



# SBA Accumulator Safety Blocks

For working pressures up to 350 Bar (5075 psi)

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filtration  
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**Warning**

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The products described herein, including without limitation, product features, specifications, designs, availability and pricing, are subject to change by Parker Hannifin Corporation and its subsidiaries at any time without notice.

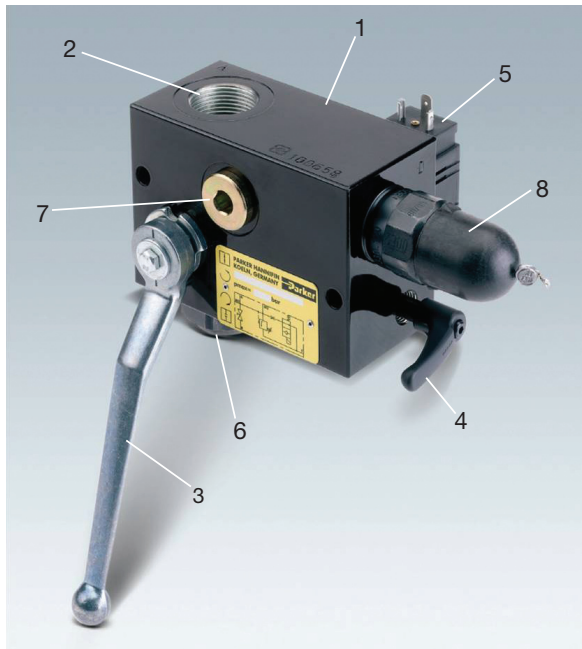
**Offer of Sale**

Please contact you local Parker representative for a detailed offer of sale.



## Introduction

## Accumulator Safety Blocks SBA Series



### Key Features

- 1 Block
- 2 Accumulator port A
- 3 Shut-off valve
- 4 Manually-operated discharge valve
- 5 Electrically-operated discharge valve (optional)
- 6 Pressure port P
- 7 Maintenance port M1
- 8 Pressure relief valve

Not shown in this view:

- Tank port T
- Maintenance port M2

### SBA Safety Blocks

Parker's range of SBA safety blocks is available in NG10, NG20 and NG32 sizes. SBA safety blocks combine all the features required to protect, isolate and discharge a hydraulic accumulator. The shut-off valve turns through 90° to isolate the accumulator instantly from the hydraulic system, in emergency or for maintenance purposes. Once isolated, the accumulator can be discharged to tank via a manual or electrically-controlled discharge valve. System protection is provided by a PED-approved, tamper-proof pressure relief valve.

SBA safety blocks permit safe, simple connection of an accumulator to a hydraulic system. Suitable for use with all types of accumulators – bladder, piston and diaphragm – their compact, multi-function design saves space and reduces connections. By cutting the time required for installation and maintenance procedures, SBA safety blocks enable productivity and profitability to be maximized while system downtime is kept to a minimum. To simplify installation, a full range of adapters is available to suit all common port sizes and styles. For diagnostic purposes and continuous pressure monitoring, all SBA safety blocks feature two maintenance ports.

The European Pressure Equipment Directive (PED) 97/23/EC states that a safety device must be fitted to all accumulators to provide a shut-off facility, pressure limiting and pressure release functions, and measurement points. Parker's SBA range fulfils all of these requirements in a single, compact unit.

The safety block should always be mounted as close as possible to the accumulator. Commissioning and maintenance of the safety block and associated equipment must be performed by qualified personnel.

## A Complete Range of Accumulators

### High Productivity – Low Cost of Ownership

Parker Hannifin offers a full range of piston, bladder and diaphragm accumulators for industrial applications. From miniature diaphragm accumulators for pilot valve operation to multiple large-volume piston accumulator and gas bottle combinations for presses and injection moulding machines, Parker will work with you to maximize the productivity and profitability of your manufacturing systems. All Parker accumulators are designed to deliver long, efficient service with low maintenance requirements, guaranteeing high performance year after year.

## About Parker Hannifin

With annual sales exceeding \$10 billion in fiscal year 2009, Parker Hannifin is the world's leading diversified manufacturer of motion and control technologies and systems, providing precision-engineered solutions for a wide variety of mobile, industrial and aerospace markets. The company employs approximately 52,000 people in 48 countries around the world. Parker has increased its annual dividends paid to shareholders for 53 consecutive years, among the top five longest-running dividend-increase records in the S&P 500 index. For more information, visit the company's web site at [www.parker.com](http://www.parker.com), or its investor information site at [www.phstock.com](http://www.phstock.com).

