

D Series – High Flow

- ▶ MOPD: 900 PSI (62 Bar)
- ▶ C_v Range: 0.045 to 0.880 (K_v Range: 0.038 to 0.748)
- ▶ 10 Watts

For maximum flow in a miniature solenoid valve the D Series valves delivers a wide range of C_v (K_v) values and maximum operating pressures. The D Series is also available in multiple body materials, seal materials, coil constructions, voltages, and wattages. Proven to perform for millions of cycles without failure, the D valve—as with the entire valve series—is ideal for manifold configurations, sub-assemblies, and complete fluidic systems. The D Series is the largest in a progression—A Series, B Series, and C Series—of the highly flexible, modular design, (general purpose) valves.

Typical Applications

- Agriculture
- Defense
- Sterilization Equipment
- Industrial Automation

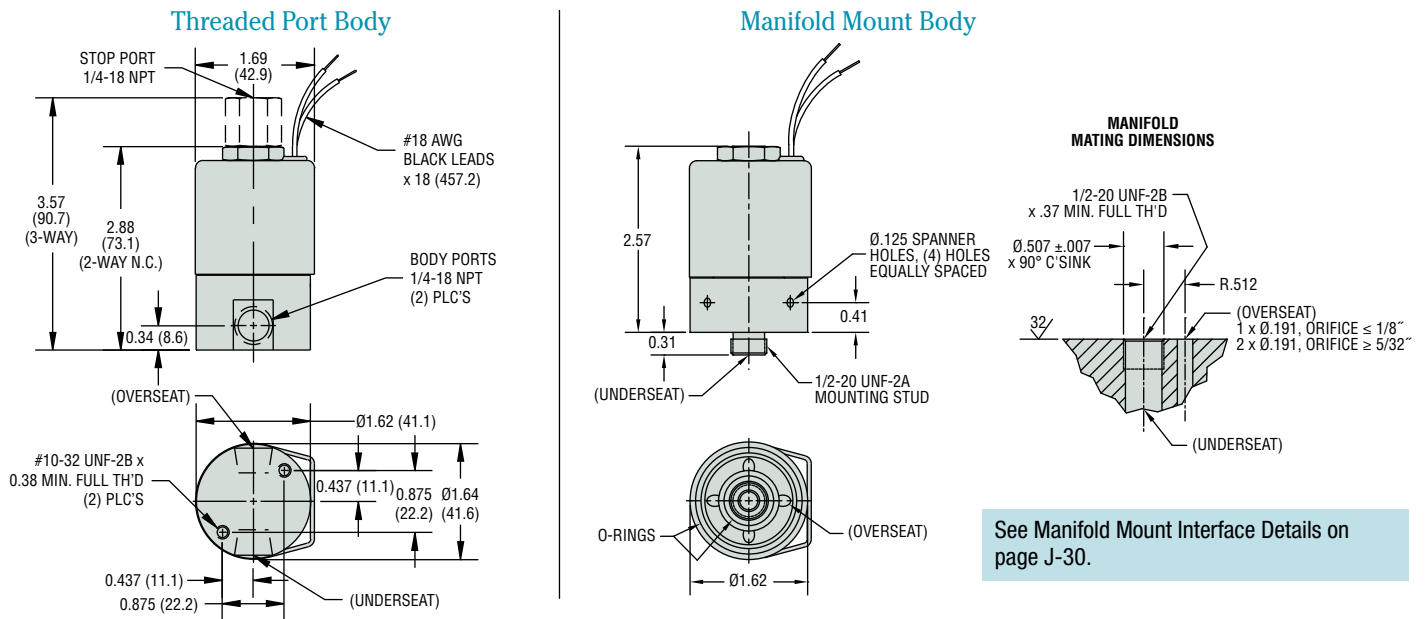


Next Day Shipping
On Many Configurations



CE

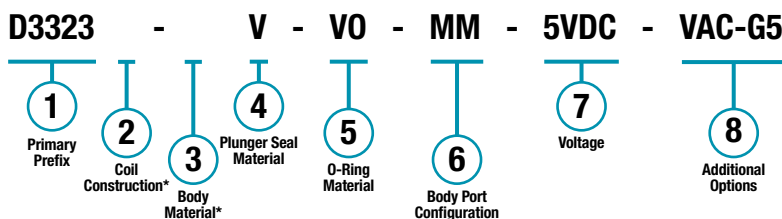
Dimensions



See Manifold Mount Interface Details on page J-30.

How To Order

Use the **Bold** characters from the choices listed on the following page to construct a product code.



