ASHCROFT®

Diaphragm Seal
Threaded Process Connection
Types 100, 200, 300 Series

The comprehensive line of Ashcroft Seals will meet a variety of applications and installation requirements. Over 30,000 configurations are possible with the connections types, diaphragm and bottom housing materials. Fill port is standard in all designs. Rated for pressures up to 2500 psi unless otherwise noted.

Features:

- Rated up to 2500 psi unless stated otherwise. Optional maximum allowable working pressure to 5000 psi. See XHP option for details.
- A thin Teflon PTFE gasket between the diaphragm and the bottom housing ensures a leak-tight, corrosion resistant seal.

Types 100/101. The diaphragm capsule is threaded to the top housing. The diaphragm and top housing are then clamped to the bottom housing. Viton O-ring, compatible with all fill fluid and Teflon backup ring provide a seal between the diaphragm capsule and the top housing.

Types 200/201. *are welded or bonded designs.* Metallic diaphragms are *welded* to the top housing. Elastomeric *diaphragm is bonded* to the top housing. The diaphragm and top housings are then clamped to the bottom housing.

Types 300/301. An elastomeric diaphragms is clamped between the top housing and bottom housing.

Type 100

SELECTION TABLES*

Table 1 – Process Connection/Type Number(6)

Process Connection(1)	Process Conn. Size Code – Inches: Size	1/4	1/2	3/4	1	1 1/2	Type Number		
	Female	25	50	75	10	15		Welded	
	Male	02	04	06	08		Capsule	& Bonded	Clamped
Threaded		F/M	F/M	F/M	F	F	100	200	300
Threaded (with Flushing Connection)		F/M	F/M	F/M	F	F	101	201	301

Table 2 – Diaphragm Material

Material	Temp. Limits	Code	100/101	200/201	300/301
316L SS		S	•	•	
304 SS		C	•	•	
Monel 400		P	•	•(3)	
Nickel		N	•	•	
Carpenter 20		D	•	•	
Tantalum		U	•	•	
Hastelloy B		G	•	•	
Hastelloy C 22		J	•	•	
Hastelloy C 276		H	•	•	
Titanium		TI	•	•	
Gold Plated 304 SS		W	•		
Teflon	–40/400°F	T		•	•
Viton(4)	–40/350°F	Y		•	•
Kalrez(4)	30/212°F	K		•	•
Halar Coated Monel	–40/300°F	R	•		

Table 3 – Bottom Housing Material(7)

Material	Code
Steel	B
304 SS	C
316L SS	S
Hastelloy B	G
Hastelloy C 22	J
Hastelloy C 276	H
Carpenter 20	D
Monel 400	M
Inconel 600	W
Nickel	N
PVC (2,6,7)	V
Kynar(5,7)	KY
Titanium	TI

Table 4 – Instrument Connection

Connection	Size	Code
Threaded – female NPT	1/4 NPT	02T
Threaded – female NPT	1/2 NPT	04T

Table 5 – Filling Fluid

Filling	Service	Connection to Instrument	Temperature Limits Range °F	Code
Glycerin	Pressure	Direct Only	0/400	CG
Silicone	Pressure/Vacuum	Direct or Remote Line	–40/600	CK
Halocarbon	Pressure/Vacuum in presence of strong oxidizing agent	Direct or Remote Line	–80/392	CF
Syltherm	Pressure/Vacuum	Direct or Remote Line	–40/750	HA
Food Grade Silicone	Pressure/Vacuum	Direct or Remote Line	–40/500	CZ
Distilled Water	Pressure/Vacuum	Direct or Remote Line	40/185	FJ
Ethylene Glycol & Water	Pressure/Vacuum	Direct or Remote Line	–10/200	CT
Propylene Glycol	Pressure/Vacuum	Direct or Remote Line	–50/325	CV
Mineral Oil	Pressure/Vacuum	Direct or Remote Line	10/400	HY
Silicone 10 CST	Pressure/Vacuum	Direct or Remote Line	–40/500	DJ

Table 6 – Optional Features

See page 168-169 for X variations.

NOTES

(1) Male connections available in metallic bottom housings only.

(2) PVC bottom housing.
- Not available on Types 101, 201 or 301
- Ma x. Pressure/Temperature

Max. Pressure	Temp.
200 psi	74°F
125 psi	125°F
80 psi	150°F

(3) Type 200/201 monel diaphragm must be ordered w/monel top housing (XYM).