**Technical Data****SBA Series****Technical Data**

Construction	ball valve
– shut-off valve	poppet-type valve with damping
– pressure relief	poppet-type valve
– manually-operated discharge valve	poppet-type valve (where fitted)
– electrically-operated discharge valve	see table below
Port type	accumulator port A facing upwards
Mounting position	M8 to grade 10.9, max. torque 26 + 4Nm
Mounting screws (not supplied)	-30°C (-22°F) to +80°C (176°F)
Ambient temperature	350 bar (5075 psi)
Max. operating pressure	see table on page 4
Relief flow rate G at p <sub>nom</sub>	mineral oil according to DIN/ISO. For other fluid types, please contact the factory.
Fluid	-15°C (5°F) to +80°C (176°F)
Operating temperature	10 to 800 mm <sup>2</sup> /s
Viscosity	see page 4
Δp-Q-graphs	U=24VDC, 105VDC (for 115V/60 Hz AC supply), P=26W, 100% ED,
Electrical discharge	IP 65 to DIN 40050, connector to DIN 43650 type A
Finish	black zinc phosphated
Seal material	Nitrile

**Dimensions and Weights****BSPP Version**

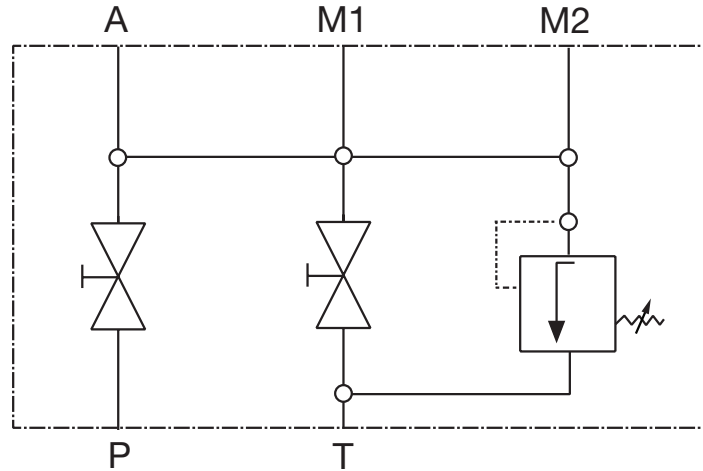
Type	A <sup>1</sup>	P	T	M1	M2	Weight kg (lb)	Model Number
10M	M33x2	G <sup>1</sup> / <sub>2</sub>	G <sup>3</sup> / <sub>8</sub>	G <sup>1</sup> / <sub>2</sub>	G <sup>1</sup> / <sub>4</sub>	4.4 (9.7)	SBAR10M*
10E	M33x2	G <sup>1</sup> / <sub>2</sub>	G <sup>3</sup> / <sub>8</sub>	G <sup>1</sup> / <sub>2</sub>	G <sup>1</sup> / <sub>4</sub>	4.7 (10.4)	SBAR10E*
20M	M33x2	G1	G <sup>1</sup> / <sub>2</sub>	G <sup>1</sup> / <sub>2</sub>	G <sup>1</sup> / <sub>4</sub>	6.0 (13.2)	SBAR20M*
20E	M33x2	G1	G <sup>1</sup> / <sub>2</sub>	G <sup>1</sup> / <sub>2</sub>	G <sup>1</sup> / <sub>4</sub>	6.5 (14.3)	SBAR20E*
32M	Flange	G1 1/2	G1	G <sup>1</sup> / <sub>2</sub>	G <sup>1</sup> / <sub>4</sub>	12.0 (26.5)	SBAR32M*
32E	Flange	G1 1/2	G1	G <sup>1</sup> / <sub>2</sub>	G <sup>1</sup> / <sub>4</sub>	12.6 (27.8)	SBAR32E*

