000 PSIG	●	●				●	●				●		

*Captured Vent

Non-destructive testing, such as individual flow test, testing with fluids other than compressed air or hydraulic oil, hydrostatic testing, x-ray, dye penetrant are not normal to our production processing, but are available at extra costs.

CONVERSION SCALES

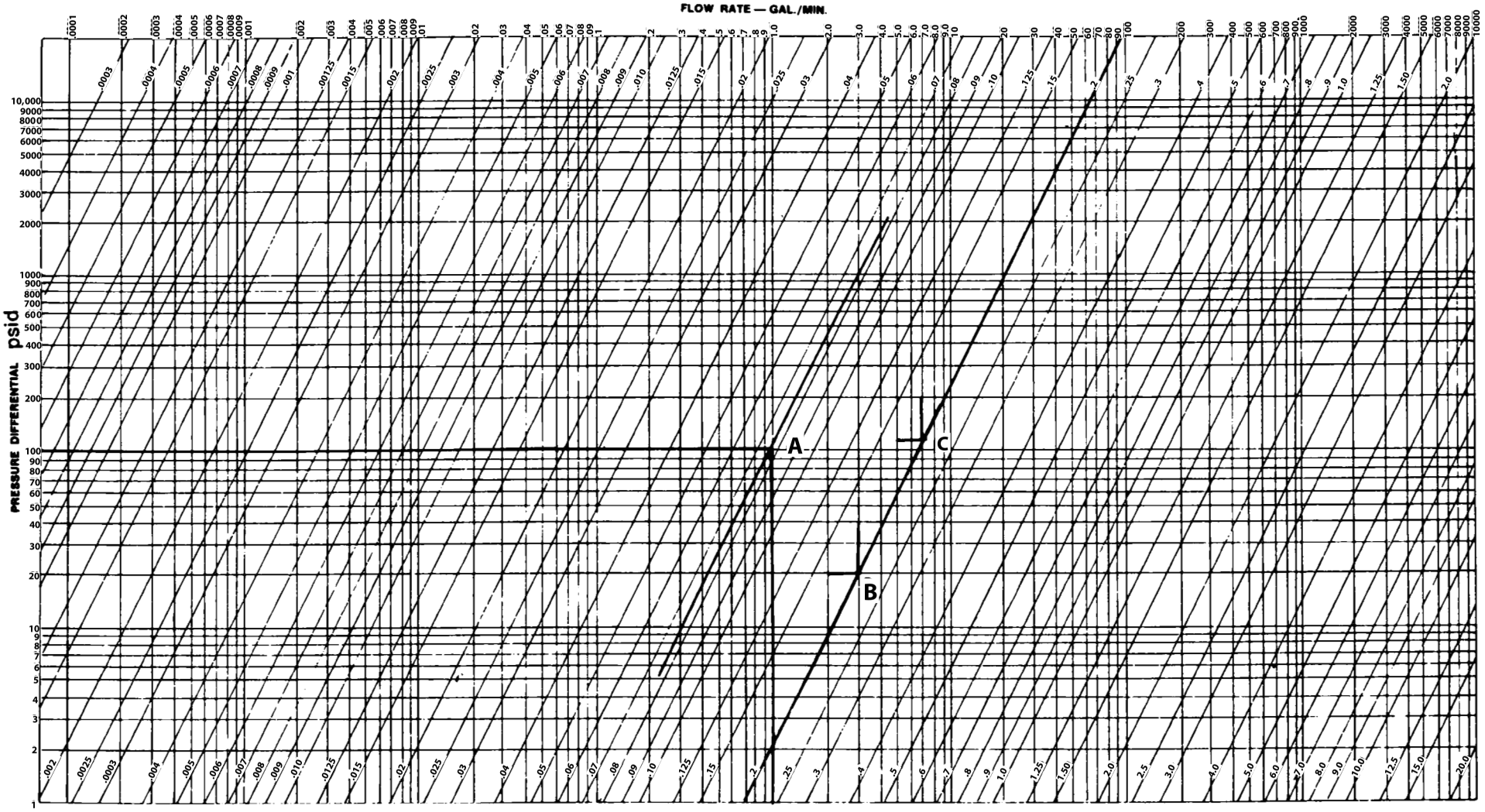
ESEOD to C_V (EQUIVALENT SHARP EDGED ORIFICE DIAMETER - TO FLOW COEFFICIENT)



TO CONVERT ONE FLOW RATING SIZE TO ANOTHER

1. If C_v is known read equivalent ESEOD across the dividing line on the same scale—C_v 2.5 equals an ESEOD of **.37**
2. If ESEOD is known read equivalent C_v across the dividing line on the same scale—ESEOD is .04 equals a C_v of **.029**

WATER FLOW in GPM vs PRESSURE DROP vs ESEOD C_D = .62



USE OF GRAPH

ESEOD

Known flow requirement and Δ P Limitation
Find ESEOD (1 GPM MAXIMUM Δ P, 100 psi d)

1. Locate intersection of 1 gpm line and horizontal 100 psid line Point A — ESEOD required is **.077**

NOTE: Turbulent flow is not considered in this graph.