(4) Viton & Kalrez diaphtagm. Max. pressure 500 psi.

(5) Kynar bottom housing.

Max. Pressure	Temp.
200 psi	180°F

(6) Process connections for for Type 100, 200 PVC bottom housing solvent cement joint to be coded as process connection.

Process Conn. Size	Code
1/4″	SA
1/2″	SB
3/4″	SC
1″	SD

(7) PVC, Kynar both offer only 1/4 & 1/2 NPT process connections.

*See Table A on page 170-171 for instrument compatibility.

TO ORDER 100, 200 & 300 THREADED SERIES DIAPHRAGM SEAL:

10 100 S S 04T X CG _____

1. Process Connection Type Number
2. Diaphragm Material
3. Bottom Housing Material
4. Instrument Connection
5. Fill Fluid (when attached to instrument)
6. Optional Features (see page 168-169)

Consult factory for guidance in product selection
Phone (203) 378-8281 or visit our
web site at www.ashcroft.com

ASHCROFT®

Diaphragm Seal
In-Line Process Connection
Type 104, 204 Threaded
Type 106, 206 Flanged

The comprehensive line of Ashcroft Seals will meet a variety of applications and installation requirements. It also includes the In-line threaded and In-line flanged process connections. These connections are recommended for applications where continuous flow will prevent clogging and buildup of process media. Fill port is standard in all designs in-line threaded rated for pressures rated up to 2500 psi, unless noted otherwise.

Features:

- A thin Teflon PTFE gasket between the diaphragm and the bottom housing ensures a leak-tight, corrosion resistant seal.

Types 104/106 *are top housing and diaphragm capsule designs.* The diaphragm capsule is threaded to the top housing. The diaphragm and top housing are then clamped to the bottom housing. Viton O-ring, compatible with all fill fluid and Teflon backup ring provide a seal between the diaphragm capsule and the top housing.

Types 204/206 *are welded or bonded designs.* Metallic diaphragms are welded to the top housing. Elastomeric diaphragms are bonded to the top housing. The diaphragm and top housings are then clamped to the bottom housing.

SELECTION TABLES*

Table 1 – Process Connection/Type Number

Process Connection	Process Conn. Size Code – Inches: Size	1/4	1/2	3/4	1	1 1/2	2	3	4	6	8	Type Number: Capsule	Welded & Bonded
	Code	25	50	75	10	15	20	30	40	60	80		
In-line – threaded NPT		•	•									104	204
In-line – flanged			•	•	•	•	•	•	•	•	•	106	206

Table 2 – Diaphragm Material

Material	Temp. Limits	Code	104/106	204/206
316L SS		S	•	•
304 SS		C	•	•
Monel 400		P	•	*(2)
Nickel		N	•	•
Carpenter 20		D	•	•
Tantalum		U	•	•
Hastelloy B		G	•	•
Hastelloy C 22		J	•	•
Hastelloy C 276		H	•	•
Titanium		TI	•	•
Teflon	–40/400°F	T		•
Viton(1)	–40/350°F	Y		•
Kalrez(1)	30/212°F	K		•
Halar Coated Monel	–40/300°F	F	•	

Table 3 – Bottom Housing Material

Material	Code	104/106	204/206
Steel	B	•	•
304 SS	C	•	•
316L SS	S	•	•
Hastelloy B	G	•	•
Hastelloy C 22	J	•	•
Hastelloy C 276	H	•	•
Carpenter 20	D	•	•
Monel 400	M	•	•
Inconel 600	W	•	
Nickel	N	•	

Table 4 – Instrument Connection

Connection	Size	Code
Threaded – female NPT	1/4 NPT	02T
Threaded – female NPT	1/2 NPT	04T

