



CLAMPS

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DIAGNOSTICS

FILTRATION

ACCESSORIES

BALL VALVES



Local Solutions for Individual Customers Worldwide

Stauff Hydraulic Accessories & Accumulators

Stauff Accessories offers a complete range of hydraulic accessory products and services that provide the System Designer or user with a complete range from a single source.

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SUCTION STRAINERS

DIFFUSERS

FILLER BREATHERS

DESICCANT BREATHERS

FILLER BREATHER ADAPTORS

LEVEL GAUGES

MOTOR PUMP ADAPTORS

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ACCUMULATORS

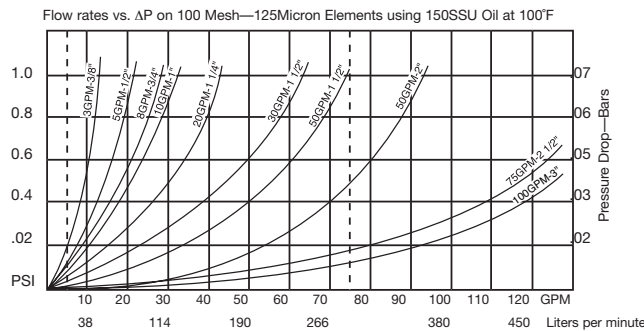
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Specifications

- Stainless Steel Mesh 125µ—100 Mesh
- Temperature to 250°F (+120°C)
- Epoxy Bonded for Compatibility with most Petroleum & Mineral Based Fluids.
- Aluminum Threaded End Cap, other Components Steel Zinc Plated

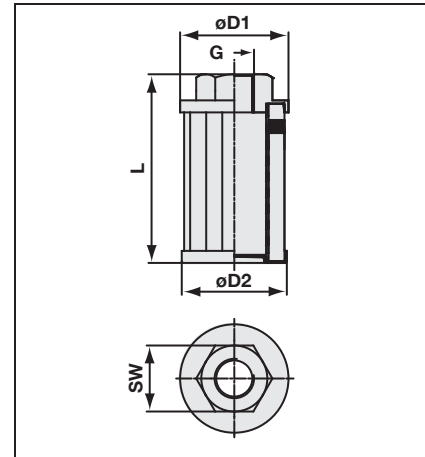
Options

- No By-pass or 3 PSI By-pass Available
- Custom Sizes on Request
- Custom Mesh on Request (60µ or 250µ)
- Available in BSP on Request

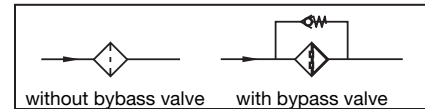


Technical Information

Dimensions



Hydraulic Symbol



Dimensions / Ordering Information

Group Size			Diameter													
Upper End Diameter	Thread Code	Element Length	Port (G) (NPT)	Nominal Flow gpm	l/min	Filter Area in ²	cm ²	Length L mm	in	øD1 mm	in	øD2 mm	in	SW mm	in	Wt. (lb.)
050	- N06F	- 090	3/8"	3	11	20	130	90	3.5	50	2.0	49	1.9	26	1.0	0.3
050	- N08F	- 105	1/2"	5	19	25	161	105	4.1	50	2.0	49	1.9	26	1.0	0.4
068	- N12F	- 105	3/4"	8	31	62	400	105	4.1	68	2.7	66	2.6	34	1.3	0.5
068	- N16F	- 140	1"	10	38	110	710	139	5.5	68	2.7	66	2.6	42	1.7	0.7
088	- N20F	- 195	1 1/4"	20	88	162	1050	195	7.7	88	3.5	85	3.3	60	2.4	1.0
088	- N24F	- 226	1 1/2"	30	120	225	1450	226	8.9	88	3.5	85	3.3	60	2.4	1.2
088	- N24F	- 260	1 1/2"	50	198	340	2190	260	10.0	88	3.5	85	3.3	60	2.4	1.4
088	- N32F	- 260	2"	50	198	340	2190	260	10.0	88	3.5	85	3.3	70	2.8	1.8
150	- N40F	- 213	2 1/2"	75	283	400	2580	213	8.4	150	5.9	145	5.7	90	3.5	2.3
150	- N48F	- 272	3"	100	379	500	3230	272	10.7	150	5.9	145	5.7	100	3.5	3.0

Ordering Code

SUS - A - 088 - N24F - 226 - 125 - 0

Type

SUS Suction Strainer

Material Threaded End Cap

A Aluminium (only for NPT thread, see table)

Group Size

see table above, column group size

Bypass Option

0 without bypass (standard)
3 integrated bypass valve (0,2 bar / 3 PSI)

Micron Rating

060 60 µm (on request)
125 125 µm (standard)
250 250 µm (on request)

Specifications

- Stainless Steel Mesh 125µ—100 Mesh
- Temperature to 250°F (+120°C)
- Epoxy Bonded for Compatibility with most Petroleum & Mineral Based Fluids.
- Plastic Threaded End Cap made out of Glass Fiber Reinforced Polyamide. Other Components Steel Zinc Plated

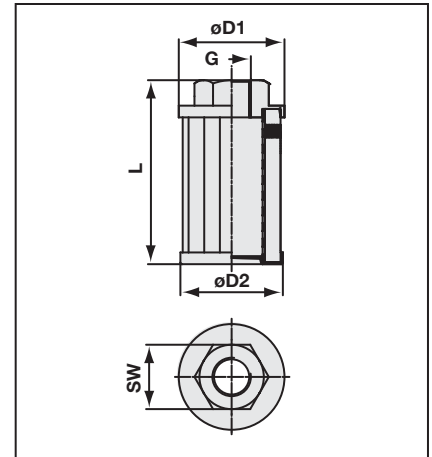
Options

- No By-pass or 3 PSI By-pass Available
- Custom Sizes on Request
- Custom Stainless Mesh on Request (60µ, on 250µ)
- Available in BSP on Request

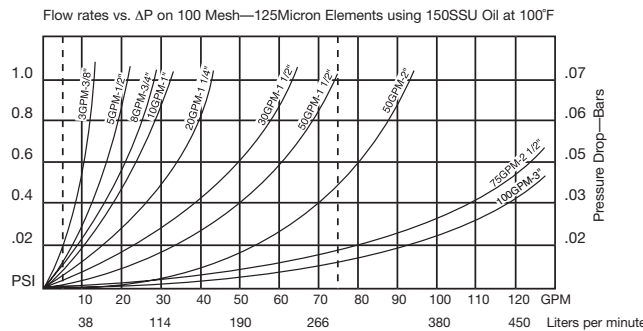
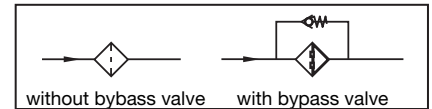


Technical Information

Dimensions



Hydraulic Symbol



Dimensions / Ordering Information

Group Size										Diameter						
Upper End Diameter	Thread Code	Element Length	Port (G)	Nominal Flow		Filter Area		Length L		øD1		øD2		SW		Wt.
			(NPT)	gpm	l/min	in²	cm²	mm	in	mm	in	mm	in	mm	in	(lb.)
050	- N06F	- 090	3/8"	3	11	20	130	90	3.5	50	1.9	49	1.9	26	1.0	0.3
050	- N08F	- 105	1/2"	5	19	25	161	105	4.1	50	1.9	49	1.9	26	1.0	0.4
068	- N12F	- 105	3/4"	8	31	62	400	105	4.3	68	2.6	66	2.6	34	1.3	0.5
068	- N16F	- 140	1"	10	38	110	710	140	5.5	68	2.6	66	2.6	42	1.7	0.7
088	- N20F	- 140	1 1/4"	20	88	105	1050	140	5.5	88	3.5	85	3.3	60	2.4	1.0
088	- N24F	- 140	1 1/2"	30	120	225	1450	140	5.5	88	3.5	85	3.3	60	2.4	1.2
102	- N24F	- 200	1 1/2"	50	198	340	2190	200	7.9	102	3.9	100	3.9	72	2.8	1.4
102	- N32F	- 260	2"	50	198	340	2190	260	10.2	102	3.9	100	3.9	72	2.8	1.8
131	- N40F	- 212	2 1/2"	75	283	400	2580	212	8.4	131	5.1	128	5.0	86	3.4	2.3
131	- N48F	- 272	3"	100	379	500	3230	272	10.7	131	5.1	128	5.0	96	3.8	3.0

Ordering Code

SUS - P - 088 - N24F - 140 - 125 - 0

Type	SUS	Suction Strainer
------	-----	------------------

Material Threaded End Cap	P	Polyamide (only for NPT thread, see table)
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Group Size	see table above, column group size
------------	------------------------------------

Bypass Option	0	without bypass (standard)
	3	integrated bypass valve (0,2 bar / 3 PSI)

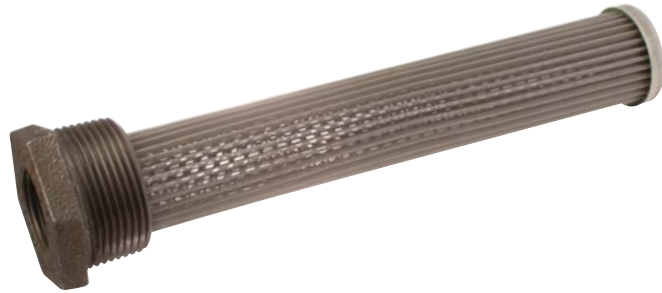
Micron Rating	060	60 µm (on request)
	125	125 µm (standard)
	250	250 µm (on request)

Specifications

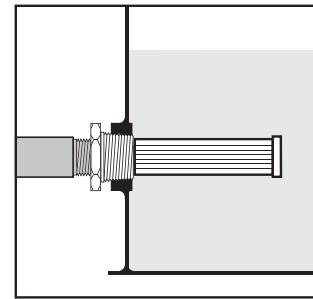
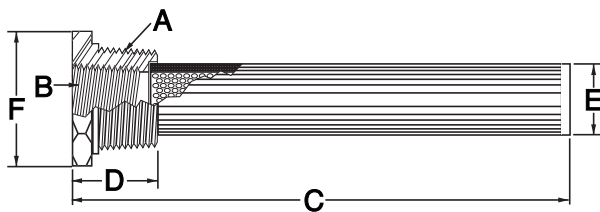
- Stainless Steel Mesh 100 Mesh - 125 Micron
- Cast Iron Bushing
- Epoxy Bonded for Compatibility with most Petroleum & Mineral Based Fluids
- Perforated Steel Inner Supports
- Temperature to 250°F (120°C)

Options

- No By-Pass or 5 PSI By-Pass
- Custom Screens Available upon Request
- Custom Adaptors Available upon Request



Dimensions / Mounting Information



Ordering Information

Part No.	Flowrate		NPT Sizes		C		D		Hex F		E		Screen Area	
	gpm	lpm	A	B	mm	in	mm	in	mm	in	mm	in	cm ²	in ²
TMF-03-0	5	19	1"	3/8"	135	5.3	27	1.1	41	1.6	29	1.2	258	40
TMF-05-0	5	19	1"	1/2"	135	5.3	27	1.1	41	1.6	29	1.2	258	40
TMF-10-0	10	38	1 1/4"	3/4"	207	8.2	30	1.2	46	1.8	34	1.4	432	67
TMF-15-0	15	57	1 1/2"	1"	208	8.2	31	1.2	55	2.2	42	1.7	554	86
TMF-25-0	25	95	2"	1 1/4"	230	9.0	35	1.4	65	2.6	54	2.1	1025	159
TMF-50-0	50	189	3"	2"	246	9.7	43	1.7	98	3.3	76	3.0	1625	252
TMF-100-0	100	378	4"	3"	287	11.3	46	1.8	120	4.8	101	4.0	2032	315

By-Pass Option

Part No.	Flowrate		NPT Sizes		C		D		Hex F		E		Screen Area	
	gpm	lpm	A	B	mm	in	mm	in	mm	in	mm	in	cm ²	in ²
TMF-03-5	5	19	1"	3/8"	135	5.3	27	1.1	41	1.6	29	1.2	258	40
TMF-05-5	5	19	1"	1/2"	135	5.3	27	1.1	41	1.6	29	1.2	258	40
TMF-10-5	10	38	1 1/4"	3/4"	207	8.2	30	1.2	46	1.8	34	1.4	432	67
TMF-15-5	15	57	1 1/2"	1"	208	8.2	31	1.2	55	2.2	42	1.7	554	86
TMF-25-5	25	95	2"	1 1/4"	230	9.0	35	1.4	65	2.6	54	2.1	1025	159
TMF-50-5	50	189	3"	2"	246	9.7	43	1.7	98	3.3	76	3.0	1625	252
TMF-100-5	100	378	4"	3"	287	11.3	46	1.8	120	4.8	101	4.0	2032	315

Specifications

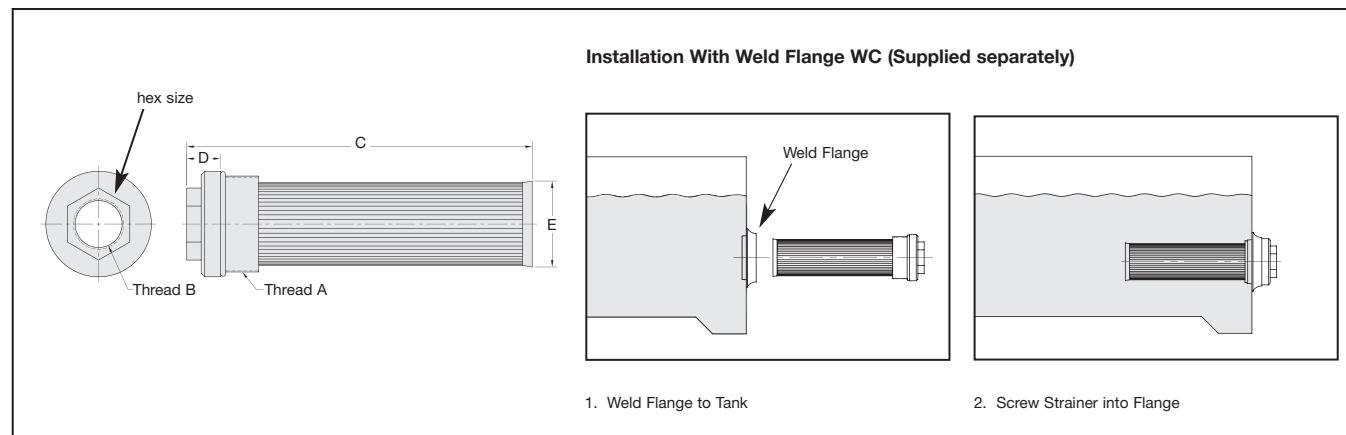
- SAE O-Ring Threads for Leak-Free Installation
- Buna O-Ring Standard
- 100 Mesh (125 Micron) Stainless Wire Screen
- Flow Rates to 40 gpm
- Temperature to 212°F (100°C)

Options

- 5 PSI Bypass
- Weld Flange Available (WC Series - Page A7)
- Consult Factory for Special Screens and Threads



Dimensions



Ordering Information

Part No. Non-Bypass	Part No. Bypass	Thread (Per SAE J514)		C		D		E		Hex Size		Flow		Area	
		A	B												
TMF-1625-0-0	TMF-1625-0-5	2 1/2"-12	1 5/16"-12	229	9.0	19	0.75	58	2.3	54	2.1	34	9	580	90
TMF-2025-0-0	TMF-2025-0-5	2 1/2"-12	1 5/8"-12	229	9.0	19	0.75	58	2.3	54	2.1	53	14	580	90
TMF-1834-0-0	TMF-1834-0-5	3 3/8"-12	1 7/8"-12	224	8.8	23	0.9	80	3.1	64	2.5	80	21	1484	230
TMF-2534-0-0	TMF-2534-0-5	3 3/8"-12	2 1/2"-12	236	9.3	25	1.0	80	3.1	76	3.0	148	39	1484	230

Specifications

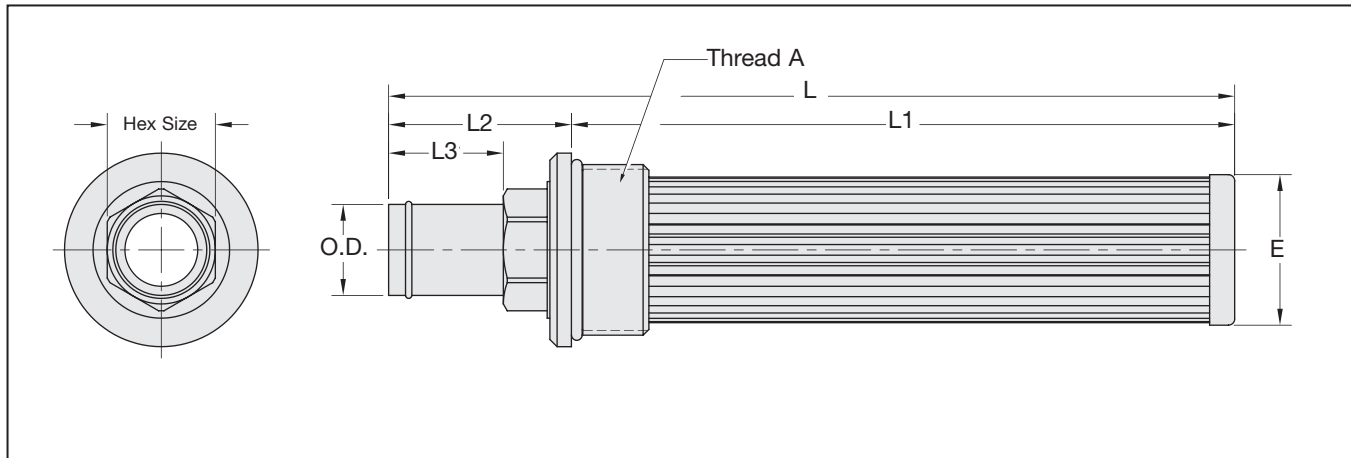
- Hose Barb to O-Ring Installation
- SAE O-Ring Thread for Leak-Free Installation
- Buna O-Ring
- 100 Mesh (125 Micron) Stainless Wire Screen
- Temperature to 212°F (100°C)

Options

- 5 PSI Bypass
- Viton O-Ring
- Weld Flange Available (see WC Series - Page A7)
- Consult Factory for Special Screens and Threads



Dimensions



Ordering Information

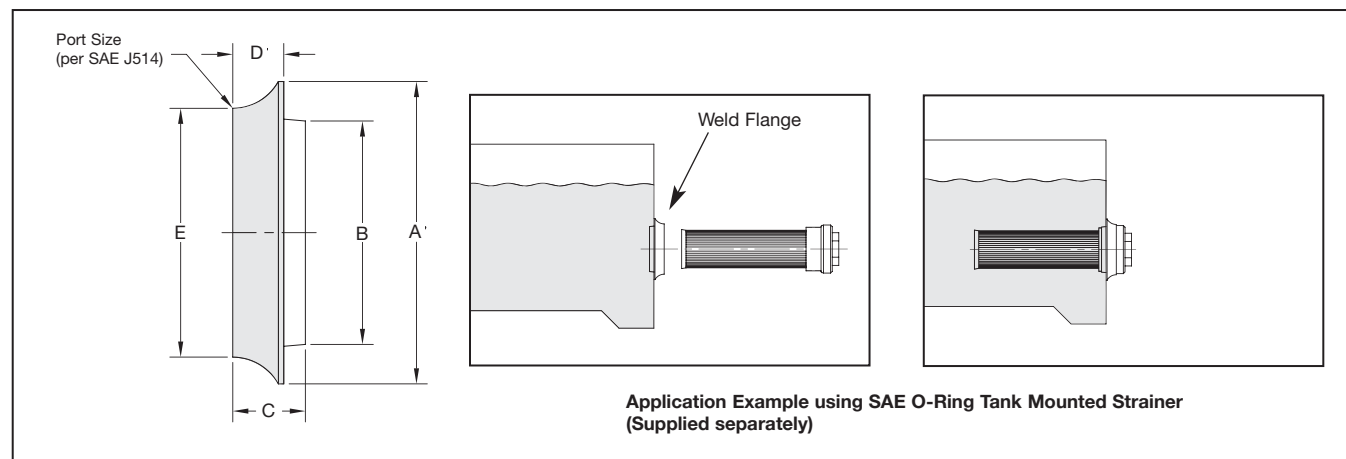
Part No. Non-Bypass	Part No. Bypass	Thread	O. D.		L		L1		L2		L3		E		Hex Size	
		Size A	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in
TMF-1017HB-0-0	TMF-1017HB-0-5	1 7/8"-12	25	1.0	236	9.3	185	7.3	51	2.0	32	1.25	42	1.6	32	1.25
TMF-1225HB-0-0	TMF-1225HB-0-5	2 1/2"-12	32	1.25	254	10.0	203	8.0	51	2.0	32	1.25	54	2.1	38	1.5
TMF-1234HB-0-0	TMF-1234HB-0-5	3 3/8"-12	32	1.25	261	10.3	198	7.8	64	2.5	38	1.5	82	3.2	51	2.0
TMF-1534HB-0-0	TMF-1534HB-0-5	3 3/8"-12	38	1.5	261	10.3	198	7.8	64	2.5	38	1.5	82	3.2	51	2.0
TMF-2034HB-0-0	TMF-2034HB-0-5	3 3/8"-12	51	2.0	274	10.8	199	7.8	76	3.0	51	2.0	82	3.2	63	2.5

Specifications

- Forged Steel
- Designed for Minimum Weld Distortion
- Pilot Minimizes Installation Setup



Dimensions



Ordering Information

Part No.	Port Size	A		B		C		D		E	
		mm	in	mm	in	mm	in	mm	in	mm	in
WC-1017	1 7/8"-12	76	3.0	57	2.3	19	0.8	13	0.5	60	2.4
WC-1225	2 1/2"-12	89	3.5	52	2.0	21	0.8	15	0.6	73	2.9
WC-1634	3 3/8"-12	118	4.6	93	3.7	25	1.0	21	0.8	100	3.9

Specifications

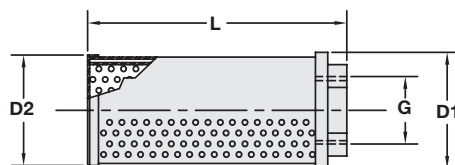
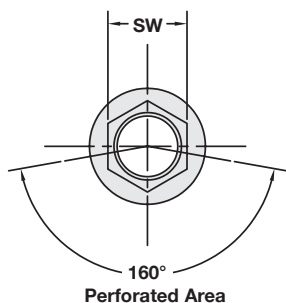
- Reduces Fluid Aeration & Noise in Oil Tanks
- Aluminum End Cap - Other Metal Parts are Zinc Plated
- Operating Temperature -13°F(-25°C) to 212°F(100°C)
- NPT Thread
- Flow Range to 250 GPM (950 lpm)
- Maximum Working Pressure 300 PSI (20 bar)

Options

- Available in BSP on Request
- Custom Designs Available on Request

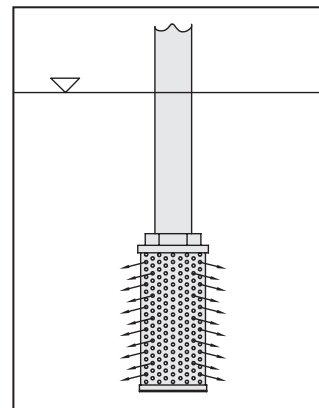


Dimensions



NOTE

SRV must be installed below liquid level.
Plain area should face pump inlet.



Ordering Code and Dimensions Table

Part No.	Thread Size G	Max. Flow		Length L		Dia. D1		Dia. D2		Hex SW	
		gpm	lpm	mm	in	mm	in	mm	in	mm	in
SRV-050-N12	3/4" NPT	13	50	109	4.3	64	2.5	60	2.4	36	1.4
SRV-114-N16	1" NPT	30	114	139	5.5	64	2.5	60	2.4	46	1.9
SRV-200-N20	1 1/4" NPT	53	200	139	5.5	86	3.4	82	3.2	60	2.4
SRV-227-N24	1 1/2" NPT	60	227	200	7.9	86	3.4	82	3.2	60	2.4
SRV-454-N32	2" NPT	120	454	260	10.2	86	3.4	82	3.2	70	2.8
SRV-650-N40	2 1/2" NPT	180	680	211	8.3	150	5.7	145	5.7	90	3.5
SRV-950-N48	3" NPT	250	950	272	10.7	150	5.7	145	5.7	100	3.9

Area of Application:

Reservoir Breathers and Tank Filling

Available Versions:

Screw-in, bayonet and push-on style

Materials:

- Breather cap: steel, chrome-plated or epoxy – coated.
- Bayonet Flange: steel, chrome-plated
- Air filter insert: 3 μ , 10 μ or 40 μ in group size 80
10 μ or 40 μ in group size 47
- Basket: steel, zinc-plated
- Seals: Cork - Group 47 or 80 standard breathers
Buna-N - Group 80 pressurized breathers

Options:

- Baskets – Additional 6" (150 mm), 8" (200 mm) steel mesh and 4" (100 mm) plastic baskets available with "Group Size 80"
- Thread style – NPT standard, BSP available on request
- Pressurized – 5 PSI (0.35 bar) or 10 PSI (0.70 bar) Relief valve settings
- Locking tabs
- Push-on style
- Dipsticks
- Custom versions available on request



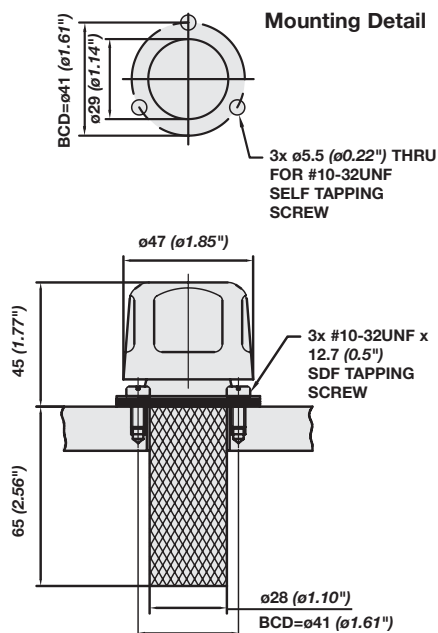
Group size 47 – Breather cap diameter 47 mm

SMBB-47

Metal Filler Breather
Bayonet style
Seal material: cork

Options:

- Metal basket

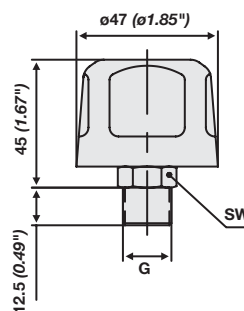


SMBT-47

Metal Breather
Screw-in style

Options:

- NPT-thread standard (1/4" NPT, 3/8" NPT)
BSP optional. Other threading – consult factory



Type	N04	N06
G	1/4" NPT	3/8" NPT
SW	17 (0.7")	19 (0.2")

Part No.	Micron Rating	Air Flow Capacity		Oil Displacement		Screws
		cfm	m ³ /min	gpm	lpm	
SMBB 47/SMBT 47	10	10	0.28	72	272	10-32x1/2
SMBB 47/SMBT 47	40	14	0.4	90	340	10-32x1/2

Metal Filler breathers SMBB-47 and SMBT-47 are not available in pressurized or lockable versions. For more details review the ordering table on page A10.

Ordering Code (bayonet style, cap ø47)

SMBB - 47E - N - 10 - O - C - S065 - O

Type	
SMBB	Metal Filler Breather (bayonet style)

Cap Size	
47	ø47, steel cap, chrome-plated (standard)
47E	ø47, steel cap, black epoxy
Note: other versions available upon request	

Version	
S	with STAUFF-logo (standard)
N	neutral (without logo)

Filter Material and Micron Rating	
00	without filter insert
10	10 µm foam (PUR)
40	40 µm foam (PUR)

Dipstick	
O	without dipstick (standard)

Baskets	
O	without baskets
S065	65 mm metal basket (standard)

Seal Material	
C	cork

Pressurisation (Opening Pressure)	
O	without pressurisation (standard)
Note: No pressurisation available for this cap diameter.	
Note: Screws are supplied with the SMBB as standard	

Ordering Code (screw-in style, cap ø47)

SMBT - 47E - N - 10 - O - N06 - O

Type	
SMBT	Metal Filler Breather (screw-in style)

Cap Size	
47	ø47, steel cap, chrome-plated (standard)
47E	ø47, steel cap, black epoxy
Note: other versions available upon request	

Version	
S	with STAUFF-logo (standard)
N	neutral (without logo)

Filter Material and Micron Rating	
00	without filter insert
10	10 µm foam (PUR, standard)
40	40 µm foam (PUR)

Dipstick	
O	without dipstick (standard)

Connection Thread	
N04	1/4 1/4 NPT
N06	3/8 3/8 NPT
Note: Other connection threads and sizes available	

Pressurisation (Opening Pressure)	
O	without pressurisation (standard)
Note: No pressurisation available for this cap diameter.	