**SAE Version**

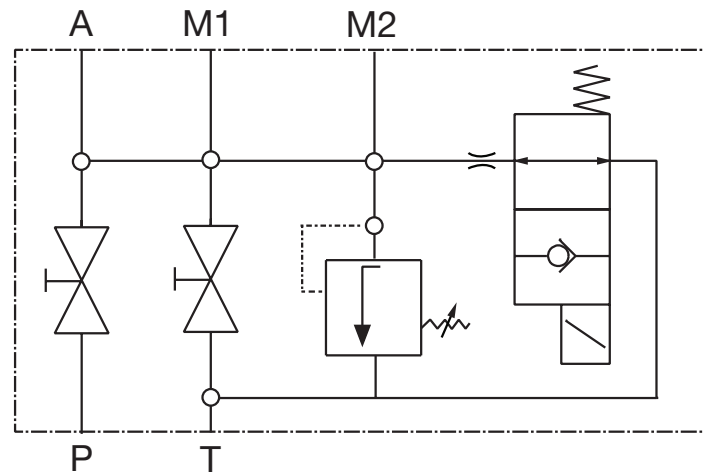
Type	A <sup>1</sup>	P	T	M1	M2	Weight kg	Model Number
10M	#16 SAE	#8 SAE	#6 SAE	#8 SAE	#4 SAE	4.4 (9.7)	SBAT10M*
10E	#16 SAE	#8 SAE	#6 SAE	#8 SAE	#4 SAE	4.7 (10.4)	SBAT10E*
20M	#24 SAE	#16 SAE	#8 SAE	#8 SAE	#4 SAE	6.0 (13.2)	SBAT20M*
20E	#24 SAE	#16 SAE	#8 SAE	#8 SAE	#4 SAE	6.5 (14.3)	SBAT20E*
3LM	2" Code 61	#24 SAE	#16 SAE	#8 SAE	#4 SAE	12.0 (26.5)	SBAT3LM*
3LE	2" Code 61	#24 SAE	#16 SAE	#8 SAE	#4 SAE	12.6 (27.8)	SBAT3LE*
3PM	1 1/2" Code 62	#24 SAE	#16 SAE	#8 SAE	#4 SAE	12.0 (26.5)	SBAT3PM*
3PE	1 1/2" Code 62	#24 SAE	#16 SAE	#8 SAE	#4 SAE	12.6 (27.8)	SBAT3PE*

<sup>1</sup> A range of adapters is available for accumulator port A – see page 18.