Table 5 – Filling Fluid

Filling	Service	Connection to Instrument	Temperature Limits Range °F	Code
Glycerin	Pressure	Direct Only	0/400	CG
Silicone	Pressure/Vacuum	Direct or Remote Line	–40/600	CK
Halocarbon	Pressure/Vacuum in presence of strong oxidizing agent	Direct or Remote Line	–80/392	CF
Syltherm	Pressure/Vacuum	Direct or Remote Line	–40/750	HA
Food Grade Silicone	Pressure/Vacuum	Direct or Remote Line	–40/500	CZ
Distilled Water	Pressure/Vacuum	Direct or Remote Line	40/185	FJ
Ethylene Glycol & Water	Pressure/Vacuum	Direct or Remote Line	20/–325	CT
Propylene Glycol	Pressure/Vacuum	Direct or Remote Line	20/325	CV
Mineral Oil	Pressure/Vacuum	Direct or Remote Line	10/400	HY
Silicone 10 CST	Pressure/Vacuum	Direct or Remote Line	–40/500	DJ

Table 6 – Optional Features

See page 168-169 for X variations.

Table 8 – Flange Type

(for Types 106/206 only)

Type	Code	
Raised Face	RF	Standard
Ring Joint	RJ	Standard
Flat Face	RF	Standard

NOTES

(1) Viton and Kalrez diaphragm max. pressure 500 psi.
(2) Type 202, 203 monel diaphragm *must* be ordered w/monel top housing (XYM).
*See Table A on page 170-171 for instrument compatibility.

TO ORDER 104 & 204 SERIES IN-LINE THREADED PROCESS CONNECTION:

50-104 - S S - 04T X CG -

1. Process Connection Type Number
2. Diaphragm Material
3. Bottom Housing Material
4. Instrument Connection
5. Fill Fluid (when attached to instrument)
6. Optional Features (see page 168-169)

TO ORDER 106 & 206 SERIES IN-LINE FLANGED PROCESS CONNECTION:

10 - 106 - S S - 04T X CG - _____ - 150 RF

1. Process Connection Type Number
2. Diaphragm Material
3. Bottom Housing Material
4. Instrument Connection
5. Fill Fluid (when attached to instrument)
6. Optional Features (see page 168-169)
7. Flange Class *(150 only)*
8. Flange Type

Consult factory for guidance in product selection
Phone (203) 378-8281 or visit our
web site at www.ashcroft.com

ASHCROFT®

Diaphragm Seal
Types 105 & 205 Saddle
Types 107 & 207 Socket Weld
Types 108 & 208 Butt Weld

The comprehensive line of Ashcroft Seals will meet a variety of applications and installation requirements. This includes the In-line threaded, In-line Socket Weld, In-line Butt Weld and In-line Saddle Seal. These connections are recommended to prevent clogging and buildup of process media. Rated for pressures up to 2500 psi, unless noted otherwise.

Features:

- A thin Teflon PTFE gasket between the diaphragm and the bottom housing ensures a leak-tight, corrosion resistant seal.
- Top Housing and pressure instruments are removable.

Types 105, 107 & 108. The diaphragm capsule is threaded to the top housing. The diaphragm and top housing are then clamped to the bottom housing. Viton O-ring, compatible with all fill fluid and Teflon backup ring provide a seal between the diaphragm capsule and the top housing.

Types 205, 207 & 208 *are welded or bonded designs.* Metallic diaphragms are welded to the top housing. Elastomeric diaphragms are bonded to the top housing. The diaphragm and top housings are then clamped to the bottom housing.

SELECTION TABLES*

Table 1 – Process Connection/Type Number

Process Connection	Process Conn. Size Code – Inches: Size	1/4	1/2	3/4	1	1 1/2	2	3	4	6	8	Type Number: Capsule	Welded & Bonded
	Code	25	50	75	10	15	20	30	40	60	80		
Saddle								•	AND LARGER			105	205
In-line – Butt Weld			•	•	•	•	•					108	208
In-line – Socket Weld		•	•	•	•	•	•					107	207

Table 2 – Diaphragm Material

Material	Temp. Limits	Code	105/107/108	205/207/208
316L SS		S	•	•
304 SS		C	•	•
Monel 400		P	•	•(2)
Nickel		N	•	•
Carpenter 20		D	•	•
Tantalum		U	•	•
Hastelloy B		G	•	•
Hastelloy C 22		J	•	•
Hastelloy C 276		H	•	•
Titanium		TI	•	•
Teflon	–40/400°F	T		•
Viton(1)	–40/350°F	Y		•
Kalrez(1)	30/212°F	K		•
Halar Coated Monel	–40/300°F	R	•	

