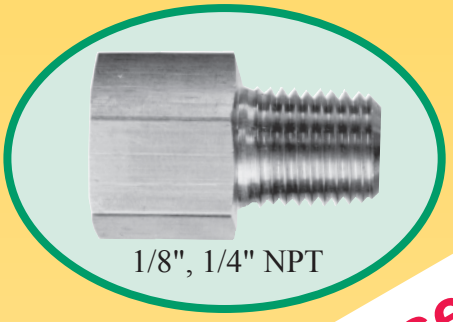
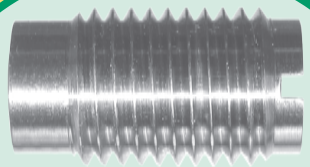
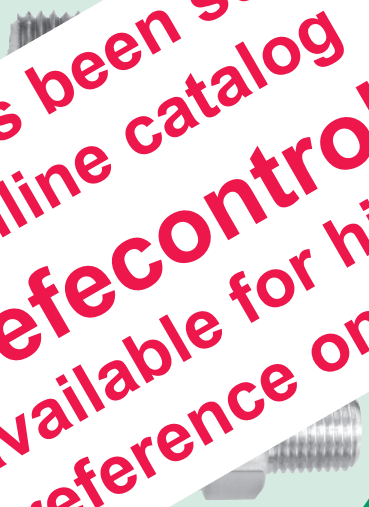
IN-LINE CHECK VALVES AND FIXED FLOW CONTROLS



1/8", 1/4" NPT



10-32, 5/16", 7/16"



1/8", 1/4", 3/8" NPT

This catalog has been superseded by the online catalog at www.okeefecontrols.com and is available for historical reference only

O'Keefe Controls Co.

CATALOG CV-3

MONROE, CT

Check Valves

BALL TYPE

Description

Ball type check valves are produced in three sizes: 10-32, 1/8" NPT and 1/4" NPT. They are available in both brass and stainless steel and are suitable for use with liquids or gases. Free flow occurs in one direction only; reverse flow is prevented.

All valve seats are metal to metal construction. Minor amounts of seat leakage can be expected. See General Specifications.

Features

- All metal construction
- Long life operation
- Choice of cracking pressure
- High pressure capability

General Specifications

Materials of Construction
Body – Brass or 303 SS
Ball Check Assembly – 304 SS
Flow Control Orifice – Brass or 303 SS
Sealant – Locite 609, 680
High pressure types only

Maximum Temperature
NPT – 300°F (max.)
10-32 – 150°F (max.)

Maximum Operating Pressure

Standard Pressure Type
NPT – 200 psig (max.)
10-32 – 125 psig (max.)

High Pressure Type (Suffix H)
NPT – 2000 psig (max.)

Seat Leakage – 20 sccm (max.)
Air flow at 25 psi differential

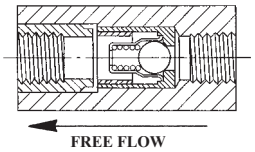
Flow Capacity
Free Flow Direction

Size	10-32	1/8" NPT	1/4" NPT
Type	FFLC	BLC, BLCH DLC, DFLC	ELC, ELCH GLC, GFLC
C_v	.081	.081	.190

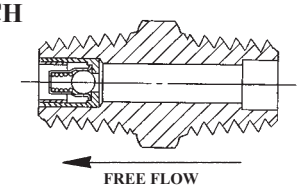
Check Valve Cracking Pressure
Selectable 0, 2, 10 or 15 psid
See chart on next page

Construction

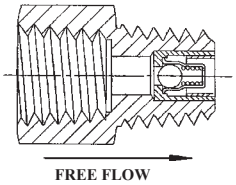
Type FFLC



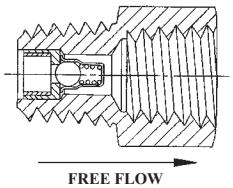
Type BLC
BLCH



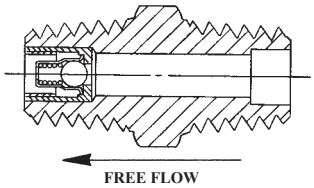
Type DLC
GLC



Type DFLC
GFLC



Type ELC
ELCH



Part Numbers

The complete part number for a ball type check valve includes Type, Cracking Pressure and Body Material.

EXAMPLES

Type	Cracking Pressure psid*	Body Material	Part Number
FFLC	2	BR	FFLC-2-BR
BLC	10	SS	BLC-10-SS (standard pressure)
ELCH	15	BR	ELCH-15-BR (high presure)
GLC	0	SS	GLC-0-SS (standard pressure)
DFLC	2	BR	DFLC-2-BR (standard pressure)

**psid – pounds per square inch differential*

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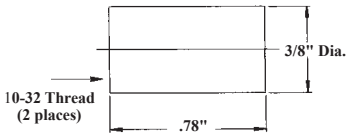
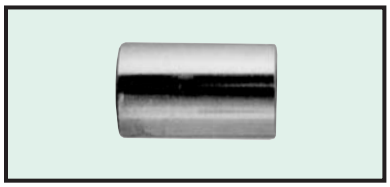
BALL TYPE

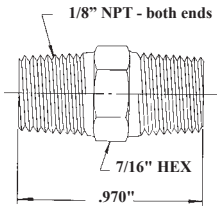
Dimensions

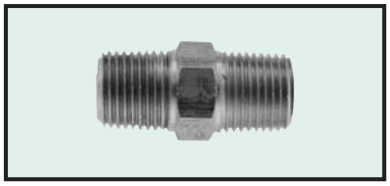
Type FFLC



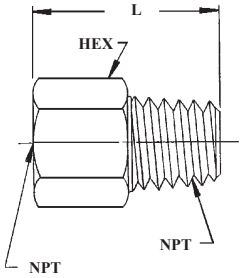


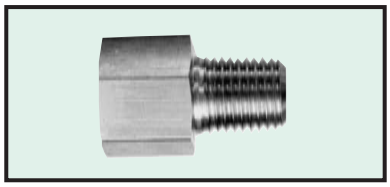
Type BLC
BLCH





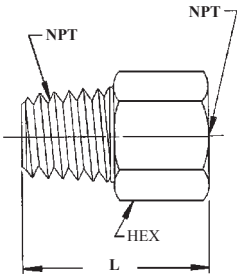
Type DLC
GLC

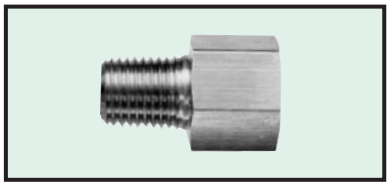




TYPE	L	NPT	HEX
DLC	.880"	1/8"	9/16"
GLC	1.25"	1/4"	3/4"

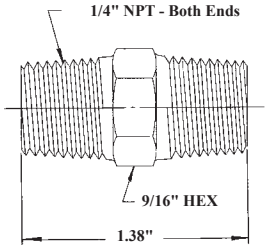
Type DFLC
GFLC

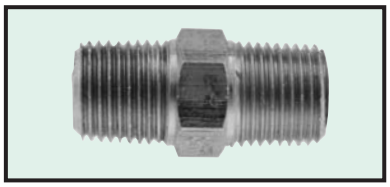




TYPE	L	NPT	HEX
DFLC	.880"	1/8"	9/16"
GFLC	1.25"	1/4"	3/4"

Type ELC
ELCH





Specifications

10-32 COUPLING

Body – Brass or 303 SS
Valve Assembly – 304 SS
C_v and Flow Data – See chart below
Maximum Operating Pressure – 125 psig
Cracking Pressure – See chart below

1/8" NPT NIPPLE

Body – Brass or 303 SS
Valve Assembly – 304 SS
C_v and Flow Data – See chart below
Maximum Operating Pressure –
BLC 200 psig
BLCH 2000 psig
Cracking Pressure – See chart below