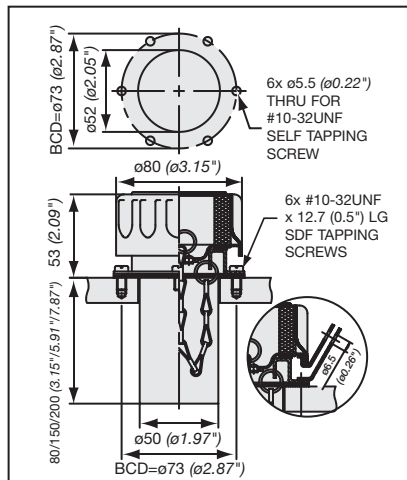
Group size 80 – Breather cap diameter 80 mm

SMBB-80

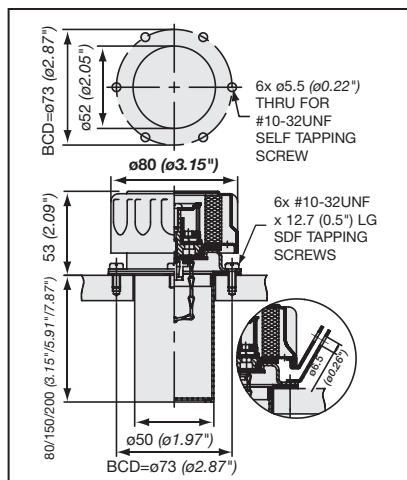
Metal Filler Breather
Bayonet style, 3" metal basket standard

Options:

- Metal Dipstick – non-pressurized
- Plastic Dipstick – pressurized
- Locking version
- Pressurized, opening pressure 5 PSI (0.35 bar) and 10 PSI (0.7 bar)
- Seal material: cork – non-pressurized
Buna-N – pressurized
- 6" (150 mm) and 8" (200 mm) metal and 4" (100 mm) plastic baskets available
- 3μ, 10μ or 40 micron breather element
- Chrome plated or epoxy coated
- Extended Bayonet options available



Non-pressurized version



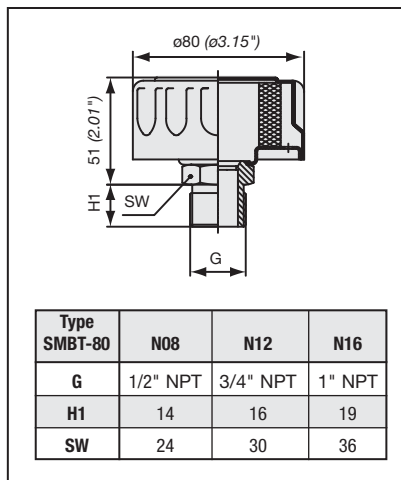
Pressurized version

SMTB-80

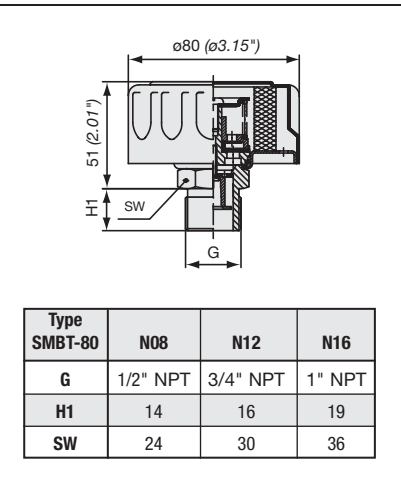
Metal Breather
Screw-in style

Options:

- Metal Dipstick non-pressurized
- Plastic Dipstick – pressurized
- NPT thread standard, BSP available on request
- Pressurized, opening pressure 5 PSI (0.35 bar) or 10 PSI (0.7 bar)
- 3μ, 10μ or 40 micron breather element
- Chrome plated or epoxy coated



Non-pressurized version



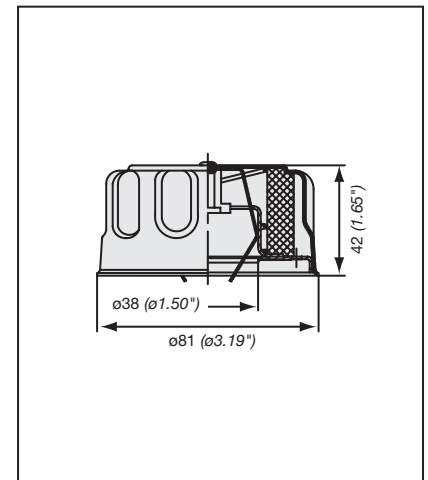
Pressurized version

SMBP-80

Metal Breather, epoxy coated standard
Push-on style

Options:

- Plastic Dipstick



The SMBP is only available without pressurization

Bayonet Flange Options

Standard Bayonet - "B"

Part No. EBF-1 - "B1"
38 mm (1.5 in) high
(See A13 for details)

Part No. EBF-2 - "B2"
69 mm (2.7 in) high
(See A13 for details)

Part No.	Micron Rating	Air Flow Capacity		Oil Displacement		Screws
		cfm	m ³ /min	gpm	lpm	
SMBB/SMTB 80	3	10	0.28	72	272	10-32x1/2
SMBB/SMTB 80	10	16	0.45	110	416	10-32x1/2
SMBB/SMTB 80	40	26	0.75	190	720	10-32x1/2

Ordering Code (bayonet style, cap ø80)

SMBB - 80E - N - L - 10 - 05 - B - S080 - O

Type	
SMBB	Metal Filler Breather (bayonet style)

Cap Size	
80	ø80, steel cap, chrome-plated (standard)
80E	ø80, steel cap, black epoxy
Note: other versions on request	

Version	
S	with STAUFF-logo (standard)
N	neutral (without logo)

Locking Option	
O	not lockable (standard)
L	lockable

Filter Material and Micron Rating	
00	without filter insert
03	3 µm filter paper
10	10 µm foam (PUR, standard)
40	40 µm foam (PUR)

Dipstick	
O	without dipstick (standard)
D300	plastic dipstick 300 mm
Note: The plastic dipstick can be shortened by the customer to requested lengths.	

Baskets	
O	without baskets
S080	80 mm metal basket (standard)
P100	100 mm plastic basket
S150	150 mm metal basket
S200	200 mm metal basket

Seal Material	
C	cork (for non-pressurised version)
B	NBR (for pressurised version)

Pressurisation (Opening Pressure)	
O	without pressurisation (standard)
05	0,35 bar (5 PSI)
10	0,70 bar (10 PSI)

Note: Screws are supplied with the SMBB as standard

Ordering Code (screw-in style, cap ø80)

SMBT - 80E - N - 10 - 05 - N12 - O

Type	
SMBT	Metal Filler Breather (screw-in style)

Cap Size	
80	ø80, steel cap, chrome-plated (standard)
80E	ø80, steel cap, black epoxy
Note: other versions on request	

Version	
S	with STAUFF-logo (standard)
N	neutral (without logo)

Filter Material and Micron Rating	
00	without filter insert
03	3 µm filter paper
10	10 µm foam (PUR, standard)
40	40 µm foam (PUR)

Dipstick	
O	without dipstick (standard)
D300	plastic dipstick 300 mm
Note: The plastic dipstick can be shortened by the customer to requested lengths.	

Connection Thread	
N08	1/2 NPT
N12	3/4 NPT
N16	1 NPT upon request
B08	G 1/2 BSP upon request
B12	G 3/4 BSP upon request
B16	G 1 BSP upon request

Pressurisation (Opening Pressure)	
O	without pressurisation (standard)
05	0,35 bar (5 PSI)
10	0,70 bar (10 PSI)

Ordering Code (push-on style, cap ø80)

SMBP - 80E - N - 10 - D300

Type	
SMBP	Metal Filler Breather (push-on style)

Cap Size	
80	ø80, steel cap, chrome-plated
80E	ø80, steel cap, black epoxy (standard)
Note: other versions on request	

Version	
S	with STAUFF-logo (standard)
N	neutral (without logo)

Dipstick	
O	without dipstick (standard)
D300	plastic dipstick 300 mm
Note: The plastic dipstick can be shortened by the customer to requested lengths.	

Filter Material and Micron Rating	
00	without filter insert
10	10 µm foam (PUR, standard)
40	40 µm foam (PUR)

Side Mounting Bracket – SMBB-ASMB-1

Area of Application:

Allows side mounting of filler breathers where application has space limitations
(suitable for SMBB-80 and SPB 5)

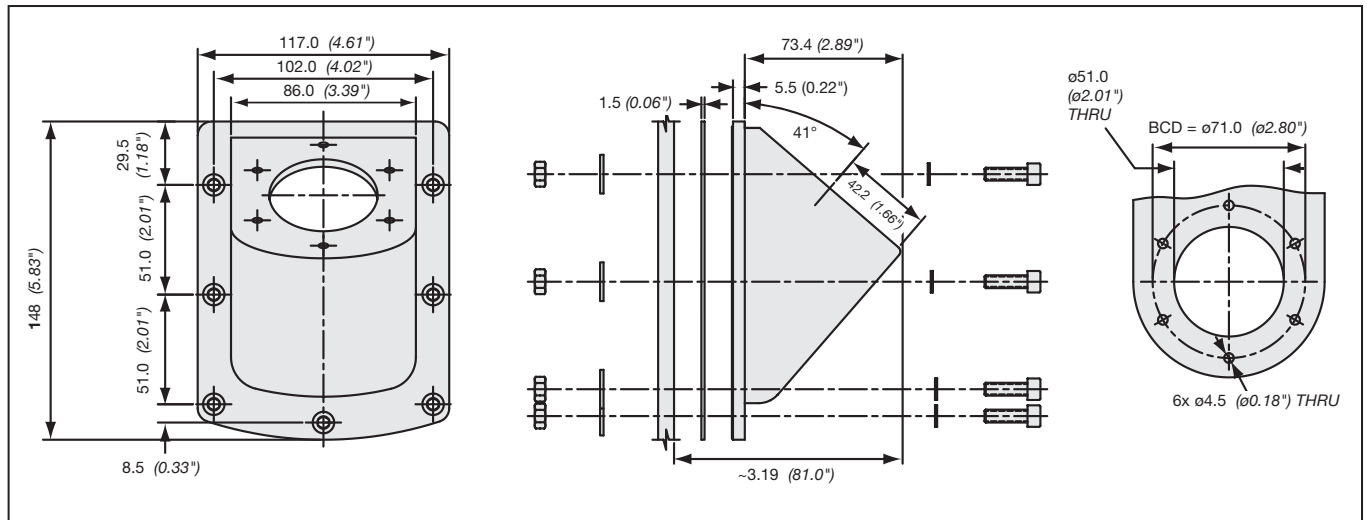
- Materials:**
- Housing: **SMBB-ASMB-1** Polyamide
 - Seals: Composite gasket
 - Screws: Steel, zinc-plated M6x 25 DIN 912
 - Nuts: Steel, zinc-plated M6 DIN 934
 - Washers: Steel, zinc-plated
 - Mounting screws: Steel, zinc-plated 4.8x13 DIN 7981

Seals, screws, washers and nuts are supplied with the SMBB-ASMB as standard

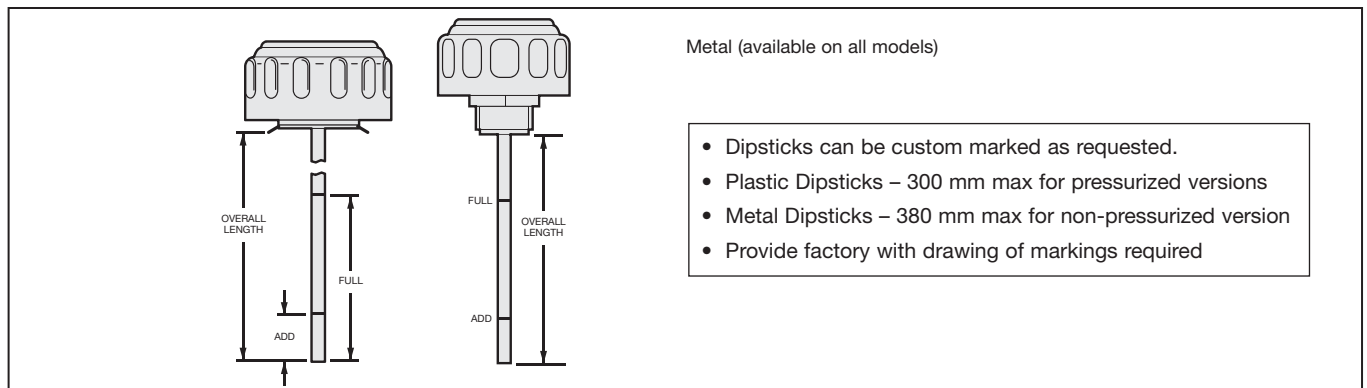


Dimensions SMBB-ASMB-1

Dimensions in mm (inch)



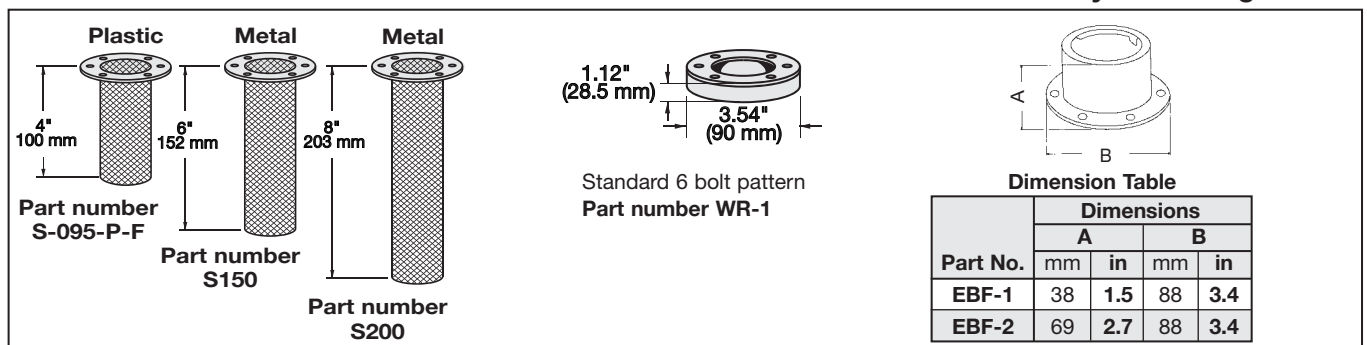
Dipstick Options



Additional Baskets

Weld Riser

Extended Bayonet Flange



Area of Application:

Reservoir breathers and tank filling

Characteristics/Materials:

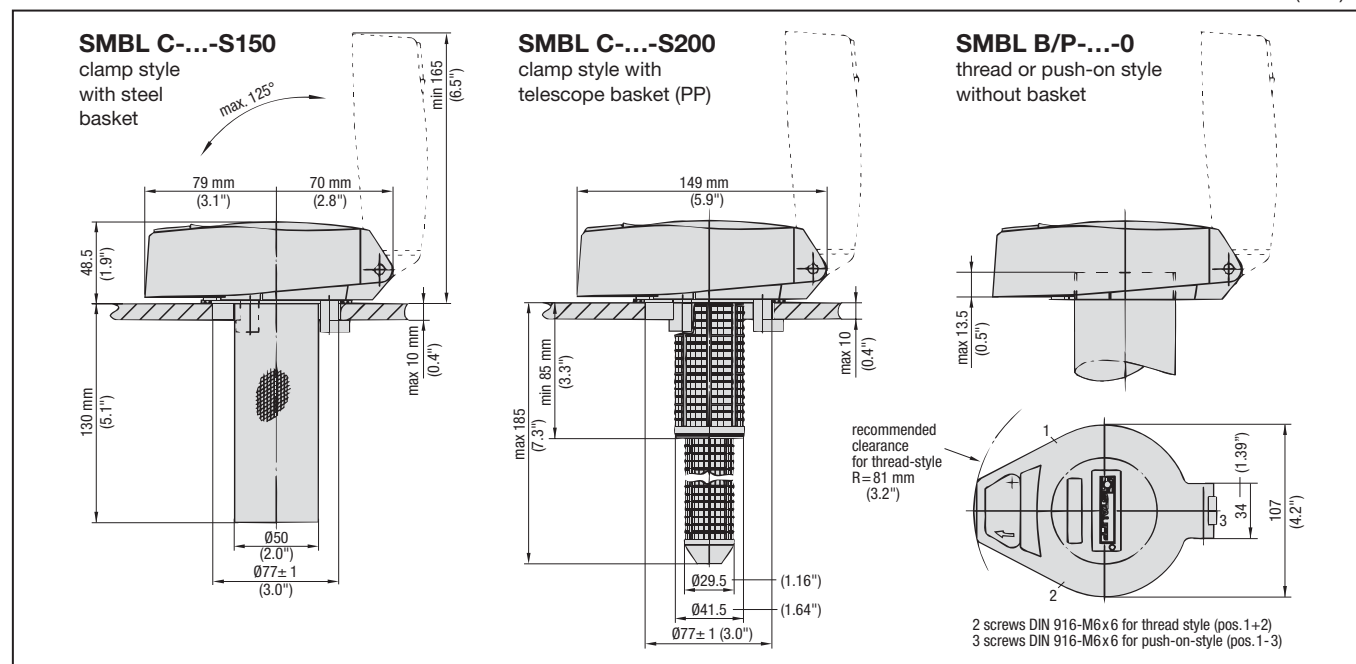
- available as thread-style, clamping style and push-on-style
- key-lockable
- Temperature range: -22°F (-30°C) to 212°F (100°C)
- Materials:
 - Body: die cast (zinc-plated / blue chromated)
 - Baskets: zinc-plated steel or polypropylene (see ordering code)
 - Seals: Buna-N, others on request
 - Air filter insert: 10 µm (standard) and 40 µm foam (PUR), others are available upon request

- Including two keys



Dimensions

Dimensions in mm (inch)



Ordering Code

SMBL C - 10 - 1 - S150 - B - O

Type

SMBL Filler Breather (lockable)

Connection

B32 G2 (thread style)
B40 G2½ (thread style)
C clamping style
P push-on-style

Micron Rating

00 without air filter
10 10 micron foam (standard) air filter
40 40 micron foam air filter

Metal Cap Design

O lacquered gray
RAL 9022 (standard)

Seal Material

B NBR (standard)
V FPM

Baskets

O no basket
S-100-P-H plastic basket 80 mm (See Page A16)
S-150-M-H steel basket 150 mm (standard)
S-200-P-H-T plastic basket 200 mm (See Page A16)

Note: baskets from the SMBB-series cannot be used in conjunction with the SMBL breather type

Style (Air Flow)

1 air flow in both directions (standard)
2 no air flow
3 air flow only into the tank

Area of Application:

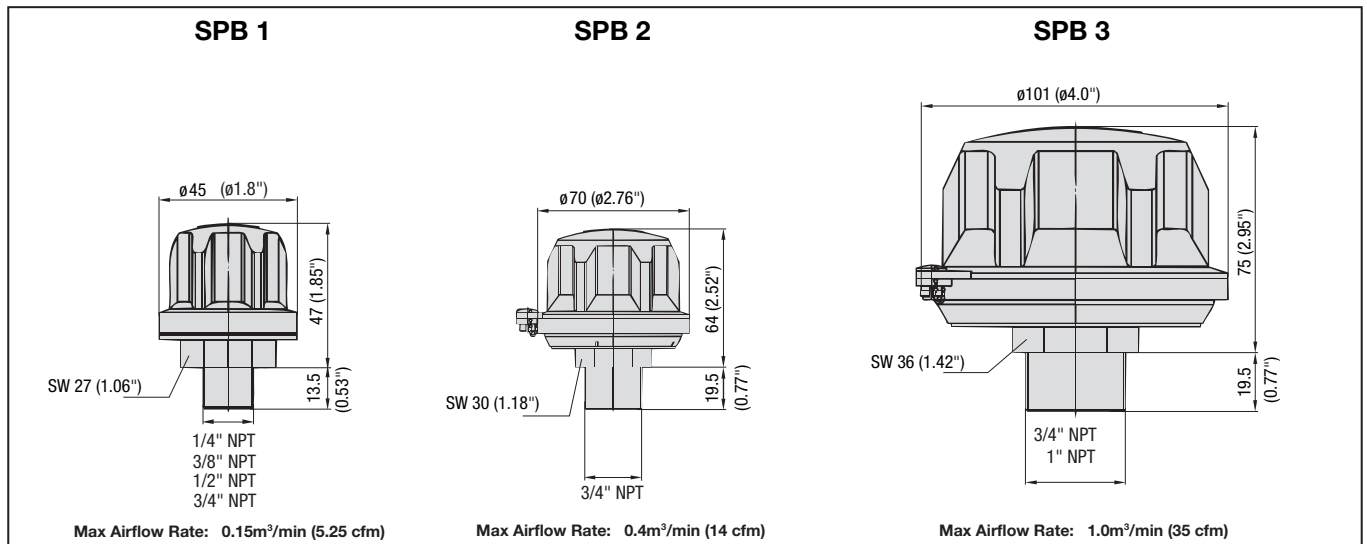
Reservoir breathers and tank filling

Characteristics/Materials:

- available as screw-in or bayonet version
- non-corrosive
- Temperature range: -40°F (-40°C) to 248°F (120°C)
- Materials: glassfibre reinforced PA, basket PP
- Seals: Buna-N, others on request
- Air filter insert: 10 µm foam (PUR), others are available upon request

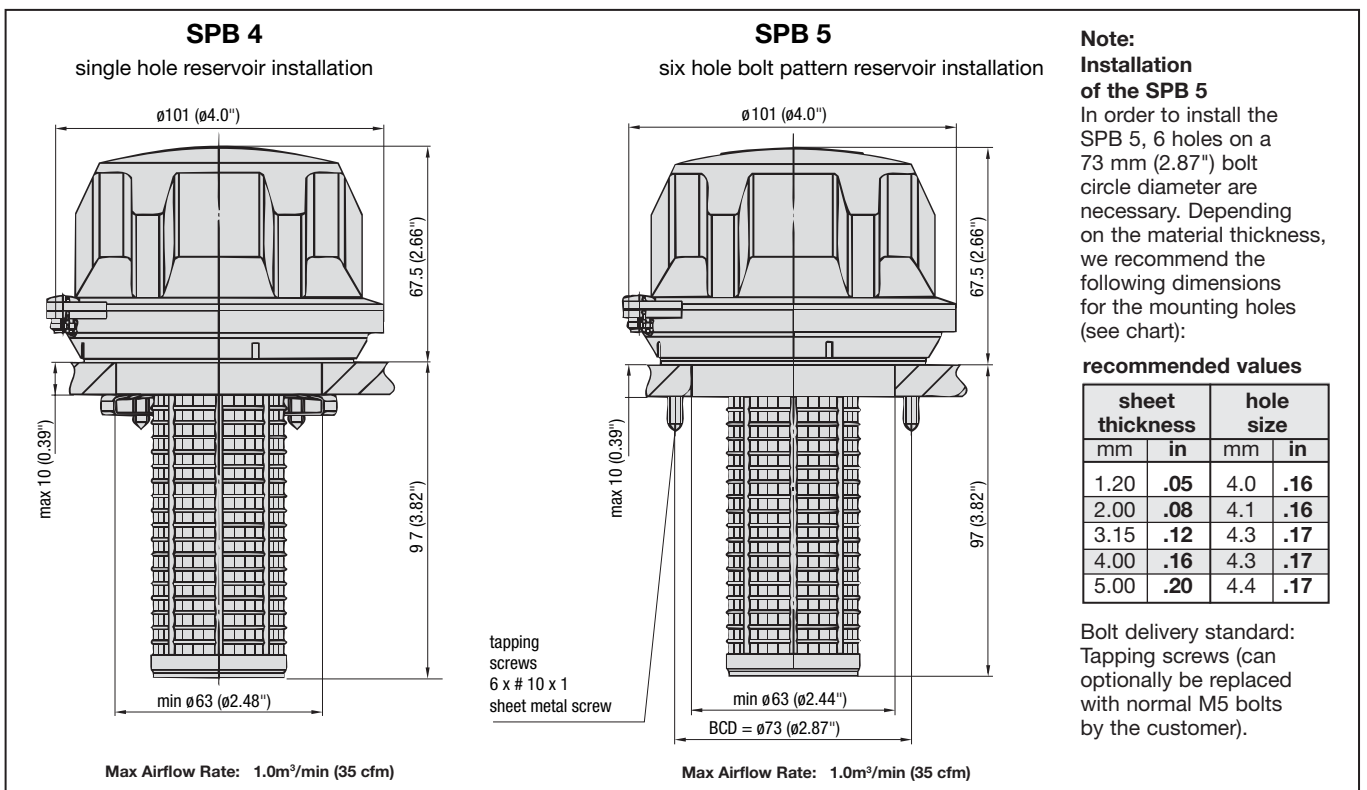
Custom built combinations and special requirements available upon request.

Dimensions and Styles – Screw-in versions (Breathers)



Dimensions and Styles – Bayonet version (Filler Breathers)

Dimensions in mm (inch)



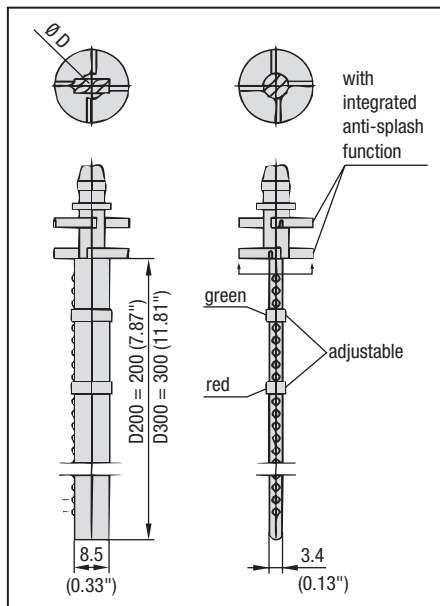
Breather options:

- Dipsticks (material PA)
- Pressurized versions (for SPB 2 up to SPB 5)
- Baskets (for SPB 4 and SPB 5)
- Thread form BSP (for SPB 1 up to SPB 3) - consult factory for availability

Special executions available upon request.



Photo: integrated anti-splash feature



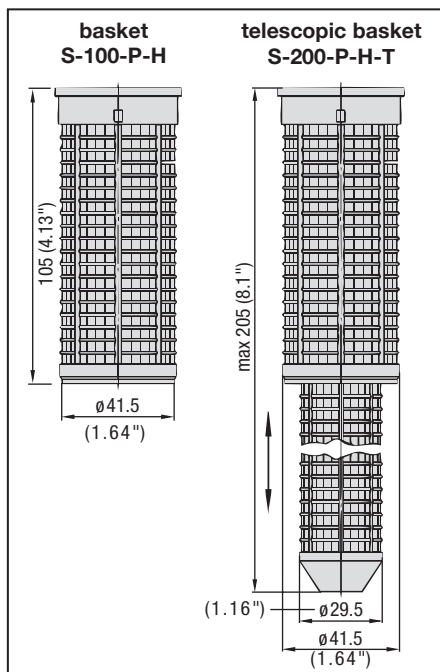
Dipsticks and Anti-splash feature

Dimensions in mm (inch)

Adaptation form	for type	suitable dipstick	Dimension ØD
N04	SPB 1	n/a	–
N06	SPB 1 + 2	DS-1	10 (.39)
N08	SPB 1 – 3	DS-2	14 (.55)
N12	SPB 1	DS-2	14 (.55)
N12	SPB 2 + 3	DS-3	18 (.71)
N16	SPB 3	DS-3	18 (.71)
S-100-P-H	SPB 4 + 5	DS-3	18 (.71)
S-200--P-H-T	SPB 4 + 5	DS-3	18 (.71)
X	SPB 4 + 5	DS-3	18 (.71)

For all filler breathers SPB 1 up to SPB 5, dipsticks (material polyamide) are available as an option. All these dipsticks have an integrated anti-splash function. This anti-splash feature protects the SPB from backspilling fluid and avoids an early air filter breakdown. For filler breathers without dipstick the anti-splash function is achieved by an integrated concave baffle. Because of its size the anti-splash function for the SPB 1 can only be achieved in conjunction with a dipstick. Depending on the chosen filler breather (see table above), dipsticks are available in a maximum of 300 mm lengths. Send factory a drawing on exact length and markings required.

SPB 4 and SPB 5



Pressurized versions:

All filler breathers, except SPB 1, are available as pressurized breathers. In order to achieve an air flow, the tank pressure has to exceed the chosen pressure setting. This feature minimizes foaming and cavitation. Available pressure settings: 3 PSI (0.2 bar), 5 PSI (0.35 bar) and 10 PSI (0.7 bar).

Baskets for SPB 4 and 5

For the filler breathers SPB 4 and SPB 5, 3.7" (95 mm) and 8" (200 mm) baskets (material polypropylene) are available as an option. All baskets have a reinforced 0.8 x 3.5 mm mesh. With the basket S-100-P-H and the telescopic basket S-200-P-H-T, rough dirt particles are filtered out of the medium and a smooth flow into the tank is being ensured.