Table 3 – Bottom Housing Material

Material	Code	105/205	107/207	108/208
Steel	B	•	•	•
304 SS	C	•	•	•
316L SS	S	•	•	•
Hastelloy B	G	•	•	•
Hastelloy C 22	J	•	•	•
Hastelloy C 276	H	•	•	•
Carpenter 20	D	•	•	•
Monel 400	M	•	•	•
Inconel 600	W	•	•	•
Nickel	N	•	•	•

Table 4 – Instrument Connection

Connection	Size	Code
Threaded – female NPT	1/4 NPT	02T
Threaded – female NPT	1/2 NPT	04T

Table 5 – Filling Fluid

Filling	Service	Connection to Instrument	Temperature Limits Range °F	Code
Glycerin	Pressure	Direct Only	0/400	CG
Silicone	Pressure/Vacuum	Direct or Remote Line	–40/600	CK
Halocarbon	Pressure/Vacuum in presence of strong oxidizing agent	Direct or Remote Line	–80/392	CF
Syltherm	Pressure/Vacuum	Direct or Remote Line	–40/750	HA
Food Grade Silicone	Pressure/Vacuum	Direct or Remote Line	–40/500	CZ
Distilled Water	Pressure/Vacuum	Direct or Remote Line	40/185	FJ
Ethylene Glycol & Water	Pressure/Vacuum	Direct or Remote Line	20/–325	CT
Propylene Glycol	Pressure/Vacuum	Direct or Remote Line	20/325	CV
Mineral Oil	Pressure/Vacuum	Direct or Remote Line	10/400	HY
Silicone 10 CST	Pressure/Vacuum	Direct or Remote Line	–40/500	DJ

NOTES
(1) Viton and Kalrez diaphragm max. pressure 500 psi.
(2) Type 205, 208 and 207 monel diaphragm must be ordered w/monel top housing (XYM).

*See Table A on page 170-171 for instrument compatibility.

TO ORDER 105/205, 107/207, 108/208 SERIES DIAPHRAGM SEAL:

20 - 108 - S S - 04T - X CG - _____

1. Process Connection / Type Number
2. Diaphragm Material
3. Bottom Housing Material
4. Instrument Connection
5. Fill Fluid (when attached to instrument)
6. Optional Features (see page 168-169)

Consult factory for guidance in product selection
Phone (203) 378-8281 or visit our
web site at www.ashcroft.com

ASHCROFT®

Diaphragm Seal
Threaded & Flanged
Process Connection
Type 400/500 Series All-Welded

The comprehensive line of Ashcroft Seals will meet a variety of applications and installation requirements.

Features:

- Recommended for applications where clamped design are not acceptable
- Prevent potential leakage of hazardous chemicals
- Tamper proof design
- All stainless steel construction is standard. Other materials available
- Types 401 and 403 are standard with flushing connection

Types 400, 401, 402 and **403** are all welded design with black epoxy painted clamp rings.

Types 500 and **501** are all welded designs. No clamp rings. Type 501 is standard with flushing connection.

Type 400

Type 500

IN A RUSH? ASK FOR ASHCROFT GOLD SERVICE

SELECTION TABLES*

Table 1 – Process Connection/Type Number

Type No.	Process Connection	Process Conn. Size Code – Inches: Size	1/4	1/2	3/4	1	1 1/2	2	3	Pressure Rating
		Female	25	50	75	10	15	20	30	
		Male	02	04	06	08				
400	Threaded		F/M	F/M	F/M	F				4400 psi(1)
401	Threaded (with Flushing Connection)		F	F	F	F				4400 psi(1)
402	Flanged			•	•	•	•	•	•	Per ASME B16.5(2)
403	Flanged (with Flushing Connection)			•	•	•	•	•	•	Per ASME B16.5(2)
500	Threaded		F/M	F/M	F/M	F/M				500 psi
501	Threaded (with Flushing Connection)		F/M	F	F	F				500 psi

Table 2 – Diaphragm Material

Material	Temp. Limits	Code	
316L SS		S	•
Hastelloy B		G	•
Hastelloy C 22		J	•
Hastelloy C 276		H	•
Tantalum(3)		U	•
Monel 400		M	•
Titanium		TI	•