**SBA Type M**  
**Manually-Operated Discharge Valve**



**SBA Type E**  
**Manually- and Electrically-Operated Discharge Valves**

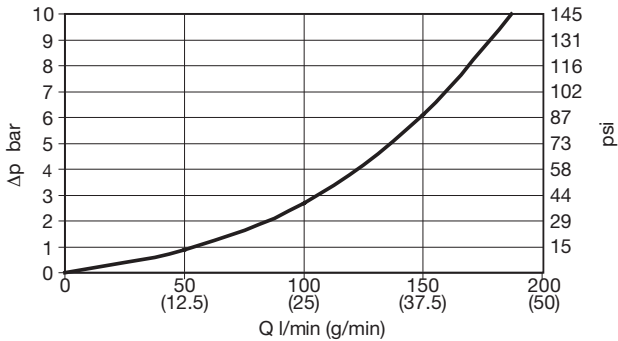


**Technical Data**

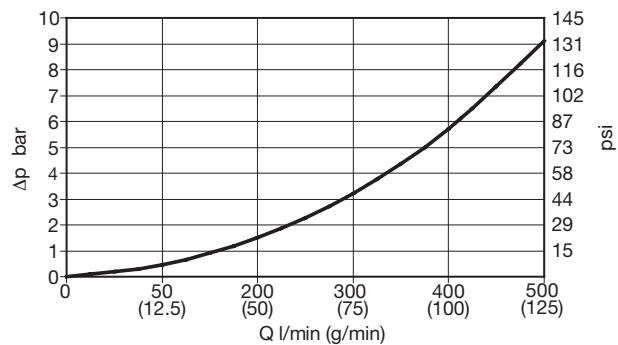
**SBA Series**

**Flow – Accumulator (A) to Pressure Port (P)**

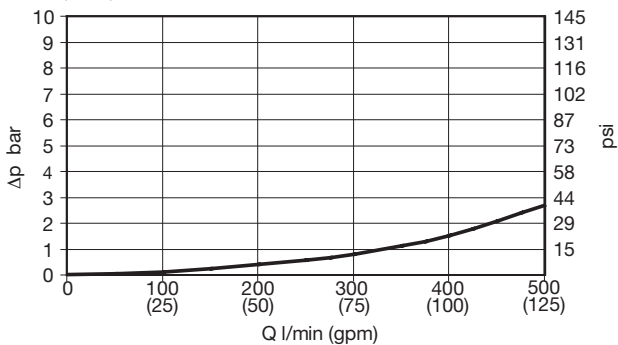
**SBA10**



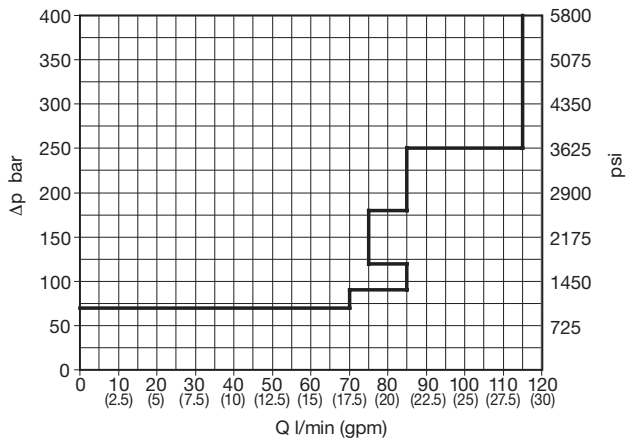
**SBA20**



**SBA32, 3L, 3P**



**Flow Limits for Safety Valve SV – All Models**



**Pressure Relief Valve**

The function of the pressure relief valve is to protect the accumulator in service. If pressure exceeds the relief valve setting, the valve lifts off its seat and fluid is discharged to tank, allowing pressure in the system to fall to a safe level.

**Pressure Settings**

Pressure p bar (psi)	Item Number
50 (725)	SV050
70 (1015)	SV070
100 (1450)	SV100
120 (1740)	SV120
140 (2030)	SV140
160 (2320)	SV160
200 (2900)	SV200
210 (3045)	SV210
250 (3625)	SV250
280 (4060)	SV280
300 (4350)	SV300
330 (4785)	SV330

Because of its cartridge design, the pressure relief valve can be readily replaced by a valve with a different pressure setting, selected from the table. A new approval under PED 97/23/EC is not required following this change. The pre-set relief pressure, in bar, is stamped onto the identification plate.