1/8" OR 1/4" NPT ADAPTER

Body – Brass or 303 SS
Valve Assembly – 304 SS
C_v and Flow Data – See chart below
Maximum Operating Pressure – 200 psig
Cracking Pressure – See chart below

1/8" OR 1/4" NPT ADAPTER

Body – Brass or 303 SS
Valve Assembly – 304 SS
C_v and Flow Data – See chart below
Maximum Operating Pressure – 200 psig
Cracking Pressure – See chart below

1/4" NPT NIPPLE

Body – Brass or 303 SS
Valve Assembly – 304 SS
C_v and Flow Data – See chart below
Maximum Operating Pressure –
ELC 200 psig
ELCH 2000 psig
Cracking Pressure – See chart below

Valve Characteristics

Type	Selectable Cracking Pressure – psid*				C_v	Inlet Pressure – 100 psig Outlet Pressure – Atmos.	
	0	2	10	15		Air Free Flow – SCFH	Water Flow – GPM
FFLC	✓	✓	✓		.081	331	.8
BLC, BLCH, DLC, DFLC	✓	✓	✓		.081	331	.8
ELC, ELCH GLC, GFLC	✓	✓		✓	.190	781	1.9

**psid – pounds per square inch differential*

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Check Valves

BALL TYPE THREADED INSERTS

Description

The threaded insert style check valves are available in 3 thread sizes, 10/32, 5/16•24 and 7/16•20. Body materials are brass or stainless steel and are suitable for use with compatable liquids or gases. Free flow occurs in one direction and reverse flow is blocked.

Features

- All metal construction for 5/16″ and 7/16″ sizes
- Long life operation
- Choice of cracking pressure
- Optional O-ring body seal

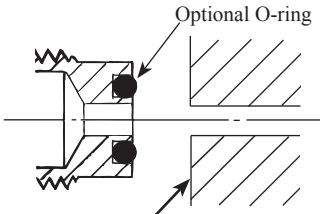
Installation

Thread Sealant Method

Use Loctite 542 Thread Sealant or equal to seal threads on type ZLC Check Valves or Checked Orifices.

O-Ring Seal Method

•Seal nose end of valve with embedded Viton O-ring
•Tighten firmly



General Specifications

Materials of Construction
Body – Brass or 303 SS
Ball Check Assembly – 304 SS
Internal Seal (10/32 only) Viton

Maximum Temperature
5/16•24 and 7/16•20 – 300°F (max.)
10-32 – 150°F (max.)

Maximum Operating Pressure
5/16•24 and 7/16•20 – 200 psig (max.)
10-32 – 125 psig (max.)

Cracking Pressure
Selectable 0, 2, 6, 10 or 15 psid
See chart on next page

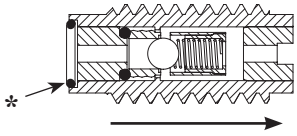
Seat Leakage
20 sccm (max.)
air flow at 25 psi differential

Flow Capacity
Free Flow Direction
See chart on next page

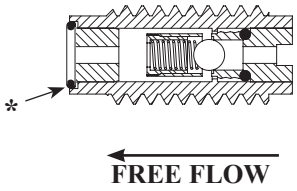
Option
Nose end seal
Viton O-ring (suffix "V")

Construction

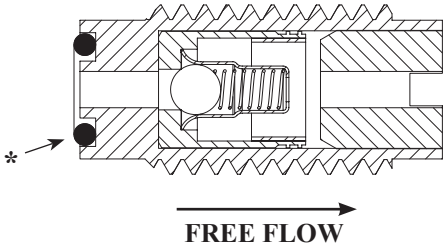
Type ZLC 10/32



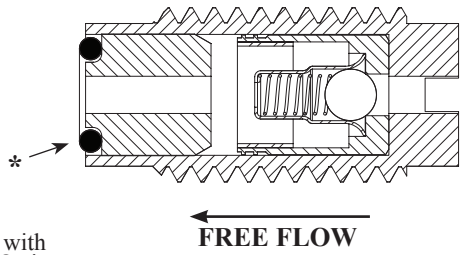
Type ZFLC 10/32



Type ZLC 5/16•24
7/16•20



Type ZFLC 5/16•24
7/16•20



* Shown with optional O-ring

Part Numbers

The complete part number for a threaded insert ball type check valve includes Type, Cracking Pressure, Body Material, Thread Size and Options.

EXAMPLES Type	Cracking Pressure	Thread Size	Body Material	Option (suffix)	Part Number
ZLC	2	10/32	BR	None	ZLC-2-10/32-BR
ZFLC	6	10/32	SS	V	ZFLC-6-10/32-SS-V
ZLC	0	5/16•24	BR	V	ZLC-0-5/16•24-BR-V
ZFLC	10	5/16•24	SS	None	ZFLC-10-5/16•24-SS
ZLC	15	7/16•20	BR	None	ZLC-15-7/16•20-BR
ZFLC	2	7/16•20	SS	V	ZFLC-2-7/16•20-SS-V

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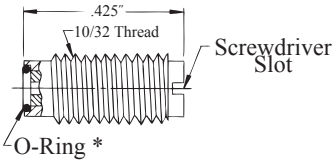
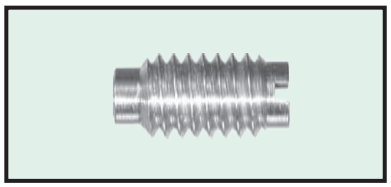
BALL TYPE THREADED INSERTS

Dimensions

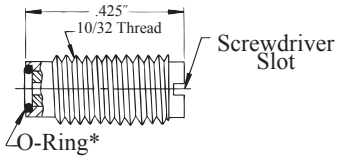
Type ZLC 10/32

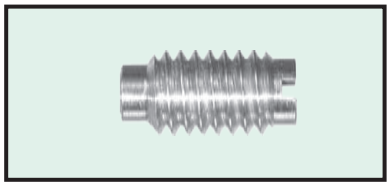




FREE FLOW

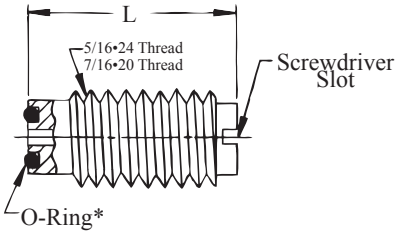
Type ZFLC 10/32

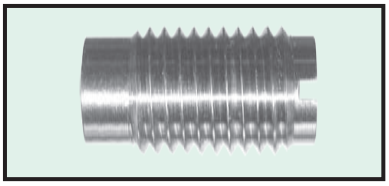




FREE FLOW

Type ZLC 5/16″ or 7/16″

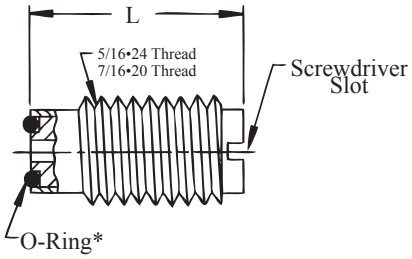


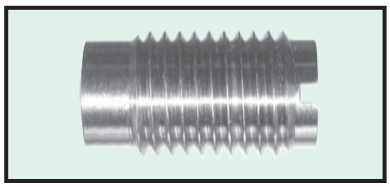


FREE FLOW

TYPE	L
ZLC 5/16•24	.669″
ZLC 7/16•20	.781″

Type ZFLC 5/16″ or 7/16″





FREE FLOW

TYPE	L
ZFLC 5/16•24	.669″
ZFLC 7/16•20	.781″

* optional

Specifications

10-32 THREADED INSERT
Body - Brass or 303 SS
Valve Assembly - 304 SS
C_v and Flow Data - See chart below
Maximum Operating Pressure - 125 psig
Cracking Pressure - 0, 2 or 6 psid

10-32 THREADED INSERT
Body - Brass or 303 SS
Valve Assembly - 304 SS
C_v and Flow Data - See chart below
Maximum Operating Pressure - 125 psig
Cracking Pressure - 0, 2 or 6 psid