Table 3 – Bottom Housing Materials

Bottom Material	Code	Top Material
316L SS	S	316L SS
Hastelloy B	G	316L SS
Hastelloy C 22	J	316L SS
Hastelloy C 276	H	316L SS
Monel	M	Monel
Titanium(4)	TI	Titanium

Table 4 – Instrument Connection

Size	Code
1/4 NPT	02T
1/2 NPT	04T

Table 5 – Filling Fluid

Filling	Service	Connection to Instrument	Temperature Limits Range °F	Code
Glycerin	Pressure	Direct Only	0/400	CG
Silicone	Pressure/Vacuum	Direct or Remote Line	–40/600	CK
Halocarbon	Pressure/Vacuum in presence of strong oxidizing agent	Direct or Remote Line	–80/392	CF
Syltherm	Pressure/Vacuum	Direct or Remote Line	–40/750	HA
Food Grade Silicone	Pressure/Vacuum	Direct or Remote Line	–40/500	CZ
Distilled Water	Pressure/Vacuum	Direct or Remote Line	40/185	FJ
Ethylene Glycol & Water	Pressure/Vacuum	Direct or Remote Line	20/–325	CT
Propylene Glycol	Pressure/Vacuum	Direct or Remote Line	20/325	CV
Mineral Oil	Pressure/Vacuum	Direct or Remote Line	10/400	HY
Silicone 10 CST	Pressure/Vacuum	Direct or Remote Line	–40/500	DJ

Table 8 – Flange Types for 402 & 403 Only

Type	Code	
Raised Face	RF	Standard
Ring Joint	RJ	Optional
Flat Face	FF	Optional

NOTES:

(1) Type 400 XHP rated to 9000 psi.
Type 401 XHP rated to 5000 psi.

(2) Flange ratings 150 class through 1500 class.

(3) Not available with monel or titanium bottom housing.

(4) Supplied with titanium top housing.

*See Table A on pages 170-171 for instrument compatibility. Minimum pressure is determined by the instrument that will be attached to the diaphragm seal.

TO ORDER THREADED TYPE 400, 401, 500 & 501 SERIES PROCESS CONNECTION:

10-400 - S S - 04T - X CG -

1. Process Connection Type Number
2. Diaphragm Material
3. Bottom Housing Material
4. Instrument Connection
5. Fill Fluid (when attached to instrument)
6. Optional Features (see page 168-169)

TO ORDER FLANGED TYPE 402 & 403 SERIES PROCESS CONNECTION:

20 - 402 - S S - 04T - X CG - _____ -150 RF

1. Process Connection Type Number
2. Diaphragm Material
3. Bottom Housing Material
4. Instrument Connection
5. Fill Fluid (when attached to instrument)
6. Optional Features (see page 168-169)
7. See page 153 for flange ratings
8. Flange Type

Consult factory for guidance in product selection
Phone (203) 378-8281 or visit our
web site at www.ashcroft.com

ASHCROFT®

Diaphragm Seal
Threaded Process Connection
Types 510/511 Series, All Welded

This compact seal is small enough in design to be used in confined spaces, but provides sufficient displacement to drive a wide variety of instrumentation. Its all-welded tamper proof design prevents possible process media leakage.

FEATURES:

- Compact size
- Light weight
- All-welded design
- Continuous duty design
- Minimized fill volume
- Male connections eliminate adapters/fittings
- Type 511 furnished with 1/8 NPT flushing connection
- Dual inch and metric wrench flats

ADDITIONAL SPECIFICATIONS

Pressure Rating
1500 psi @ 100°F
Optional 5000 psi @ 100°F (XHP)

Accuracy (typical)
Seal will add ½% to the stated full scale accuracy of the instrument attached.

SELECTION TABLES*

Table 1 – Process Connection

Process Connection	Code
Threaded – 1/2 NPT male	04

Table 2 – Diaphragm Materials

Material	Temp. Limits	Code
316L stainless steel		S
Hastelloy C276(2)		H
Monel(1)		M

Table 3 – Bottom Housing Materials

Material	Code
316L stainless steel	S
Monel	M
Hastelloy C276	H

Table 4 – Instrument Connection

Size-NPT	Code
1/2	04T

Table 5 – Filling Fluid

Filling	Service	Connection to Instrument	Temperature Limits Range °F	Code
Glycerin	Pressure	Direct Only	0/400	CG
Silicone	Pressure/Vacuum	Direct or Remote Line	–40/600	CK
Halocarbon	Pressure/Vacuum in presence of strong oxidizing agent	Direct or Remote Line	–80/392	CF
Syltherm	Pressure/Vacuum	Direct or Remote Line	–40/750	HA
Food Grade Silicone	Pressure/Vacuum	Direct or Remote Line	–40/500	CZ
Distilled Water	Pressure/Vacuum	Direct or Remote Line	40/185	FJ
Ethylene Glycol & Water	Pressure/Vacuum	Direct or Remote Line	20/–325	CT
Propylene Glycol	Pressure/Vacuum	Direct or Remote Line	20/325	CV
Mineral Oil	Pressure/Vacuum	Direct or Remote Line	10/400	HY
Silicone 10 CST	Pressure/Vacuum	Direct or Remote Line	–40/500	DJ

NOTES:

(1) Available only with monel top and bottom housing.

(2) Available with hastelloy top and bottom housing.

*See Table A on pages 170-171 for instrument compatibility.

TO ORDER THIS TYPE 510 / 511 SERIES THREADED PROCESS CONNECTION:

04 - 510 - S S - *04T* - X CG - _____

1. Process Connection Type Number
2. Diaphragm Material
3. Bottom Housing Material
4. Instrument Connection
5. Fill Fluid (when attached to instrument)
6. Optional Features (see page 168-169)

Consult factory for guidance in product selection
Phone (203) 378-8281 or visit our
web site at www.ashcroft.com

ASHCROFT®

Diaphragm Seal
Threaded Process Connection
Type 311/312 All Welded
Midi-Diaphragm Seal

This compact isolator is small enough in design to be used in space restricted areas, with sufficient displacement to drive 3½″ and 4½″ gauges with ranges from 30 psi to 1000 psi.

ADDITIONAL SPECIFICATIONS

Pressure Rating
15 psi to 1000 psi @ 100°F

FEATURES:

- All welded metal construction, prevents leakage of process media
- No gaskets or bolts
- Top housing material 316L stainless steel standard
- Type 312 furnished with ⅛ NPT flushing connection
- Type 312 not available in male process connections

Type 311

Type 312

SELECTION TABLES*

Table 1 – Process Connection/Type Number

Type No.	Process Connection	Process Conn. Size Code – Inches: Size	¼	½	¾	1	Pressure Rating
		Female	25	50	75	10	
		Male	02	04	06	08	
311	Threaded NPT		F/M	F/M	F	F	1000 psi
312	Threaded NPT (w/Flushing Connection)		F	F			1000 psi

Table 2 – Diaphragm Materials

Materials	Code
316L stainless steel	S
Tantalum	U
Hastelloy C 276	H

Table 3 – Bottom Housing Materials

Materials	Code
316L stainless steel	S
Hastelloy C-276	H

Table 4 – Instrument Connection

Instrument Connection	Size	Code
Threaded – female NPT	¼ NPT	02T
Threaded – female NPT	½ NPT	04T

Table 5 – Filling Fluid

Filling	Service	Connection to Instrument	Temperature Limits Range °F	Code
Glycerin	Pressure	Direct Only	0/400	CG
Silicone	Pressure/Vacuum	Direct or Remote Line	–40/600	CK
Halocarbon	Pressure/Vacuum in presence of strong oxidizing agent	Direct or Remote Line	–80/392	CF
Syltherm	Pressure/Vacuum	Direct or Remote Line	–40/750	HA
Food Grade Silicone	Pressure/Vacuum	Direct or Remote Line	–40/500	CZ
Distilled Water	Pressure/Vacuum	Direct or Remote Line	40/185	FJ
Ethylene Glycol & Water	Pressure/Vacuum	Direct or Remote Line	20/–325	CT
Propylene Glycol	Pressure/Vacuum	Direct or Remote Line	20/325	CV
Mineral Oil	Pressure/Vacuum	Direct or Remote Line	10/400	HY
Silicone 10 CST	Pressure/Vacuum	Direct or Remote Line	–40/500	DJ

NOTES:

*See Table A on pages 170-171 for instrument compatibility.