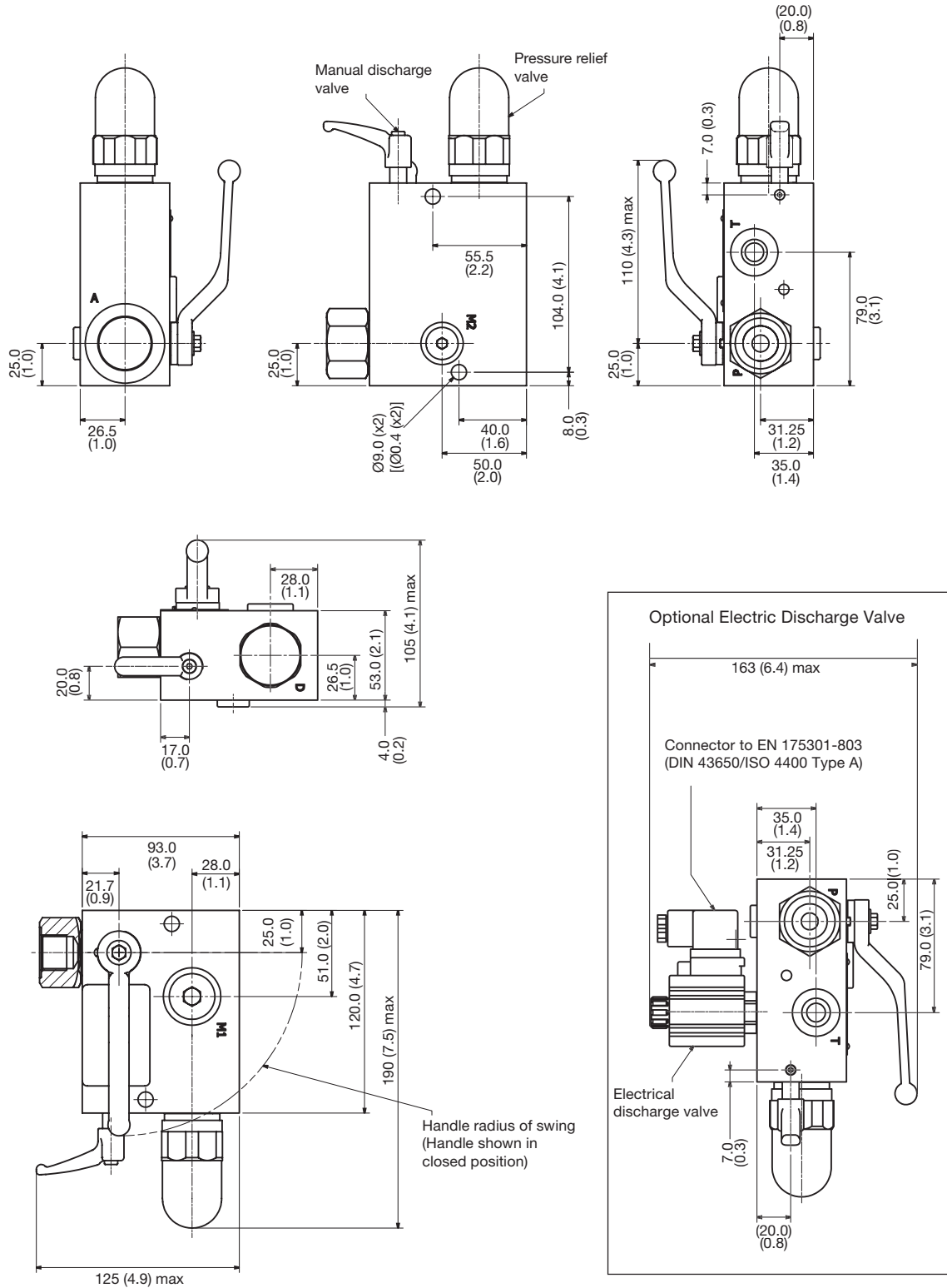
**Type Approval**

The pressure relief valve is checked and securely sealed following approval, according to pressure vessel regulations. It carries a CE mark, type approval number and serial number. All valves are supplied with a certificate showing the pressure setting. The documents supplied with the pressure relief valve must be retained by the manufacturer, as they will be required in the event of repeat tests.