5/16″ OR 7/16″ THREADED INSERT
Body - Brass or 303 SS
Valve Assembly - 304 SS
C_v and Flow Data - See chart below
Maximum Operating Pressure - 200 psig
Cracking Pressure
5/16″ 0, 2, 6 or 10 psid
7/16″ 0, 2 or 15 psid

5/16″ OR 7/16″ THREADED INSERT
Body - Brass or 303 SS
Valve Assembly - 304 SS
C_v and Flow Data - See chart below
Maximum Operating Pressure - 200 psig
Cracking Pressure
5/16″ 0, 2, 6 or 10 psid
7/16″ 0, 2 or 15 psid

Valve Characteristics

Type	Thread	Selectable Cracking Pressure - psid**					C_v	Inlet Pressure - 100 psig Outlet pressure - Atmos.	
		0	2	6	10	15		Air Free Flow SCFH	Water Flow GPM
ZLC	10/32	✓	✓	✓			.020	87	.2
ZFLC	10/32	✓	✓	✓			.020	87	.2
ZLC	5/16•24	✓	✓	✓	✓		.081	331	.8
ZFLC	5/16•24	✓	✓	✓	✓		.081	331	.8
ZLC	7/16•20	✓	✓			✓	.190	781	1.9
ZFLC	7/16•20	✓	✓			✓	.190	781	1.9

***psid – pounds per square inch differential*

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Check Valves

DISK TYPE

Description

Disk type check valves are produced in four sizes: 10-32, 1/8" NPT, 1/4" NPT and 3/8" NPT. They are available in both brass and stainless steel and are suitable for use with liquids or gases. Free flow occurs in one direction only; reverse flow is prevented.

Features

- High Flow Capacity
- Low Pressure Loss
- Low Cracking Pressure
- Long Life Operation

General Specifications

Maximum Pressure – 150 psig (NPT)
125 psig (10-32)

Maximum Temperature

Brass Disk Assembly	225°F
303 SS Disk Assembly	225°F
Delrin Disk Assembly	120°F
All 10-32 Assemblies	120°F

Flow Capacity
Free Flow Direction

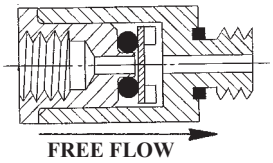
Size	10-32	1/8" NPT	1/4" NPT	3/8" NPT
Cv	.15	.43	.61	1.09

Materials of Construction
Body – Brass or 303 SS
Seals – Viton, Silicone
Disk – Brass, 303 SS or Delrin

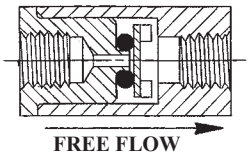
Cracking Pressure
Less than 0.25 psid (NPT)
Less than 0.5 psid (10-32)
Use "0" in part number

Construction

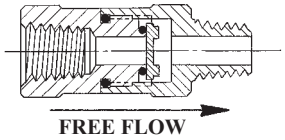
Type FMOC



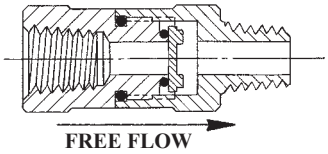
Type FFOC



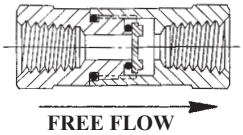
Type DOC



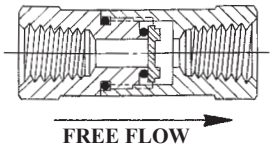
Type GOC



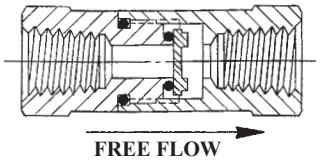
Type Y2C



Type Y4C



Type Y6C



Part Numbers

The complete part number for a disk check valve includes Type, Cracking Pressure (0), Body Material and Disk Material.

EXAMPLES

Type	Cracking* Pressure	Body Material	Disk Material	Part Number
GOC (1/4" male/female)	0	SS (303 SS)	DE (Delrin)	GOC-0-SS-DE
Y6C (3/8" female/female)	0	BR (Brass)	BR (Brass)	Y6C-0-BR-BR
FMOC (10-32 male/female)	0	BR (Brass)	BR (Brass)	FMOC-0-BR-BR

* Cracking Pressure designation is "0" for Disk Check Valves.

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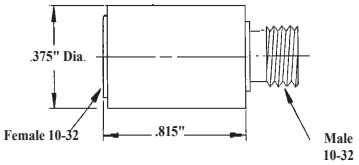
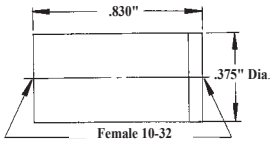
DISK TYPE

Dimensions

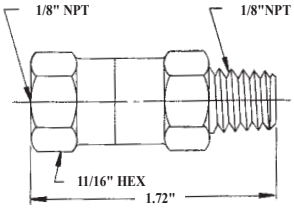
Type FMOC



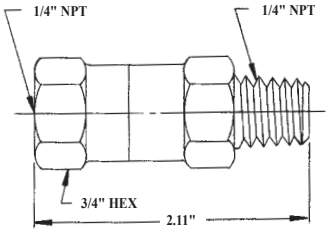
Type FFOC



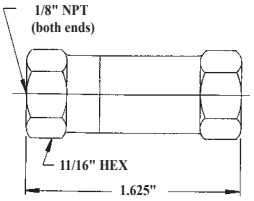
Type DOC



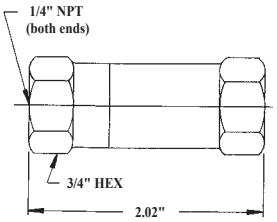
Type GOC



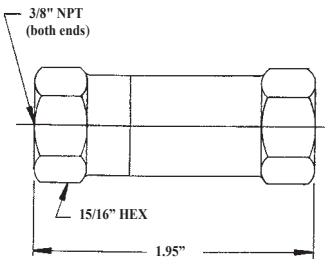
Type Y2C



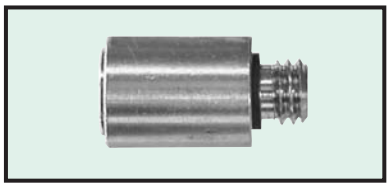
Type Y4C

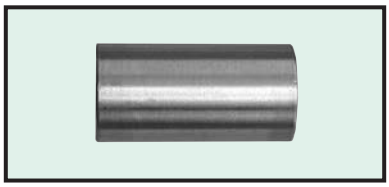


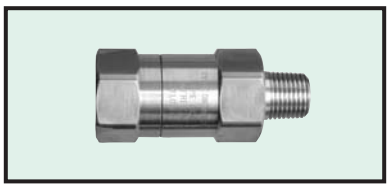
Type Y6C

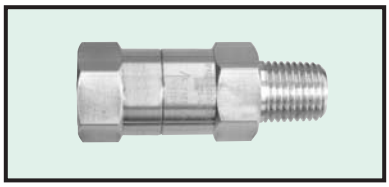


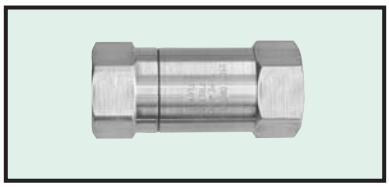
**psid – pounds per square inch differential*

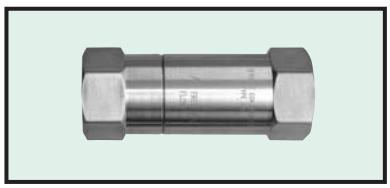


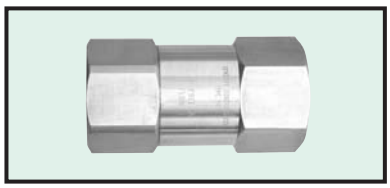












Specifications

10-32 ADAPTER
Body – Brass or 303 SS
Disk – Brass or 303 SS
Seals – Silicone
C_v – .15
Maximum Operating Pressure – 125 psig
Cracking Pressure – Less than 0.5 psid*