TO ORDER THIS TYPE 311 / 312 SERIES THREADED PROCESS CONNECTION:

50 - 311 - S S - 04T - X CG - _____

1. Process Connection Type Number
2. Diaphragm Material
3. Bottom Housing Material
4. Instrument Connection
5. Fill Fluid (when attached to instrument)
6. Optional Features (see page 168-169)

Consult factory for guidance in product selection
Phone (203) 378-8281 or visit our
web site at www.ashcroft.com

ASHCROFT®

Diaphragm Seal
Threaded Process Connection
Type 310 & 315 All Welded
Mini-Diaphragm Seal

This compact isolator is designed to fit space restricted areas. Specifically designed to protect from transducer mini switches and 3½″ or smaller gauges.

ADDITIONAL SPECIFICATIONS

Pressure Rating
Rated for 2500 psi at 100°F

FEATURES:

- All welded metal construction, prevents leakage of process media
- Fill/bleed connection is standard
- No gaskets or bolts
- Type 315 furnished with ⅛ NPT flushing connection

Type 310

SELECTION TABLES*

Table 1 – Process Connection/Type Number

Process Connection	Process Connection Size/Code—Inches: Size	¼	½	Type Number	Pressure Rati
	Female	25	50		
	Male	02	04		
Threaded NPT		F/M	F/M	310	2500 psi @ 100°F
Threaded NPT w/flushing connection		F	F	315	2500 psi @ 100°F

Table 2
Diaphragm Material

Material	Code	310/315
316L stainless steel	S	•
Hastelloy C 27	H	•
Tantalum	U	•
Monel(1)	P	•

Table 3 – Bottom
Bottom Housing Materials

Material	Code	Top Material	310/315
316L SS	S	316L SS	•
Hastelloy C 276	H	316L SS	•
Monel	M	Monel	•
Hastelloy B	G	316 SS	•

Table 4 –
Instrument Connection

Connection	Size	Code
Threaded – female NPT	¼ NPT	02T
Threaded – female NPT	⅛ NPT	01T

Table 5 – Filling Fluid

Filling	Service	Connection to Instrument	Temperature Limits Range °F	Code
Glycerin	Pressure	Direct Only	0/400	CG
Silicone	Pressure/Vacuum	Direct or Remote Line	–40/600	CK
Halocarbon	Pressure/Vacuum in presence of strong oxidizing agent	Direct or Remote Line	–80/392	CF
Syltherm	Pressure/Vacuum	Direct or Remote Line	–40/750	HA
Food Grade Silicone	Pressure/Vacuum	Direct or Remote Line	–40/500	CZ
Distilled Water	Pressure/Vacuum	Direct or Remote Line	40/185	FJ
Ethylene Glycol & Water	Pressure/Vacuum	Direct or Remote Line	20/–325	CT
Propylene Glycol	Pressure/Vacuum	Direct or Remote Line	20/325	CV
Mineral Oil	Pressure/Vacuum	Direct or Remote Line	10/400	HY
Silicone 10 CST	Pressure/Vacuum	Direct or Remote Line	–40/500	DJ

NOTES:

(1) Top housing material is 316L SS (standard). Monel mini-seal standard with monel top housing.

*See Table A on pages 170-171 for instrument compatibility. Minimum pressure is determined by the instrument that will be attached to the diaphragm seal.

TO ORDER THIS TYPE 310 /315 THREADED SERIES PROCESS CONNECTION:

25 - 310 - S S - 02T - X CG - _____

1. Process Connection
   Type Number
2. Diaphragm Material
3. Bottom Housing Material
4. Instrument Connection
5. Fill Fluid (when attached to instrument)
6. Optional Features (see page 168-169)

Consult factory for guidance in product selection
Phone (203) 378-8281 or visit our
web site at www.ashcroft.com

ASHCROFT®

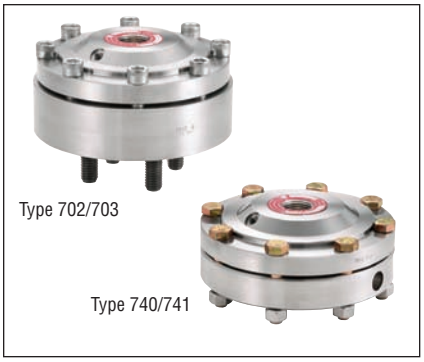
Diaphragm Seal Threaded & Flanged Process Connection Type 700 Series

This large volumetric displacement isolator is designed to drive low pressure gauges, switches and other instruments.