**Manual and Electrical Discharge Valves**

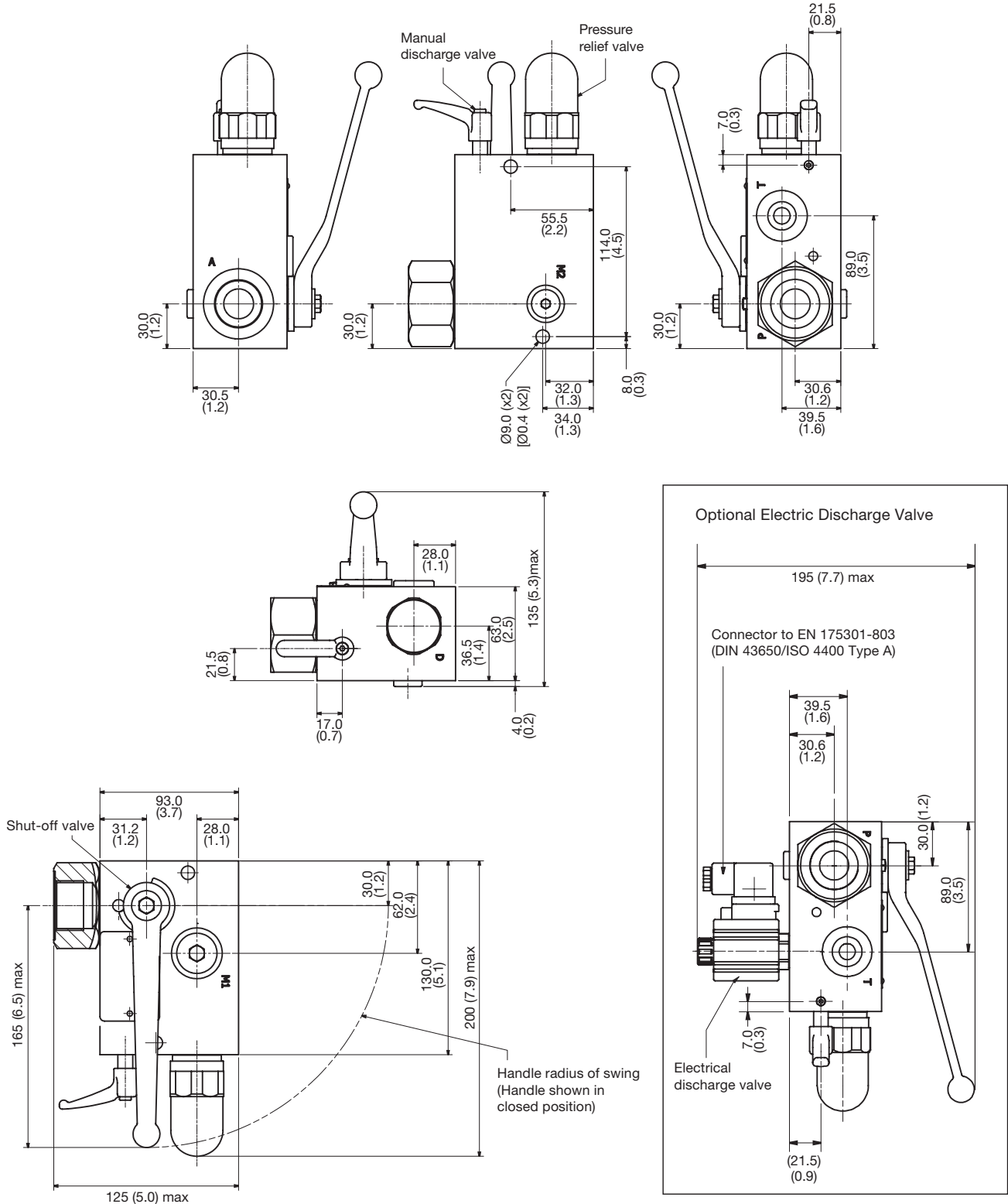
The discharge valve allows fluid stored in the accumulator to be discharged to tank. All models of SBA safety block are fitted with a manually-operated discharge valve. As an optional feature, an electrical discharge valve is available in addition to the manual valve. An electrical discharge valve should be specified where the safety block is to be mounted in a remote or inaccessible location. Manual-only versions of the SBA safety block are denoted by an M in the model code, see page 11, while models with both a manual and an electrical discharge valve are designated E.

**Reference Dimensions – SBAR10 and SBAT10**



All dimensions are in millimeters (inches).