* Blank entry indicates a "Standard" selection
(Tape-wrapped, Class-B, with 18" (46cm) lead-wires and 303 Stainless Steel, in this case).

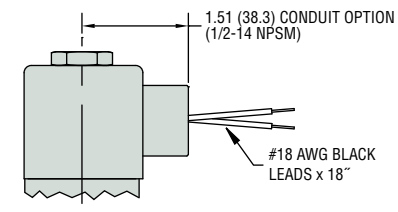
Example:

D3323-V-VO-MM-5VDC-VAC-G5

3-Way Multi Purpose (with 1.26 Conduit Option) solenoid valve, with tape-wrapped, Class-B, with 18" (46cm) lead-wires, 303 stainless steel body, Viton® plunger seal, Viton® o-ring, manifold mount (1/2-20 UNF-2A mounting stud, max. orifice = 14" (35.6cm)), operating at 5 VDC, and includes vacuum application (0 to 29.5" Hg (0 to 1000mBar)) and one piece 316 stainless steel guide assembly options.

Alternate 1/2" Conduit Housing

Available on all body configurations



Take advantage of next day shipping by making your selections from those marked with the Lightning Bolt icon.

Part Prefix Table ①

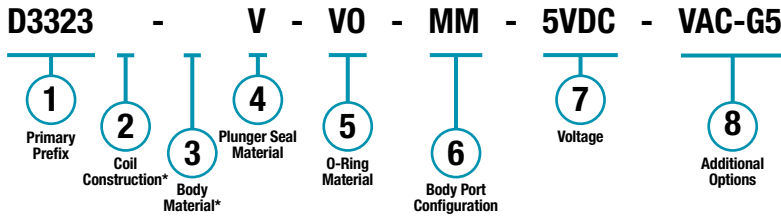
	Orifice				MOPD		C _v		K _v		① Primary Prefix	
	Body		Stop		psig	bar	Body	Stop	Body	Stop	Grommet Housing	Conduit Housing
	inches	mm	inches	mm								
2-WAY N.C.	3/64	1.19	—	—	900	62	0.045	—	0.038	—	D2011	D2021
	1/16	1.98	—	—	650	45	0.080	—	0.068	—	D2012	D2022
	3/32	2.38	—	—	350	24	0.150	—	0.128	—	D2013	D2023
	1/8	3.18	—	—	225	16	0.210	—	0.179	—	D2014	D2024
	5/32	3.97	—	—	130	9.0	0.380	—	0.323	—	D2015	D2025
	3/16	4.76	—	—	85	5.9	0.430	—	0.366	—	D2016	D2026
	1/4	6.35	—	—	50	3.4	0.700	—	0.595	—	D2017	D2027
	5/16	7.94	—	—	20	1.4	0.850	—	0.723	—	D2018	D2028
	3/8	9.53	—	—	10	0.7	0.880	—	0.748	—	D2019	D2029
2-WAY N.O.	—	—	3/64	1.19	900	62	—	0.045	—	0.038	D2211	D2221
	—	—	1/16	1.59	550	38	—	0.080	—	0.068	D2212	D2222
	—	—	5/64	1.98	300	21	—	0.110	—	0.094	D2213	D2223
	—	—	3/32	2.38	175	12	—	0.150	—	0.128	D2214	D2224
	—	—	1/8	3.18	110**	7.6	—	0.210	—	0.179	D2215	D2225
	—	—	5/32	3.97	60**	4.1	—	0.380	—	0.323	D2216	D2226
3-WAY N.C. Free Vent	1/16	1.59	1/16	1.59	175	12	0.080	0.080	0.068	0.068	D3011	D3021
	5/64	1.98	5/64	1.98	150	10	0.110	0.110	0.094	0.094	D3012	D3022
	3/32	2.38	3/32	2.38	125	8.6	0.150	0.150	0.128	0.128	D3013	D3023
	1/8	3.18	1/8	3.18	85**	5.9	0.210	0.210	0.179	0.179	D3014	D3024
	5/32	3.97	5/32	3.97	45**	3.1	0.380	0.380	0.323	0.323	D3015	D3025
	3/16	4.76	5/32	3.97	30**	2.1	0.430	0.380	0.366	0.323	D3016	D3026
	1/4	6.35	5/32	3.97	10**	0.7	0.700	0.380	0.595	0.323	D3017	D3027
3-WAY N.C. Line Connection	1/16	1.59	1/16	1.59	175	12	0.080	0.080	0.068	0.068	D3111	D3121
	5/64	1.98	5/64	1.98	150	10	0.110	0.110	0.094	0.094	D3112	D3122
	3/32	2.38	3/32	2.38	125	8.6	0.150	0.150	0.128	0.128	D3113	D3123
	1/8	3.18	1/8	3.18	85**	5.9	0.210	0.210	0.179	0.179	D3114	D3124
	5/32	3.97	5/32	3.97	45**	3.1	0.380	0.380	0.323	0.323	D3115	D3125
	3/16	4.76	5/32	3.97	30**	2.1	0.430	0.380	0.366	0.323	D3116	D3126
	1/4	6.35	5/32	3.97	10**	0.7	0.700	0.380	0.595	0.323	D3117	D3127
3-WAY N.O.	1/16	1.59	1/16	1.59	200	14	0.080	0.080	0.068	0.068	D3211	D3221
	5/64	1.98	5/64	1.98	175	12	0.110	0.110	0.094	0.094	D3212	D3222
	3/32	2.38	3/32	2.38	150	10	0.150	0.150	0.128	0.128	D3213	D3223
	1/8	3.18	1/8	3.18	100**	6.9	0.210	0.210	0.179	0.179	D3214	D3224
	5/32	3.97	5/32	3.97	50**	3.4	0.380	0.380	0.323	0.323	D3215	D3225
	3/16	4.76	5/32	3.97	35**	2.4	0.430	0.380	0.366	0.323	D3216	D3226
	1/4	6.35	5/32	3.97	15**	1.0	0.700	0.380	0.595	0.323	D3217	D3227
3-WAY Multi Purpose	1/16	1.59	1/16	1.59	160	11	0.080	0.080	0.068	0.068	D3311	D3321
	5/64	1.98	5/64	1.98	130	9.0	0.110	0.110	0.094	0.094	D3312	D3322
	3/32	2.38	3/32	2.38	110	7.6	0.150	0.150	0.128	0.128	D3313	D3323
	1/8	3.18	1/8	3.18	75**	5.2	0.210	0.210	0.179	0.179	D3314	D3324
	5/32	3.97	5/32	3.97	40**	2.8	0.380	0.380	0.323	0.323	D3315	D3325
	3/16	4.76	5/32	3.97	25**	1.7	0.430	0.380	0.366	0.323	D3316	D3326
	1/4	6.35	5/32	3.97	10**	0.7	0.700	0.380	0.595	0.323	D3317	D3327
3-WAY Directional Control	1/16	1.59	1/16	1.59	225	16	0.080	0.080	0.068	0.068	D3411	D3421
	5/64	1.98	5/64	1.98	185	13	0.110	0.110	0.094	0.094	D3412	D3422
	3/32	2.38	3/32	2.38	150	10.3	0.150	0.150	0.128	0.128	D3413	D3423
	1/8	3.18	1/8	3.18	110**	7.6	0.210	0.210	0.179	0.179	D3414	D3424
	5/32	3.97	5/32	3.97	60**	4.1	0.380	0.380	0.323	0.323	D3415	D3425
	3/16	4.76	5/32	4.76	40**	2.8	0.430	0.380	0.366	0.323	D3416	D3426
	1/4	6.35	5/32	3.97	20**	1.4	0.700	0.380	0.595	0.323	D3417	D3427

** DC or rectified coil only

SOLENOID VALVES

How To Order

Use the **Bold** characters from the choices listed on the following page to construct a product code.



2 Coil Construction

- (blank)** = Tape-wrapped, Class B (130°C), with 18" (45.7cm) lead wires*
- W** = Tape-wrapped coil, lead wires, non-standard length (specify length in inches)
- 10** = Externally rectified coil (AC voltages lead wires only)
- 1** = Encapsulated coil, Class B (130°C), lead wires
- 3** = Encapsulated coil, Class H (180°C), lead wires
- 4** = Encapsulated coil, Class B (130°C), 3/16" (4.76mm) spade terminals (1/4" (6.35mm) spade terminal optional)
- 11** = Tape-wrapped coil, Class H (180°C), lead wires
- HC** = Encapsulated coil, Class B (130°C), 18mm DIN (EN175301-803 Style A Industrial 2+1 poles)

3 Body Material

- (blank)** = 303 Stainless Steel*
- BB** = Brass
- SB5** = 316 Stainless Steel

4 Plunger Seal Material

- (blank)** = Nitrile*
- E** = EPR
- GV** = Gasoline Viton® – 2-way normally open and 3-way valves max. orifice = 3/32" (2.38mm)
- N** = Neoprene – 2-way normally closed valves only, max. orifice = 1/4" (6.35mm)
- NS** = Nitrile – NSF/FDA, max. orifice = 1/4" (6.35mm)
- PF** = Perfluoroelastomer – max. orifice = 1/4" (6.35mm)
- R** = Rulon® – 2-way normally closed valves only, max. orifice = 1/4" (6.35mm)
- T** = PTFE – max. orifice = 1/4" (6.35mm)
- V** = Viton®

5 O-Ring Material

- (blank)** = Nitrile*
- EO** = EPR
- NO** = Neoprene
- NSO** = Nitrile (NSF/FDA, 2-way valves only)
- PFO** = Perfluoroelastomer
- TO** = PTFE
- VO** = Viton®

6 Body Port Configuration

- (blank)** = 1/4-18 NPT female thread*
- LC** = 1/8-27 NPT female thread – max. orifice = 5/16" (7.94mm)
- LD** = 3/8-18 NPT female thread
- LT** = 1/8-28 BSPT female thread – max. orifice = 5/16" (7.94mm)
- LU** = 1/4-19 BSPT female thread
- MM** = Manifold mount – 1/2-20 UNF-2A mounting stud, max. orifice = 1/4" (6.35mm)**
- OB** = Omit body (operator style)
- BI** = Bottom over-seat port, female thread – max. orifice = 1/4" (6.35mm)
- BO** = Bottom under-seat port, female thread

7 Voltage* (see note below)

- C203** = 12 VDC
- C204** = 24 VDC
- C301** = 120/50/60R (add Coil Option -10)
- C303** = 240/50/60R (add Coil Option -10)
- VDC** = DC (specify voltage)
- VAC** = AC (specify voltage; includes copper shading ring)

8 Additional Options

- WM** = Mounting bracket on the coil housing
- TP** = PTFE coated plunger
- CP** = Chamfered plunger
- S** = Silver shading ring
- OC** = Cleaned for oxygen use
- VAC** = Vacuum application – 0 to 29.5" Hg (0 to 1000mBar)
- G5** = One piece 316 Stainless Steel guide assembly

* Standard selection; will be used unless otherwise specified. Standard selections are not referenced in final part number.

† Can be AC rectified without shading ring. Use coil construction Code 10.
 †† Teflon® o-ring not suitable for manifold mount.

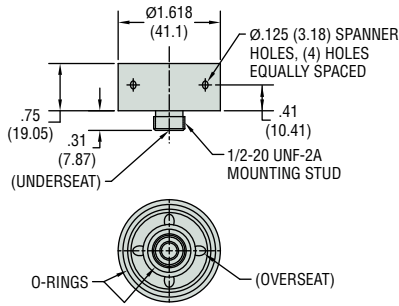


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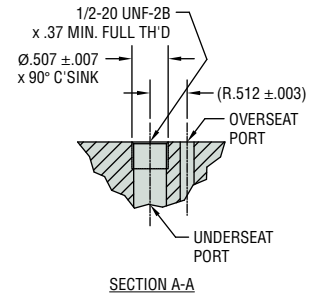
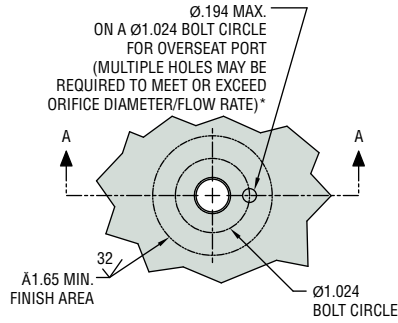
D Series – Manifold Mount Interface Details

Manifold Mounting Bodies

Manifold Mount 1/2"-20 Stud Body (MM)



Manifold Preparation



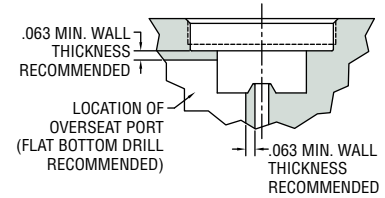
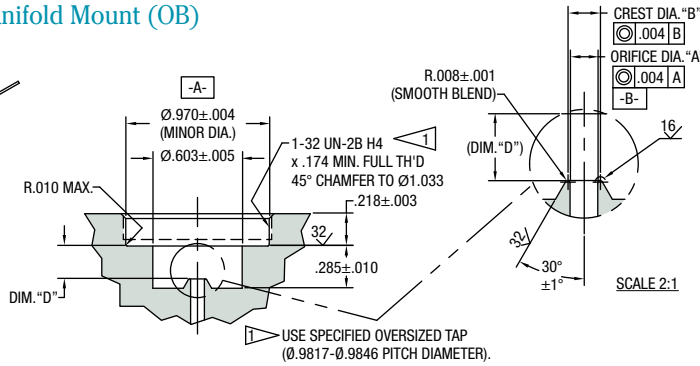
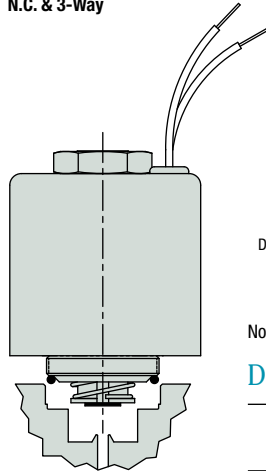
* If the total area of overseat port is less than the orifice diameter, then the overseat is the restrictor.

Valve Type	Standard		Vacuum	
	Overseat Port	Underseat Port	Overseat Port	Underseat Port
2-Way N.C.	IN	OUT	VAC	IN
2-Way N.O.	IN	—	IN	—
3-Way N.C.	CYL	IN	IN	VAC
3-Way N.O.	CYL	EXH	CYL	EXH
3-Way M.P.	COM	N.C.	COM	N.C.
3-Way D.C.	IN	N.C.	VAC	N.C.

D Series – Operator (OB) Interface Details

Omit Body Manifold Mount (OB)

N.C. & 3-Way

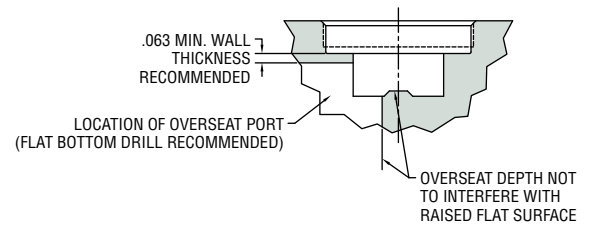
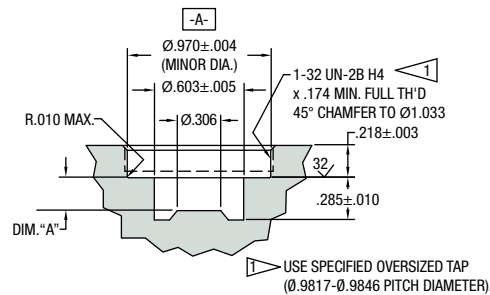
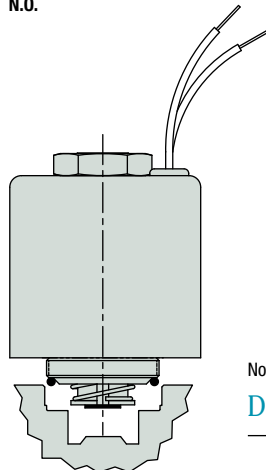


Note: All diameters to be concentric to datum -A- within .003 T.I.R.

Dimensions

Valve Function	Valve Prefix (Code 1)	Orifice Dia. "A" ±.001	Crest Dia. "B" ±.002	Orifice Depth Dim. "D" ±.001
2-Way N.C.	2011	.046 (1.17)	.062 (1.58)	.209 (5.31)
	2012	.062 (1.58)	.078 (1.98)	.213 (5.41)
	2013	.093 (2.36)	.109 (2.77)	.222 (5.64)
	2014	.109 (2.77)	.125 (3.18)	.227 (5.77)
	2015	.156 (3.96)	.172 (4.37)	.237 (6.02)
	2016	.187 (4.75)	.203 (5.16)	.245 (6.22)
	2017	.250 (6.35)	.266 (6.76)	.260 (6.60)
	2018	.312 (7.93)	.328 (8.33)	.285 (7.24)
	2019	.348 (8.84)	.364 (9.25)	.285 (7.24)
3-Way (All)	3X11	.062 (1.58)	.078 (1.98)	.213 (5.41)
	3X12	.078 (1.98)	.094 (2.39)	.217 (5.51)
	3X13	.093 (2.36)	.109 (2.77)	.222 (5.64)
	3X14	.109 (2.77)	.125 (3.18)	.227 (5.77)
	3X15	.156 (3.96)	.172 (4.37)	.237 (6.02)
	3X16	.187 (4.75)	.203 (5.16)	.245 (6.22)
	3X17	.250 (6.35)	.266 (6.76)	.260 (6.60)

N.O.



Note: All diameters to be concentric to datum -A- within .003 T.I.R.

Dimensions

Valve Function	Valve Prefix (Code 1)	Orifice Depth Dia. "A" ±.001	Stop Orifice Ref.
2-Way N.O.	2211	.229 (5.82)	3/64
	2212	.232 (5.89)	1/16
	2213	.236 (5.99)	5/64
	2214	.240 (6.10)	3/32
	2215	.243 (6.17)	1/8
	2216	.251 (6.38)	5/32