Known valve rating — What Δ P and flow combinations are available?

ESEOD

1. Valve with ESEOD of .2
2. Find .2 diagonal line
3. Any number of points can then be found;
   Example: B or C
   B = 3 gpm at Δ P of 20 psid
   C = 7 gpm at Δ P of 120 psid

CIRCOR | Circle Seal Controls

CONVERSION GUIDE — U.S.:METRIC; METRIC:U.S.

DIMENSIONS

To convert inches (") to cm.	Multiply inches x 2.54
To convert cm to inches	Multiply cm. x .394

PRESSURE

To convert psi to Kg/$\overline{cm}^2$	Multiply psi x .070
To convert psi to Kp/$\overline{cm}^2$	Multiply psi x .070
To convert psi to Atü	Multiply psi x .070
To convert psi to Bars	Multiply psi x .069
To convert Kg/$\overline{cm}^2$ to psi	Multiply Kg/$\overline{cm}^2$ x 14.2
To convert Kp/$\overline{cm}^2$ to psi	Multiply Kp/$\overline{cm}^2$ x 14.2
To convert Atü to psi	Multiply Atü x 14.2
To convert Bars to psi	Multiply Bars x 14.5

TEMPERATURE

To convert °F to °C	Subtract 32 and multiply x .556 (5/9)
To convert °C to °F	Multiply by 1.8 (9/5) and add 32.

FLOW

To convert GPM to ℓ/mn (ℓ/min)	Multiply GPM x 3.79
To convert ℓ/mn (ℓ/min) to GPM	Multiply ℓ/mn x .264
To convert US gpm to UK gpm	Multiply US gpm x .833
To convert UK gpm to US gpm	Multiply UK gpm x 1.2
To convert SCFM to m^3/h (Nm^3/h)	Multiply SCFM x 1.7
To convert m^3/h (Nm^3/h) to SCFM	Multiply m^3/h x .59

FLOW FACTOR

To convert C_V to k_V	Multiply C_V x 14.28
To convert k_V to C_V	Multiply k_V x 0.07
To convert C_V to f(UK)	Multiply f x 0.833
To convert f(UK) to C_V	Multiply C_V x 1.20

US. PIPE SIZES

	1/8	1/4	3/8	1/2	3/4	1	1¼	1½	2
I.D. in.	0.27	0.36	0.42	0.62	0.82	1.05	1.38	1.61	2.07
mm	6.9	9.0	10.7	15.7	20.9	26.7	35.0	41.0	52.5
O.D. in.	0.41	0.54	0.68	0.84	1.05	1.32	1.66	1.90	2.38
mm	10.4	13.7	17.3	21.3	26.7	33.5	42.1	48.2	60.4
Rate of Flow gpm	2.5	4.8	9.3	14.0	25.0	41.0	72.0	97.0	160.0
Rate of Flow* ℓ/mn	10.0	18.0	35.0	54.0	97.0	157.0	270.0	370.0	600.0

* Based on 15 ft/sec. (275 m/mn); applies to standard size valves but not to miniature or high pressure valves or regulators.

Notes

Circle Seal Literature and Published Information - Disclaimer:

Catalog, literature and other published information such as drawings, charts and website content is for informational purposes only. Dimensions are for reference only and are subject to change. Each reader of the information should consult with his or her own qualified engineer prior to using the whole or any part of the information.

CIRCOR International makes every effort to maintain the accuracy and quality of the information provided in our Catalogs, literature, digital resources and other published information such as drawings, charts, and website content. However, CIRCOR International cannot guarantee and assumes no legal liability nor responsibility for the accuracy or completeness of the information provided. The information contained in printed or published literature or digital resources is for general guidance only. You should neither act, nor refrain from action, on the basis of any such information. You should take appropriate professional advice on your particular circumstances because the application of our equipment may vary depending on particular circumstances.

Copyright Disclaimer:

In case of any questions or remarks, feel free to contact us.

CIRCOR | Circle Seal Controls

The Small Bore Instrumentation Specialists

The Circle Seal Controls Brand is just one product offering manufactured and supplied by CIRCOR International (NYSE:CIR).

CIRCOR is a global manufacturer that specializes in developing highly engineered, technically superior small bore instrumentation solutions that consistently deliver benchmark performance, quality & safety for general-to-severe service liquid & gas flow applications.

We specialize in small bore instrumentation products up to 2" that deliver benchmark performance quality & safety; provide the broadest array of superior alloy offerings in the market; decades of proven success in a wide range of industries; a roster of "who's who" customers & projects globally; original "Best Solution" engineering & designs; and are focused on continuous improvement in all aspects of our business.

2301 Wardlow Circle
Corona, CA 92880
+1-951-270-6200
+1-951-270-6201 (Fax)

Our headquarters and manufacturing facilities are located at:
405 Centura CT
Spartanburg, SC 29303-6603 USA

www.circlesealcontrols.com • www.circor.com/circle-seal-controls
circleseal@circor.com

Proudly Distributed By: