

#### DESCRIPTION

The **Series 415** is ideal for low pressure separators or any application that needs to dump large volumes of fluid quickly. The **Series 416** is ideal for high pressure separators or any application that requires moving large volumes of fluid quickly.

**Note:** All parts are interchangeable with the obsolete Series 414 Cast Iron Valve.

#### FEATURES

**Quick-Opening Trim** - Better flow characteristics.

**Ductile or Steel Bodies** - Meets low or high pressure demands.

**Threaded or Grooved Bodies** - Meets more application demands.

**Throttling or Quick Opening Trim** - Covers all operating conditions.

**Nace Adaptable** - Can be modified for use in sour service.

#### SPECIFICATIONS

##### Body Cover

Steel

##### End Connections

2" FNPT and 2" Grooved

##### Diaphragm Cases

Steel

##### Diaphragm

65 sq. in.

Reinforced Buna N

Maximum Recommended Operating Pressure 70 psi

Maximum Containment Pressure 100 psi

##### Packing

1/2 x 1 inch Non-Lubricated Buna N

##### Stem, Seat, Plug

303 S.S., Viton Facing

##### Body Material

See Ordering Information Chart

##### Maximum Working Pressure

See Chart

##### Temperature Limits

-20°F to 250°F



Series 415 Ductile Valve

##### Valve Travel

1-1/8 inches

##### Spring Rate

750 lbs per inch

##### Spring Pre-load

(3-15 psi Bench Range) Norm. 210 lbs.

Maximum 750 lbs.

##### Flow Direction

Under the seat for precise modulation.

Over the seat for shut-in service, on-off service, non-critical modulation.

##### Flow Characteristic

Modified equal percentage,

See Graph.

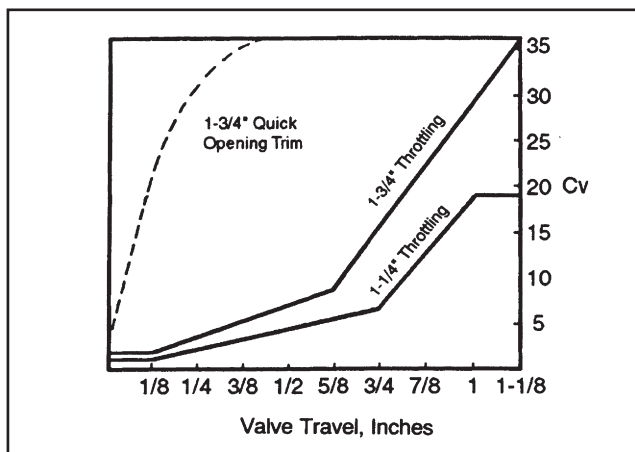
#### General Notes:

1. Standard topworks is direct action (normally closed) with 65 sq. in. effective area.
2. Cv and Cg values are for fully open inner valve.
3. Part numbers applicable only when valve desired is exactly as described above.
4. To order specify Model Number, Part Number, Trim Description.
5. See reverse side for parts list.

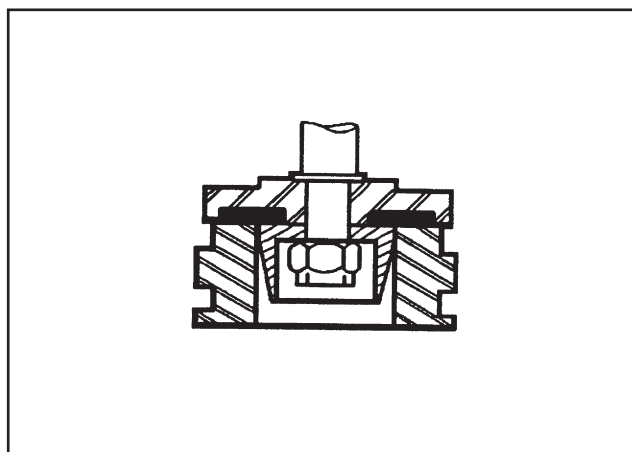
## ORDERING INFORMATION

Description	Size	Model Number	Max. W.P.	Trim	Full Open		Part Number	Weight
					Cv	Cg		
Series 415 Ductile Iron A-395	Globe Body Threaded 2"	DSG-203-415	300 psi	1-1/4" Throttling	19.0	660	80004378	62
				1-3/4" Throttling	36.0	1200	80004374	
				1-3/4" Quick-Opening	36.0	1200	80004373	
Series 415 Ductile Iron A-395	Angle Body Threaded 2"	DSA-203-415	300 psi	1-1/4" Throttling	19.0	660	80004192	56
				1-3/4" Throttling	36.0	1200	80004195	
				1-3/4" Quick-Opening	36.0	1200	80004196	
Series 415 Ductile Iron A-395	Globe Body Grooved 2"	DQG-203-415	300 psi	1-1/4" Throttling	19.0	660	80004057	62
				1-3/4" Throttling	36.0	1200	80004067	
				1-3/4" Quick-Opening	36.0	1200	80004069	
Series 416 Steel WCB	Globe Body Threaded 2"	DSG-214-416	1440 psi	1-1/4" Throttling	19.0	660	80004362	62
				1-3/4" Throttling	36.0	1200	80004367	
				1-3/4" Quick-Opening	36.0	1200	80004370	

## FLOW CHARACTERISTICS



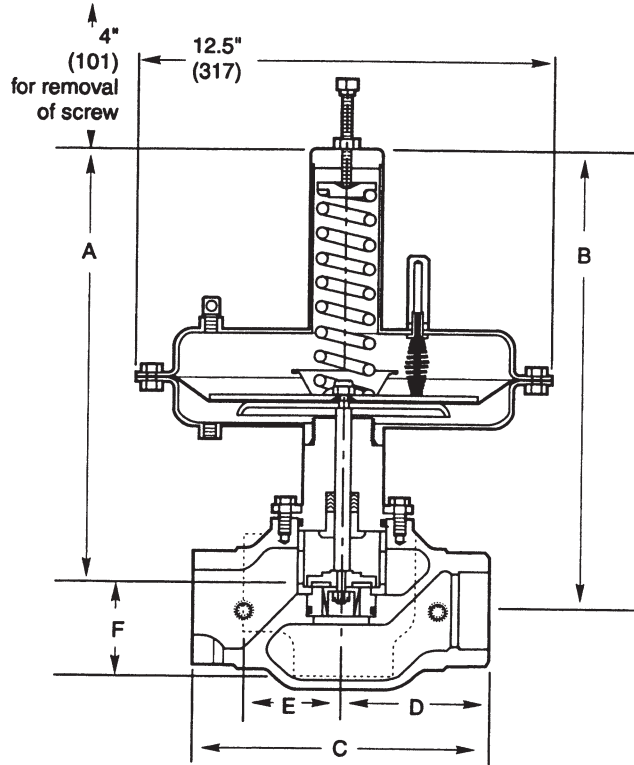
## TYPICAL FOR 1-1/4" and 1-3/4" TRIM



## DIFFERENTIAL PRESSURE CAPABILITY AND ACTUAL DIAPHRAGM PRESSURE RANGES

Spring Precompression	Trim Size	Flow Over the Seat	Flow Under the Seat
Normal Spring Pre-load 9/32" Compression	1-1/4"	180 psi 9-15	150 psi 0-15
	1-3/4"	180 psi 9-15	75 psi 0-15
Maximum Spring Pre-load 1" Compression	1-1/4"	360 psi 0-23	500 psi 0-23
	1-3/4"	360 psi 0-23	275 psi 0-23

## DIMENSIONS

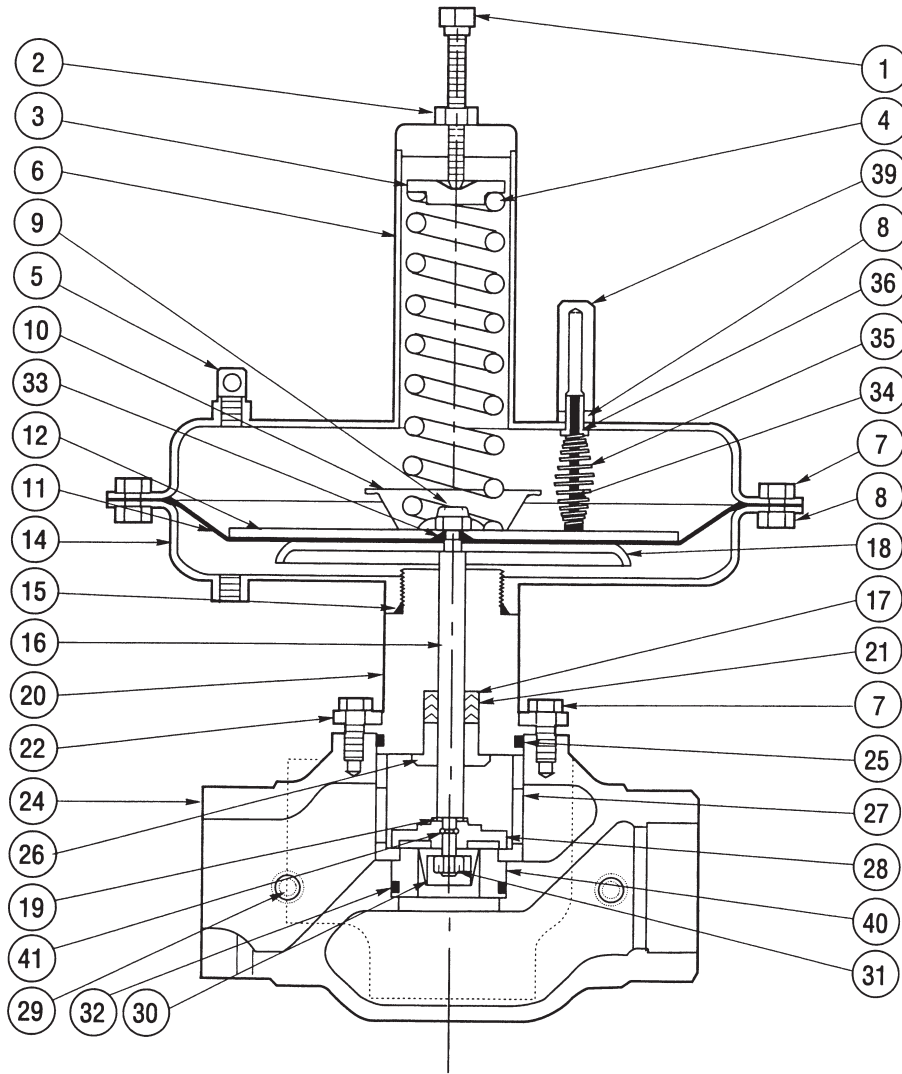


Model No.	A	B	C	D	E	F
DSA-203	13.6" (344)	--	--	--	3" (76)	3" (76)
DSG-203 DQG-203	--	14.4" (366)	9" (228)	4.5" (114)	--	--
DSG-214	--	15.1" -382	9" -228	4.5" -114	--	--

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## PARTS

Item	Notes	Description	Qty.	Part No.
1		Screw 1/2-13 x 3" SQHSS	1	65000525
2		Nut 1/2-13 Hex Jam	1	65008551
3		Upper Spring Rest	1	45001858
4	*	Spring	1	45008406
5		Bleeder Filter	1	45002612
6		Upper Diaphragm Case	1	48004020
7	1	Screw 3/8-16 x 7/8" HHCS	20/24	65003440
8		Nut 3/8-16 Hex	17	65001966
9		Nut 3/8-24 Flexloc	1	65001401
10		Travel Stop	1	45002343
11	*	Diaphragm	1	45003460
12		Upper Diaphragm Plate	1	45002776
14		Lower Diaphragm Case	1	48003459
15	*	O-Ring Bun-225-90	1	67101299
16		Stem (Series 415)	1	45001936
		Stem (Series 416)	1	45011947
17	*	Packing Ring Flat 1/2 x 1"	1	45001948
18		Lower Diaphragm Plate	1	45001789
19	*	Gasket, Copper Pre-1994	1	45001942
20		Body Cover	1	45015533
21	*	Packing Ring Reg 1/2 x 1"	3	45001947
22		Clamp Ring (Series 415)	1	45003128
		Clamp Ring (Series 416)	1	45011972
24		Body DSG-203-415	1	45012095
		Body DSA-203-415	1	45012024
		Body DQG-203-415	1	45012359
		Body DSG-214-416	1	45012097
25	*	O-Ring Bun-230-90	1	67101540
26		Packing Nut	1	45001939
27		Cage (Series 415)	1	45011585
		Cage (Series 416)	1	45011946
28	*	Plug, Viton	1	45001851
29	+	1/4" Pipe Plug	2	45002595
30	@	Throttle Nose 1-1/4"	1	45015538
	@	Throttle Nose 1-3/4"	1	45015539
31		Nut 3/8-24 Flexloc Thin	1	65003075
32		O-Ring BUN-226-90	1	67101534
33		O-Ring BUN-011-90	1	67101725
34		Indicator Pin, 2-1/4" Lg	1	45004275
35		Spring	1	45004315
36		Bushing	1	45003129
39		Sight Glass	1	45004223
40	*	Seat 1-1/4"	1	45003161
		Seat 1-3/4"	1	45006687
41	*	O-Ring BUN-010-10, Post 1994	1	67101327

\* Recommended spare parts. See trim set group in process.

@ Not required with Quick-Opening Trim

1 20 required Series 415, 24 required Series 416

+ 1 required on DSG-203-415, 0 required on DSA-203-415.