10-32 COUPLING
Body – Brass or 303 SS
Disk – Brass or 303 SS
Seals – Silicone
C_v – .15
Maximum Operating Pressure – 125 psig
Cracking Pressure – Less than 0.5 psid*

1/8" ADAPTER
Body – Brass or 303 SS
Disk – Brass, 303 SS or Delrin
Seals – Viton
C_v – .43
Maximum Operating Pressure – 150 psig
Cracking Pressure – Less than 0.25 psid*

1/4" NPT ADAPTER
Body – Brass or 303 SS
Disk – Brass, 303 SS or Delrin
Seals – Viton
C_v – .61
Maximum Operating Pressure – 150 psig
Cracking Pressure – Less than 0.25 psid*

1/8" NPT COUPLING
Body – Brass or 303 SS
Disk – Brass, 303 SS or Delrin
Seals – Viton
C_v – .43
Maximum Operating Pressure – 150 psig
Cracking Pressure – Less than 0.25 psid*

1/4" NPT COUPLING
Body – Brass or 303 SS
Disk – Brass, 303 SS or Delrin
Seals – Viton
C_v – .61
Maximum Operating Pressure – 150 psig
Cracking Pressure – Less than 0.25 psid*

3/8" NPT COUPLING
Body – Brass or 303 SS
Disk – Brass, 303 SS or Delrin
Seals – Viton
C_v – 1.09
Maximum Operating Pressure – 150 psig
Cracking Pressure – Less than 0.25 psid*

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Fixed Flow Controls

BALL TYPE

Description

Fixed flow controls are a parallel arrangement of a ball check valve and a precision orifice. Free flow occurs in one direction and metered flow occurs in the opposite direction. Suitable for both liquids and gases the fixed flow controls are available in brass or stainless steel.

Features

- All Metal Construction
- Long Life Operation
- Choice of Cracking Pressure
- Tamperproof Orifice
- High Pressure Capacity

General Specifications

Materials of Construction

Body – Brass or 303 SS as listed
Ball Check Assembly – 304 SS
Flow Control Orifice – Brass or 303 SS
Sealant – Locite 609, 680
High pressure types only

Maximum Temperature – 300°F

Maximum Operating Pressure

Standard Pressure Type
NPT – 200 psig (max.)
10-32 – 125 psig (max.)

High Pressure Type (Suffix H)
NPT – 2000 psig (max.)

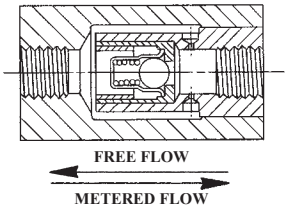
Seat Leakage – 20 sccm (max.)
Air flow at 25 psi differential

Flow Capacity
See charts on page 9 for details

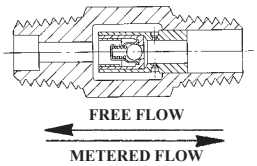
Check Valve Cracking Pressure
Selectable 0, 2, 10 or 15 psid

Construction

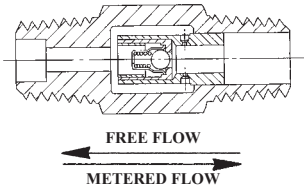
Type FFLF



Type BLF, BLFH



Type ELF, ELFH



Valve Characteristics

Type	Selectable Cracking Pressure – psid*				Free Flow C_v	Inlet Pressure – 100 psig Outlet Pressure – Atmos.	
	0	2	10	15		Air Free Flow – SCFH	Water Flow GPM
FFLF	✓	✓	✓		.084 to .162	346 to 662	.8 to 1.6
BLF BLFH	✓	✓	✓		.084 to .162	346 to 662	.8 to 1.6
ELF ELFH	✓	✓		✓	.194 to .396	809 to 1650	1.9 to 3.9

Ordering Information

FIXED FLOW CONTROL – PART NUMBER

EXAMPLES

Type	Orifice Size Number	Cracking Pressure psid*	Body Material	Part Number
FFLF	10	10	BR	FFLF-10-10-BR (standard pressure)
BLFH	25	2	SS	BLFH-25-2-SS (high pressure)
ELF	60	15	BR	ELF-60-15-BR (standard pressure)

**psid – pounds per square inch differential*

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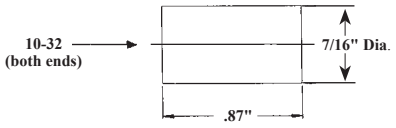
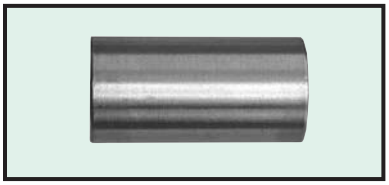
BALL TYPE

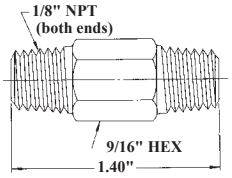
Dimensions

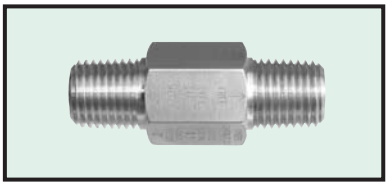
Type FFLF



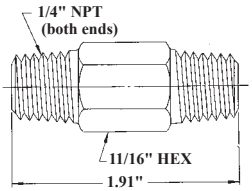


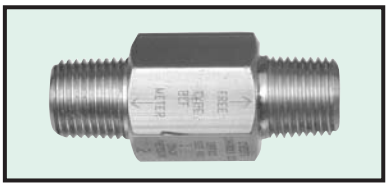
Type BLF
BLFH





Type ELF
ELFH





Specifications

10-32 COUPLING

Body – Brass or 303 SS
Valve – 304 SS
C_v – Variable, see chart below
Maximum Operating Pressure – 125 psig
Cracking Pressure – 0, 2 or 10 psid

1/8" NPT NIPPLE

Body – Brass or 303 SS
Valve – 304 SS
C_v – Variable, see chart below
Maximum Operating Pressure –
BLF – 200 psig
BLFH – 2000 psig
Cracking Pressure – 0, 2 or 10 psid

1/4" NPT NIPPLE

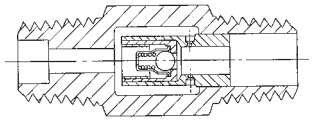
Body – Brass only
Valve – 304 SS
C_v – Variable, see chart below
Maximum Operating Pressure –
ELF – 200 psig
ELFH – 2000 psig
Cracking Pressure – 0, 2 or 15 psid

Types BLF, BLFH, FFLF

Orifice Size Number	Orifice Dia. In.	Orifice Cv (return)	Check Valve Cv	Assembly Forward Cv	Cv Ratio Forward Cv / Return Cv
10	.0102	0.0025	0.081	0.084	33.40
11	.0110	0.0028	0.081	0.084	29.93
*12	.0122	0.0034	0.081	0.084	24.82
13	.0130	0.0038	0.081	0.085	22.32
14	.0142	0.0043	0.081	0.085	19.84
15	.0150	0.0050	0.081	0.086	17.20
16	.016	0.0055	0.081	0.087	15.73
17	.017	0.0067	0.081	0.088	13.09
18	.018	0.0073	0.081	0.088	12.10
19	.019	0.0080	0.081	0.089	11.13
*20	.020	0.0088	0.081	0.090	10.20
21	.021	0.0096	0.081	0.091	9.44
22	.022	0.011	0.081	0.092	8.36
23	.023	0.012	0.081	0.093	7.75
24	.024	0.013	0.081	0.094	7.23
25	.025	0.014	0.081	0.095	6.79
*26	.026	0.016	0.081	0.097	6.06
27	.027	0.017	0.081	0.098	5.76
28	.028	0.018	0.081	0.099	5.50
29	.029	0.019	0.081	0.100	5.26
31	.031	0.022	0.081	0.103	4.68
*32	.032	0.024	0.081	0.105	4.38
33	.033	0.025	0.081	0.106	4.24
35	.035	0.028	0.081	0.109	3.89
37	.037	0.031	0.081	0.112	3.61
38	.038	0.032	0.081	0.113	3.53
39	.039	0.033	0.081	0.114	3.45
*40	.040	0.036	0.081	0.117	3.25
41	.041	0.038	0.081	0.119	3.13
42	.042	0.039	0.081	0.120	3.08
43	.043	0.041	0.081	0.122	2.98
47	.047	0.048	0.081	0.129	2.69
*52	.052	0.059	0.081	0.140	2.37
55	.055	0.068	0.081	0.149	2.19
60	.060	0.081	0.081	0.162	2.00

These sizes are normally stocked with 2 psid cracking pressure.