SPB - S - 2 - 10 - N12 - A - D300

Type

SPB Plastic filler breather

Version

(Pressurisation not available for SPB 1)

S	without pressurisation (standard)
P1	pressurised at 0.20 bar (3 PSI)
P2	pressurised at 0.35 bar (5 PSI)
P3	pressurised at 0.70 bar (10 PSI)

Group Size

size	version	cap diameter	max rate of air flow (m³/min)
1	screw-in version	45	0.15
2	screw-in version	70	0.4
3	screw-in version	101	1.0
4	single hole reservoir installation	101	1.0
5	six hole reservoir installation	101	1.0

Dipstick Option

(none)	without dipstick
D200	dipstick 200 mm
D300	dipstick 300 mm

Anti-splash Option

A	with anti-splash option (standard)
O	without anti-splash option

Connection

N04	1/4" NPT (for SPB 1)
N06	3/8" NPT (for SPB 1)
N08	1/2" NPT (for SPB 1)
N12	3/4" NPT (for SPB 1, 2, or 3)
N16	1" NPT (for SPB 3)
S-100-P-H	basket (for SPB 4 + 5)
S-200-P-H-T	telescopic basket (for SPB 4 + 5)
X	without basket (for SPB 4 + 5)

* Consult factory for availability of BSP threads

Anti-splash option not available on SPB-S1, 1/4" and 3/8" versions

Micron Rating and Filtermaterial

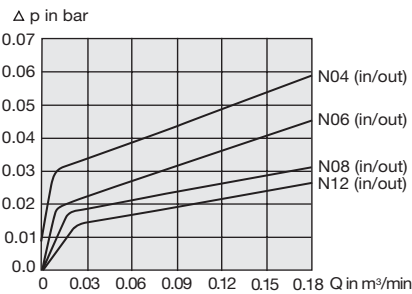
code	foam (PUR)	code	Inorganic glassfiber (only SPB 3,4 and 5)	code	filterpaper (only SPB 3,4 and 5)
10	10 µm PUR (standard)	E03	3 µm inorganic glass fiber (pleated)	L10	10 µm filter paper (pleated)
40	40 µm PUR (on request)				

Other micron ratings or filtermaterial available upon request

Airflow plastic filler breathers SPB 1 – 5

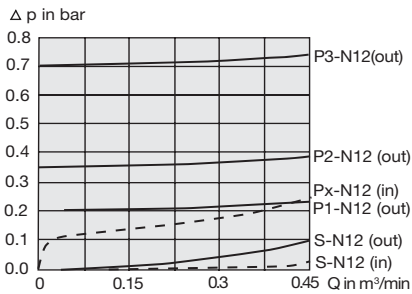
SPB 1

into/out of the tank



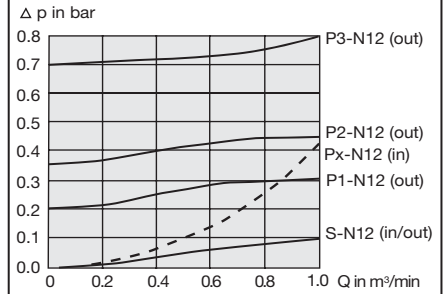
SPB 2

into/out of the tank



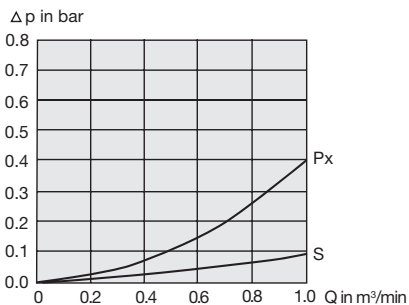
SPB 3

into/out of the tank



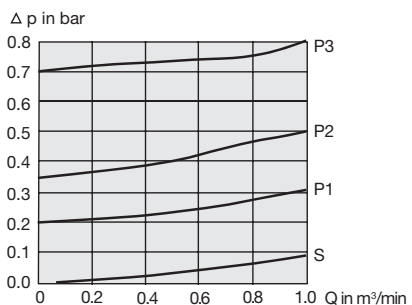
SPB 4 and 5

into the tank



SPB 4 and 5

out of the tank



Area of Application:

Ventilation and tank filling

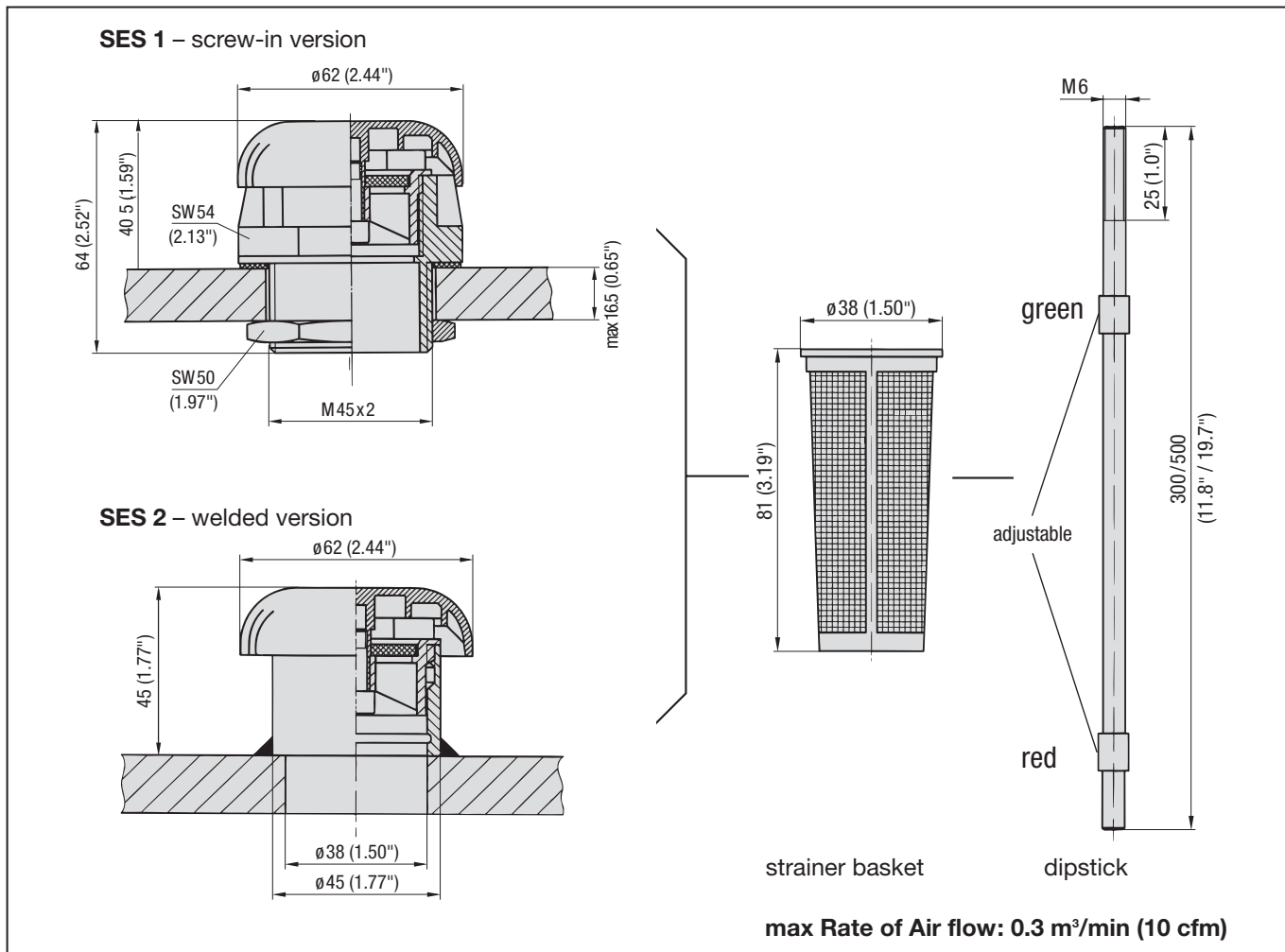
Materials:

- Breather cap: PA
- Plastic stud: PA
- Socket: Steel (1.0718)
- Nut: Steel (1.0718); PA available on request
- Air filter insert: Sintered bronze; Rating 45 µm
- Basket PA; micron rating 300 µm
- Dipstick: Steel (9SMnPb28)
- Seals: NBR

Combinations with basket or dipstick.

Dimensions

Dimensions in mm (inch)



Ordering Code

SES 1 - M300

Type

SES Filler Breather

Execution

- | | |
|---|------------------|
| 1 | screw-in version |
| 2 | welded version |

Accessories

(none)	no accessory
S	Basket, 81 mm
M300	Dipstick, 300 mm
M500	Dipstick, 500 mm

Specifications

- 10 Micron Nominal Cellulose Element
- Compatible with Petroleum and Mineral Based Fluids
- Air Flow Rates of 40 cfm

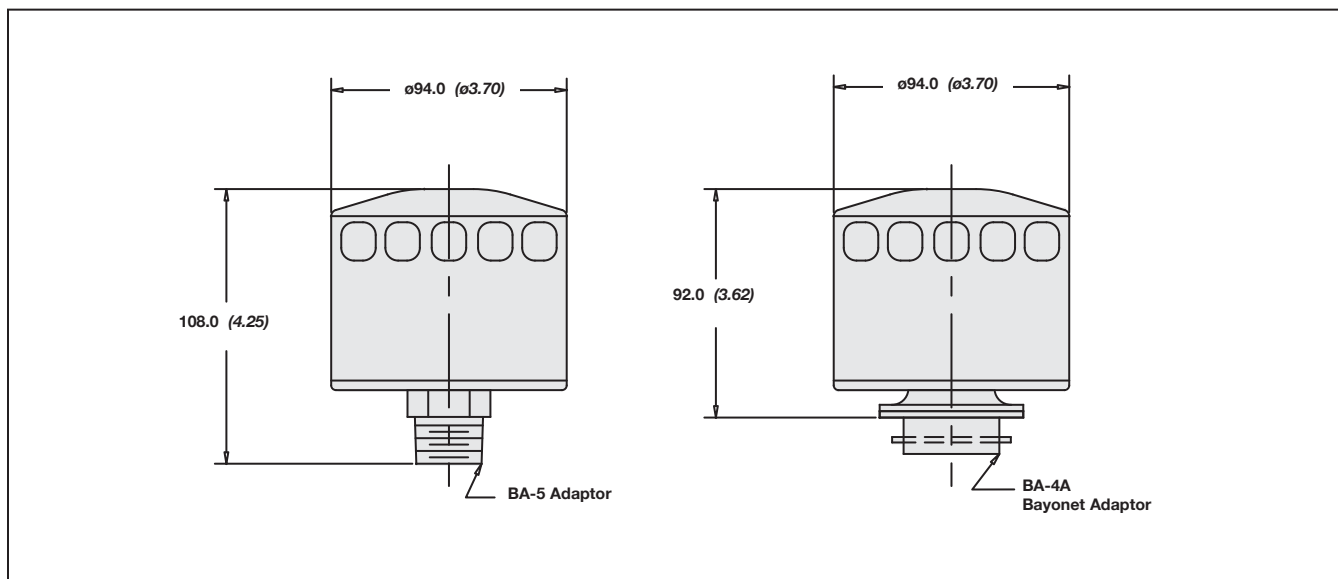
Options

- 3/4" NPT Connector (BA-5)
- Bayonet Adaptor (BA-4A)



Dimensions

Dimensions in mm (inch)



Specifications

Part Number	Absolute Micron Rating	Air flow Capacity		Air Displacement		Filtration Area	
		cfm	m³/min	gpm	lpm	Sq in	Sq cm
SGB90-10P	10 (NOMINAL)	40	1.13	300	1135	109	700

Ordering Information

Assemblies

Product Type	
SGB90C	Filler Breather Assembly

Filtration Type	
10P	10 Micron Nominal Cellulose

Adaptors	
BA5	BA-5A Threaded 3/4" NPT
BA4A	BA-4A Bayonet

Replacement Elements (only)

Product Type	
SGB90-10P	10 Micron Nominal Cellulose

SGB90C - 10P - BA4A - BB - S80

Basket Options	
S80	80 mm (3.15 in) Stainless Steel
S150	150 mm (5.9 in) Stainless Steel
S200	200 mm (7.87 in) Stainless Steel

Bayonet Options	
OMIT	None
BB	Standard Bayonet
B1	Extended Bayonet 38.5mm (1.5 in)
B2	Extended Bayonet 69 mm (2.72 in)
Assembly includes screws and gaskets	

Specifications

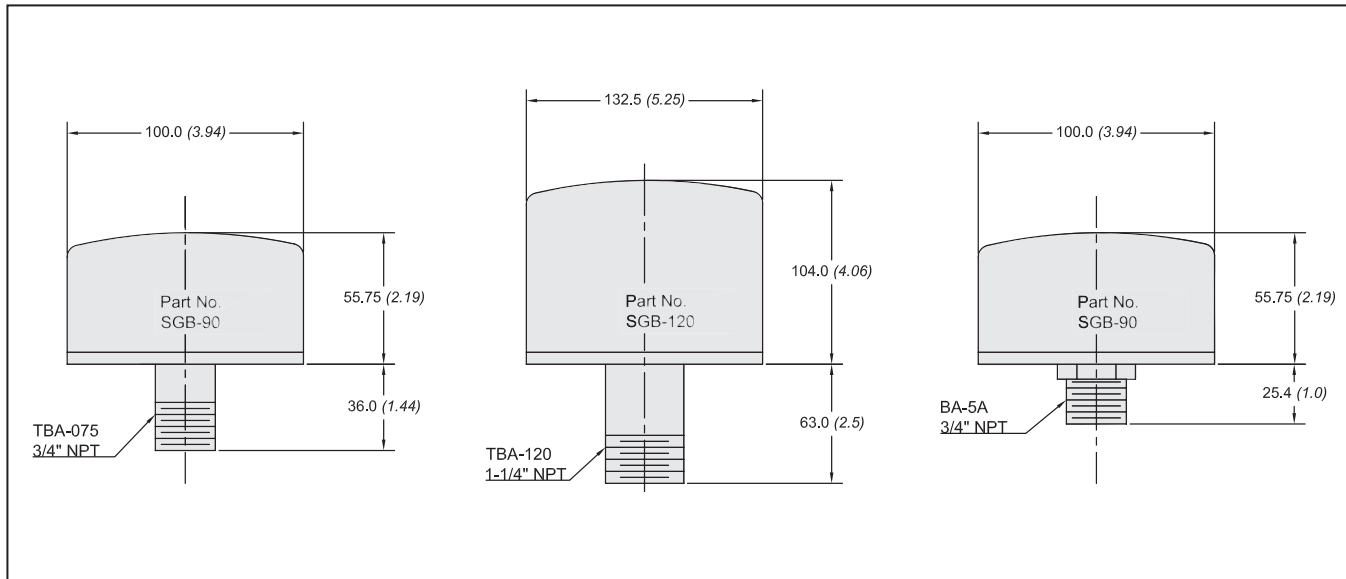
- 3 Micron Absolute Synthetic Media Filtration Element
- Compatible with Petroleum and Mineral Based Fluids
- Air Flow Rates of 18 cfm for SGB-90C and of 55 cfm for SGB-120C

Options

- SGB-90C, 3/4" NPT Connector
- SGB-120C, 1 1/4" NPT Connector



Dimensions



Dimensions in mm (inch)

Specifications

Part Number	Absolute Micron Rating	Air Flow Capacity		Air Displacement		Filtration Area	
		cfm	m³/min	gpm	lpm	Sq in	Sq cm
SGB-90C	3	18	0.51	135	511	109	700
SGB-120C	3	55	1.56	395	1495	279	1800

Ordering Information

SGB90C - 03 - BA5A

Assemblies

Product Type	
SGB90C	Filler Breather Assembly (Includes Adaptor Fitting)
SGB120C	Filler Breather Assembly (Includes Adaptor Fitting)

Filtration Type	
03	3 Micron Glass Fiber

Replacement Elements (only)

Product Type	
SGB90-03-B	3 Micron Glass Fiber
SGB120-03-B	3 Micron Glass Fiber

Adaptors	
Omit	Steel Adaptor TBA-075 for SGB90C, 3/4" NPT TBA-120 for SGB120C, 1-1/4" NPT
BA-5A	BA-5A Nylon Adaptor, 3/4" NPT (For SGB90C only)

Specifications

Combination air breather and water removal filter to handle flows up to 1500 l/min (395 US GPM)

Available in two types:

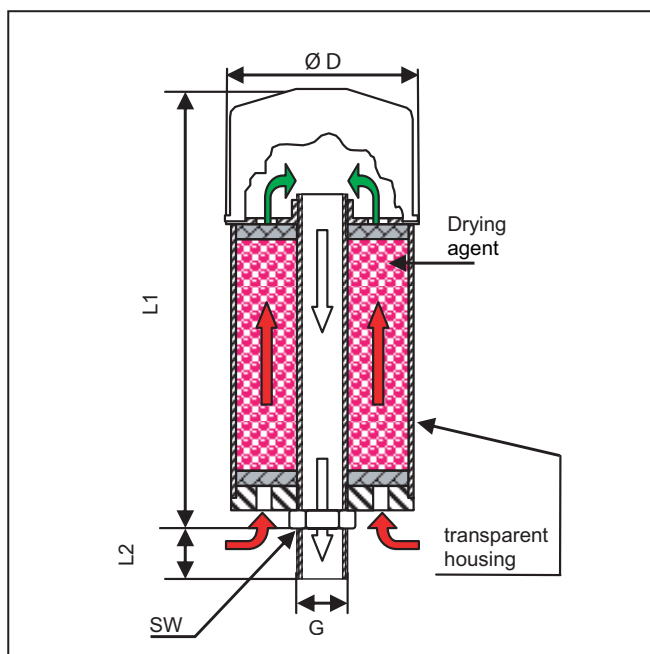
- SDB Series has a 3 micron absolute air filter. When saturated either the air filter or desiccant gel can be replaced as needed.
- SVDB Series has a 10 micron nominal filter. When saturated, the entire unit is replaced.
- Adaptor plates and fittings available for easy installation
- Z-R Desiccant gel is non toxic according to EC Council directive 88/379/EEC



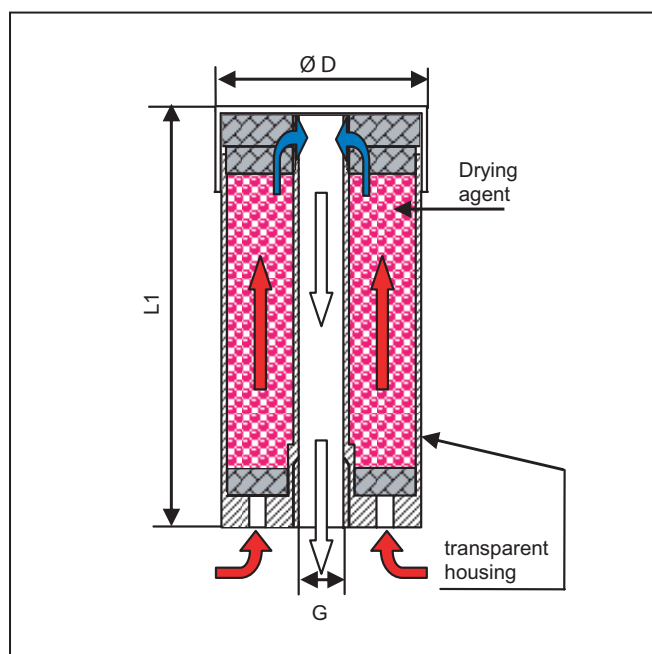
When a reservoir or gearbox breathes, air containing water vapor is ingested into the system. Temperature fluctuations will cause this water vapor to condense. This condensed water will speed up the oxidation of the fluid and lead to damage in the system. The Stauff desiccant Air Breather first dries the air as it passed through the Z-R

element (SDB Series) to remove any solid contamination particles. As moisture is absorbed the gel will gradually change from red to orange. When the gel is orange, either replace the gel (SDB Series), or replace the entire unit (SVDB Series). An optional "filter minder" gives an indication of the status of the air breather.

SDB (series)



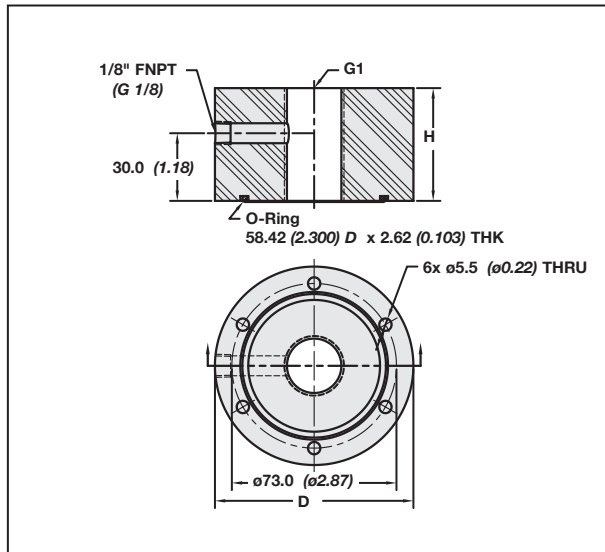
SVDB (series)



Technical Information

Part No.	D		L1		L2		G		SW		Max Flow Rate		Air Filter Micron Rating	Weight of Complete Unit		Desiccant Volume		Desiccant Weight		Max. Water Holding	
	mm	in	mm	in	mm	in	-	-	mm	in	l/min	US GPM	µm	g	lb	cc	in ³	g	lb	g	lb
SDB-093	100	3.9	160	6.3	20	0.79	G ³ / ₄	male	32	1.26	700	185	3	1200	2.6	300	18.3	225	.5	86	.19
SDB-096	100	3.9	220	8.7	20	0.79	G ³ / ₄	male	32	1.26	700	185	3	1500	3.3	600	36.6	450	1.0	172	.38
SDB-121	123.5	4.9	256	10.1	^{min} 25	1.0	G 1 ¹ / ₄	male	50	1.97	1500	395	3	2700	6.0	1000	61.0	750	1.2	288	.63
SDB-122	123.5	4.9	366	14.4	^{min} 25	1.0	G 1 ¹ / ₄	male	50	1.97	1500	395	3	4000	8.8	2000	122	1500	3.3	576	1.27
SVDB-093	94	3.7	109	4.3	-	-	G ³ / ₄	female	-	-	700	185	10	220	0.5	300	18.3	225	.5	86	.19
SVDB-096	94	3.7	169	6.7	-	-	G ³ / ₄	female	-	-	700	185	10	735	1.6	600	36.6	450	1.0	172	.38

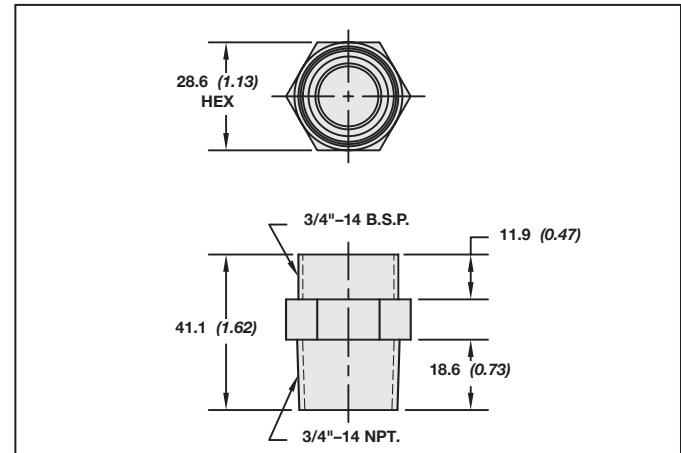
AP Adaptor Plate for SDB (series)



Dimensions in mm (inch)

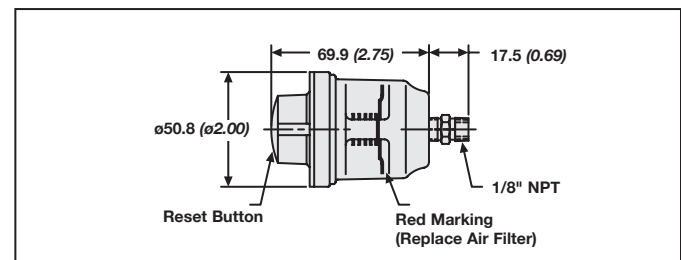
Dimensions	D		H		G1	
	mm	in	mm	in	mm	in
AP-1	88	3.46	50	1.97	G 3/4	
AP-2	100	3.94	70	2.76	G 1- 1/4	

BA-5A Adaptor for SVDB (series)



Dimensions in mm (inch)

Contamination Indicator FM



Dimensions in mm (inch)

AP adaptor plates and BA-5A adaptors allow the desiccant breathers to be mounted to existing connections. Plug, O-ring and socket head cap screws (DIN 912) are supplied with the AP.

Air Filter - The AP adaptor plate has a connection for the optional "filter minder" (FM-1) gives an indication of the status of the air breather. The unit can be reset when the element is changed.

Monitoring Moisture

Air Dryer - As moisture is absorbed the gel will gradually change from red to orange. When the gel is orange, either replace the gel (SDB Series), or replace the entire unit (SVDB Series).

Ordering Information

SDB - 122 - AP - FM

Type	
SDB	Desiccant air breather
SVDB	Desiccant air breather (light series)

Size	
093	See page A21
096	
121	See page A21
122	

Adaptors	
(None)	Without adaptor
AP	With adaptor plate (SDB series)
BA	With BA-5A adaptor (SVDB series)

Contamination Indicator (In conjunction with AP only)	
(None)	Without contamination indicator
FM	visual contamination indicator

Spare Parts	
AP-1	Adaptor Plate for SDB-093/096
AP-2	Adaptor Plate for SDB-121/122
BA-5A	Adaptor fitting for SVDB-093/096
DBA-75	Adaptor fitting for SDB 93/96 for use with FM-1
FM-1	Contamination indicator for SDB series
RD-093	Replacement Gel for SDB-093
RD-096	Replacement Gel for SDB-096
RD-121	Replacement Gel for SDB-121
RD-122	Replacement Gel for SDB-122
SGB090-03-B	Replacement air filter for SDB-093/096
SGB120-03-B	Replacement air filter for SDB-121/122

Specifications

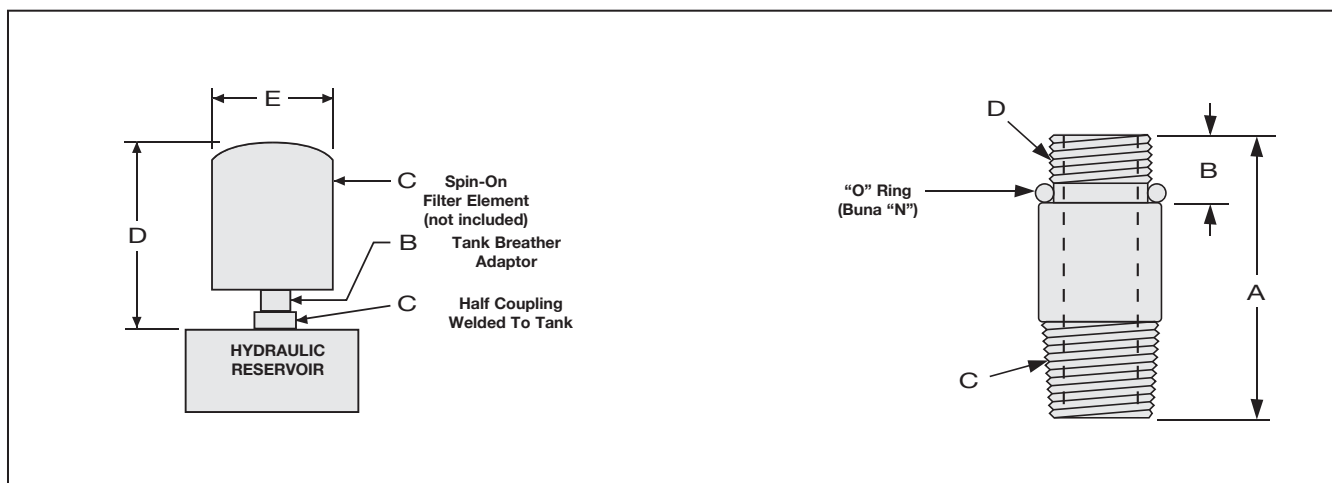
- Steel Construction, Zinc Plated
- Buna-N "O"-Ring
- Air Flows to 64 cfm / 480 gpm

Options

- Available with 3/4" or 1-1/4" Male NPT attachment
- Available with 1" - 12", 1-1/2" - 16" Element attachment
Thread to fit SF6500 & SF6700 Series Element



Dimensions



Filler Breather Adaptor	A		B		C Male Pipe Thread	D Element Attached Thread	Element Options	Micron Rating	Air Flow cfm/gpm
	mm	in	mm	in					
TBA-075	57.15	2.25	12.7	0.5	3/4" NPT	1" - 12 UNF	SF 6520/21 SF 6549	10µ 3µ	73/172 20/47
TBA-120	7.62	3	12.7	0.5	1 1/4" NPT	1 1/4" BSP	SGB-120 SFC-5710E SFC-5810E	3µ 10µ 10µ	55/395 166/440 166/440
TBA-125	76.2	3	12.7	0.5	1 1/4" NPT	1 1/2" - 16 UNF	SF 6720/21 SF 6703/04	10µ 3µ	159/440 135/262

Ordering Information

Product		Size (Pipethread Adaptor / Element Port)	
TBA	Filler Breather Adaptor	075	3/4" NPT / 1"-12 UNF
		120	1 1/4" NPT / 1 1/4" BSP
		125	1 1/4" NPT / 1 1/2"-16 UNF

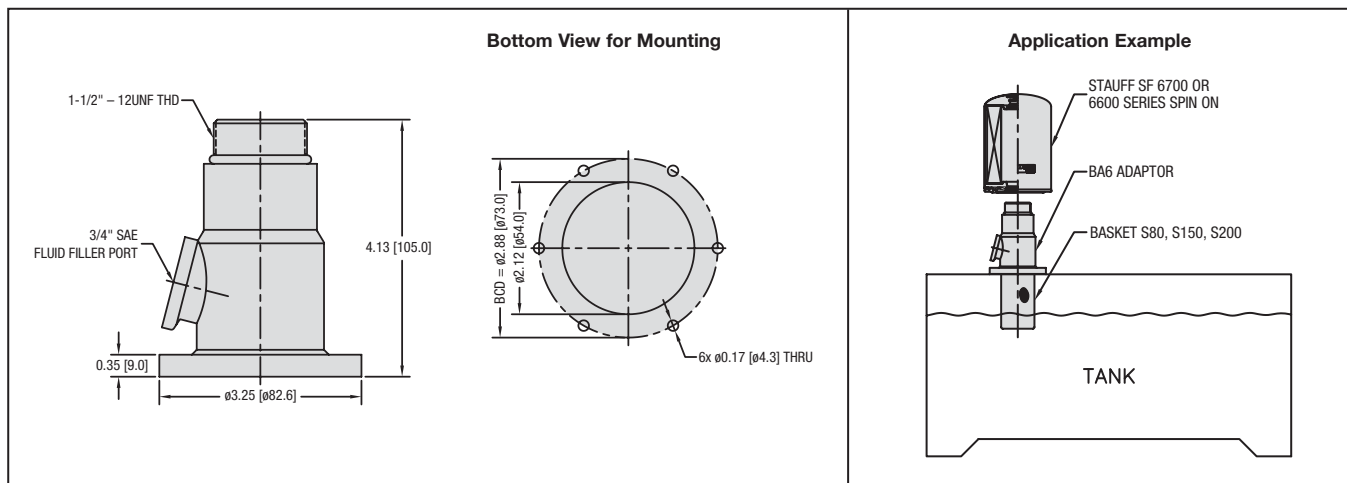
Specifications

- Material: Cast Aluminum
- 3/4" SAE O-Ring Fluid Filler Port
- Supplied with O-Ring, Gasket and Mounting Hardware
- For Use with Stauff SF6600 and SF6700 Series Spin-On Filters
- Can Be Used with Stauff Filler Breather Wire Baskets S80, S150, S200 Steel-mesh Baskets and S-095-P-F Plastic Basket



Dimensions

Dimensions in mm (inch)