Types 740, 741, 702 and **703** are all welded design. A metallic diaphragm is welded to the top housing. The top housing and diaphragm are then clamped to the bottom housing.

FEATURES:

- Diaphragm is electron beam welded to the top housing
- For applications requiring a large volumetric displacement such as bellows gauges, inches of water ranges and low differential pressure gauges
- For instruments ranging from 10˝ H_2O to 750 psi
- Types 701 and 703 are standard with ¼˝ flushing connection
- Silicone is the recommended fill fluid. Glycerin not recommended with vacuum, inch H_2O, or compound ranges



Type 702/703

Type 740/741

SELECTION TABLES*

Table 1 – Process Connection/Type Number

Process Connection	Process Connection Size/Code – Inches[2] Size Code	¼ 25	½ 50	¾ 75	1 10	1½ 15	2 20	3 30	4 40	6 60	8 80	Type No.	Pressure Rating
Threaded NPT		F	F	F	F							740	750 psi
Threaded NPT (with flushing connection)		F	F	F	F							741	750 psi
													Flange Rating
Raised Face Flange			•	•	•	•	•	•				702	150 to large 300 c
Raised Face Flange (with flushing connection)			•	•	•	•	•	•				703	150 o t 300 ss c

Table 2 – Diaphragm Materials

Material	Code	Top Material
316L stainless steel	S	316L SS
Hastelloy B	G	316L SS
Hastelloy C 276	H	316L SS
Tantalum	U	316L SS
Monel[1]	M	Monel 400
Titanium	TI	Titanium

Table 3 – Bottom Housing Materials

Material	Code
Steel	B
316L stainless steel	S
Hastelloy B	G
Hastelloy C 22	J
Hastelloy C 276	H
Carpenter 20	D
Monel	M
Titanium	TI

Table 4 – Instrument Connection

Size – NPT	Code
¼	02T
½	04T

Table 5 – Filling Fluid

Filling	Service	Connection to Instrument	Temperature Limits Range °F	Code
Glycerin	Pressure	Direct Only	0/400	CG
Silicone	Pressure/Vacuum	Direct or Remote Line	–40/600	CK
Halocarbon	Pressure/Vacuum in presence of strong oxidizing agent	Direct or Remote Line	–80/392	CF
Syltherm	Pressure/Vacuum	Direct or Remote Line	–40/750	HA
Food Grade Silicone	Pressure/Vacuum	Direct or Remote Line	–40/500	CZ
Distilled Water	Pressure/Vacuum	Direct or Remote Line	40/185	FJ
Ethylene Glycol & Water	Pressure/Vacuum	Direct or Remote Line	20/–325	CT
Propylene Glycol	Pressure/Vacuum	Direct or Remote Line	20/325	CV
Mineral Oil	Pressure/Vacuum	Direct or Remote Line	10/400	HY
Silicone 10 CST	Pressure/Vacuum	Direct or Remote Line	–40/500	DJ

Table 7 – Flange Class for 702 & 703

150, 300 (see page 170-171 for pressure ratings.)

Table 8 – Flange Types (for 702 & 703 Only)

Type	Code	
Raised Face	RF	Standard
Ring Joint	RJ	Optional
Flat Face	FF	Optional

NOTES:

(1) Monel top housing standard with monel diaphragm.

*See Table A on pages 170-171 for instrument compatibility. Minimum pressure is determined by the instrument that will be attached to the diaphragm seal.

TO ORDER THIS TYPE 740 & 741 THREADED SERIES PROCESS CONNECTION:

50 - 740 - S S - 04T - X CK - _____

1. Process Connection Type Number
2. Diaphragm Material
3. Bottom Housing Material
4. Instrument Connection
5. Fill Fluid (when attached to instrument)
6. Optional Features (see page 168-169)

TO ORDER THIS TYPE 702 & 703 FLANGED SERIES PROCESS CONNECTION:

10 - 702 - S S - 04T - X CK - _____ - 150 RF

1. Process Connection Type Number
2. Diaphragm Material
3. Bottom Housing Material
4. Instrument Connection
5. Fill Fluid (when attached to instrument)
6. Optional Features (see page 168-169)
7. Flange Class
8. Flange Type

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