Metered Flow –
Return C_v



Free Flow –
Forward C_v

Types ELF, ELFH

Orifice Size Number	Orifice Dia. In.	Orifice Cv (return)	Check Valve Cv	Assembly Forward Cv	Cv Ratio Forward Cv / Return Cv
10	.0102	0.0025	0.191	0.194	77.40
11	.0110	0.0028	0.191	0.194	69.21
*12	.0122	0.0034	0.191	0.194	57.18
13	.0130	0.0038	0.191	0.195	51.26
14	.0142	0.0043	0.191	0.195	45.42
15	.0150	0.0050	0.191	0.196	39.20
16	.016	0.0055	0.191	0.197	35.73
17	.017	0.0067	0.191	0.198	29.51
18	.018	0.0073	0.191	0.198	27.16
19	.019	0.0080	0.191	0.199	24.88
*20	.020	0.0088	0.191	0.200	22.70
21	.021	0.0096	0.191	0.201	20.90
22	.022	0.011	0.191	0.202	18.36
23	.023	0.012	0.191	0.203	16.92
24	.024	0.013	0.191	0.204	15.69
25	.025	0.014	0.191	0.205	14.64
*26	.026	0.016	0.191	0.207	12.94
27	.027	0.017	0.191	0.208	12.24
28	.028	0.018	0.191	0.209	11.61
29	.029	0.019	0.191	0.210	11.05
31	.031	0.022	0.191	0.213	9.68
*32	.032	0.024	0.191	0.215	8.96
33	.033	0.025	0.191	0.216	8.64
35	.035	0.028	0.191	0.219	7.82
37	.037	0.031	0.191	0.222	7.16
38	.038	0.032	0.191	0.223	6.97
39	.039	0.033	0.191	0.224	6.79
*40	.040	0.036	0.191	0.227	6.31
41	.041	0.038	0.191	0.229	6.03
42	.042	0.039	0.191	0.230	5.90
43	.043	0.041	0.191	0.232	5.66
47	.047	0.048	0.191	0.239	4.98
*52	.052	0.059	0.191	0.250	4.24
55	.055	0.068	0.191	0.259	3.81
60	.060	0.081	0.191	0.272	3.36
63	.063	0.088	0.191	0.279	3.17
67	.067	0.10	0.191	0.291	2.91
70	.070	0.11	0.191	0.301	2.74
73	.073	0.12	0.191	0.311	2.59
76	.076	0.13	0.191	0.321	2.47
79	.079	0.14	0.191	0.331	2.36
81	.081	0.15	0.191	0.341	2.27
86	.086	0.17	0.191	0.361	2.12
89	.089	0.18	0.191	0.371	2.06
94	.094	0.20	0.191	0.391	1.96

These sizes are normally stocked with 2 psid cracking pressure.

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Fixed Flow Controls

DISK TYPE

Description

Fixed flow controls are a parallel arrangement of a disk check valve and a precision orifice. Free flow occurs in one direction and metered flow occurs in the opposite direction. Suitable for both liquids and gases the fixed flow controls are available in brass or stainless steel.

Applications

- Air Cylinder Speed Controls
- Compressed Air Dryer Purge Controls
- Timing Circuits

Features

- High Flow Capacity
- Low Pressure Loss
- Low Cracking Pressure
- Long Life Operation
- Tamperproof Orifice

General Specifications

Maximum Operating Pressure
NPT – 150 psig
10-32 – 125 psig

Maximum Temperature

Brass Disk Assembly	225°F
303 SS Disk Assembly	225°F
Delrin Disk Assembly	120°F
All 10-32 Assemblies	120°F

Flow Capacity – See chart below

Materials of Construction
Body – Brass or 303 SS
Seals – Viton, Silicone
Disk – Brass, 303 SS or Delrin

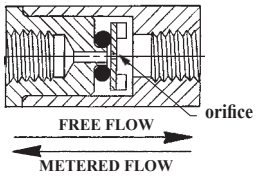
Cracking Pressure – Less than 0.5 psid

Orifice Sizes (Fixed Flow Controls)
.004" to .125" (NPT)
.004" to .025" (10-32)

Seat Leakage (Check Valves)
Bubbletight for differential pressure greater than 2 psid (NPT)

Construction

Type FFOF



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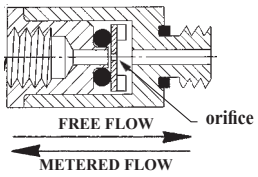
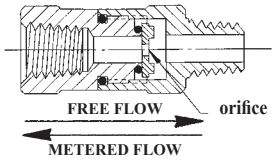
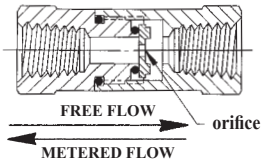


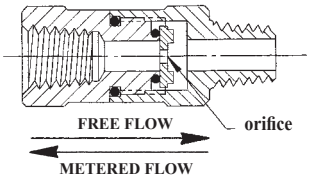
Type DOF



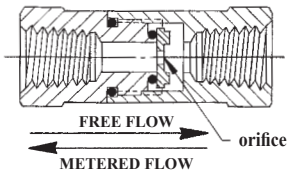
Type Y2F



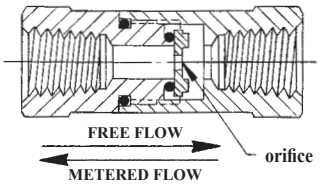
Type GOF



Type Y4F



Type Y6F



Ordering Information

EXAMPLES — FIXED FLOW CONTROL – PART NUMBER

Type		Orifice Size No.*		Body Material		Disk Material	Part Number
GOF (1/4" male/female)	-	10 (.010" orifice)	-	SS (303 SS)	-	SS (303 SS)	GOF-10-SS-SS
Y6F (3/8" female/female)	-	22 (.022" orifice)	-	BR (Brass)	-	DE (Delrin)	Y6F-22-BR-DE

See chart on page 12.

Valve Characteristics

Type	Thread	End Connections	Metering* Orifice Size No.	Body Material	Disk Material	Maximum Pressure	Free Flow Cv
FMOF	10-32	male/female	4 to 25	Brass (BR) or 303 SS (SS)	Brass (BR) 303 SS (SS) or Delrin (DE)	NPT 150 psig 10-32 125 psig	.15-.17
DOF	1/8" NPT		4 to 125				.43-.51
GOF	1/4" NPT						.61-.98
FFOF	10-32	female/female	4 to 25				.15-.17
Y2F	1/8" NPT		4 to 125				.43-.51
Y4F	1/4" NPT						.61-.98
Y6F	3/8" NPT						1.09-1.46

See chart on page 12.