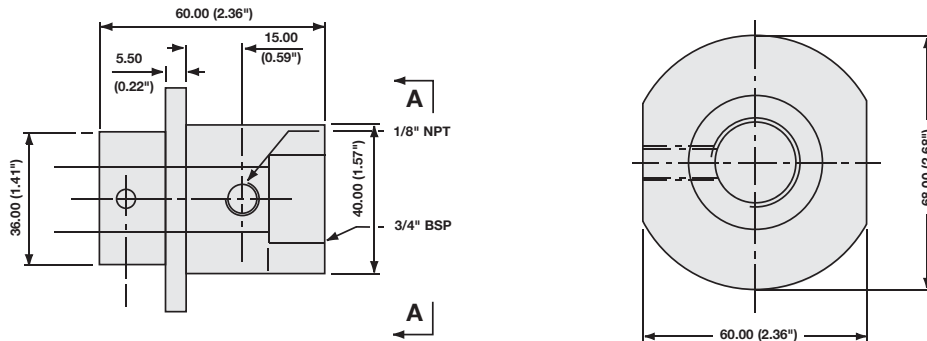


PART NUMBER

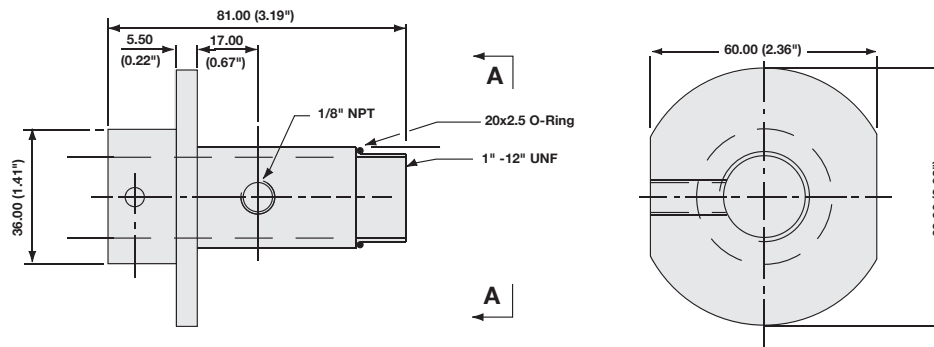
BA-6

Bayonet Adaptors – Black Anodized Aluminum

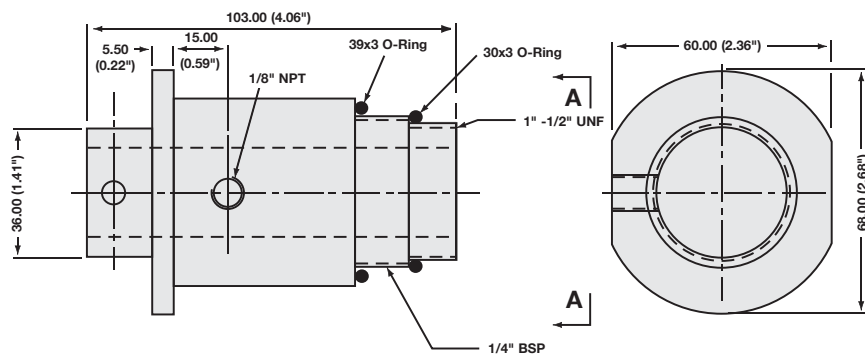
BA-1 • For Use With the SDB-93 and SDB-96 Desiccant Breathers • Buna-N Seals



BA-2 • For Use With all SF-65xx Series Elements • Buna-N Seals



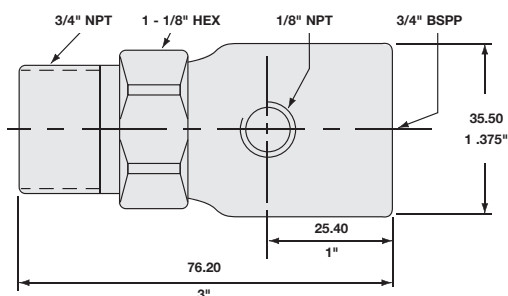
BA-3 • For Use With the SGB-120 Breather and SF-67xx Series Spin-On Elements • Buna-N Seals



Dimensions in mm (inch)

Threaded Adaptor – Black Anodized Aluminum

DBA-75 • For Use With the SDB-93 and SDB-96 Desiccant Breather



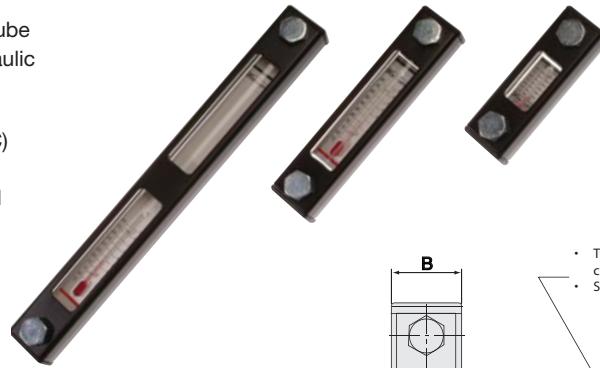
*All Adaptors Have 1/8" NPT Port for Attachment of the FM-1 Filter Minder

Specifications

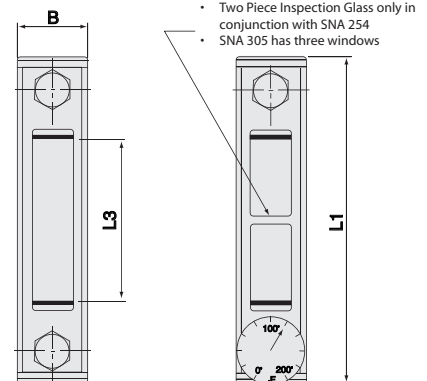
- Black Epoxy Coated Metal Shroud with Polyamid Sight Tube
- Suitable for Use with Mineral and Petroleum Based Hydraulic Fluids and Lubricants.
- Maximum Operating Temperature 194°F (90°C)
- Thermometer Calibration from -14°F (-10°C) to 176°F (80°C)
- SNA 076 has M10 Bolts as Standard
- SNA 127, SNA 254, SNA305 have M12 Bolts as Standard
- Tightening Torque 70 in/lb (7.9 Nm)

Options

- Viton Seals
- Dial Thermometer Available with 7.9 in (200mm) or 11.8 in (300mm) Probe
- Other Special Seals Available upon Request
- Special Customized Scale Plates Available
- 1/2" UNC Bolts Available on SNA 127, 254 or 305
- M12 Bolts Available on SNA 076
- Special Lengths Available on Request
- Special plastic sight tubes available for improved UV resistance or special fluids

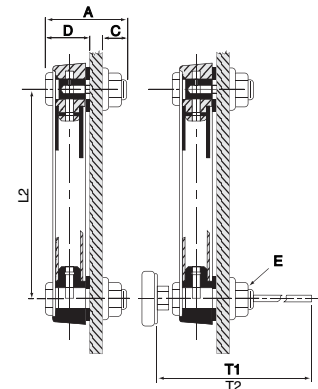


Please consult factory on the use of special fluids such as biological fluids, diesel oils, gasoline, etc.



Dimensions

	SNA 076		SNA 127		SNA 254		SNA 305	
	mm	in	mm	in	mm	in	mm	in
A	45	1.77	45	1.77	45	1.77	45	1.77
B	34.5	1.34	34.5	1.34	34.5	1.34	34.5	1.34
C	8MAX	0.32MAX	8MAX	0.32MAX	8MAX	0.32MAX	8	0.32
D	27	1.06	27	1.06	27	1.06	27	1.06
E	M10		M12		M12		M12	
L1	108	4.25	159	6.25	286	11.25	336	13.2
L2	76	3.00	127	5.00	254	10.00	305	12.0
L3	39	1.45	76	3.00	203	8.00	255	10.0
T1	200	7.88	200	7.88	200	7.88	200	7.88
T2	302	11.88	302	11.88	302	11.88	302	11.88



Ordering Information

SNA 127 B S T1 12 O60

Type
SNA

Series	
076	SNA 076 (3")
127	SNA 127 (5")
254	SNA 254 (10")
305	SNA 305 (12")

Seal Material	
B	BUNA NBR
V	VITON FPM

Design of Scale Plate	
S	With Stauff-Logo (Standard)
N	No Logo
X	Custom Design

Thermo Switch (see page A28 for details)	
OMIT	Without Thermo Switch
O60	TS-SNA/SNK-O-60
O70	TS-SNA/SNK-O-70
O80	TS-SNA/SNK-O-80

Banjo Bolts	
12	M 12 (Standard SNA 127, 254 & 305)
10	M 10 (Standard SNA 076)
U	1/2" UNC (Available for 127, 254 & 305)

Thermometer (Dial thermometer with probe T1/T2 for size M12 and for 1/2" UNC / UNF)	
O	Without Thermometer
T	Capillary Tube Thermometer on Scale Plate
T1	Dial Thermometer With 200 mm (7.9") Probe (7.9")
T2	Dial Thermometer With 300 mm (11.8") Probe (11.8")
TB	Blue Capillary Tube Option

Specifications

- Black Epoxy Coated Metal Shroud with Polyamid Sight Tube
- Suitable for Use with Mineral and Petroleum Based Hydraulic Fluids, Lubricants and Gasoline.
- Maximum Operating Temperature 194°F (90°C)
- Thermometer Calibration from 14°F (-10°C) to 176°F (80°C)
- Electrical Contact Made at Minimum Oil Level.
- Viton Seals, M12 Bolts
- Tightening Torque 70 in-lbs
- Standard Plug Type "C" or "O" per DIN ISO 6952

Options

- Dial Thermometer Available with 7.9 in (200mm) or 11.8 in (300mm) Probe
- 1/2" UNC Bolts Available
- Special Improved UV Resistant Plastic Sight Tube
- Special Lengths Available upon Request



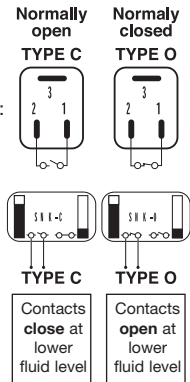
Electrical Connections and Functions

Contact load:
max 10 W (Type C)
max 3 W (Type O)

Bias-reducing Potential:
50 V AC/DC

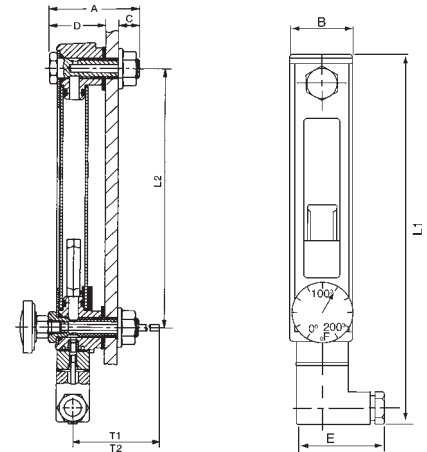
Current on Contact
max 0,50 A (Type C)
max 0,25 A (Type O)

Electrical switch PG 9
Protection IP65
Connection 3 is not
engaged



Dimensions

	SNK 127		SNK 254		SNK 305	
	mm	in	mm	in	mm	in
A	56	2.20	56	2.20	56	2.20
B	34.5	1.36	34.5	1.36	34.5	1.36
C	8.2MAX	0.32MAX	8.2MAX	0.32MAX	8MAX	0.32MAX
D	35.1	1.38	35.1	1.38	35.1	1.38
E	49.8	1.96	49.8	1.96	50	1.96
L1	203.2	8.00	330	13.00	363	14.3
L2	127	5.00	254	10.00	305	12.0
T1	200	7.88	200	7.88	200	7.88
T2	302	11.88	302	11.88	302	11.88



Ordering Information

SNK		127		V		C		T1		12		O60	
Type													
SNK													
Series													
127	SNK 127 (5")												
254	SNK 254 (10")												
305	SNK 305 (12")												
Seal Material													
V	Viton FPM (standard)												
Design of Scale Plate													
C	Make Contact, Closes at Minimum Level (n/o)												
O	Break Contact, Opens at Minimum Level (n/c)												

Area of Application:

Oil temperature indicator is to be used in conjunction with STAUFF level gauges SNA and SNK

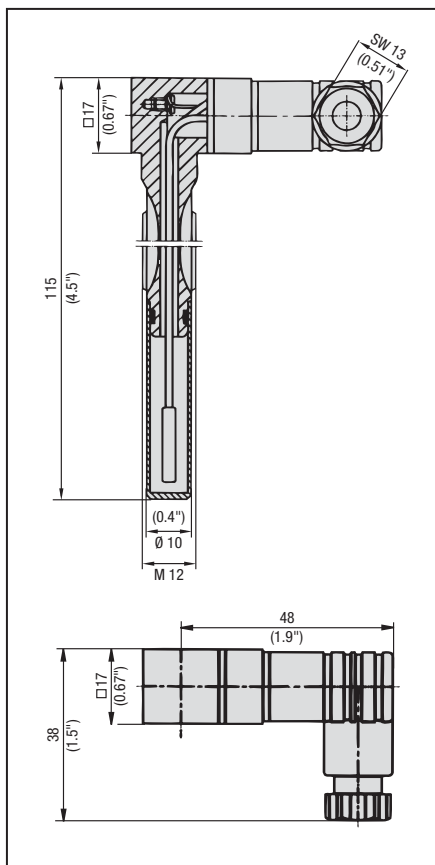
Characteristics / Materials:

- Available with 60°C (140°F), 70°C (158°F) or 80°C (176°F) switching temperature
- Activation takes place when the respective switching temperature is exceeded.
- Electrical function: Type O break contact, normally closed
- Steel parts made out of Steel (1.0718)
- Plastic parts made out of glass fiber reinforced polyamide

Thermo switches are available for the standard mounting size M12 only.

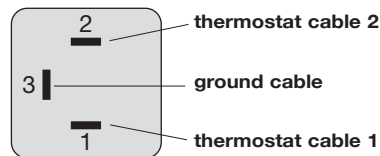
Dimensions

Dimensions in mm (inch)



Technical Data (Break contact):

Switching temperature: see ordering code
Hysteresis: 20° C (68°F)
Switching temperature tolerance: 6.5° C (44°F)



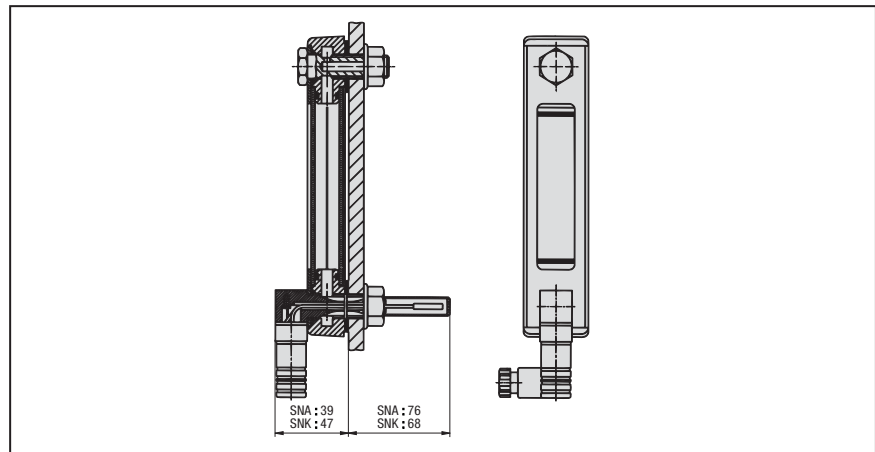
Alternating current

- max voltage 250 VAC
- max current at 10.000 cycles
≈ 2,5 A at cosØ = 1,0
≈ 1,6 A at cosØ = 0,6
- max current at 100.000 cycles
≈ 0,5 A at cosØ = 1,0
≈ 0,25 A at cosØ = 0,6
- min current 50 mA

Direct current

- max voltage 42 VDC
- max current at 10.000 cycles 1 A

Example of application



Ordering Code and Temperature Range

Type		Series		Switching Temperature		Electrical Function	
TS	Thermo Switch	SNA / SNK	O	60	60°C / 140°F	O	Type O, Break Contact (normally closed)
					70°C / 158°F	C	Type C, Open Contact (normally open)
					80°C / 176°F		

Thermo switches can be ordered both as a single component and in combination with STAUFF level gauges SNA and SNK. See pages A26 and A27.

Specifications

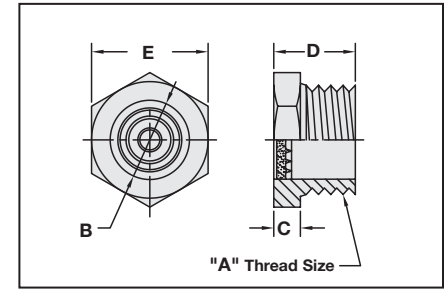
- Electroless Nickel Plated Steel Construction
- Maximum Operating Temperature 500°F (260°C)
- Hermetically Sealed Glass Prism Lenses
- Easy Installation

Options

- SAE Thread (contact factory)
- Stainless Steel (contact factory)



Dimensions



Part Number	Thread Size A	Diameter B		C		D		E Hex.		Maximum Operating Pressure	
		mm	in	mm	in	mm	in	mm	in	PSI	bar
SLW-04	1/4"-18 NPT	8.6	0.34	4.8	0.19	16.0	0.63	16.0	0.63	4000	275
SLW-06	3/8"-18 NPT	11.2	0.44	5.6	0.22	18.3	0.72	19.1	0.75	3700	250
SLW-08	1/2"-14 NPT	14.2	0.56	5.6	0.22	19.8	0.78	23.9	0.94	3500	240
SLW-12	3/4"-14 NPT	19.1	0.75	8.1	0.32	23.9	0.94	26.9	1.06	3000	200
SLW-16	1"-11 1/2 NPT	23.9	0.94	8.1	0.32	31.8	1.25	35.1	1.38	2500	170
SLW-20	1 1/4"-11 1/2 NPT	30.5	1.20	10.4	0.41	31.0	1.22	44.5	1.75	2000	138
SLW-24	1 1/2"-11 1/2 NPT	36.6	1.44	10.4	0.41	31.0	1.22	50.8	2.00	1500	100
SLW-32	2"-11 1/2 NPT	47.8	1.88	10.4	0.41	32.5	1.28	63.5	2.50	1000	70

Plastic Sight Glasses OLG Series

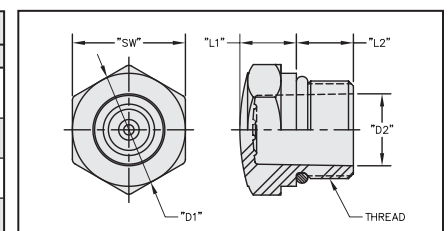
Specifications

- Polyamid Construction (TR-90-UV)
- Operating Temperature -22°F (-30°C) to 194°F (90°C)
- Maximum Operating Pressure 75 PSI (5 bar)
- SAE Thread
- Easy Installation



Dimensions

Part Number	Thread	SW		D1		D2		L1		L2	
		mm	in	mm	in	mm	in	mm	in	mm	in
OLG-U08-P-P	3/4"-16 UNF	22	0.9	22	0.9	14	0.55	8	0.31	11	0.43
OLG-U12-P-P	1 1/16"-12 UNF	32	1.26	32	1.26	20	0.79	11.9	0.47	15.1	0.54
OLG-U16-P-P	1 5/16"-12 UNF	41	1.61	41	1.61	25	1.00	12.9	0.51	15.1	0.54
OLG-U20-P-P	1 5/8"-12 UNF	50	1.97	50	1.97	30	1.18	15.9	1.63	15.1	0.54





Motor-Pump Adaptors for Electric Motors

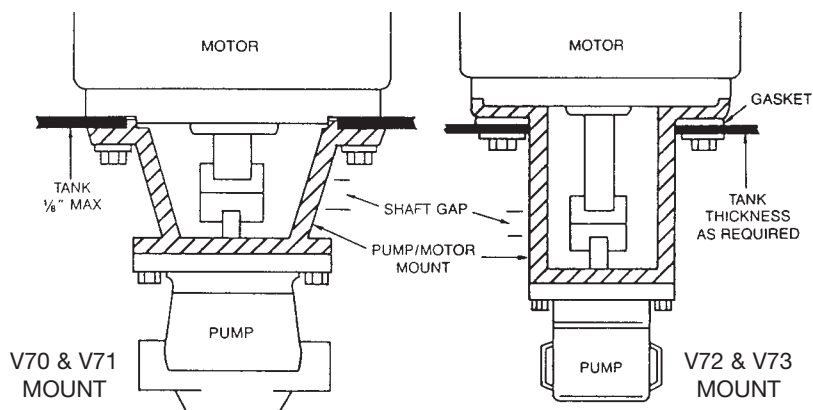
Specifications

- Vertical and Horizontal Mounts
- For Accurate Alignment Between Pump and Motor
- Lightweight, High Strength Aluminum Casting
- One Snap-In Cover for Access Hole (Standard)
- Suitable for Electric Motors to 100 HP
- Consult factory for options on Gas Engine Adaptors



Vertical Mounts Dimensional Information

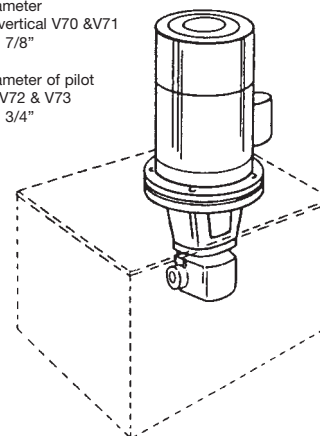
MOUNTS OFFER EASY ASSEMBLY OF PUMP TO VERTICAL MOTOR



Note:

Outside diameter of pilot on vertical V70 & V71 mount is 4 7/8"

Outside diameter of pilot on vertical V72 & V73 mount is 5 3/4"

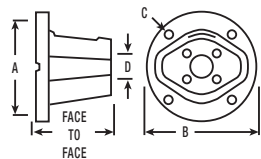
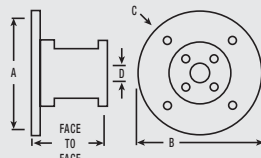
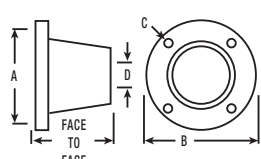
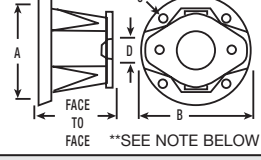
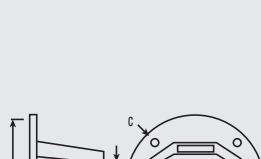
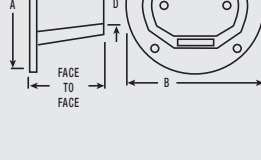
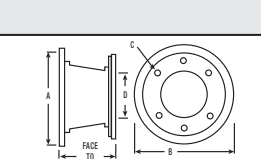
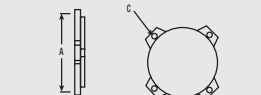


Vertical pump mounts allow pump/motor assembly to be directly mounted to reservoir. Pump coupling and shafts are within reservoir for enclosed, quiet operation. Faster assembly of equipment with this accurately machined, aluminum casting.

Vertical Mount Adaptor for Electric Motors

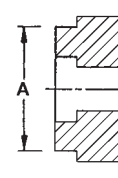
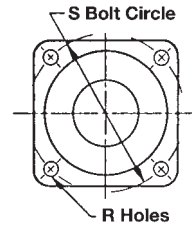
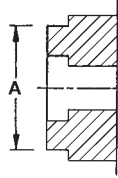
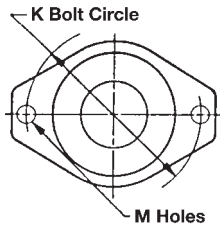
Frame Number	Pump Mount Part Number	Motor Frame Size	SAE Pump Flange	Face To Face		Dimensions of NEMA-C Face Mount End (inches)						Dimensions of Pump Face Mount End (inches)				
						A		B		C		D Nominal		Pump Bolt Circle		
				mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	
E70	V70-A4	56C 143-145 TC	4F17	89	3.50"	114	4.50	168	6.625	149	5.875	45	1.78	72	2.828	
	V70-AA		AA-2 BOLT									51	2.00	83	3.25	
	V70-A2		A-2 BOLT									83	3.25	106	4.188	
E71	V71-A4	56C 143-145 TC	4F17	112	4.40"	114	4.50	168	6.625	149	5.875	45	1.78	72	2.828	
	V71-AA		AA-2 BOLT									51	2.00	83	3.25	
	V71-A2		A-2 BOLT									83	3.25	106	4.188	
E72	V72-A4	182-184 TC	4F17	130	5.12"	216	8.50	222	8.75	184	7.25	45	1.78	72	2.828	
	V72-AA	213-215 TC	AA-2 BOLT									51	2.00	83	3.25	
	V72-A2	254-256 TC	A-2 BOLT									83	3.25	106	4.188	
E73	V73-A4	182-184 TC	4F17	163	6.40"	216	8.50	222	8.75	184	7.25	45	1.78	72	2.828	
	V73-AA	213-215 TC	AA-2 BOLT									51	2.00	83	3.25	
	V73-A2	254-256 TC	A-2 BOLT									83	3.25	106	4.188	

Horizontal Mounts for Electric Motors

Frame Number	Pump Mount Part Number	Motor Frame Size	SAE Pump Flange	Face to Face		Dimensions of NEMA-C Face Mount End (Inches)						Dimensions of Pump Face Mount End (Inches)				Maximum Coupling Diameter		
						A		B		C		Nominal		Pump Bolt Circle				
				mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	
E49	E49-A4	56C 143-145 TC	4F17	89	3.50	114	4.50	168	6.625	149	5.875	45	1.78	72	2.828	76	3.00	
	E49-AA		AA-2 BOLT									51	2.00	83	3.25			
	E49-A2		A-2 BOLT									83	3.25	106	4.188			
E50	E50-A4	56C 143-145 TC	4F17	112	4.40	114	4.50	168	6.625	149	5.875	45	1.78	72	2.828	76	3.00	
	E50-AA		AA-2 BOLT									51	2.00	83	3.25			
	E50-A2		A-2 BOLT									83	3.25	106	4.188			
	E50Z-A 2/4	56C-145TC	A 2/4	83	3.25	106	4.188											
E51	E51-A4	182-184 TC	4F17	130	5.12	216	8.50	222	8.75	184	7.25	45	1.78	72	2.828	89	3.50	
	E51-AA		AA-2 BOLT									51	2.00	83	3.25			
	E51-A2		A-2 BOLT									83	3.25	106	4.188			
E52	E52-A4	213-215 TC	4F17	163	6.40	216	8.50	222	8.75	184	7.25	45	1.78	72	2.828	89	3.50	
	E52-AA	254-256 TC	AA-2 BOLT									51	2.00	83	3.25			
	E52-A2	A-2 BOLT	83									3.25	106	4.188				
E53	E53-A2	182-184 TC	A-2 BOLT	147	5.81	216	8.50	222	8.75	184	7.25	83	3.25	106	4.188	89	3.50	
E54	E54-B2		B-2 BOLT									102	4.00	146	5.75			
E55	E55-A2		213-215 TC									A-2 BOLT	172	6.81	216			
E56	E56-B2	B-2 BOLT	102	4.00	146	5.75												
E57	E57-A2S	254-256 TC	A-2 BOLT	129	5.06	216	8.50	222	8.75	184	7.25	83	3.25	106	4.188	89	3.50	
	E57-A2L	A-2 BOLT	130	5.12	83							3.25	106	4.188				
	E57Z-A 2/4	182-256TC	A 2/4	133	5.25							83	3.25	106	4.188			
E58	E58-A2	182-182 TC	A-2 BOLT	147	5.81	216	8.50	222	8.75	184	7.25	83	3.25	106	4.188	102	4.00	
	E58-B2	213-215TC	B-2 BOLT									102	4.00	146	5.75			
	E58-C2	254-256 TC	C-2 BOLT									127	5.00	181	7.125			
E59	E59-A2	182-184 TC	A-2 BOLT	172	6.81	216	8.50	222	8.75	184	7.25	83	3.25	106	4.188	102	4.00	
	E59-B2	213-215 TC	B-2 BOLT									102	4.00	146	5.75			
	E59-C2	254-256 TC	C-2 BOLT									127	5.00	181	7.125			
E62	E62-A2	284-286 TC	A-2 BOLT	174	6.87	267	10.50	279	11.00	228	9.00	83	3.25	106	4.188	102	4.50	
	E62-B2	284-286 TSC	B-2 BOLT									102	4.00	146	5.75			
	E62-C2	C-2 BOLT	127									5.00	181	7.125				
E63	E63-A2	284-286 TC	A-2 BOLT	200	7.87	267	10.50	279	11.00	228	9.00	83	3.25	106	4.188	102	4.50	
	E63-B2	284-286 TSC	B-2 BOLT									102	4.00	146	5.75			
	E63-C2	C-2 BOLT	127									5.00	181	7.125				
E64	E64-A2	324-326 TSC	A-2 BOLT	168	6.62	318	12.50	330	13.00	279	11.00	83	3.25	106	4.188	133	5.25	
	E64-B2/4	364-365 TSC	B-2 BOLT									102	4.00	146	5.75			
		404-405 TSC	B-4 BOLT									102	4.00	127	5.00			
	E64-C2/4		C-4 BOLT									127	5.00	162	6.375			
E65	E65-A2	324-326 TSC	A-2 BOLT	179	7.06	318	12.50	330	13.00	279	11.00	83	3.25	106	4.188	133	5.25	
	E65-B2/4	364-326 TSC	B-2 BOLT									102	4.00	146	5.75			
		404-405 TSC	B-4 BOLT									102	4.00	127	5.00			
	E65-C2/4		C-2 BOLT									127	5.00	181	7.125			
E66	E66-A2	324-326 TSC	A-2 BOLT	222	8.75	318	12.50	330	13.00	279	11.00	83	3.25	106	4.188	133	5.25	
	E66-B2/4	369-365 TSC	B-2 BOLT									102	4.00	146	5.75			
		404-405 TSC	B-4 BOLT									102	4.00	127	5.00			
	E66-C2/4		C-2 BOLT									127	5.00	181	7.125			
E67	E67-D2/4	324-326 TSC	A-2 BOLT	179	7.06	318	12.50	330	13.00	279	11.00	83	3.25	106	4.188	152	6.00	
		264-365 TSC	D-2 BOLT									102	4.00	146	5.75			
E68	E68-D2/4	324-326 TSC	D2 BOLT	222	8.75	318	12.50	330	13.00	279	11.00	152	6.00	229	9.00	152	6.00	
		269-365 TSC	D4 BOLT									152	6.00	229	9.00			
ADAPTOR FOR E51-E59 TO CONVERT TO 284-286 TSC MOTORS																		
E69	E69					267	10.50	279	11.00	228	9.00							

**Note: use the E69 adaptor ring with E58 and E59 mounts for all E62 and E63 mounts

NEMA Electric Motors



SAE-2 Bolt Mount

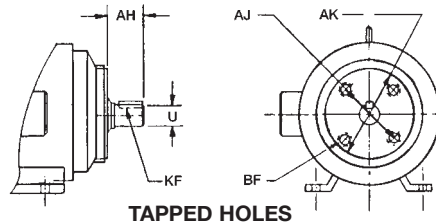
Dimensions in inch

Mounting Flange	Pilot Dimensions	Flange Dimensions	
SAE	A	K	M
AA	2.000/1.998	3.255 3.245	0.406
A	3.250/3.248	4.192 4.182	0.438
B	4.000/3.998	5.755 5.745	0.562
C	5.000/4.998	7.130 7.120	0.687
D	6.000/5.998	9.005 8.995	0.812
E	6.500/6.498	12.503 12.495	1.062
F	7.000/6.998	13.786 13.776	1.062

SAE-4 Bolt Mount

Dimensions in inch

Mounting Flange	Pilot Dimensions	Flange Dimensions	
SAE	A	S	R
USA 4F17	1.781/1.779	2.843 2.833	0.375
A	3.250/3.248	4.130 4.120	0.438
B	4.000/3.998	5.005 4.995	0.562
C	5.000/4.998	6.380 6.370	0.562
D	6.000/5.998	9.005 8.995	0.812
E	6.500/6.498	12.505 12.495	0.812
F	7.000/6.998	13.786 13.776	1.062



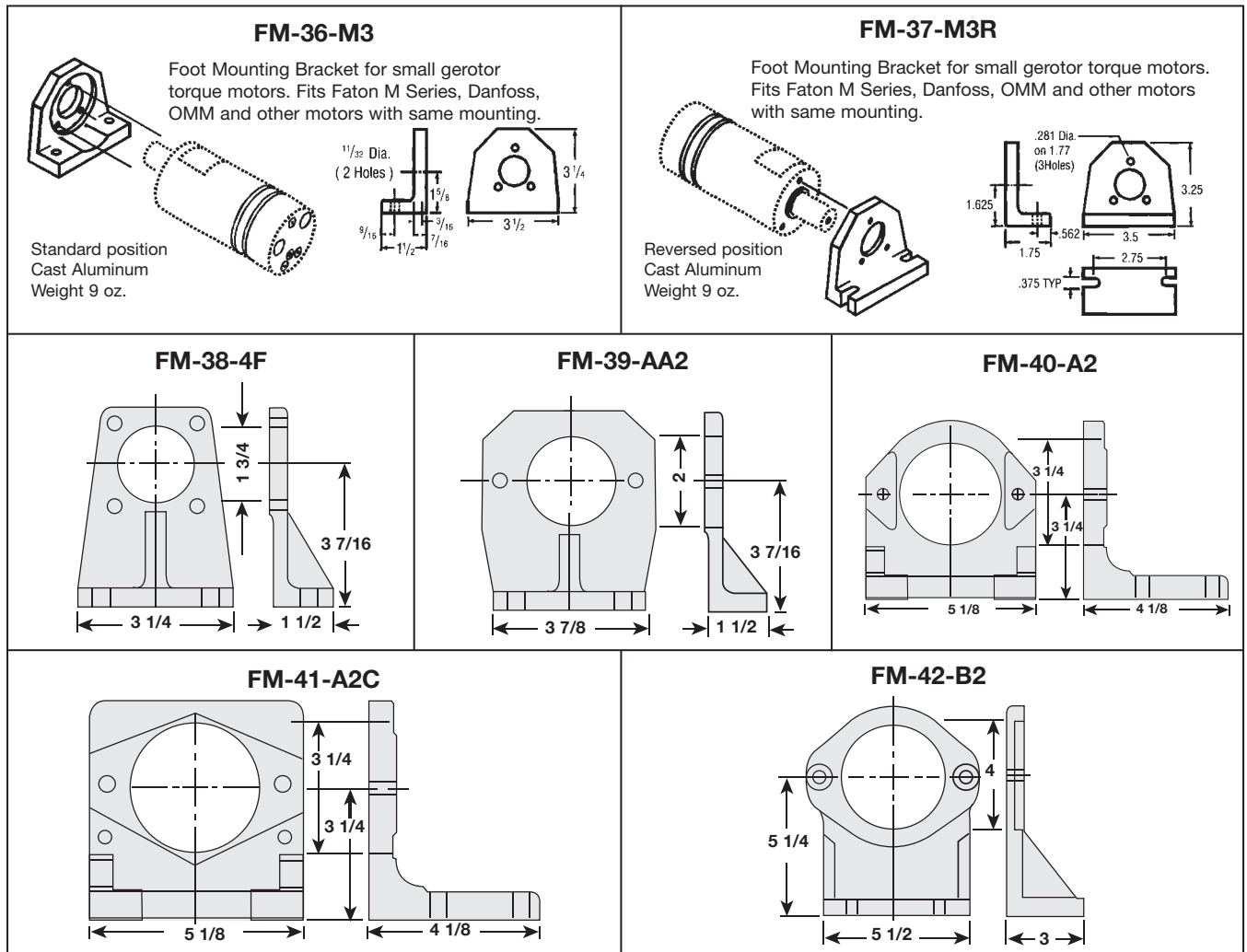
NEMA Electric Motor Shaft and C-Face Dimension

NEMA Motor	Frame	Bolt Circle		Register	Shaft Diameter		Shaft Length		Key Sq.		Key Length		BP Tapped Holes	
		AJ		AK	U		AH						Size	No. Req'd.
		mm	in		mm	in	mm	in	mm	in	mm	in		
56C		149	5-7/8	4-1/2	16	5/8	52	2-1/16	5	3/16	25	1	3/8-16	4
143TC		149	5-7/8	4-1/2	22	7/8	54	2-1/8	5	3/16	35	1-3/8	3/8-16	4
145TC		149	5-7/8	4-1/2	22	7/8	54	2-1/8	5	3/16	35	1-3/8	3/8-16	4
182TC		184	7-1/4	8-1/2	29	1-1/8	67	2-5/8	6	1/4	44	1-3/4	1/2-13	4
184TC		184	7-1/4	8-1/2	29	1-1/8	67	2-5/8	6	1/4	44	1-3/4	1/2-13	4
213TC		184	7-1/4	8-1/2	35	1-3/8	79	3-1/8	8	5/16	60	2-3/8	1/2-13	4
215TC		184	7-1/4	8-1/2	35	1-3/8	79	3-1/8	8	5/16	60	2-3/8	1/2-13	4
254TC		184	7-1/4	8-1/2	41	1-5/8	95	3-3/4	10	3/8	73	2-7/8	1/2-13	4
256TC		184	7-1/4	8-1/2	41	1-5/8	95	3-3/4	10	3/8	73	2-7/8	1/2-13	4
284TC		229	9	10-1/2	48	1-7/8	111	4-3/8	13	1/2	83	3-1/4	1/2-13	4
284TSC		229	9	10-1/2	41	1-5/8	76	3	10	3/8	48	1-7/8	1/2-13	4
286TC		229	9	10-1/2	48	1-7/8	111	4-3/8	13	1/2	83	3-1/4	1/2-13	4
286TSC		229	9	10-1/2	41	1-5/8	76	3	10	3/8	48	1-7/8	1/2-13	4
324TC		279	11	12-1/2	54	2-1/8	127	5	13	1/2	98	3-7/8	5/8-11	4
324TSC		279	11	12-1/2	48	1-7/8	89	3-1/2	13	1/2	51	2	5/8-11	4
326TC		279	11	12-1/2	54	2-1/8	127	5	13	1/2	98	3-7/8	5/8-11	4
326TSC		279	11	12-1/2	48	1-7/8	89	3-1/2	13	1/2	51	2	5/8-11	4
364TC		279	11	12-1/2	60	2-3/8	143	5-5/8	16	5/8	108	4-1/4	5/8-11	8
364TSC		279	11	12-1/2	48	1-7/8	89	3-1/2	13	1/2	51	2	5/8-11	8
365TC		279	11	12-1/2	60	2-3/8	143	5-5/8	16	5/8	108	4-1/4	5/8-11	8
365TSC		279	11	12-1/2	48	1-7/8	89	3-1/2	13	1/2	51	2	5/8-11	8
404TC		279	11	12-1/2	60	2-7/8	178	7	19	3/4	143	5-5/8	5/8-11	8
404TSC		279	11	12-1/2	54	2-1/8	102	4	13	1/2	70	2-3/4	5/8-11	8
405TC		279	11	12-1/2	60	2-7/8	178	7	19	3/4	143	5-5/8	5/8-11	8
405TSC		279	11	12-1/2	54	2-1/8	102	4	13	1/2	70	2-3/4	5/8-11	8
444TC		356	14	16	92	3-3/8	210	8-1/4	22	7/8	175	6-7/8	5/8-11	8
444TSC		356	14	16	60	2-3/8	114	4-1/2	16	5/8	76	3	5/8-11	8
445TC		356	14	16	92	3-3/8	210	8-1/4	22	7/8	175	6-7/8	5/8-11	8
445TSC		356	14	16	60	2-3/8	114	4-1/2	16	5/8	76	3	5/8-11	8

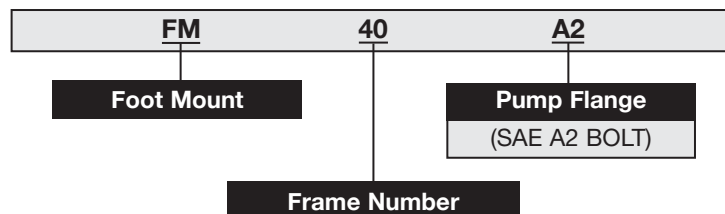
Specifications

- Lightweight Aluminum Casting
- Sizes Available: SAEAA - 4 Bolt
SAEAA - 2 Bolt
SAEA - 2 Bolt
SAEB - 2 Bolt

Dimensions in inch



Ordering Information



Specifications

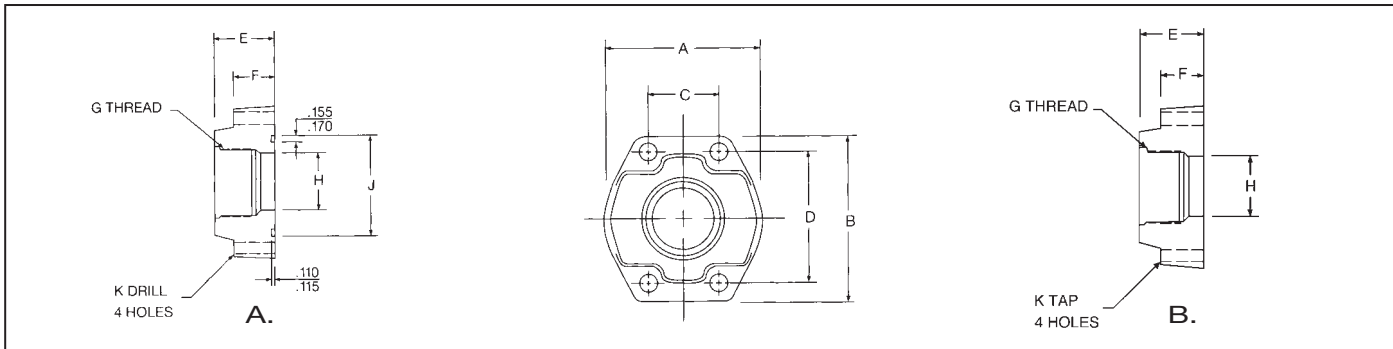
- Carbon Steel Forging
- 3000 PSI (200 bar) SAE Code 61

Options

- NPT or SAE Thread
- Standard and Companion Flanges
- Reducing Options Available.



Dimensions / Ordering Information



Code 61 NPTF Thread

Part No. O-Ring Fig. A	Part No. Flat Face Fig. B	Port Size	Pad Size	A		B		C		D		E		F		G		H		J NPTF		K		L UNC-2B		Mounting Hardware	
				mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	in	mm	in	in	O-Ring	SHCS
SP43-8-8	SP104-8-8	.50	.50	46	1.81	54	2.13	17	.688	38	1.500	36	1.42	16	.63	25	1.000	13	.502	1/2-14	9	.344	5/16-18	210	5/16-18X1.25		
SP43-12-12	SP104-12-12	.75	.75	50	1.97	65	2.56	22	.875	48	1.875	36	1.42	18	.71	32	1.250	19	.752	3/4-14	10	.406	3/8-16	214	3/8-16X1.50		
SP43-16-16	SP104-16-16	1.00	1.00	55	2.17	70	2.75	26	1.031	52	2.062	38	1.50	18	.71	40	1.560	25	1.002	1-11½	10	.406	3/8-16	219	3/8-16X1.50		
SP43-20-20	SP104-20-20	1.25	1.25	68	2.68	79	3.12	30	1.188	59	2.312	41	1.61	21	.83	44	1.750	32	1.252	1¼-11½	12	.469	7/16-14	222	7/16-14X1.75		
SP43-24-24	SP104-24-24	1.50	1.50	78	3.07	93	3.66	36	1.406	70	2.750	45	1.77	25	.98	54	2.115	38	1.502	1½-11½	13	.531	1/2-13	225	1/2-13X1.75		
SP43-32-32	SP104-32-32	2.00	2.00	90	3.54	102	4.00	43	1.688	78	3.062	45	1.77	25	.98	63	2.490	51	2.002	2-11½	13	.531	1/2-13	228	1/2-13X1.75		
SP43-40-40	SP104-40-40	2.50	2.50	104	4.09	114	4.49	51	2.000	89	3.500	50	1.97	25	.98	76	2.995	64	2.502	2½-8	13	.531	1/2-13	232	1/2-13X1.75		
SP43-48-48	SP104-48-48	3.00	3.00	124	4.88	134	5.28	62	2.438	106	4.188	50	1.97	27	1.06	92	3.615	76	3.002	3-8	17	.656	5/8-11	237	5/8-11X2.00		

Code 61 SAE Straight Thread

Part No. O-Ring Fig. A	Part No. Flat Face Fig. B	Port Size	Pad Size	A		B		C		D		E		F		G		H		J UN/UNF-2B		K		L UNC-2B		Mounting Hardware	
				mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	in	mm	in	in	mm	in	in	O-Ring
SP46-8-8	SP106-8-8	.50	.50	46	1.81	54	2.13	17	.688	38	1.500	36	1.42	16	.63	25	1.000	13	.502	3/4-16	9	.344	5/16-18	210	5/16-18X1.25		
SP46-12-12	SP106-12-12	.75	.75	50	1.97	65	2.56	22	.875	48	1.875	36	1.42	18	.71	32	1.250	19	.752	1 1/16-12	10	.406	3/8-16	214	3/8-16X1.50		
SP46-16-16	SP106-16-16	1.00	1.00	55	2.17	70	2.75	26	1.031	52	2.062	38	1.50	18	.71	40	1.560	25	1.002	1 1/8-12	10	.406	3/8-16	219	3/8-16X1.50		
SP46-20-20	SP106-20-20	1.25	1.25	68	2.68	79	3.12	30	1.188	59	2.312	41	1.61	21	.83	44	1.750	32	1.252	1 1/8-12	12	.469	7/16-14	222	7/16-14X1.75		
SP46-24-24	SP106-24-24	1.50	1.50	78	3.07	93	3.66	36	1.406	70	2.750	45	1.77	25	.98	54	2.115	38	1.502	1 1/8-12	13	.531	1/2-13	225	1/2-13X1.75		
SP46-32-32	SP106-32-32	2.00	2.00	90	3.54	102	4.00	43	1.688	78	3.062	45	1.77	25	.98	63	2.490	51	2.002	2 1/2-12	13	.531	1/2-13	228	1/2-13X1.75		

Specifications

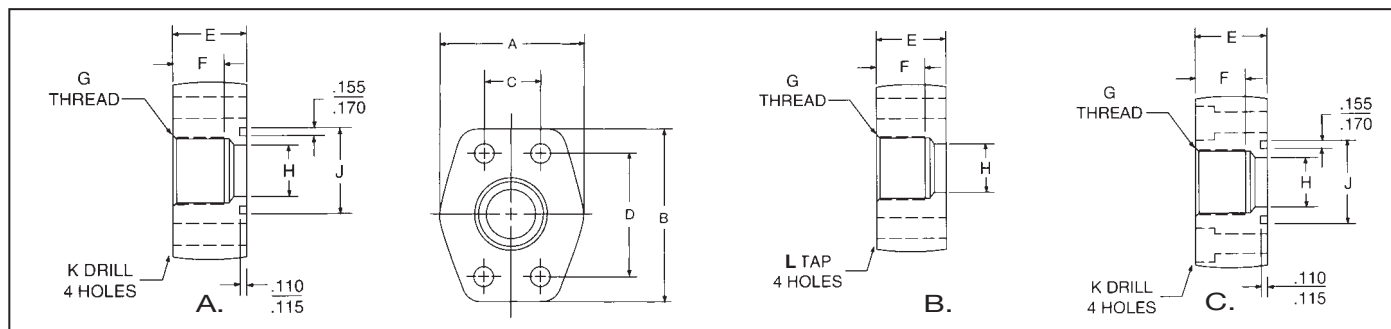
- Carbon Steel Forging
- 6000 PSI (400 bar) SAE Code 62

Options

- NPT or SAE Thread
- Standard and Companion Flanges



Dimensions / Ordering Information



Code 62 NPTF Thread

Part No. O-Ring Fig. A	Part No. Flat Face Fig. B	Port Size	Pad Size	A		B		C		D		E		F		G		H		J NPTF	K		L UNC-2B	Mounting Hardware	
				mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	in	mm	in	in	O-Ring	SHCS
SP44-8-8	SP45-8-8	.50	.50	46	1.81	56	2.21	18	.718	40	1.594	36	1.42	16	.63	25	1.000	13	.502	1/2-14	9	.344	5/16-18	210	5/16-18X1.25
SP44-12-12	SP45-12-12	.75	.75	55	2.17	71	2.80	24	.937	51	2.000	35	1.38	21	.83	32	1.250	19	.752	3/4-14	10	.406	3/8-16	214	3/8-16X1.50
SP44-16-16	SP45-16-16	1.00	1.00	65	2.56	81	3.19	28	1.093	57	2.250	42	1.65	25	.98	40	1.560	25	1.002	1-11.5	12	.492	7/16-14	219	7/16-14X1.75
SP44-20-20	SP45-20-20	1.25	1.25	78	3.07	95	3.75	32	1.250	67	2.625	45	1.77	27	1.06	44	1.750	32	1.252	1 1/4-11.5	13	.531	1/2-13	222	1/2-13X1.75
SP44-24-24	SP45-24-24	1.50	1.50	94	3.70	112	4.41	36	1.437	79	3.125	50	1.97	30	1.18	54	2.115	38	1.502	1 1/2-11.5	17	.656	5/8-11	225	5/8-11X2.25
SP44-32-32	SP45-32-32	2.00	2.00	114	4.50	134	5.28	44	1.750	97	3.812	65	2.56	37	1.46	63	2.490	51	2.002	2-11.5	20	.781	3/4-10	228	3/4-10X2.75

Code 62 SAE Straight Thread

Part No. O-Ring Fig. C	Part No. Flat Face Fig. B	Port Size	Pad Size	A		B		C		D		E		F		G		H		J UN/UNF-2B	K		L UNC-2B	Mounting Hardware	
				mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	in	mm	in	in	O-Ring	SHCS
SP48-8-8	SP49-8-8	.50	.50	46	1.81	56	2.21	18	.718	40	1.594	36	1.42	16	.63	25	1.000	13	.502	3/4-16	9	.344	5/16-18	210	5/16-18X1.25
SP48-12-12	SP49-12-12	.75	.75	55	2.17	71	2.80	24	.937	51	2.000	35	1.38	21	.83	32	1.250	19	.752	1 1/16-12	10	.406	3/8-16	214	3/8-16X1.50
SP48-16-16	SP49-16-16	1.00	1.00	65	2.56	81	3.19	28	1.093	57	2.250	42	1.65	25	.98	40	1.560	25	1.002	1 5/16-12	12	.492	7/16-14	219	7/16-14X1.75
SP48-20-20	SP49-20-20	1.25	1.25	78	3.07	95	3.75	32	1.250	67	2.625	45	1.77	27	1.06	44	1.750	32	1.252	1 5/8-12	13	.531	1/2-13	222	1/2-13X1.75
SP48-24-24	SP49-24-24	1.50	1.50	94	3.70	112	4.41	36	1.437	79	3.125	50	1.97	30	1.18	54	2.115	38	1.502	1 7/8-12	17	.656	5/8-11	225	5/8-11X2.25
SP48-32-32	SP49-32-32	2.00	2.00	114	4.50	134	5.28	44	1.750	97	3.812	65	2.56	37	1.46	63	2.490	51	2.002	2 1/2-12	20	.781	3/4-10	228	3/4-10X2.75

Specifications

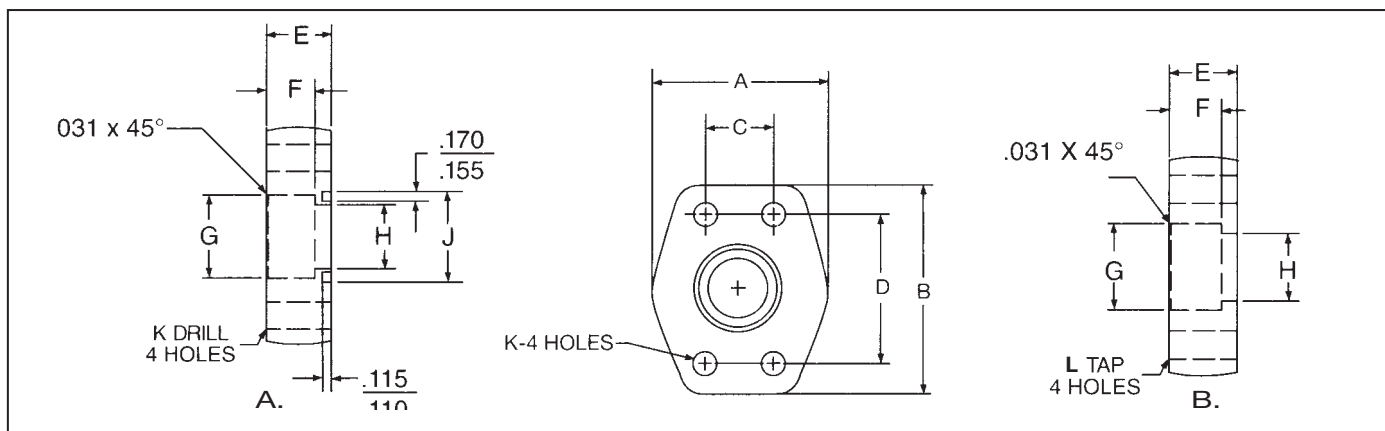
- Carbon Steel Forging
- Socket Tube
- SAE 3000 PSI (200 bar) Code 61 or 6000 PSI (400 bar) Code 62

Options

- Standard and Companion Flanges
- Reducing Options Available



Dimensions / Ordering Information



Code 61 Flat Socket Weld - Tube

Part No. O-Ring Fig. A	Part No. Flat Face Fig. B	Tube Size	Pad Size	A		B		C		D		E		F		G		H		J		K		L UNC-2B		Mounting Hardware		
				mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	in	O-Ring	SHCS
SP6-12-12	SP62-12-12	.75	.75	52	2.060	65	2.560	22	.875	48	1.875	19	.750	14	.560	32	1.250	16	.625	19	.752	10	.406	3/8-16	214	3/8-16X1.50		
SP6-16-16	SP62-16-16	1.00	1.00	59	2.310	70	2.750	26	1.031	52	2.062	22	.880	16	.630	40	1.560	22	.875	25	1.002	10	.406	3/8-16	219	3/8-16X1.75		
SP6-20-20	SP62-20-20	1.25	1.25	73	2.880	79	3.120	30	1.188	59	2.312	24	.940	18	.690	44	1.750	29	1.125	32	1.252	12	.469	7/16-14	222	7/16-14X1.75		
SP6-24-24	SP62-24-24	1.50	1.50	83	3.250	94	3.690	36	1.406	70	2.750	30	1.190	19	.750	54	2.115	35	1.375	38	1.502	13	.531	1/2-13	225	1/2-13X2.25		
SP6-32-32	SP62-32-32	2.00	2.00	97	3.810	102	4.000	43	1.688	78	3.062	35	1.380	22	.875	63	2.490	48	1.875	51	2.002	13	.531	1/2-13	228	1/2-13X2.50		

Code 62 Flat Socket Weld - Tube

Part No. O-Ring Fig. A	Part No. Flat Face Fig. B	Tube Size	Pad Size	A		B		C		D		E		F		G		H		J		K		L UNC-2B		Mounting Hardware		
				mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	in	O-Ring	SHCS
SP58-12-12	SP63-12-12	.75	.75	64	2.50	75	2.95	24	.937	51	2.000	32	1.250	14	.560	32	1.250	16	.625	19	.752	10	.406	3/8-16	214	3/8-16X2.00		
SP58-16-16	SP63-16-16	1.00	1.00	70	2.75	81	3.19	28	1.093	57	2.250	38	1.500	16	.630	40	1.560	22	.875	25	1.002	12	.492	7/16-14	219	7/16-14X2.50		
SP58-20-20	SP63-20-20	1.25	1.25	78	3.06	95	3.75	32	1.250	67	2.625	38	1.500	18	.690	44	1.750	29	1.125	32	1.252	13	.531	1/2-13	222	1/2-13X2.50		
SP58-24-24	SP63-24-24	1.50	1.50	95	3.75	113	4.44	36	1.437	79	3.125	44	1.750	19	.750	54	2.115	35	1.375	38	1.502	17	.656	5/8-11	225	5/8-11X3.00		
SP58-32-32	SP63-32-32	2.00	2.00	114	4.50	133	5.25	44	1.750	97	3.812	44	1.750	22	.875	63	2.490	48	1.875	51	2.002	20	.781	3/4-10	228	3/4-10X3.00		

Specifications

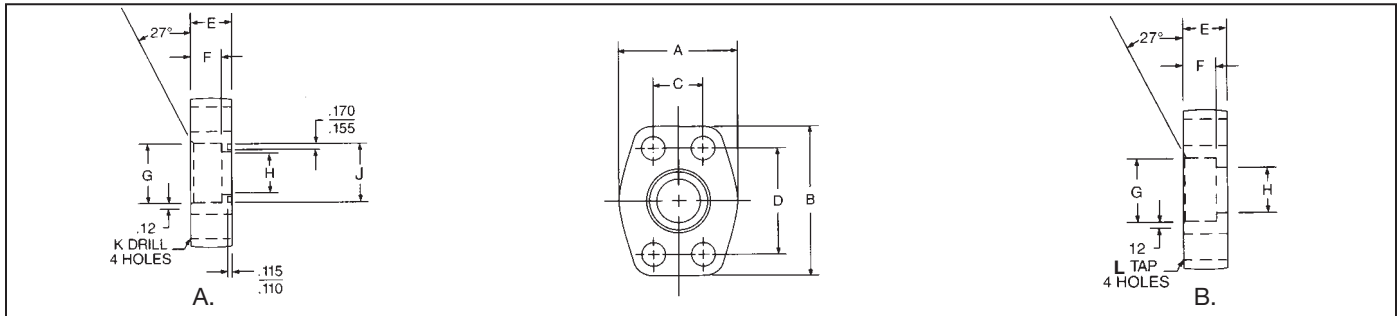
- Carbon Steel Forging
- For Socket-Pipe
- Sizes to 5" Pipe

Options

- 3000 PSI (200 Bar) SAE Code 61, or 6000 PSI (400 Bar) SAE Code 62 or 500 PSI (35 Bar)
- Standard and Companions Flanges



Dimensions / Ordering Information



Code 61 Flat Socket Weld - Pipe

Part No. O-Ring Fig. A	Part No. Flat Face Fig. B	Pipe Size	Pad Size	A		B		C		D		E		F		G		H		J		K		L UNC-2B		Mounting Hardware	
				mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	in	O-Ring
SP4-8-8	SP61-8-8	.50	.50	46	1.813	54	2.125	17	.688	38	1.500	19	.750	14	.560	25	1.000	13	.502	22	.855	9	.344	5/16-18	210	5/16-18X1.50	
SP4-12-12	SP61-12-12	.75	.75	52	2.063	65	2.563	22	.875	48	1.875	19	.750	14	.560	32	1.250	19	.752	27	1.062	10	.406	3/8-16	214	3/8-16X1.50	
SP4-16-16	SP61-16-16	1.00	1.00	59	2.313	70	2.750	26	1.031	52	2.063	22	.880	16	.630	40	1.560	25	1.002	34	1.328	10	.406	3/8-16	219	3/8-16X1.75	
SP4-20-20	SP61-20-20	1.25	1.25	73	2.875	79	3.125	30	1.188	59	2.313	24	.940	18	.690	44	1.750	32	1.252	42	1.672	12	.469	7/16-14	222	7/16-14X1.75	
SP4-24-24	SP61-24-24	1.50	1.50	83	3.250	94	3.688	38	1.406	70	2.750	30	1.190	19	.750	54	2.115	38	1.502	49	1.922	13	.531	1/2-13	225	1/2-13X2.25	
SP4-32-32	SP61-32-32	2.00	2.00	97	3.813	102	4.000	43	1.688	78	3.063	35	1.380	22	.875	63	2.490	50	2.002	61	2.406	13	.531	1/2-13	228	1/2-13X2.50	
SP4-40-40	SP61-40-40	2.50	2.50	109	4.281	114	4.500	51	2.000	89	3.500	44	1.750	25	1.000	76	2.995	64	2.502	74	2.906	13	.531	1/2-13	232	1/2-13X2.75	
SP4-48-48	SP61-48-48	3.00	3.00	131	5.156	135	5.313	62	2.438	106	4.188	54	2.120	32	1.250	92	3.615	76	3.002	90	3.547	17	.656	5/8-11	237	5/8-11X3.50	

Code 62 Flat Socket Weld - Pipe

Part No. O-Ring Fig. A	Part No. Flat Face Fig. B	Pipe Size	Pad Size	A		B		C		D		E		F		G		H		J		K		L UNC-2B		Mounting Hardware	
				mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	in	O-Ring
SP59-8-8	SP60-8-8	.50	.50	49	1.94	58	2.30	18	.718	40	1.594	32	1.250	14	.560	25	1.000	13	.502	22	.855	9	.344	5/16-18	210	5/16-18X2.00	
SP59-12-12	SP60-12-12	.75	.75	64	2.50	75	2.95	24	.937	51	2.000	32	1.250	14	.560	32	1.250	19	.752	27	1.062	10	.406	3/8-16	214	3/8-16X2.00	
SP59-16-16	SP60-16-16	1.00	1.00	70	2.75	81	3.19	28	1.093	64	2.250	38	1.500	16	.630	40	1.560	25	1.002	34	1.328	12	.492	7/16-14	219	7/16-14X2.50	
SP59-20-20	SP60-20-20	1.25	1.25	78	3.06	95	3.75	31	1.250	67	2.625	38	1.500	18	.690	44	1.750	32	1.252	42	1.672	13	.531	1/2-13	222	1/2-13X2.50	
SP59-24-24	SP60-24-24	1.50	1.50	95	3.75	113	4.44	36	1.437	79	3.125	44	1.750	19	.750	54	2.115	38	1.502	49	1.922	17	.656	5/8-11	225	5/8-11X3.00	
SP59-32-32	SP60-32-32	2.00	2.00	114	4.50	133	5.25	44	1.750	97	3.812	44	1.750	22	.875	63	2.490	50	2.002	61	2.406	20	.781	3/4-10	228	3/4-10X3.00	
SP59-40-40	SP60-40-40	2.50	2.50	149	5.87	174	6.87	59	2.312	124	4.875	52	2.060	25	1.000	76	2.995	64	2.502	74	2.906	23	.906	7/8-9	232	7/8-9X3.50	
SP59-48-48	SP60-48-48	3.00	3.00	178	7.00	216	8.50	71	2.812	152	6.000	67	2.620	32	1.250	92	3.615	76	3.002	90	3.547	30	1.190	1 1/4-7	237	1 1/4-7X4.50	

500 PSI Flat Socket Weld - Pipe

Part No. O-Ring Fig. A	Part No. Flat Face Fig. B	Pipe Size	Pad Size	A		B		C		D		E		F		G		H		J		K		L UNC-2B		Mounting Hardware	
				mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	in	O-Ring
SP72-48-48	SP91-48-48	3.00	3.00	130	5.12	135	5.31	62	2.438	106	4.188	35	1.380	28	1.120	92	3.615	76	3.002	90	3.547	17	.656	5/8-11	237	5/8-11X3.00	
SP72-56-56	SP91-56-56	3.50	3.50	140	5.50	152	6.00	70	2.750	121	4.750	37	1.440	30	1.190	104	4.095	89	3.502	103	4.047	17	.656	5/8-11	241	5/8-11X3.00	
SP72-64-64	SP91-64-64	4.00	4.00	152	6.00	162	6.38	78	3.062	130	5.125	38	1.500	32	1.250	117	4.595	102	4.002	116	4.578	17	.656	5/8-11	245	5/8-11X3.00	
SP72-80-80	SP91-80-80	5.00	5.00	181	7.12	184	7.25	92	3.625	152	6.000	44	1.750	35	1.380	142	5.595	127	5.002	143	5.641	17	.656	5/8-11	253	5/8-11X3.00	

Specifications

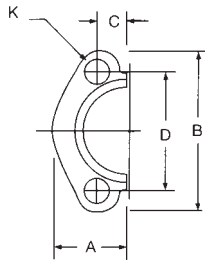
- Carbon Steel Forging
- Includes Bolts, Washers, and O-Rings
- 3000 PSI (200 Bar) Code 61 or 6000 PSI (400 Bar) Code 62

Options

- Complete kits or loose flange halves available



Dimensions / Ordering Information

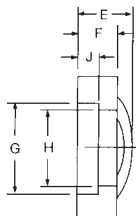


Code 61 Split Flange Kits (Kits include Flanges, Bolts, Washers and O-rings)																			
Part No.	Flange Size	A		B		C		D		E		F		G		H		J	
		mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in
SF3-12	.75	25	.98	65	2.56	11	.438	48	1.875	22	.88	14	.56	39	1.531	32	1.265	6	.245
SF3-16	1.00	28	1.11	70	2.75	13	.515	52	2.062	24	.94	16	.62	45	1.781	38	1.515	7	.295
SF3-20	1.25	35	1.39	79	3.12	15	.594	59	2.312	22	.88	16	.62	52	2.031	44	1.720	7	.295
SF3-24	1.50	40	1.58	93	3.69	18	.703	70	2.750	25	1.00	14	.56	61	2.406	51	2.000	7	.295
SF3-32	2.00	47	1.86	102	4.00	21	.844	78	3.062	26	1.03	16	.62	72	2.844	63	2.470	9	.355
SF3-40	2.50	53	2.09	114	4.50	25	1.000	89	3.500	38	1.50	19	.75	85	3.344	75	2.950	9	.355
SF3-48	3.00	64	2.53	135	5.31	31	1.219	106	4.188	41	1.62	22	.88	102	4.031	91	3.580	9	.355

Note: "Flange Pairs" can be ordered without hardware; specify "no hardware".

Code 61 Split Flange (Individual Half Only)																			
Part No.	Flange Size	A		B		C		D		E		F		G		H		J	
		mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in
PSF3-12	.75	25	.98	65	2.56	11	.438	48	1.875	22	.88	14	.56	39	1.531	32	1.265	6	.245
PSF3-16	1.00	28	1.11	70	2.75	13	.515	52	2.062	24	.94	16	.62	45	1.781	38	1.515	7	.295
PSF3-20	1.25	35	1.39	79	3.12	15	.594	59	2.312	22	.88	16	.62	52	2.031	44	1.720	7	.295
PSF3-24	1.50	40	1.58	93	3.69	18	.703	70	2.750	25	1.00	14	.56	61	2.406	51	2.000	7	.295
PSF3-32	2.00	47	1.86	102	4.00	21	.844	78	3.062	26	1.03	16	.62	72	2.844	63	2.470	9	.355
PSF3-40	2.50	53	2.09	114	4.50	25	1.000	89	3.500	38	1.50	19	.75	85	3.344	75	2.950	9	.355
PSF3-48	3.00	64	2.53	135	5.31	31	1.219	106	4.188	41	1.62	22	.88	102	4.031	91	3.580	9	.355

Note: "Flange Pairs" can be ordered without hardware; specify "no hardware".

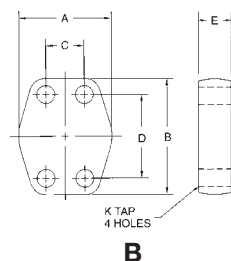
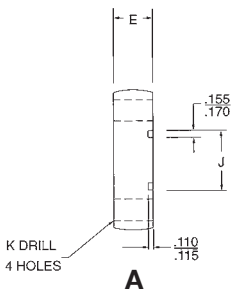


Code 62 Split Flange Kits (Kits include Flanges, Bolts, Washers and O-rings)																			
Part No.	Flange Size	A		B		C		D		E		F		G		H		J	
		mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in
SF6-12	.75	29	1.14	71	2.81	12	.469	51	2.000	28	1.12	19	.75	42	1.656	32	1.280	8	.325
SF6-16	1.00	34	1.33	81	3.19	14	.547	57	2.250	33	1.31	24	.94	48	1.906	38	1.530	9	.355
SF6-20	1.25	38	1.48	95	3.75	16	.625	67	2.625	38	1.50	27	1.06	55	2.156	44	1.750	10	.385
SF6-24	1.50	46	1.83	113	4.44	18	.719	79	3.125	43	1.69	30	1.19	64	2.531	51	2.030	12	.475
SF6-32	2.00	56	2.20	133	5.25	22	.875	97	3.812	52	2.06	37	1.44	80	3.156	63	2.660	12	.475

Code 62 Split Flange Kits (Individual Half Only)																			
Part No.	Flange Size	A		B		C		D		E		F		G		H		J	
		mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in
PSF6-12	.75	29	1.14	71	2.81	12	.469	51	2.000	28	1.12	19	.75	42	1.656	32	1.280	8	.325
PSF6-16	1.00	34	1.33	81	3.19	14	.547	57	2.250	33	1.31	24	.94	48	1.906	38	1.530	9	.355
PSF6-20	1.25	38	1.48	95	3.75	16	.625	67	2.625	38	1.50	27	1.06	55	2.156	44	1.750	10	.385
PSF6-24	1.50	46	1.83	113	4.44	18	.719	79	3.125	43	1.69	30	1.19	64	2.531	51	2.030	12	.475
PSF6-32	2.00	56	2.20	133	5.25	22	.875	97	3.812	52	2.06	37	1.44	80	3.156	63	2.660	12	.475

3000 PSI Blanking Flange																				
O-Ring Part No. Fig. A	Flat Face Part No. Fig. B	Pad Size	A		B		C		D		E		J Min		J Max		K Drill Dia.	K Tap UN-2B	O-Ring Dash #	
			mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in		
SP36-12-12	SP37-12-12	.750	52	2.063	65	2.563	22	.875	48	1.875	19	.750	32	1.250	32	1.255	10	.406	3/8-16	-214
SP36-16-16	SP37-16-16	1.000	59	2.313	70	2.750	26	1.031	52	2.063	22	.880	40	1.560	40	1.565	10	.406	3/8-16	-219
SP36-20-20	SP37-20-20	1.250	73	2.875	79	3.125	30	1.188	59	2.313	24	.940	45	1.755	45	1.755	12	.469	7/16-14	-222
SP36-24-24	SP37-24-24	1.500	83	3.250	94	3.688	36	1.406	70	2.750	30	1.190	54	2.115	54	2.125	13	.531	1/2-13	-225
SP36-32-32	SP37-32-32	2.000	97	3.813	102	4.000	43	1.688	78	3.063	35	1.380	63	2.490	64	2.500	13	.531	1/2-13	-228
SF36-40-40	SP37-40-40	2.500	109	4.281	114	4.500	51	2.000	89	3.500	44	1.750	76	2.995	76	3.005	13	.531	1/2-13	-232
SF36-48-48	SP37-48-48	3.000	131	5.156	135	5.313	62	2.438	106	4.188	54	2.120	92	3.615	92	3.625	17	.656	5/8-11	-237

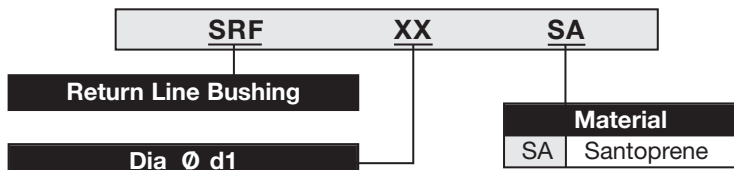
6000 PSI Blanking Flange																					
O-Ring Part No. Fig. A	Flat Face Part No. Fig. B	Pad Size	A		B		C		D		E		J Min		J Max		K Drill Dia.		K Tap UN-2B		O-Ring Dash #
			mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	
SP38-12-12	SP39-12-12	.750	60	2.380	71	2.810	24	.937	51	2.000	32	1.250	32	1.250	32	1.255	10	.406	3/8-16	-214	
SP38-16-16	SP39-16-16	1.000	70	2.750	81	3.190	28	1.093	57	2.250	38	1.500	40	1.560	40	1.565	12	.469	7/16-14	-219	
SP38-20-20	SP39-20-20	1.250	78	3.060	95	3.750	32	1.250	67	2.625	38	1.500	45	1.755	45	1.755	13	.531	1/2-13	-222	
SP38-24-24	SP39-24-24	1.500	95	3.750	113	4.440	36	1.437	79	3.125	44	1.750	54	2.115	54	2.125	17	.656	5/8-11	-225	
SP38-32-32	SP39-32-32	2.000	114	4.500	133	5.250	44	1.750	97	3.812	44	1.750	63	2.490	64	2.500	20	.781	3/4-10	-228	



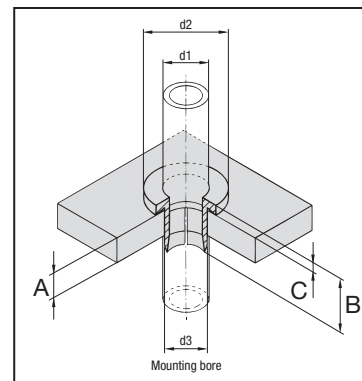
Specifications

- Material: Santoprene
- Diameter: 1/4" to 1-1/2"
- Compatible with Most Hydraulic Fluids
- Packaged in Bags of Ten

Ordering Information



Dimensions



Tube Dia.	1/4" T		-		3/8" T		1/8" P		1/2" T		1/4" P		-		5/8" T		-		3/4" T		7/8" T		1" T		-		-		-		1 1/2" T		1 1/4" P	
Ø d1	6		8		10		12		14		15		16		18		20		22		25		28		30		35		38		42			
	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in		
d2	18	0.71	20	0.78	22	0.86	24	0.94	26	1.02	28	1.10	28	1.10	30	1.18	32	1.25	34	1.33	38	1.49	41	1.61	43	1.69	48	1.88	51	2.00	55	2.16		
d3	10	0.39	12	0.47	14	0.55	16	0.63	18	0.71	20	0.78	20	0.78	22	0.86	24	0.94	26	1.02	33	1.29	33	1.29	35	1.37	40	1.57	43	1.69	47	1.84		
A	0.16" - 0.5" / 4 - 12mm																																	
B	0.9" / 23mm																																	
C	0.16" / 4mm																																	

SAE Half Coupling Weld Adaptors - SWF Series

Specifications

- Female SAE Thread to Weld Boss
- Manufactured from C1018 Cold Rolled Steel
- Oil Coated for Corrosion Resistance
- Labor and Time Saving

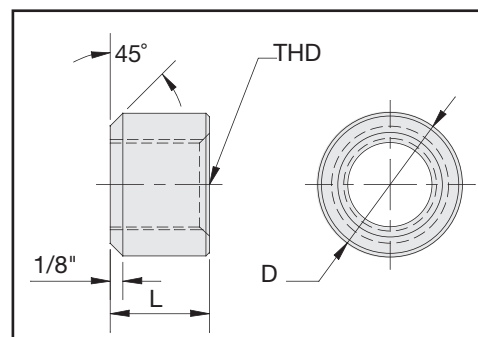
Options

- Additional Sizes and Materials Available upon Request

Ordering Information

PART NO.	FEMALE SAE THREAD	D		L	
		mm	in	mm	in
SWF-06	9/16"-18	22.0	0.875	17.7	0.700
SWF-08	3/4"-16	28.5	1.125	21.6	0.850
SWF-10	7/8"-14	34.9	1.375	24.1	0.950
SWF-12	1 1/16"-12	34.9	1.375	24.1	0.950
SWF-16	1 5/16"-12	41.2	1.625	27.9	1.100
SWF-20	1 5/8"-12	53.9	2.125	27.9	1.100
SWF-24	1 7/8"-12	63.5	2.500	27.9	1.100
SWF-32	2 1/2"-12	76.2	3.000	30.4	1.200

Dimensions



Specifications

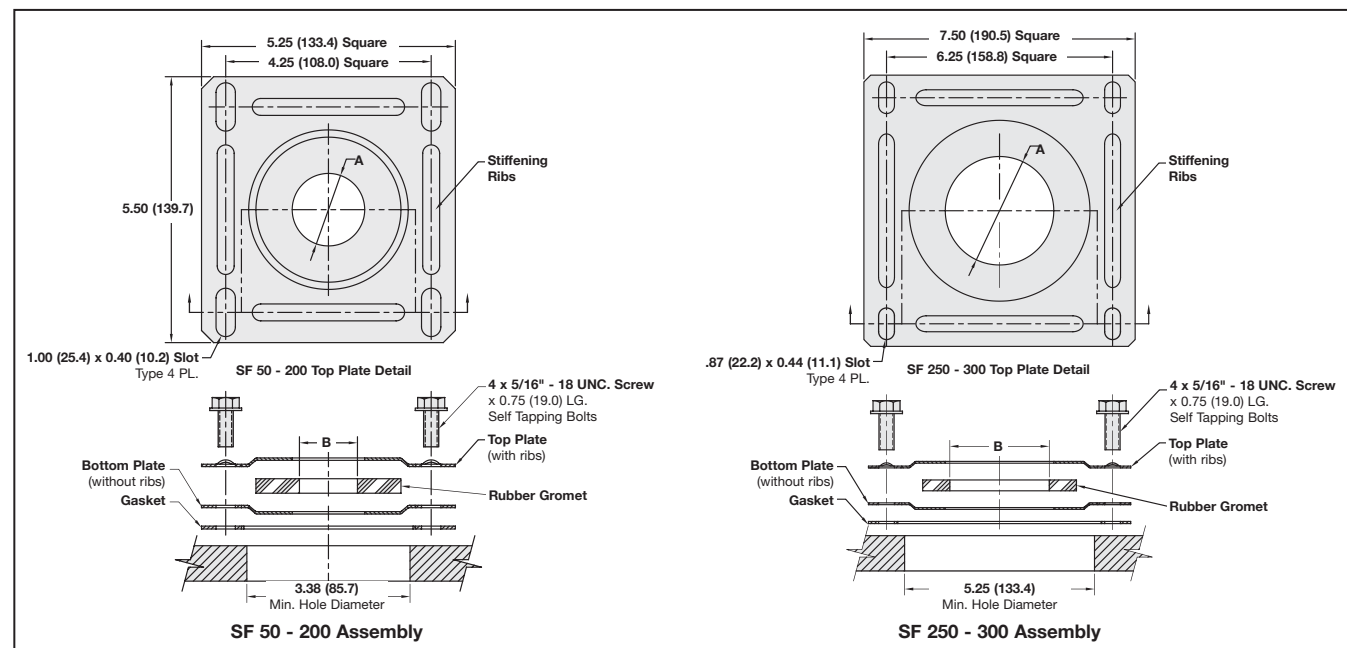
- Designed to seal suction lines passing through the top plate of reservoir
- Allows access for easy removal of suction elements for inspection and cleaning
- Includes top plate, bottom plate, gasket, rubber bushing and 4 x 5/16-18 thread forming screws
- Steel Plate
- Buna-N Seals



Part No.	SF-050	SF-075	SF-100	SF-125	SF-150	SF-200	SF-250	SF-300
Nominal Pipe Size	1/2"	3/4"	1"	1 1/4"	1 1/2"	2"	2 1/2"	3"

Dimensions

Dimensions in inch (mm)



Part No.	A Dimension		B Dimension	
	mm	in	mm	in
SF-050	38	1 1/2	20	0.8
SF-075	38	1 1/2	25	1.0
SF-100	38	1 1/2	30	1.2
SF-125	51	2	41	1.6
SF-150	51	2	46	1.8
SF-200	64	2 1/2	58	2.3

Part No.	A Dimension		B Dimension	
	mm	in	mm	in
SF-250	76	3	70	2 3/4
SF-300	95	3 3/4	89	3 1/2



Reservoir End Covers EC Series

Specifications

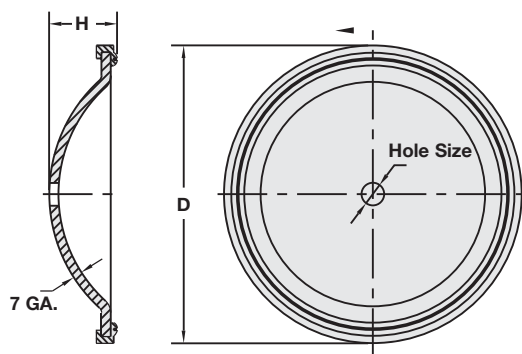
- 7 Gauge Steel Pickled and Oiled
- No Leak, Molded, One Piece Buna-N Double Lip Gasket
- Supplied with Nylon Crush Washer and Gasket
- EC-6 Supplied with Back Mounting Bracket

Options

- Available with 3/4" Drain (Excludes EC-6)
- End Cover Mounting Brackets Available for EC-10 to EC-18 inclusive
- Baffle Adaptor Available
- Stainless Steel Available upon Request



Standard End Covers



Seal Kit (Contains double lip buna seal and nylon crush washer)

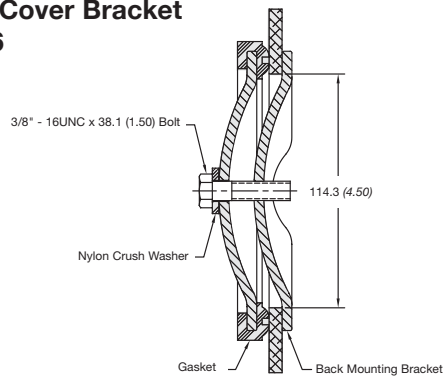
Part Number	Description
EC-10-SK	Seal and washer for EC-10/EC-10D
EC-12-SK	Seal and washer for EC-12/EC-12D
EC-14-SK	Seal and washer for EC-14/EC-14D
EC-16-SK	Seal and washer for EC-16
EC-18-SK	Seal and washer for EC-18/EC-18D

Standard End Covers

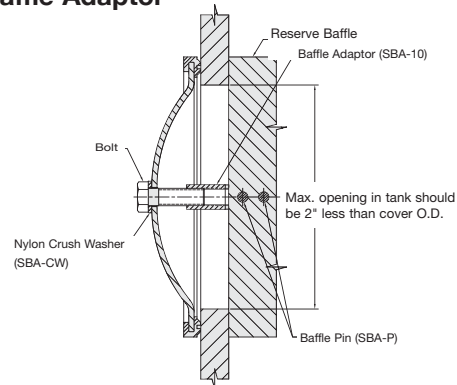
Plain End Cover Kit Part Number	End Cover w/Drain Hole Part Number	Diameter D		H		Hole Size		Weight	
		mm	in	mm	in	mm	in	kg	lb
EC-6	—	146	5.75	33	1.312	11.1	.438	1.2	2.5 lbs.
EC-10	EC-10D	254	10	44.5	1.75	17.4	.687	2.1	4.5 lbs.
EC-12	EC-12D	308	12.125	44.5	1.75	17.4	.687	3.0	6.5 lbs.
EC-14	EC-14D	359	14.125	44.5	1.75	17.4	.687	3.9	8.5 lbs.
EC-16	—	410	16.125	44.5	1.75	17.4	.687	4.8	10.5 lbs.
EC-18	EC-18D	460	18.125	51	2.00	17.4	.687	6.2	13.5 lbs.

Mounting Arrangements

End Cover Bracket EC-6



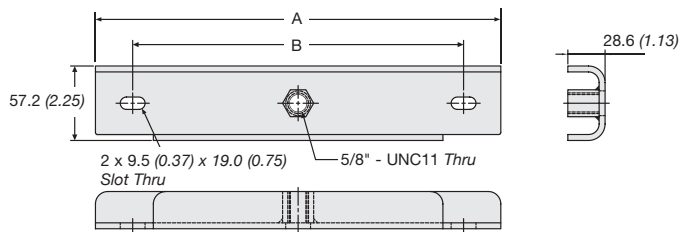
Baffle Adaptor



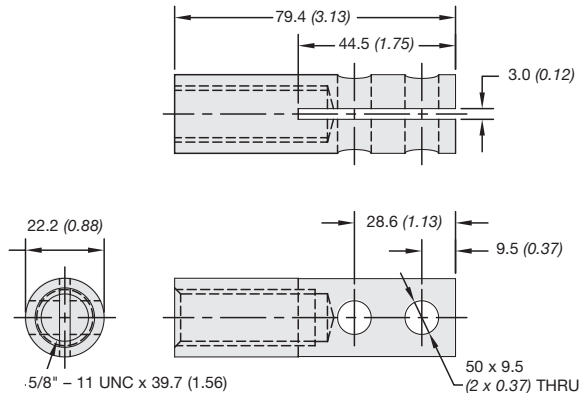
Part Number	Description	
SBAB-10	Mounting Bolt for EC-10 & EC-12	$\frac{5}{8}$ " - 11 x 1 $\frac{1}{2}$ "
SBAB-14	Mounting Bolt for EC-14	$\frac{5}{8}$ " - 11 x 2"
SBAB-18	Mounting Bolt for EC-18	$\frac{5}{8}$ " - 11 x 2 $\frac{1}{2}$ "
SBA-10	Baffle Adaptor	
SBA-P	Baffle Pin	
SBA-CW	Nylon Crush Washer	

Dimensions in mm (inch)

End Cover Brackets (EC-10 to EC-18 inc)



Baffle Adaptor



End Cover Brackets (Required when baffle adaptor is not used; includes bracket and 2 weld on clips)

Part Number	End Cover Diameter	Access Hole Diameter	A		B		Bolt Size Required	Weight	
			mm	in	mm	in		kg	lb
SBR - 10	10"	8"	305	12	254	10	5/8"-11 x 2 $\frac{1}{2}$ "	1.2	2.5 lbs.
SBR - 12	12"	10"	356	14	305	12	5/8"-11 x 2 $\frac{1}{2}$ "	1.4	3 lbs.
SBR - 14	14"	12"	413	16.25	362	14.25	5/8"-11 x 2 $\frac{1}{2}$ "	1.4	3 lbs.
SBR - 16	16"	14"	464	18.25	413	16.25	5/8"-11 x 2 $\frac{1}{2}$ "	1.8	4 lbs.
SBR - 18	18"	16"	514	20.25	464	18.25	5/8"-11 x 2 $\frac{3}{4}$ "	1.8	4 lbs.

Overview

The Stauff Clean system includes a pneumatic launcher and a range of specially designed nozzles. The launcher uses compressed air to propel a foam projectile through the nozzle and into the hose, tube or pipe to be cleaned.

The various nozzles are specially designed to form an airtight seal on any hose, tube or pipe with or without end fittings.

The foam projectile is sized to be approximately 15% larger than the internal diameter of the hose, tube or pipe to be cleaned. The compression of the projectile against the internal wall cleans the internal surface and expels any loose contaminants from the end of the hose, tube or pipe.

Air Requirements

The Stauff Clean system will operate effectively with a compressed air supply ranging in pressure between 85 PSI (6 bar) and 120 PSI (8 bar).

Technical Specifications

- Air compressor requirement: 87-145 PSI (6-10 bar)
- Effective air volume: 66-106 GPM (250-400 liter/minute)
- Line diameter: 1/4"-2" (6mm-50mm)





Ordering Information

Launcher Kits		Nozzle Kits Sets			
SC-10UV-K	SC-LK1	SC-10UV-S	SC-18MT-S	SC-10J-S	SC-7B-S
Launcher kit complete with set of 10 universal nozzles	Launcher kit only	Universal Nozzle Set	Metric Tube Nozzle Set	JIC Nozzle Set	NPT Nozzle Set
		6mm, 8mm, 10mm, 13mm, 16mm, 19mm, 25mm, 32mm, 38mm, 50mm	6mm, 8mm, 10mm, 12mm, 14mm, 15mm, 16mm, 18mm, 20mm, 22mm, 25mm, 28mm, 30mm, 35mm, 38mm, 42mm, 50mm, 60mm	6mm, 8mm, 10mm, 13mm, 16mm, 19mm, 25mm, 32mm, 38mm, 50mm	1/4", 3/8" 1/2" 5/8", 3/4", 1", 1 1/4"



Projectiles

There are four types of projectiles available for the cleaning of hose, tube or pipe.

			
(S) Standard Series For the cleaning of hose, tube or pipe without end fittings or restrictions.	(C) Coupling Series For the cleaning of hose assemblies (hose with end fittings) or the removal of loose particles from tube or pipe.	(A) Abrasive Series For the cleaning of metal tube and pipe to remove light rust and scale. The projectile is recognized by the abrasive pad fixed to one end of the projectile.	(G) Grinding Series For the cleaning of metal tube and pipe to remove heavier rust and buildup from the internal surface. The projectile is coated in carborundum for the full length.
SC-S-07-3/16" ID SC-S-09-1/4" ID SC-S-10-1/4" ID SC-S-12-5/16" ID SC-S-14-3/8" ID SC-S-16-7/16" ID SC-S-18-1/2" ID SC-S-20-9/16" ID SC-S-22-5/8" ID SC-S-26-3/4" ID SC-S-28-13/16" ID SC-S-30-7/8" ID SC-S-33-1" ID SC-S-36-26/27mm ID SC-S-38-1 1/8" ID SC-S-40-1 1/4" ID SC-S-45-1 3/8" ID SC-S-50-1 1/2" ID SC-S-55-1 3/4" ID SC-S-60-2" ID	SC-C-07-3/16" ID SC-C-09-1/4" ID SC-C-10-5/16" ID SC-C-12-5/16" ID SC-C-14-3/8" ID SC-C-16-7/16" ID SC-C-18-1/2" ID SC-C-20-9/16" ID SC-C-22-5/8" ID SC-C-26-3/4" ID SC-C-30-7/8" ID SC-C-33-1" ID SC-C-40-1 1/4" ID SC-C-50-1 1/2" ID SC-C-55-1 3/4" ID SC-C-60-2" ID *Standard Stock Items	SC-A-07-3/16" ID SC-A-09-1/4" ID SC-A-12-5/16" ID SC-A-14-3/8" ID SC-A-16-7/16" ID SC-A-18-1/2" ID SC-A-20-9/16" ID SC-A-22-5/8" ID SC-A-26-3/4" ID SC-A-30-7/8" ID SC-A-33-1" ID SC-A-40-1 1/4" ID SC-A-50-1 1/2" ID SC-A-55-1 3/4" ID SC-A-60-2" ID	SC-G-07-7mm ID SC-G-10-10mm ID SC-G-12-12mm ID SC-G-14-14mm ID SC-G-16-16mm ID SC-G-18-18mm ID SC-G-20-20mm ID SC-G-22-22mm ID SC-G-26-26mm ID SC-G-30-30mm ID SC-G-33-33mm ID SC-G-40-40mm ID SC-G-50-50mm ID SC-G-60-60mm ID

Introduction

Bladder accumulators provide a means of regulating the performance of a hydraulic system.

They are suitable for storing energy under pressure, absorbing hydraulic shock, dampening pump pulsation and flow fluctuations.

Bladder accumulators provide excellent gas and fluid separation ensuring dependable performance, maximum efficiency, and long service life.

Why use a Bladder Accumulator?

- Improves your systems efficiency
- Supplements your pump flow
- Supplies extra power in an emergency
- Compensates for any system leakage
- Absorbs hydraulic shocks
- Accepted world wide
- High/ Low temperature tolerance
- Extremely safe (can not disassemble under pressure)
- Quick response
- Wide range of compounds for a variety of fluids



Accumulator Function

The design of the Stauff bladder accumulator makes use of the difference in the compressibility between a gas (nitrogen) and a liquid (hydraulic fluids). The bladder contained in the shell is pre-charged with nitrogen gas to a pressure determined by the work to be done.

After pre-charging, the bladder occupies the entire volume of the shell, from there the work can be split into three steps.

Step 1. When the hydraulic fluid enters the accumulator, the nitrogen contained in the bladder is compressed and its pressure is increased.

Step 2. The compression of the bladder stops when the pressure of the fluid and nitrogen are equal (balanced). During this step the bladder is not subject to any abnormal mechanical stress.

Step 3. On demand, as system pressure falls, the accumulator's stored fluid is returned to the system under pressure applied by the compressed nitrogen. On completion of the hydraulic system functions, the accumulator reverts to step 1.

Material Options & Features

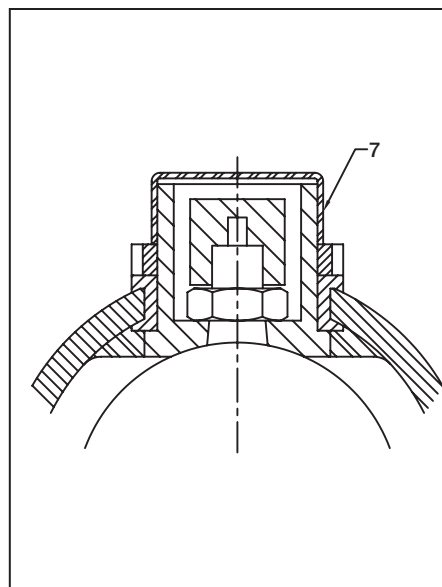
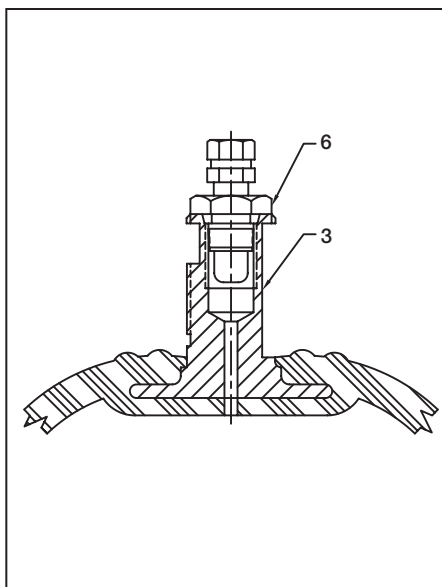
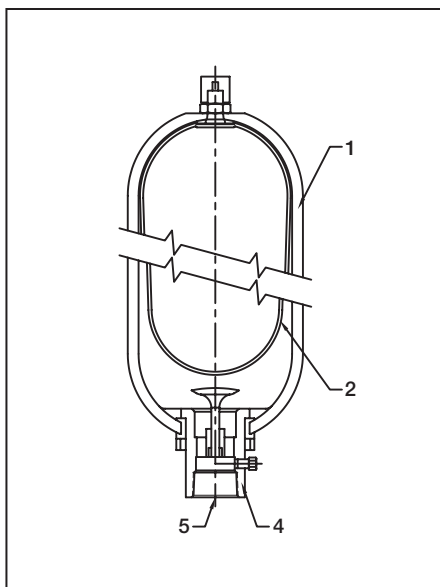
Main Components	Standard Material		Material Options		Features	
Shell	<ul style="list-style-type: none">• Chrome - Molybdenum Alloy Steel, (SA-372)• All Sizes Comply with ASME Materials Specifications		Consult Factory		<ul style="list-style-type: none">• Meets 4:1 safety requirements• Seamless shell• 1 gallon and larger Supplied with ASME Certification• Available with Foreign or Domestic Certificates (Consult Stauff)	
Bladder	<ul style="list-style-type: none">• Buna (LTB) (Low Temp.)	Temp. Rating		Temp. Rating		<ul style="list-style-type: none">• 1 piece fully enclosed molded bladder• With molded steel valve stems• Wide range of operating temperatures
		°C	°F	°C	°F	
		-40 to +70	-40 to +160	-15 to +150 -40 to +120 -20 to +90	+5 to +300 -40 to +250 -5 to +194	
Oil Port Assembly	<ul style="list-style-type: none">• AISI 4130 material spec.		Consult Factory		<ul style="list-style-type: none">• Proven design and reliability• Port options available, refer to ordering code	

Bladder Accumulator Features

- Meets A.S.M.E. specifications
- 4:1 design factor at normal operating pressures.
- Also available with foreign certificates (upon request)
- Interchangeable with most competitor's units.
- All standard accumulators available from stock.

Maximum Flow Rates

Size (gallon)	Max. Recommended Flow	
	GPM	LPM
1 QT	40	150
1	150	565
2.5 - 15	220	830



1. Shell

Stauff accumulator shells are made from chrome-molybdenum alloy steel (SA372) with forged ends for maximum strength providing a minimum 4 to 1 design factor at normal operating pressures. All sizes comply with ASME material specifications, 1 gallon & larger are supplied with ASME Certifications upon request.

2. Bladder

Stauff bladders are manufactured from the most advanced elastomers which are capable of meeting a wide range of systems requirements. Bladders are offered in a variety of compounds to meet a wide range of fluids and operating temperatures. Stauff's standard material is low temperature Buna (LTB).

3. Bladder Stems

All bladder accumulators, sizes 1 gallon and larger, are fitted as standard with a two-piece bladder stem and a replaceable gas valve cartridge for ease of serviceability.

4. Port Assemblies

Standard oil service ports are made from high-strength alloy steel for maximum durability.

5. Fluid Ports

SAE straight thread (standard), NPT and Split Flange Adaptors are available (See page A52). A Bleed Port (plugged) is included as standard on all accumulator sizes 1 gallon and larger.

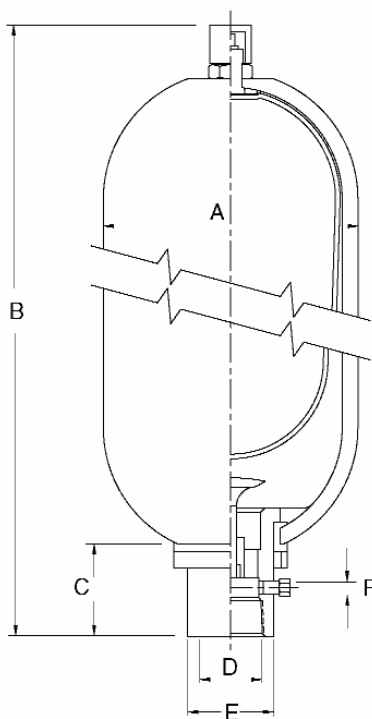
6. Gas Valve

All accumulators are fitted with a gas valve for ease of gas pre-charging. One-gallon and larger units are equipped with a cored gas valve cartridge (ISO-4570-8V1) for ease of maintenance. 5000 PSI units are equipped with a high pressure cored gas valve cartridge (ISO-4570-8V1). For safety, the gas valve vents if unscrewed.

7. Top Repairable

The top repairable design permits easy maintenance of the Accumulator Bladder without removing the Accumulator from service, thus minimizing costly downtime.

3000 PSI / 207 Bar Bottom Repairable

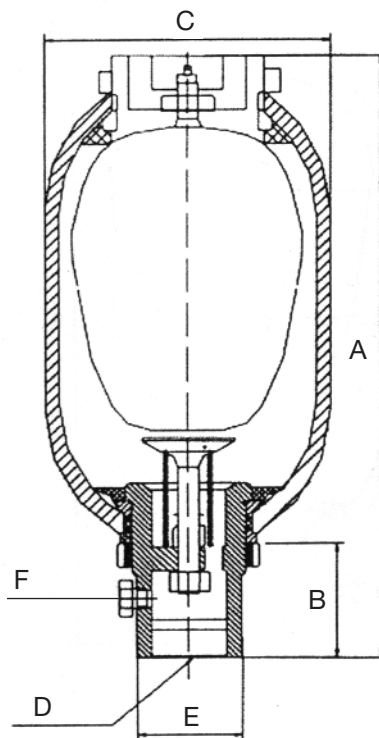


Installation Note:
Leave approximately 8"
(200mm) for installation of
gas charging valve.

Nominal Capacity Gallons (Liters)	Gas Volume in ³ (cm ³)	Maximum Working Pressure PSI (bar)	Dimensions										Net Weight	
			A		B		C		D	E		F	Kg.	Lbs.
			mm	in	mm	in	mm	in	SAE	mm	in	SAE		
*1 Qt. (1.0)	68.4 (1190)	3000 (207)	117	4.60	298	11.75	55	2.16	SAE-12 (1-1/16" - 12)	42	1.65	N/A	4.5	10
1.0 (4.0)	226 (3845)	3000 (207)	168	6.80	432	17.00	92	3.63	SAE-20 (1 5/8" - 12)	61	2.40	SAE-6 (9/16 - 18)	15	34
2.5 (10)	555 (9620)	3000 (207)	229	9.00	520	20.50	95	3.75	SAE-24 (1 7/8" - 12)	76	3.00	SAE-6 (9/16 - 18)	43	95
5.0 (20)	1095 (19480)	3000 (207)	229	9.00	820	32.30	95	3.75	SAE-24 (1 7/8" - 12)	76	3.00	SAE-6 (9/16 - 18)	63	139
10 (40)	2080 (36560)	3000 (207)	229	9.00	1360	53.50	95	3.75	SAE-24 (1 7/8" - 12)	76	3.00	SAE-6 (9/16 - 18)	104	229
11 (44)	2360 (41210)	3000 (207)	229	9.00	1510	59.50	95	3.75	SAE-24 (1 7/8" - 12)	76	3.00	SAE-6 (9/16 - 18)	113	249
15 (60)	3460 (56396)	3000 (207)	229	9.00	1960	77.16	95	3.75	SAE-24 (1 7/8" - 12)	76	3.00	SAE-6 (9/16 - 18)	130	286

* In accordance with ASME VIII Calculations Only.

3000 PSI / 207 Bar Top Repairable

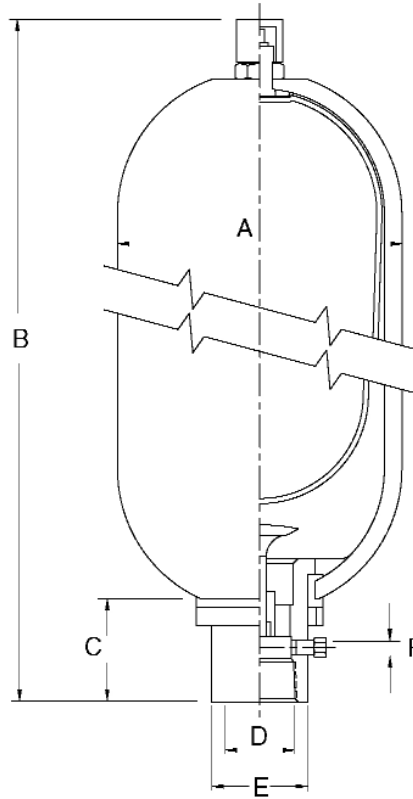


Installation Note:
Leave approximately 8"
(200mm) for installation of
gas charging valve.

Nominal Capacity Gallons (Liters)	Gas Volume in ³ (cm ³)	Maximum Working Pressure PSI (bar)	Dimensions										Net Weight	
			A		B		C		D	E		F	Kg.	Lbs.
			mm	in	mm	in	mm	in		mm	in	SAE		
2.5 (10)	555 (9620)	3000 (207)	546	21.50	94	3.70	229	9.00	SAE-24 (17/8"-12)	76	3.00	SAE-6 (9/16-18)	43	95
5.0 (20)	1095 (19480)	3000 (207)	838	33.00	94	3.70	229	9.00	SAE-24 (17/8" - 12)	76	3.00	SAE-6 (9/16 - 18)	63	139
10 * (40)	2080 (36560)	3000 (207)	1365	53.75	94	3.70	229	9.00	SAE-24 (17/8" - 12)	76	3.00	SAE-6 (9/16 - 18)	104	229
11 (44)	2360 (41210)	3000 (207)	1543	60.75	94	3.70	229	9.00	SAE-24 (17/8" - 12)	76	3.00	SAE-6 (9/16 - 18)	113	249
15 * (60)	3460 (56396)	3000 (207)	1969	77.50	94	3.70	229	9.00	SAE-24 (17/8" - 12)	76	3.00	SAE-6 (9/16 - 18)	130	286

* Consult Factory for Availability.

5000 PSI / 345 Bar Bottom Repairable



Installation Note:

Leave approximately 8" (200mm) for installation of gas charging valve.

Nominal Capacity Gallons (Liters)	Gas Volume in ³ (cm ³)	Maximum Working Pressure PSI (bar)	Dimensions										Net Weight	
			A		B		C		D	E		F	Kg.	Lbs.
			mm	in	mm	in	mm	in	SAE	mm	in	SAE		
1.0 * (4.0)	226 (3845)	5000 (345)	181	7.14	438	17.25	83	3.25	SAE-20 (1-5/8" - 12)	57	2.25	SAE-6 (9/16 - 18)	23	50
2.5 (10)	555 (9620)	5000 (345)	246	9.75	579	22.75	99	3.88	SAE-24 (1-7/8" - 12)	76	3.00	SAE-6 (9/16 - 18)	57	125
5.0 (20)	1095 (19480)	5000 (345)	246	9.75	883	34.75	99	3.88	SAE-24 (1-7/8" - 12)	76	3.00	SAE-6 (9/16 - 18)	91	200
10 (40)	2080 (36560)	5000 (345)	246	9.75	1430	56.25	99	3.88	SAE-24 (1-7/8" - 12)	76	3.00	SAE-6 (9/16 - 18)	159	350
15 * (60)	3460 (56396)	5000 (345)	246	9.75	2000	78.75	99	3.88	SAE-24 (1-7/8" - 12)	76	3.00	SAE-6 (9/16 - 18)	227	500

* Consult factory for availability.

STA - S - 025 - B - P3 - U - LTB - 1

Model Code

STA - Stauff Accumulator

Type

S ASME Type - North American (Standard)

E European Type (optional)

Accumulator Model

Size	Capacity	3000 PSI Bottom Repairable	3000 PSI Top Repairable	5000 PSI Bottom Repairable
1 Qt.	1 Quart	X	N/A	N/A
010	1 Gallon	X	N/A	C/F
025	2.5 Gallon	X	X	X
050	5 Gallon	X	X	X
100	10 Gallon	X	C/F	X
110	11 Gallon	X	X	N/A
150	15 Gallon	X	C/F	C/F

Style

B Bottom Repairable (3000 & 5000 PSI)

T Top Repairable (3000 PSI Only)

Pressure Rating

P 3 3000 PSI/ 207 bar (Bottom and Top Repairable)

P 5 5000 PSI / 345 bar (Bottom Repairable Only)

Fluid Port Connection

U SAE Thread (Standard)

N NPT Thread (Optional - Available with SAE-NPT Adaptor) See page A52

F1 Code 61 Split Flange (Optional-Available with Split Flange Adaptor) See page A52

F2 Code 62 Split Flange (Optional-Available with Split Flange Adaptor) See page A52

Bladder Material

LTB Low Temp. Buna (Standard)

N Buna (Optional)

V Viton (Optional)

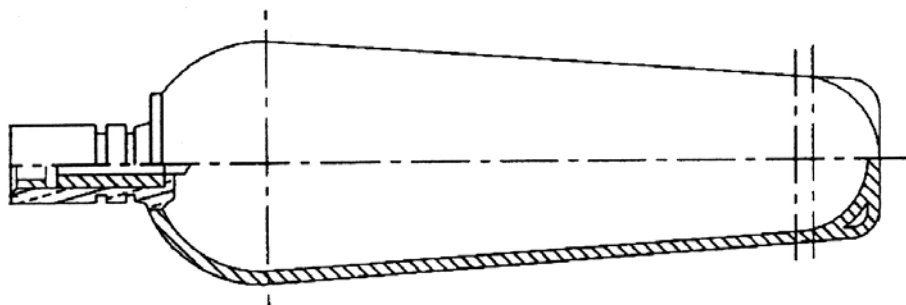
E EPR (Optional)

Design Code

1 Standard (* = Special design No. to be assigned)

 = Shaded Area denotes Standard Stock Items. C/F = Consult Factory for Availability

3000/5000 PSI - 207/345 Bar



3000 PSI Bladder Part Numbers	Accumulator Capacity	5000 PSI Bladder Part Numbers
STA-B-1Qt. -P3-LTB (Buna-N)	1 Quart	Consult Factory for Availability
STA-B-1Qt. -P3-V (Viton)		Consult Factory for Availability
STA-B-010-P3-LTB (Buna-N)	1 Gallon	STA-B-010-P5-LTB (Buna-N)
STA-B-010-P3-V (Viton)		STA-B-010-P5-V (Viton)
STA-B-025-P3-LTB (Buna-N)	2.5 Gallons	STA-B-025-P5-LTB (Buna-N)
STA-B-025-P3-V (Viton)		STA-B-025-P5-V (Viton)
STA-B-050-P3-LTB (Buna-N)	5 Gallons	STA-B-050-P5-LTB (Buna-N)
STA-B-050-P3-V (Viton)		STA-B-050-P5-V (Viton)
STA-B-100-P3-LTB (Buna-N)	10 Gallons	STA-B-100-P5-LTB (Buna-N)
STA-B-100-P3-V (Viton)		STA-B-100-P5-V (Viton)
STA-B-110-P3-LTB (Buna-N)	11 Gallons	Consult Factory for Availability
STA-B-110-P3-V (Viton)		Consult Factory for Availability
STA-B-150-P3-LTB (Buna-N)	15 Gallons	STA-B-150-P5-LTB (Buna-N)
STA-B-150-P3-V (Viton)		STA-B-150-P5-V (Viton)

* All above Bladder Kits include the following:
 (1) Bladder (Specify Material), (1) Gas valve & "O" Ring, (1) Poppet valve "O" Ring, (1) Back-up seal "O" Ring

Charging Kit Part # STA-CK-1 (3000 PSI Rated)

Charging Kit includes the Following Parts:

- Charging Assembly and Test Point
- Charging Hose c/w Nitrogen Bottle Valve
- Fitting Adaptor for 5/8" - UNF
- Fitting Adaptor for 7/8" - UNF
- Pressure Gauge (0 - 3700 PSI / 0 - 250 bar)
- Case and Foam

Charging Kit



Repair Kit Part # STA-R-1

Repair Kit Includes the Following Parts:

- Set of Pull Rods
- Set of Hydraulic Valve Wrenches
- Set of Gas Valve Tools
- Case and Foam

Repair Kit



CODE #61 (3000 PSI)

SAE to Flange Connector	
Part #	Description
302-12-12	#12 SAE to 3/4" Flange
302-20-20	#20 SAE to 1 1/4" Flange
302-24-24	#24 SAE to 1 1/2" Flange

CODE #61 (3000 PSI)

Split Flanges	
Part #	Description
SF3-12	3/4" Split Flange
SF3-20	1 1/4" Split Flange
SF3-24	1 1/2" Split Flange

CODE #62 (6000 PSI)

SAE to Flange Connector	
Part #	Description
602-12-12	#12 SAE to 3/4" Flange
602-20-20	#20 SAE to 1 1/4" Flange
602-24-24	#24 SAE to 1 1/2" Flange

CODE #62 (6000 PSI)

Split Flanges	
Part #	Description
SF6-12	3/4" Split Flange
SF6-20	1 1/4" Split Flange
SF6-24	1 1/2" Split Flange

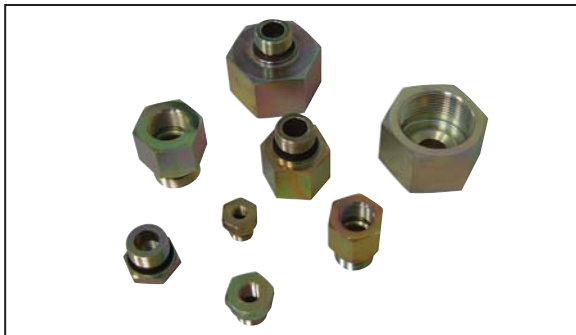
Port Adaptors (SAE to Flange)



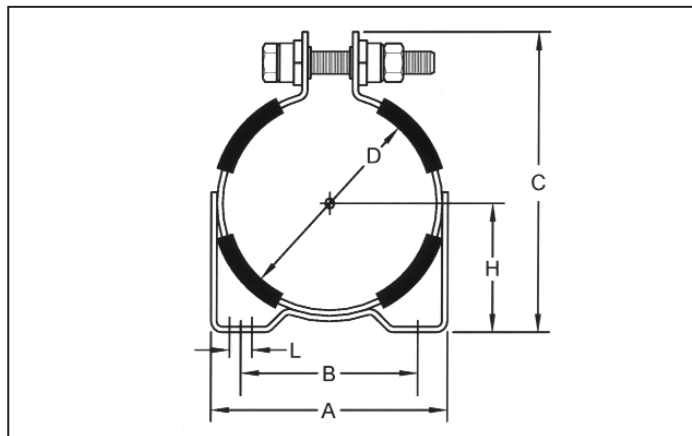
SAE to NPT Port Adaptors

Part #	Description
PA-U12M-N08F	#12 SAE to 1/2" NPT
PA-U12M-N12F	#12 SAE to 3/4" NPT
PA-U20M-N16F	#20 SAE to 1" NPT
PA-U20M-N20F	#20 SAE to 1-1/4" NPT
PA-U24M-N24F	#24 SAE to 1-1/2" NPT
PA-U24M-N32F	#24 SAE to 2" NPT

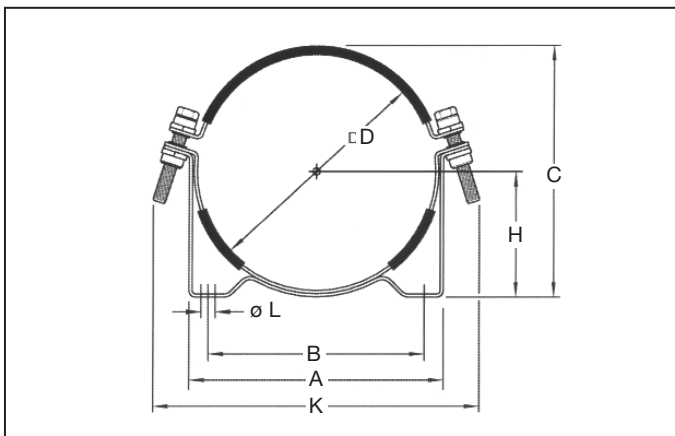
Port Adaptors (SAE to NPT)



Type AMP



Type AMP/D



Stauff Clamp Part Number	Dimensions													
	"ØD" Nom		A		B		C		H		L (Slot)		Width	
	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in
AMP108	108.0	4.25	138.0	5.43	100.0	3.94	150.0	5.91	64.0	2.52	9.7x12.7	.38x.50	32.0	1.25
AMP114	114.0	4.50	134.0	5.26	100.0	3.94	170.0	6.68	73.0	2.87	9.7x12.7	.38x.50	32.0	1.25
AMP126	126.0	4.96	175.0	6.89	136.0	5.35	181.0	7.12	77.0	3.03	9.7x12.7	.38x.50	32.0	1.25
AMP146	146.0	5.75	168.0	6.63	136.0	5.35	197.0	7.75	89.0	3.50	9.7x12.7	.38x.50	32.0	1.25
AMP172	172.0	6.75	191.0	7.50	153.0	6.02	229.0	9.00	100.0	3.94	9.7x12.7	.38x.50	32.0	1.25
AMP206	206.0	8.11	254.0	10.00	208.0	8.20	248.0	9.75	115.0	4.53	9.7x12.7	.38x.50	32.0	1.25
AMP231	231.0	9.10	254.0	10.00	208.0	8.20	274.0	10.80	125.0	4.93	9.7x12.7	.38x.50	32.0	1.25

Stauff Clamp Part Number	Dimensions													
	"ØD" Nom		A		B		C		H		K		L	
	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in
AMP/D206	206.0	8.11	260.0	10.24	208.0	8.19	230.0	9.06	118.0	4.65	275.0	10.83	15.0	0.59
AMP/D210	213.0	8.39	270.0	10.63	216.0	8.50	238.0	9.37	123.0	4.84	285.0	11.22	15.0	0.59
AMP/D219	219.0	8.63	268.0	10.55	216.0	8.50	242.0	9.53	123.0	4.84	285.0	11.22	15.0	0.59
AMP/D228	232.0	9.12	254.0	10.00	216.0	8.50	251.0	9.89	126.0	4.95	317.0	12.48	15.0	0.59
AMP/D254	248.0	9.75	264.0	10.40	216.0	8.50	267.0	10.50	135.0	5.31	330.0	13.00	15.0	0.59
AMP/D286	286.0	11.26	332.0	13.07	280.0	11.02	315.0	12.40	163.0	6.42	355.0	13.98	15.0	0.59
AMP/D310	310.0	12.20	332.0	13.07	280.0	11.02	334.0	13.15	170.0	6.69	380.0	14.96	15.0	0.59
AMP/D362	359.0	14.13	427.0	16.80	365.0	14.35	383.0	15.08	195.0	7.68	424.0	16.70	15.0	0.59

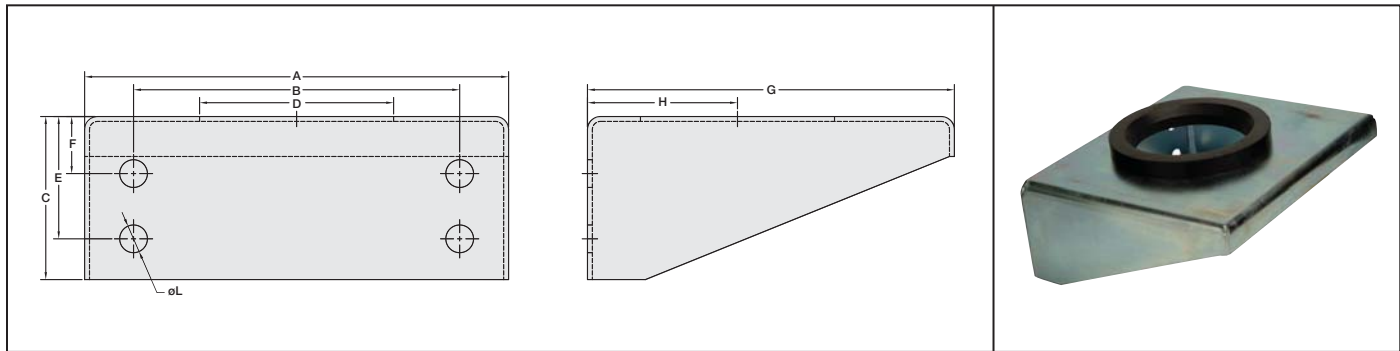
Type BB & RR Series

Specifications

- Rubber Bushing to reduce vibration and noise
- Compensation for thermal expansion and contraction
- Galvanized to resist corrosion
- Special sizes and designs are available upon request

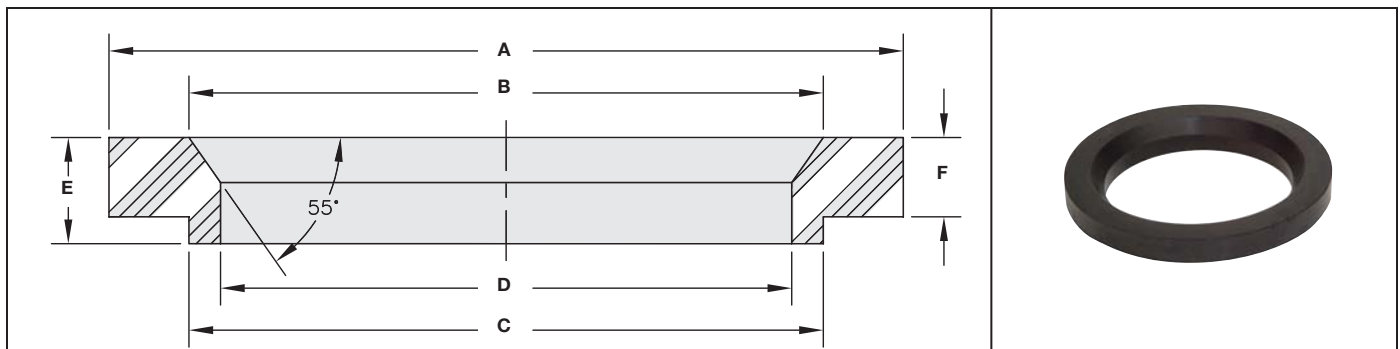


Base Bracket with rubber ring (to specify base bracket less rubber ring remove “R” from model number)



Model	Dimensions in inches																		Weight	
	A		B		C		D		E		F		G		H		L			
	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	kg.	lbs.
BB120R	260	10.24	200	7.87	100	3.94	120	4.72	75	2.95	35	1.38	225	8.86	100	3.94	17	.67	2.3	5.1
BB170R	260	10.24	200	7.87	100	3.94	170	6.69	75	2.95	35	1.38	225	8.86	123	4.84	17	.67	2.0	4.5
BB211R	390	15.35	270	10.63	240	9.45	211	8.31	180	7.09	60	2.36	390	15.35	195	7.68	22	.87	7.7	16.9

Rubber Ring Only



Model	Rubber Ring <i>Only</i>												Use with Base Bracket No.
	A		B		C		D		E		F		
	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	
RR108	150	5.91	120	4.72	119	4.69	108	4.25	20	0.79	15	0.59	BB-120
RR160	200	7.87	170	6.69	169	6.65	159	6.26	20	0.79	15	0.59	BB-170
RR200	250	9.84	220	8.66	210	8.27	200	7.87	25	0.98	20	0.79	BB-211

Mounting Brackets Compatibility Information for Bladder Accumulators

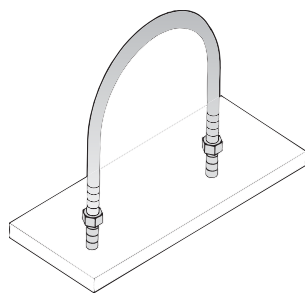
For 3000 PSI Bladder Accumulators				
Bladder Accumulator Size	Clamp Number	Qty.	Nom. Dia. in. (mm)	Base Bracket
1 Quart	AMP114	1	4.50 (114)	None
1 Gallon	AMP172	1	6.75 (171)	BB120R
2.5 Gallon	AMP/D228	1	9.10 (231)	BB170R
5 Gallon	AMP/D228	2	9.10 (231)	BB170R
10 Gallon	AMP/D228	2	9.10 (231)	BB170R
11 Gallon	AMP/D228	2	9.10 (231)	BB170R
15 Gallon	AMP/D228	3	9.10 (231)	BB170R

For 5000 PSI Bladder Accumulators				
Bladder Accumulator Size	Clamp Number	Qty.	Nom. Dia. in. (mm)	Base Bracket
1 Quart	AMP126	1	4.96 (126)	None
1 Gallon	AMP172	1	7.00 (180)	BB120R
2.5 Gallon	AMP/D254	1	9.75 (248)	BB170R
5 Gallon	AMP/D254	2	9.75 (248)	BB170R
10 Gallon	AMP/D254	2	9.75 (248)	BB170R
15 Gallon	AMP/D254	3	9.75 (248)	BB170R

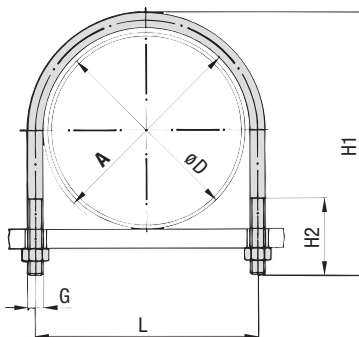
Mounting Brackets Compatibility Information for Piston Accumulators

Piston Accumulator Size	Clamp Number	Qty.	Dia. in. (mm)	Base Bracket
1 Quart	AMP114	1	4.5 (114)	None
2 Quart	AMP114	1	4.5 (114)	None
1 Gallon	AMP114	1	4.5 (114)	None
	AMP146	2	5.5 (140)	None
	AMP172	1	7.0 (178)	BB120R
1.5 Gallon	AMP114	2	4.5 (114)	None
	AMP146	2	5.5 (140)	None
	AMP172	1	7.0 (178)	BB120R
2 Gallon	AMP114	1	4.5 (114)	None
2.5 Gallon	AMP146	2	5.5 (140)	None
	AMP172	1	7.0 (178)	BB120R
	AMP/D206	1	8.0 (203)	BB170R
3 Gallon	AMP146	2	5.5 (140)	None
	AMP172	1	7.0 (178)	BB120R
	AMP/D206	1	8.0 (203)	BB170R
4 Gallon	AMP146	2	5.5 (140)	None
	AMP172	1	7.0 (178)	BB120R
	AMP/D206	1	8.0 (203))	BB170R

Piston Accumulator Size	Clamp Number	Qty.	Dia. in. (mm)	Base Bracket
5 Gallon	AMP146	3	5.5 (140)	None
	AMP172	2	7.0 (178)	BB170R
	AMP/D206	1	8.0 (203)	BB170R
	AMP /D228	1	9.0 (228)	BB170R
7.5 Gallon	AMP/D206	2	8.0 (203)	BB170R
	AMP /D228	1	9.0 (228)	BB170R
10 Gallon	AMP/D206	2	8.0 (203)	BB170R
	AMP /D228	2	9.0 (228)	BB170R
15 Gallon	AMP/D206	2	8.0 (203)	BB170R
	AMP /D228	2	9.0 (228)	BB170R
17.5 Gallon	AMP /D228	3	9.0 (228)	BB170R
20 Gallon	AMP/D206	3	8.0 (203)	BB170R
	AMP /D228	3	9.0 (228)	BB170R
23 Gallon	AMP /D228	3	9.0 (228)	BB170R
25 Gallon	AMP /D228	3	9.0 (228)	BB170R



Nominal Bore
inch



DN	Pipe-O.D. Ø D		Round Steel U-Bolt RBD								
	mm	inch	A		L		H1		H2		G
			mm	inch	mm	inch	mm	inch	mm	inch	
20	25		30		40		70		40		M10 3/8-16UNC
	26,9	3/4		1.18		1.57		2.76		1.57	
25	30		38		48		76				
	33,7	1		1.50		1.89		2.99			
32	38		46		56		86		50		
	42,4	1 1/4		1.81		2.20		3.39			
40	44,5		52		62		92				
	48,3	1 1/2		2.05		2.44		3.62			
50	57		64		76		109				
	60,3	2		2.52		2.99		4.29			
65	76,1	2 1/2	82		94		125				
	89,9	3		3.23		3.70		4.92			
80	89,9	3	94		106		138				
				3.70		4.17		5.43		1.97	
100	108		120		136		171		60		
	114,3	4		4.72		5.35		6.73			
125	133		148		164		191				
	139,7	5		5.83		6.46		7.52			
150	159		176		192		217				
	168,3	6		6.93		7.56		8.54			
175	193,7		202		218		249				
				7.95		8.58		9.80		2.36	
200	216		228		248		283		70		
	219,1	8		8.98		9.76		11.14			
250	267		282		302		334				
	273	10		11.10		11.89		13.15			
300	318		332		352		385				
	323,9	12		13.07		13.86		15.16			
350	355,6	14	378		402		435				
	368			14.88		15.83		17.13			
400	406,4	16	428		452		487				
	419			16.85		17.80		19.17			
500	508		530		554		589				
	521			20.87		21.81		23.19		2.76	

ORDER CODE

RBDxx A *** kompl

Dimension A
 Material and surface finishing
 carbon steel St 37, untreated **W1**
 carbon steel St 37, zinc plated (Fe/Zn 8 C) **W3**

Clamp consisting of:

1 x Round Steel U-Bolt
 2 x Nuts DIN EN ISO 4032

Information

Items are supplied non-assembled.

Other materials and surface finishings available upon request.

Installation

- The accumulator in a hydraulic circuit should be placed as near as practical to the source of shock or potential energy requirement.
- Normally an accumulator should be installed in a vertical position with the oil connection facing down. If space is not available, it may be installed horizontally, however, reduced life may occur. Bladder type accumulators have an increased risk of the bladder bag floating (in the horizontal position), which traps usable fluid inside. The bladder can be pinched by the poppet valve closing, which may rupture the bladder. Horizontal position requires more care when draining the fluid from the accumulator.
- When installing an accumulator using "U" bolt type clamps, care should be exercised so as not to distort the accumulator with excessive tightening force.
- Welding hangers to the accumulator is not recommended. Mounting brackets are available from Stauff (See pages A53 - A56).
- The hydraulic fluid used must be kept free of foreign matter to prevent damaging the accumulator wall. For maximum seal life, the fluid should be filtered to 10 micron or less.
- It is not advisable to change the hydraulic fluid from that for which the accumulator was originally purchased for without checking its compatibility with the seal and bladder materials.

PRE-CHARGING PROCEDURE

General Information

- The condition of the accumulator is primarily determined by periodic checking of the pre-charge pressure.
- Hydraulic Accumulators are pressure vessels and only qualified personnel should perform maintenance.
- Drain all fluid completely from accumulator before performing any maintenance.
- **DO NOT** weld or braze directly on the accumulator shell.
- **DO NOT** use automotive type valve cores as high pressure accumulator gas valves.
- The most accurate pre-charge readings can only be taken when fluid pressure is at "0 psi".
- Always observe the maximum working pressure and operating temperature ranges.

Do not use oxygen for pre-charging the Accumulator!

Pre-Charging Bladder Accumulators

1. Isolate the accumulator from the system and make sure hydraulic fluid pressure is zero.
2. Remove gas valve protection guard and valve cap from the accumulator.
3. To charge the accumulator, use a charging hose and gauge assembly similar to Stauff Charging Kit # STA-CK-1 rated for 3,000 psi maximum (higher pressure kits are available).
4. Before using the charging assembly (Figure 1.) make sure that valve **A** is completely open (counter-clockwise), that bleed valve **B** (Figure 1.) is closed (clockwise) and that the non-return valve **C** (Figure 1.) is capped.
5. Connect the charging unit to the gas fill valve on the accumulator by means of knurled cap **D** (Figure 1.).
6. Fit the gas valve adaptor (included in Stauff charging kit) to the nitrogen bottle, make sure that the gas valve on the nitrogen bottle is closed (Figure 2.) then attach gas hose to the gas valve adaptor on the nitrogen bottle.
7. Connect the other end of gas hose to the non-return valve **C** (Figure 1.), after taking off it's cap.
8. Turn valve **A** (Figure 1.) clockwise until it stops (**Do not over Torque**)
9. SLOWLY open valve on nitrogen bottle (Figure 2.) and allow the gas to flow to the accumulator. Gauge should begin to register pressure.
10. Once the desired gas pre-charge pressure has been reached, close valve on nitrogen bottle (Figure 2).
11. Open valve **A** (Figure 1.) (fully counter-clockwise) bleed the trapped pressure in the gas line to zero by means of bleed valve **B** (Figure 1.), open valve **B** (turn counter-clockwise) until gauge reads 0 psi.
12. Remove hose from non-return valve **C** (Figure 1.) and replace cap.
13. Close the bleed valve **B** (Figure 1.) and wait a few minutes for pressure to stabilize.
14. Screw valve **A** (Figure 1.) clockwise until pressure can be read on gauge. This should be slightly higher then the required pressure.
15. Adjust pressure by means of bleed valve **B** (Figure 1.), when desired pressure is attained, confirm that valve **B** is completely closed (clockwise). Open valve **A** (Figure 1.) completely (counter-clockwise). Now remove the charging unit by means of knurled cap **D** (Figure 1.), then remove charging unit.
16. Replace gas valve cap and protective guard on accumulator.
17. Accumulator is now ready for use.

NOTE: Allow accumulator to rest approximately 10-15 minutes after gas pre-charging. This will allow gas temperatures to adjust and equalize. Recheck gas pre-charge pressure and adjust if necessary. Check accumulator gas valve for any leaks with soapy water. Always wear safety glasses.

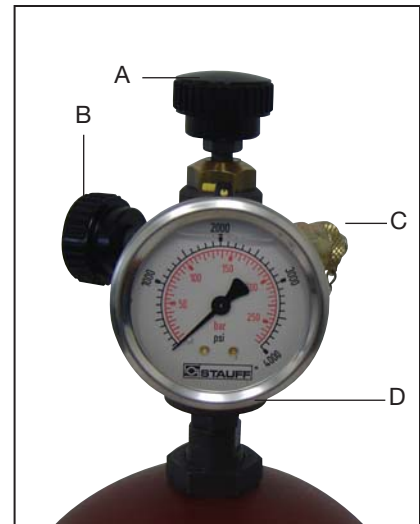


Figure 1.



Figure 2.

Checking Pre-Charge Pressure

General Information

The condition of the accumulator is primarily determined by periodic checking of pre-charge pressure. Only qualified personnel should perform any maintenance on accumulators. Nitrogen gas pre-charge pressure should be checked at least once during the first week of operation to assure that no leak has developed. The pre-charge

pressure and ambient temperature should be recorded at installation. If there is no loss of gas pre-charge pressure, it should be rechecked in approximately 4 months. Thereafter, it should be checked annually. Check pre-charge if the system is acting sluggishly. If pre-charge is low, check the gas valve for leakage and recharge.

Pre-charge Checking Procedure for Bladder Accumulators

1. Use appropriate valving in the hydraulic system, to discharge all hydraulic fluid from accumulator.
2. To check or adjust pre-charge pressure, HYDRAULIC PRESSURE MUST BE REDUCED TO 0 PSI. Pre-charge pressure should be checked periodically. Charging and checking should be done with an accumulator gauge assembly kit similar to Stauff Part # STA-CK-1.
3. Remove gas valve protection guard and valve cap as per pre-charge procedure instructions.
4. Attach gauge assembly to accumulator gas valve.
5. Make sure bleed valve B (Figure 1.) is closed, depress gas valve core by turning valve A (Figure 1.) clockwise. Gas pressure can now be read on gauge.
6. To reduce pressure, open bleed valve B (Figure 1.) carefully, allowing gas to escape until desired pressure is obtained.

NOTE: Allow accumulator to rest approximately 10-15 minutes after gas pre-charging. This will allow gas temperature to adjust and equalize. Recheck gas pressure and adjust if necessary. Check accumulator gas valve for any leaks with soapy water. Always wear safety glasses.

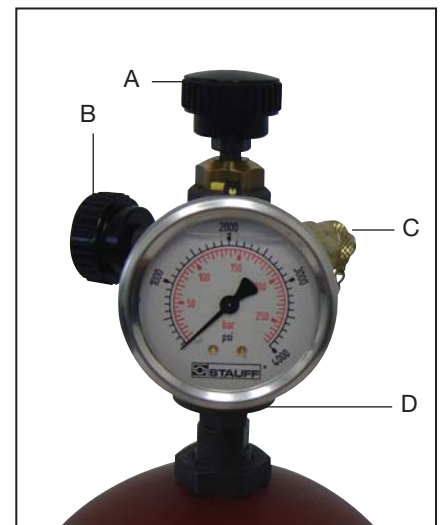


Figure 1.

Bladder Type

1. Follow instructions for checking pre-charge, then release all pre-charge pressure.
2. Drain balance of hydraulic fluid that may be remaining in accumulator when it is disconnected from system.
3. Securely clamp the accumulator in place.
4. Remove bladder stem lock nut, nameplate, and gas valve from the top of the accumulator.
5. Remove the lock nut from the bottom of the accumulator using a spanner wrench (From Stauff Repair Kit Part # STA-R-1). Next remove spacer.
6. Push the plug and poppet assembly into accumulator shell.
7. Insert hand into accumulator shell and remove back-up, o-ring and metal back-up ring from plug. Remove anti-extrusion ring from plug, then fold in half and slide through shell opening.
8. Remove poppet plug assembly from shell.
9. Insert hand into the bottom of the accumulator shell opening. Compress bladder by hand to eliminate as much air volume as possible.
10. Pull the old or damaged bladder out of the bottom of the accumulator shell.
11. Inspect all parts and accumulator shell.

NOTE: It is good practice to disassemble and assemble accumulators in a clean area to keep all parts free of foreign matter.

Bladder Type

1. Remove gas valve or valve core from new bladder.
2. Lubricate the inside of the shell and the outside of the bladder with clean system fluid. Also pour additional amount of fluid in the shell to act as a cushion.
3. Attach the bladder pull rod (as per Stauff Repair Kit Part # STA-R-1) to the bladder stem. Pull the rod and bladder through the shell fluid port. Pull bladder stem out through the valve stem opening on the opposite end of the shell.
4. Slide the nameplate and lock nut over the pull rod and thread onto the bladder stem. Tighten lock nut. Remove the bladder pull rod.
5. Slide the plug/poppet (poppet first) into the accumulator shell. Fold the anti-extrusion ring in half and slide it through the oil port opening. Place the anti-extrusion ring on the plug and poppet assembly with its stainless steel ring facing toward the shell opening.
6. Pull plug through accumulator shell opening. Using both hands, pull plug hard until it seats into position on shell opening.
7. Install gas valve or valve core into bladder stem. Using dry nitrogen, SLOWLY inflate the bladder bag with 5-10 psi of pressure to set and hold plug and poppet assembly in place.
8. Install metal washer onto plug and poppet assembly. Push into shell opening until bottomed out.
9. Install "O"-ring over plug and poppet assembly and push into shell opening until bottomed out. DO NOT ROLL OR TWIST O-RING WHEN INSTALLING. Lubricate "O"-ring with system fluid or grease before installation.
10. Install back-up and spacer with small shoulder towards the accumulator shell.
11. Install lock nut on plug and poppet assembly and tighten securely with a spanner wrench.
12. Replace bleeder plug into plug and poppet assembly.
13. For pre-charging refer to "Pre-charging Procedure" for bladder type.



Sizing Accumulators

In selecting the proper accumulator size V1 (size of accumulator in cubic inches) when Vw (volume of fluid to be discharged from accumulator) is known.

$$V1 = \frac{(Vw)(E)}{f}$$

E in the above equation adjusts the equation due to the accumulator efficiency versus the gas pre-charge pressure. Use the following constants.

For Supplementing Pump

E = 1.24 for bladder accumulators.

For Auxiliary Power Source (No Pump)

E = 1.60 for bladder accumulators.

In the above equation the discharge coefficient “f” adjusts the equation for the change in the gas temperature due to heat gains and losses by expansion and compression of the gas (Calculate “f” as shown below).

Adiabatic Operation

In an adiabatic operation where the gas temperature is rapidly changing as a result of rapid compression and expansion of the gas:

$$f = 1 - \left(\frac{1}{a} \right)^{1/n} \quad (\text{See Table 1, Page A63 for Calculations.})$$

Where:

$$a = \frac{P3}{P2} = \text{working pressure ratio}$$

P3 = Maximum system pressure

P2 = Minimum system pressure

n = Polytropic exponent for adiabatic operation
(See Charts on Page A64.)

Isothermal Operations

In an isothermal operation where the compression and expansion of the gas is very slow, allowing enough time for heat transfer resulting in little or no change in gas temperature.

$$f = 1 - \left(\frac{1}{a} \right)$$

Where:

$$a = \frac{P3}{P2} = \text{working pressure ratio}$$

P3 = Maximum system pressure

P2 = Minimum system pressure



Accumulator Sizing Data & Application (cont.)

Discharge Coefficient

$$f = 1 - \left(\frac{1}{a} \right) 1/n$$

Note: Use this formula if “a” is less than 1.1 or over 3.
If exact values of “a” are not shown, select the next higher value (See charts below).

How to Read Table 1

Locate “a” value in left-hand column and locate “n” value at top of Table 1. The point at which “n” and “a” intersect will be the “f” value.

Table 1

a Values	“n” Values											
	1.40	1.45	1.50	1.55	1.60	1.65	1.70	1.75	1.80	1.85	1.90	1.95
1.0	0	0	0	0	0	0	0	0	0	0	0	0
1.1	.0658	.0636	.0616	.0596	.0578	.0561	.0545	.0530	.0516	.0502	.0489	.0480
1.2	.1221	.1182	.1145	.1110	.1077	.1046	.1017	.0989	.0963	.0939	.0915	.0896
1.3	.1709	.1655	.1605	.1557	.1512	.1470	.1430	.1392	.1356	.1322	.1290	.1264
1.4	.2136	.2071	.2009	.1951	.1897	.1845	.1796	.1749	.1705	.1663	.1623	.1594
1.5	.2515	.2439	.2369	.2302	.2239	.2179	.2122	.2068	.2017	.1968	.1922	.1887
1.6	.2852	.2769	.2690	.2616	.2545	.2479	.2415	.2355	.2298	.2244	.2191	.2154
1.7	.3155	.3065	.2980	.2899	.2823	.2750	.2681	.2616	.2553	.2494	.2437	.2395
1.8	.3429	.3333	.3242	.3156	.3074	.2997	.2923	.2853	.2786	.2722	.2661	.2617
1.9	.3677	.3577	.3481	.3391	.3305	.3223	.3145	.3070	.2999	.2932	.2867	.2819
2.0	.3905	.3800	.3700	.3606	.3516	.3430	.3348	.3270	.3196	.3125	.3057	.3010
2.1	.4114	.4005	.3902	.3804	.3711	.3622	.3537	.3456	.3378	.3304	.3233	.3181
2.2	.4306	.4194	.4088	.3987	.3891	.3799	.3711	.3627	.3547	.3470	.3396	.3344
2.3	.4484	.4370	.4261	.4157	.4058	.3964	.3873	.3787	.3704	.3625	.3549	.3493
2.4	.4649	.4533	.442	.4315	.4214	.4117	.4025	.3936	.3851	.3770	.3692	.3634
2.5	.4803	.4684	.4571	.4463	.4360	.4261	.4167	.4076	.3989	.3906	.3820	.3766
2.6	.4947	.4826	.4711	.4601	.4496	.4396	.4300	.4207	.4119	.4034	.3952	.3891
2.7	.5081	.4959	.4843	.4731	.4625	.4523	.4425	.4331	.4241	.4154	.4071	.4010
2.8	.5207	.5084	.4966	.4854	.4746	.4642	.4543	.4448	.4356	.4268	.4184	.4120
2.9	.5326	.5226	.5083	.4969	.4860	.4755	.4654	.4558	.4465	.4376	.4290	.4226
3.0	.5438	.5337	.5193	.5078	.4967	.4862	.4760	.4662	.4568	.4478	.4391	.4326

Table 2

n	C3
1.41 - 1.45	.0300
1.46 - 1.49	.0318
1.50 - 1.53	.0336
1.54 - 1.57	.0352
1.58 - 1.62	.0371
1.63 - 1.67	.0389
1.68 - 1.73	.0410
1.74 - 1.79	.0429
1.80 - 1.85	.0447
1.86 - 1.91	.0464
1.92 - 1.94	.0472



Accumulator Sizing Data & Application (cont.)

Instructions for Selection of Discharge Coefficient “n”

1. Determine Average System Pressure

$$\frac{P_2 + P_3}{2} = \text{Average System Pressure}$$

2. Determine the time in seconds to discharge the oil from the accumulator.

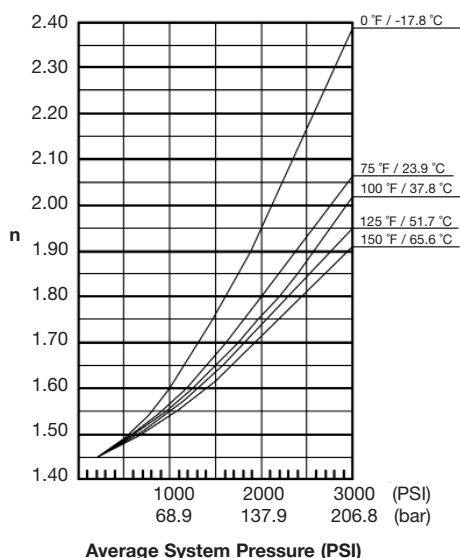
3. Select the graph which corresponds to the time (sec.) required to discharge the accumulator.

4. Select the curve on the graph which corresponds to the gas operating temperature (If gas temperature under operating conditions is not known assume 100 °F / 38°C.)

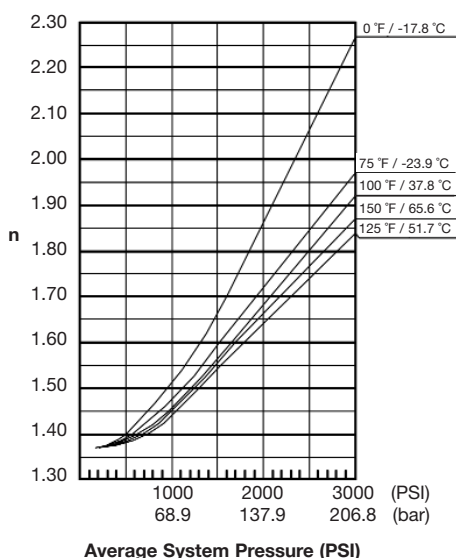
5. To use the graph, locate the average system pressure along the bottom portion of the graph. Move vertically along this column until you intersect the line corresponding to the gas temperature. Then move horizontally along this line and read the discharge coefficient to the left side of the graph.

Selection Charts for Discharge Coefficient “n”

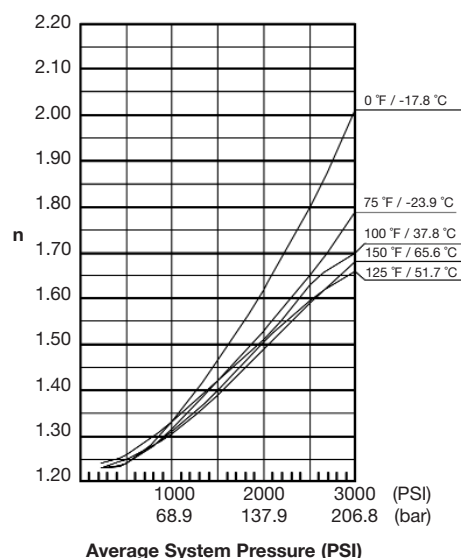
0 - 8 Seconds



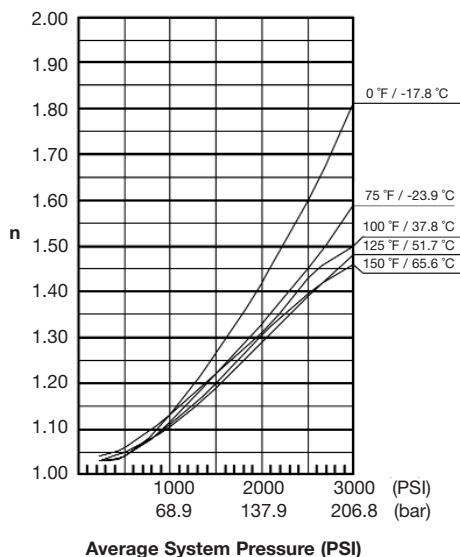
9 - 30 Seconds



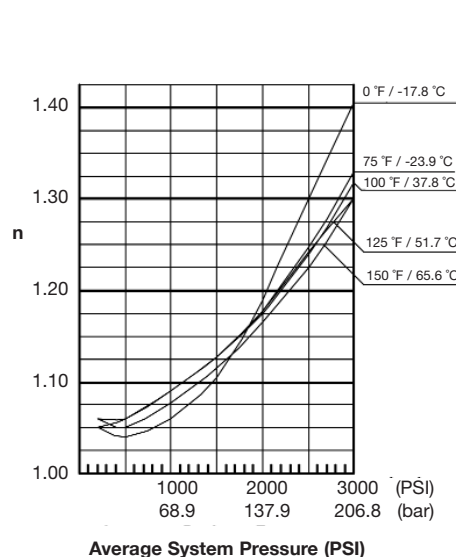
31 - 60 Seconds



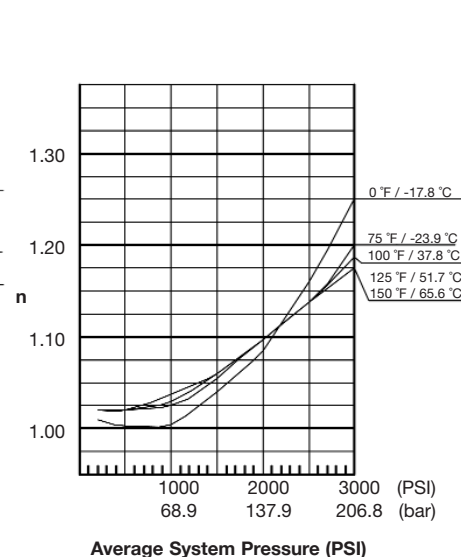
61 - 120 Seconds



121 - 500 Seconds



501 - 900 Seconds





Accumulator Sizing Data & Application (cont.)

Problem #1

Supplementing Pump Flow

Solution:

Given: A 4.5" bore x 10" stroke cylinder with a 2" diameter rod must extend and retract in 6 seconds. Minimum pressure required to cycle cylinder is 1000 PSI (68 bar). Dwell time between cycles is 1.5 minutes. Gas temperature is 100 °F. Maximum system pressure is 2000 PSI (136 bar).

$$V_1 (\text{in}^3) = \frac{(V_w)(E)}{f}$$

$$E = 1.24 \text{ for bladder accumulator (See Page A62).}$$

$$V_1 (\text{in}^3) = \frac{269 (1.24)}{.3430} = 973 \text{ in}^3 \text{ or } 4.25 \text{ Gallons}$$

Information Required:

$P_2 = 1000 \text{ PSI (68 bar)}$ = Minimum system pressure
 $P_3 = 2000 \text{ PSI (136 bar)}$ = Maximum system pressure
 $CT = 6 \text{ sec.}$ = Cycle time of actuator
 $VC = 286.5 \text{ in}^3$ = Displacement of actuator per cycle
 $DT = 90 \text{ sec.}$ = Dwell time between cycles
 $T = 100 \text{ °F.}$ = Gas operating temperature

Where V_1 = Accumulator size required in cubic inches

Once V_1 has been determined, select the accumulator from Pages A47-A50 which has a gas volume equal to or greater than V_1 . In this example a 5 gallon bladder accumulator would satisfy the system. P = gas pre-charge, which should be 80% of P_2 in bladder accumulators.

Solve For:

$$PC = \frac{3.0 \text{ in}^3 / \text{sec.}}{DT+CT} = \frac{VC}{DT+CT} = \text{minimum required output of pump (in}^3 / \text{sec)}$$

$$Q = .78 \text{ GPM} = .26 \text{ PC} = \text{pump output (GPM)}$$

$$V_w = 269 \text{ in}^3 = VC - (3.85) (Q) (CT) = \text{cubic inches of fluid required from accumulator}$$

$$a = 2 = \frac{P_3}{P_2} = \text{working pressure ratio}$$

$$n = 1.65 = \text{From Page A64}$$

$$f = .3430 = \text{From Page A63 (Table 1) (Based on values of "a" & "n")}$$



Problem #2 Increasing Actuation Speed in an Existing Hydraulic System

Given: Present system has a 5 GPM pump capable of 3000 PSI (207 bar), 6" bore x 12" stroke cylinder with a 2" rod. Minimum pressure to extend and retract cylinder is 1500 PSI (103 bar). Gas temperature is 150 °F. Bladder accumulator to be used. Cylinder cycle time is to be reduced from 40 seconds to 8 seconds. Dwell time between cycles is 40 seconds.

Information Required:

$P_2 = 1500 \text{ PSI (103 bar)}$ = Minimum system pressure
 $P_3 = 3000 \text{ PSI (207 bar)}$ = Maximum system pressure
 $CT = 8 \text{ sec.}$ = Cycle time of actuator
 $VC = 640.5 \text{ in}^3$ = Displacement of actuator per cycle
 $DT = 40 \text{ sec.}$ = Dwell time between cycles
 $Q = 5 \text{ GPM}$ = Present pump flow
 $T = 150 \text{ °F.}$ = Gas operating temperature

Solve For:

$V_w = 486.5 \text{ in}^3 = VC - (3.85) (Q) (CT)$ = oil required from accumulator

$VR = 770 \text{ in}^3 = (3.85) (Q) (DT)$ is the pump output during the dwell period. VR must be Greater than V_w to accomplish the new cycle rate. If not, cycle time (CT) or dwell time (DT) must be increased.

$a = 2 = \frac{P_3}{P_2}$ = Pressure ratio

$n = 1.76$ = From Page A66

$f = .3196$ = From Page A65 (Table 1) (Based on values of "a" & "n")

Solution:

$$V_1 (\text{in}^3) = \frac{(V_w) (E)}{f}$$

$E = 1.24$ for bladder accumulator (See Page A64).

$$V_1 (\text{in}^3) = \frac{486.5 (1.24)}{.3196} = 1887.5 \text{ in}^3 \text{ or } 8.2 \text{ Gallons}$$

Where V_1 = Accumulator size required in cubic inches

Once V_1 has been determined, select the accumulator from Pages A47-A50 which has a gas volume equal to or greater than V_1 . In this example a 10 gallon bladder accumulator would satisfy the system. P = gas pre-charge, which should be 80% of P_2 in bladder accumulators.

Problem #3 Shock Suppression

Given: System has a 120 GPM pump operating at 2200 PSI (152 bar). Shock is caused by rapidly closing the directional control valve. 80 feet of pipe is between the pump and valve causing shock. Internal area of pipe is 1.4 square inches. Gas operating temperature is 100°F (38°C). Using standard petroleum oil (54.3 lbs/ft³). What size of accumulator (V1) would be required to limit shock pressure to 10% above system pressure P2?

Information Required:

L = 80 ft. = Length of pipe between pump and valve causing shock.
 A = 1.4 in² = Internal area of pipe
 P2 = 2200 PSI (152 bar) = Operating pressure
 Q = 120 GPM = Rate of flow
 T = 100 °F = Gas operating temperature

Solve For:

n = 1.80 = Discharge coefficient – See Page A64.
 Use 0-8 second curves.

VT = 0.78 ft³ = $\frac{(L) (A)}{144}$ = Total volume of oil in pipe

WT = 54.3 lbs/ ft³ = Weight of fluid per cubic foot

W = 42.2 lbs = (VT) (WT) = Total weight of liquid in pipe

V = 27.5 ft/ sec. = $\frac{(.3208) (Q)}{A}$ = Flow velocity

C3 = .0447 = From Page A63 (Table 2) (Opposite the “n” value selected)

Solution:

V1 (in³) = $\frac{(Vw) (E)}{f}$ = Size of accumulator required

V1 = $\frac{(V)^2 (W) (n-1) (.205)}{(P2) (C3)}$

V1 = $\frac{(27.5)^2 (42.2) (1.80-1) (.205)}{(2200) (.0447)} = 53.2 \text{ in}^3 \text{ or } .23 \text{ Gallons}$

A1 Qt. accumulator would satisfy the system.

P1 gas pre-charge pressure should normally be 60% of P2, (in a shock suppression application).



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