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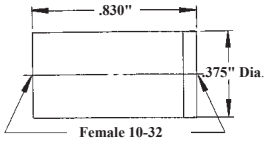
DISK TYPE

Dimensions

Type FFOF



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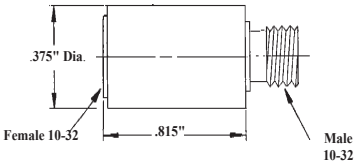
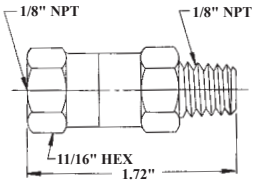
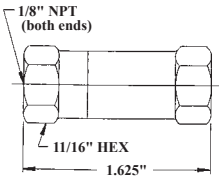


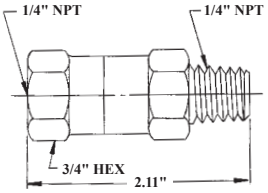
Type DOF



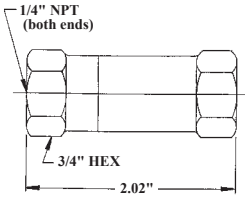
Type Y2F



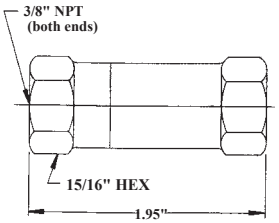
Type GOF



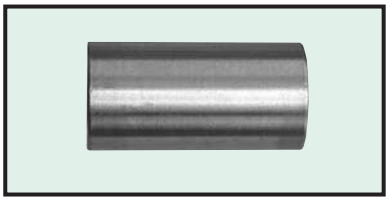
Type Y4F



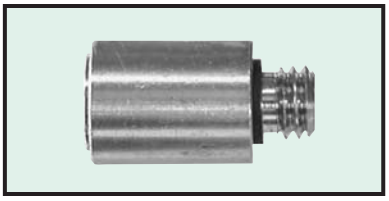
Type Y6F



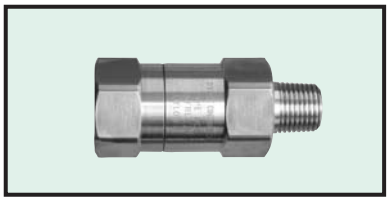
Specifications



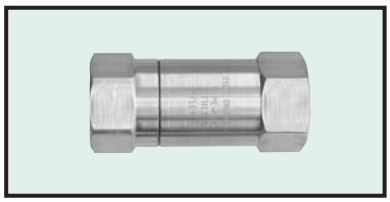
10-32 COUPLING
Body – Brass or 303 SS
Disk – Brass or 303 SS
Seals – Viton, Silicone
Maximum Operating Pressure – 125 psig
Orifice Size Numbers – 4 to 25
Flow Capacity – See chart on page 12



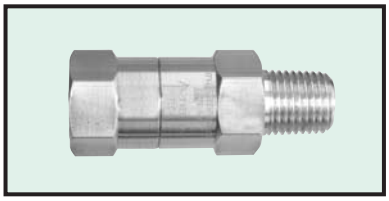
10-32 ADAPTER
Body – Brass or 303 SS
Disk – Brass or 303 SS
Seals – Viton, Silicone
Maximum Operating Pressure – 125 psig
Orifice Size Numbers – 4 to 25
Flow Capacity – See chart on page 12



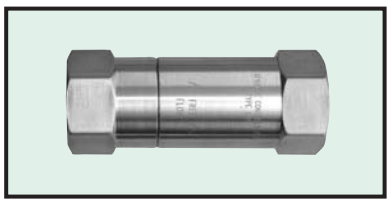
1/8" NPT ADAPTER
Valve Body – Brass or 304 SS
Disk – Brass, 303 SS, Delrin
Seals – Viton
Maximum Operating Pressure – 150 psig
Orifice Size Numbers – 4 to 125
Flow Capacity – See chart on page 12



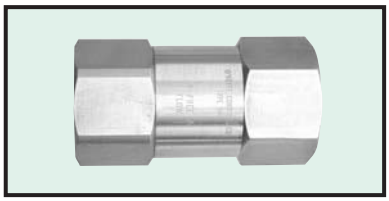
1/8" NPT COUPLING
Valve Body – Brass or 304 SS
Disk – Brass, 303 SS, Delrin
Seals – Viton
Maximum Operating Pressure – 150 psig
Orifice Size Numbers – 4 to 125
Flow Capacity – See chart on page 12



1/4" NPT ADAPTER
Valve Body – Brass or 304 SS
Disk – Brass, 303 SS, Delrin
Seals – Viton
Maximum Operating Pressure – 150 psig
Orifice Size Numbers – 4 to 125
Flow Capacity – See chart on page 12



1/4" NPT COUPLING
Valve Body – Brass or 304 SS
Disk – Brass, 303 SS, Delrin
Seals – Viton
Maximum Operating Pressure – 150 psig
Orifice Size Numbers – 4 to 125
Flow Capacity – See chart on page 12



3/8" NPT COUPLING
Valve Body – Brass or 304 SS
Disk – Brass, 303 SS, Delrin
Seals – Viton
Maximum Operating Pressure – 150 psig
Orifice Size Numbers – 4 to 125
Flow Capacity – See chart on page 12

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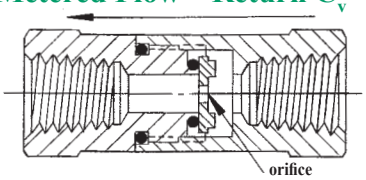
Fixed Flow Controls

DISK TYPE

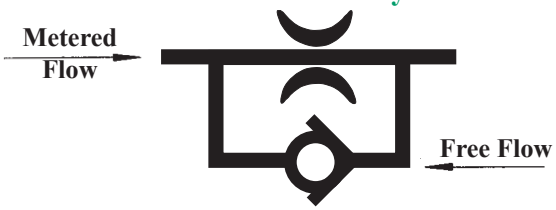
Orifice Size No.	Orifice Dia.	Orifice Cv (return)	Types FFOF, FMOF		Types DOF, Y2F		Types GOF, Y4F		Type Y6F	
			Forward Cv	Cv Ratio Forward Cy / Return Cv	Forward Cv	Cv Ratio Forward Cv / Return Cv	Forward Cv	Cv Ratio Forward Cv / Return Cv	Forward Cv	Cv Ratio Forward Cv / Return Cv
4	.0039	.00035	.150	428.57	.430	1229.57	.614	1755.29	1.091	3118.14
5	.0051	.00061	.151	247.54	.431	705.92	.615	1007.56	1.092	1789.52
6	.0059	.00086	.151	175.58	.431	501.00	.615	714.95	1.092	1269.60
7	.0071	.0012	.151	125.83	.431	359.33	.615	512.67	1.092	910.17
8	.0079	.0015	.152	101.33	.432	287.67	.616	410.33	1.093	728.33
9	.0091	.0019	.152	80.00	.432	227.32	.616	324.16	1.093	575.21
10	.0102	.0025	.153	61.20	.433	173.00	.617	246.60	1.094	437.40
11	.0110	.0028	.153	54.64	.433	154.57	.617	220.29	1.094	390.64
12	.0122	.0034	.153	45.00	.433	127.47	.617	181.59	1.094	321.88
13	.0130	.0038	.154	40.53	.434	114.16	.618	162.58	1.095	288.11
14	.0143	.0043	.154	35.81	.434	101.00	.618	143.79	1.095	254.72
15	.0150	.0050	.155	31.00	.435	87.00	.619	123.80	1.096	219.20
16	.016	.0055	.156	28.36	.436	79.18	.620	112.64	1.097	199.36
17	.017	.0067	.157	23.43	.437	65.18	.621	92.64	1.098	163.84
18	.018	.0073	.157	21.51	.437	59.90	.621	85.11	1.098	150.45
19	.019	.0080	.158	19.75	.438	54.75	.622	77.75	1.099	137.38
20	.020	.0088	.159	18.07	.439	49.86	.623	70.77	1.100	124.98
21	.021	.0096	.160	16.67	.440	45.79	.624	64.96	1.101	114.65
22	.022	.011	.161	14.64	.441	40.09	.625	56.82	1.102	100.18
23	.023	.012	.162	13.50	.442	36.83	.626	52.17	1.103	91.92
24	.024	.013	.163	12.54	.443	34.08	.627	48.23	1.104	84.92
25	.025	.014	.164	11.71	.444	31.71	.628	44.86	1.105	78.93
26	.026	.016			.446	27.88	.630	39.38	1.107	69.19
27	.027	.017			.447	26.29	.631	37.12	1.108	65.18
28	.028	.018			.448	24.89	.632	35.11	1.109	61.61
29	.029	.019			.449	23.63	.633	33.32	1.110	58.42
31	.031	.022			.452	20.55	.636	28.91	1.113	50.59
32	.032	.024			.454	18.92	.638	26.58	1.115	46.46
33	.033	.025			.455	18.20	.639	25.56	1.116	44.64
35	.035	.028			.458	16.36	.642	22.93	1.119	39.96
37	.037	.031			.461	14.87	.645	20.81	1.122	36.19
38	.038	.032			.462	14.44	.646	20.19	1.123	35.09
39	.039	.033			.463	14.03	.647	19.61	1.124	34.06
40	.040	.036			.466	12.94	.650	18.06	1.127	31.31
41	.041	.038			.468	12.32	.652	17.16	1.129	29.71
42	.042	.039			.469	12.03	.653	16.74	1.130	28.97
43	.043	.041			.471	11.49	.655	15.98	1.132	27.61
47	.047	.048			.478	9.96	.662	13.79	1.139	23.73
52	.052	.059			.489	8.29	.673	11.41	1.150	19.49
55	.055	.068			.498	7.32	.682	10.03	1.159	17.04
60	.060	.081			.511	6.31	.695	8.58	1.172	14.47
63	.063	.088			.518	5.89	.702	7.98	1.179	13.40
67	.067	.10			.530	5.30	.714	7.14	1.191	11.91
70	.070	.11			.540	4.91	.724	6.58	1.201	10.92
73	.073	.12			.550	4.58	.734	6.12	1.211	10.09
76	.076	.13			.560	4.31	.744	5.72	1.221	9.39
79	.079	.14			.570	4.07	.754	5.39	1.231	8.79
81	.081	.15			.580	3.87	.764	5.09	1.241	8.27
86	.086	.17			.600	3.53	.784	4.61	1.261	7.42
89	.089	.18			.610	3.39	.794	4.41	1.271	7.06
94	.094	.20			.630	3.15	.814	4.07	1.291	6.46
96	.096	.21			.640	3.05	.824	3.92	1.301	6.20
100	.100	.23			.660	2.87	.844	3.67	1.321	5.74
104	.104	.25			.680	2.72	.864	3.46	1.341	5.36
109	.109	.27			.700	2.59	.884	3.27	1.361	5.04
113	.113	.31			.740	2.39	.924	2.98	1.401	4.52
120	.120	.34			.770	2.27	.954	2.81	1.431	4.21
125	.125	.37			.800	2.16	.984	2.66	1.461	3.95

Metered Flow – Return C_v



Free Flow – Forward C_v

Fixed Flow Control Symbol



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BALL TYPE

Description

Checked orifices are a series arrangement of a precision orifice, a ball check valve and an optional screen. The all metal assemblies are made of brass or stainless steel. Gas or liquid can flow in one direction only, at a rate established by the metering orifice. Reverse pressure differential does not result in reverse flow. Standard sizes are 10-32, 1/8" NPT and 1/4" NPT. Custom requirements will be reviewed for large quantity applications.

Applications

- Unidirectional gas or liquid flow
- Backflow prevention in metering systems
- Fluid contamination reduction
- Isolation of fluid sources in mixers
- Fuel line metering with no reverse flow
- Medical metering of fluids

Ordering Information

Part Number System

Type		Orifice Size No.		Cracking Pressure psid*		Material
EXAMPLES						
BIFLC (Standard Pressure)	-	**10** .010"	-	**2** 2 psig	-	**BR** Brass
FIFLCS (With Screen)	-	**31** .031"	-	**10** 10 psig	-	**BR** Brass
EIJLCSH (High Pressure With Screen)	-	**81** .081"	-	**15** 15 psig	-	**SS** Stainless Steel

Select – Type from illustrations in right column and from SPECIFICATIONS

Orifice Size No. from chart

Cracking Pressure from SPECIFICATIONS

Material - Brass or Stainless Steel

**psid – pounds per square inch differential*

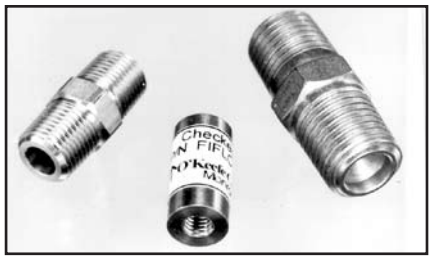
Specifications

Materials of Construction
Body - Brass or 303 SS
Ball Check Assembly - 304 SS
Flow Control Orifice -
Brass or 303 SS
Sealant - Loctite 609, 680
High pressure types only
Temperature - 300°F (max.)
Maximum Operating Pressure
Standard Pressure Type
NPT - 200 psig (max.)
10-32 - 125 psig (max.)
High Pressure Type (Suffix H)
NPT - 2000 psig (max.)
Seat Leakage - 20 sccm (max.) air flow at 25 psi differential
Cracking Pressure
- 10-32 or 1/8" NPT
  0, 2 or 10 psid
- 1/4" NPT
  0, 2 or 15 psid

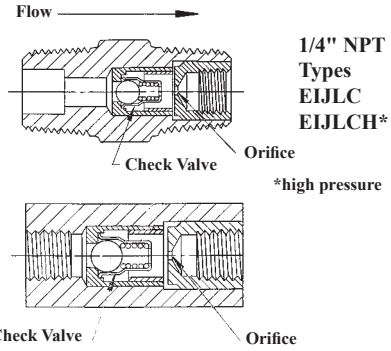
Flow Capacity - Cv and air flow shown in chart below

Orifice Size Number	Orifice Dia. In.	Orifice C_v		Air Flow-SCFH 25 psig	100 psig
10	0.0102	0.0025	FOR 10-32, 1/8" NPT and 1/4" NPT	3.37	9.81
11	0.0110	0.0028		3.62	10.5
*12	0.0122	0.0034		4.66	13.4
13	0.0130	0.0038		5.30	15.3
14	0.0142	0.0043		6.06	17.4
15	0.015	0.0050		6.95	20.0
*16	0.016	0.0055		7.25	21.8
17	0.017	0.0067		8.31	25.0
18	0.018	0.0073		9.43	28.4
19	0.019	0.0080		10.4	31.1
*20	0.020	0.0088		11.8	35.2
21	0.021	0.0096		12.7	38.1
22	0.022	0.011		15.5	44.7
23	0.023	0.012		16.8	48.7
24	0.024	0.013		18.3	53.2
25	0.025	0.014		19.9	58.1
*26	0.026	0.016		21.6	62.3
27	0.027	0.017		22.7	65.3
28	0.028	0.018		24.8	71.4
29	0.029	0.019		27.1	78.0
31	0.031	0.022		30.1	86.7
*32	0.032	0.024		32.6	94.5
33	0.033	0.025		34.5	101
35	0.035	0.028		37.5	114
37	0.037	0.031		41.5	126
38	0.038	0.032		44.1	135
39	0.039	0.033		47.9	146
*40	0.04	0.036		50.9	156
41	0.041	0.038		52.3	164
42	0.042	0.039		54.9	167
43	0.043	0.041		58.5	177
47	0.047	0.048		67.6	203
*52	0.052	0.059		85.4	254
55	0.055	0.068		94.5	282
60	0.060	0.081		112	331
63	0.063	0.088	1/4" NPT ONLY	122	362
67	0.067	0.10		141	415
70	0.070	0.11		158	468
73	0.073	0.12		168	496
76	0.076	0.13		183	540
*79	0.079	0.14		198	587
81	0.081	0.15		212	627
86	0.086	0.17		233	697
89	0.089	0.18		248	739
94	0.094	0.20		278	831

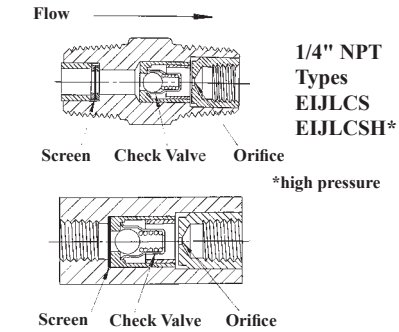
**These sizes are normally stocked with 2 psid cracking pressure.*



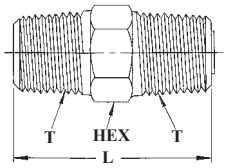
Check Valve/Orifice



Screen/Check Valve/Orifice

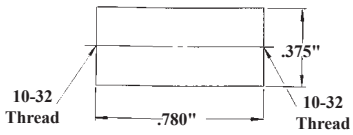


Dimensions



**high pressure*

Thread (T)	HEX	L
1/8" NPT	7/16"	.970"
1/4" NPT	9/16"	1.38"



O'Keefe Controls Co.
P.O. BOX Q • TRUMBULL, CT 06611 • CT PHONE (203) 261-6711 • TOLL FREE PHONE (800) 533-3285 • FAX (203) 261-8331
e-mail ca@okcc.com • website www.okcc.com

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Low Dew Point Air Dryers

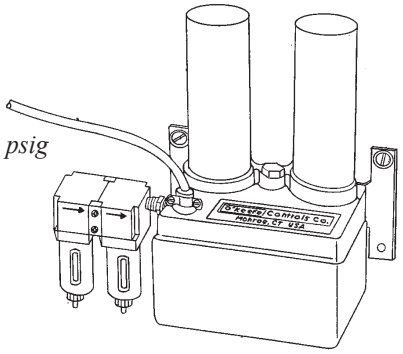
SELF-REGENERATIVE

Description

The air dryer products of O'Keefe Controls Co. employ a self-regenerative, desiccant style drying system. "Self-regenerative" means that the dryer automatically and continuously discharges collected water vapor which has been removed from the air passing through the system. Desiccant style means that a material (a desiccant) is used to selectively remove water vapor from the air surrounding this material. Three common desiccant materials are silica gel, alumina and molecular sieve.

Compact Air Dryer

- *Shoebox size*
- *Air flow up to 6 scfm*
- *Operating pressure 80-125 psig*
- *Dew point minus 50°F*
  Lower at reduced flow



How It Works!

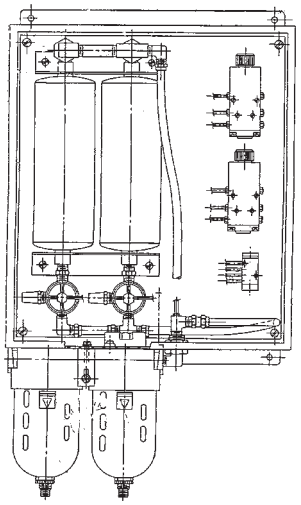
In the O'Keefe Controls Co. air dryers desiccant material is a molecular sieve. This type desiccant adsorbs the water vapor molecule in tiny pores on the surface of each bead of the molecular sieve material. Moist air passing by this desiccant is dried as vapor molecules are selectively attracted to the pores in the molecular sieve beads. A dew point as low as minus 100°F is possible using molecular sieve material.

Another equally important characteristic of the molecular sieve is that extremely dry air (very low dew point) passing by this desiccant will reabsorb the water vapor trapped in the pores; thus providing a means of automatic regeneration of the desiccant.

Two desiccant tanks are employed in each air dryer. Wet pressurized air enters one tank and is dried as it passes through to the outlet. A portion of the dried air is directed into the top of the second tank through a purge orifice and flows at near atmospheric pressure through this tank to atmosphere. As this dry air passes around the molecular sieve beads it reabsorbs water vapor and then exhausts to atmosphere.

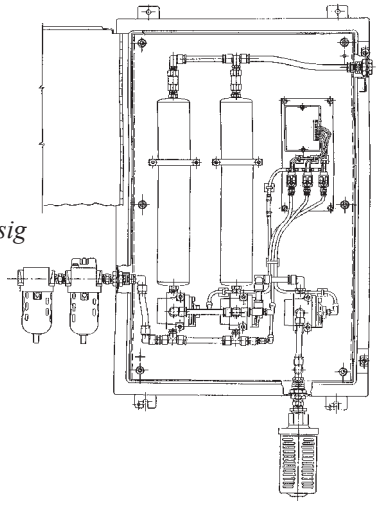
Standard Air Dryer

- *Enclosure 16" x 14" x 6"*
- *Air flow up to 13 scfm*
- *Operating pressure 80-125 psig*
- *Dew point minus 50°F*
  Lower at reduced flow



High Flow Air Dryer

- *Enclosure 36" x 24" x 7"*
- *Air flow up to 20 scfm*
- *Operating pressure 80-125 psig*
- *Pulse free*
- *Quiet Operation*
- *Dew point minus 50°F*
  Lower at reduced flow



Call for Free Catalog!

Also on Website

www.okcc.com

Twenty-four page catalog presents 36 air dryer models for generating low dew point compressed air. Additionally included are important accessories for air dryer systems.

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About O'Keefe Controls Co.

Founded in 1975, the company manufactures specialty fluid control products in its Monroe, CT location. Chief among the products is an extensive line of precision orifices for accurate metering of liquids or gases. Other products include miniature in-line screens for use with small orifices, and several unique pneumatic sensors used in industrial control applications.

The company provides extensive engineering support for product selection and application to its customers. Accurate calibration of orifices can also be provided using in-house NIST traceable instrumentation.

O'Keefe Controls Co. encourages inquiries for custom fluid control products from its customers. Special orifice sizes, configurations, and flow specifications are routinely satisfied on an attractive economic scale. Please call with your special requirements.

Precision Orifice Processing at O'Keefe Controls Co.

Ultrasonic cleaners are used to remove contamination from the interior of orifice assemblies. Small particles can cause major changes in orifice flow rates.

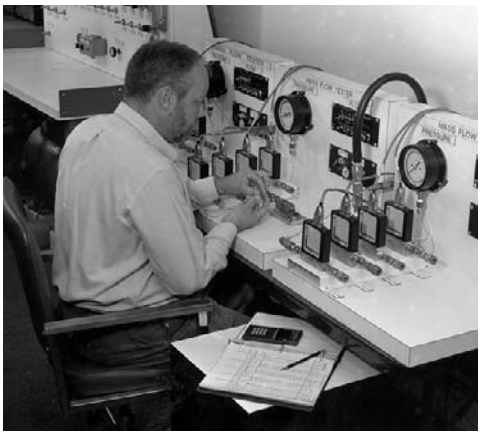
At O'Keefe Controls Co. there are several important steps in the production of precision fluid restrictors. All orifice assemblies are 100% cleaned, inspected under a microscope, and flow tested before shipment.

With orifice diameters as small as .0003" it is important to have the assembly cleaned so that physical contaminants do not obstruct flow through the orifice.

The ultimate objective of a precision fluid restrictor is to accurately meter the flow of a gas or liquid. The restrictors available from O'Keefe Controls Co. are 100% tested and must meet exacting flow standards before shipment.

All production orifices are examined by experienced inspectors using a microscope to detect contaminants and to assure orifice quality.

Orifice diameter dimensions are checked using a precision measuring microscope. Accuracy is better than .0001".



Mass flowmeters are used for NIST traceable calibration of orifice flow.

All production orifices are flow tested and must meet exacting flow standards. A special test bench has been constructed for this purpose.

See Catalog and Product Updates on our Website **www.okcc.com**

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