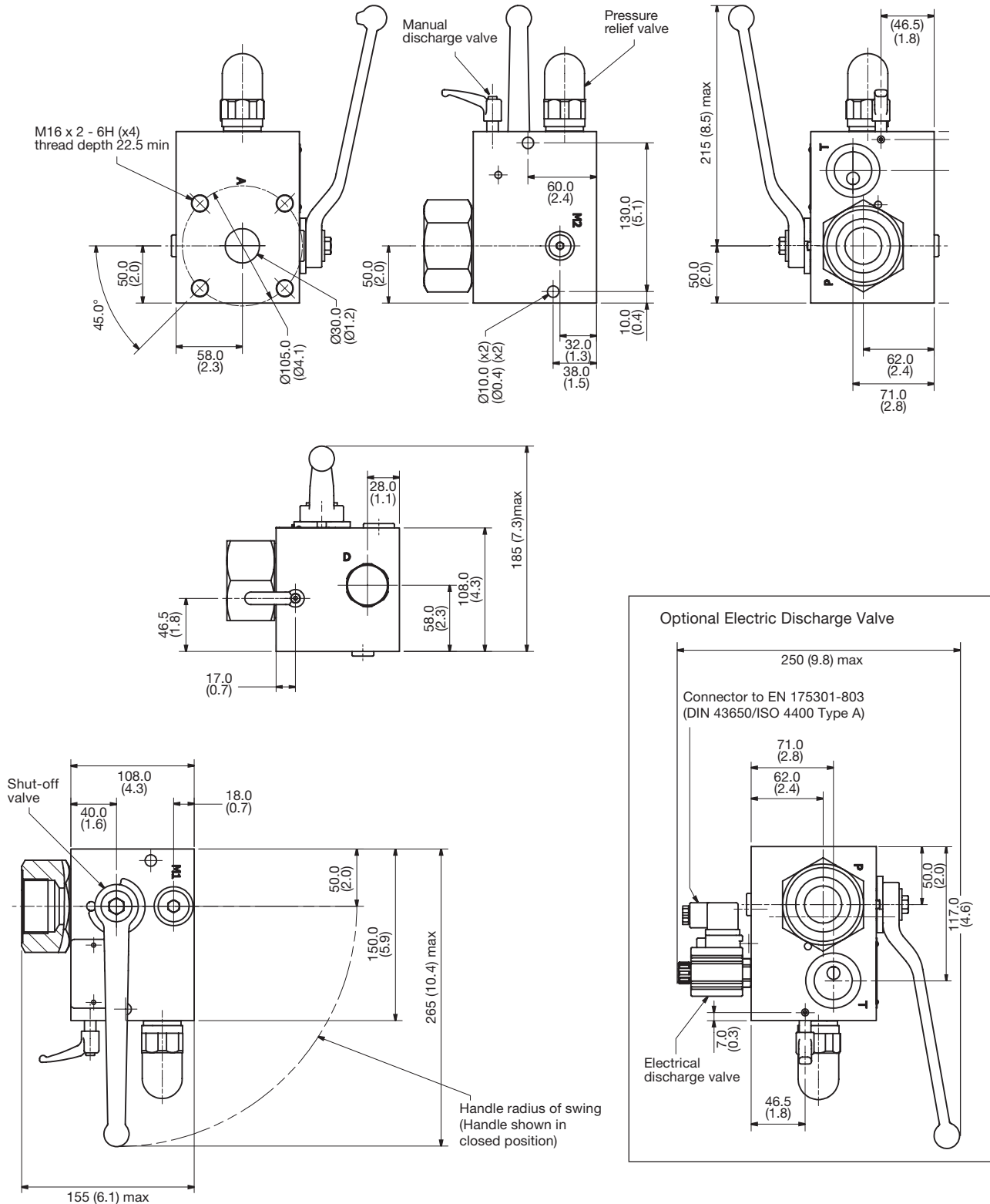
**Reference Dimensions – SBAR20 and SBAT20**



All dimensions are in millimeters (inches).

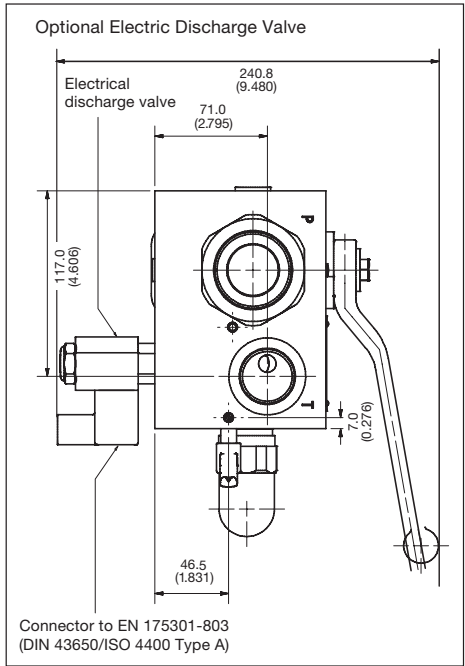
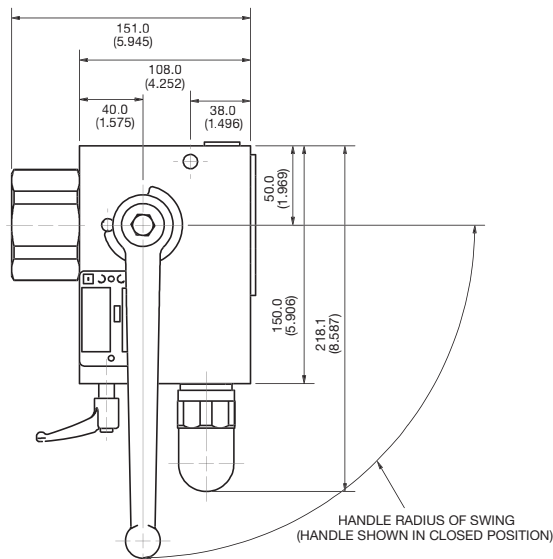
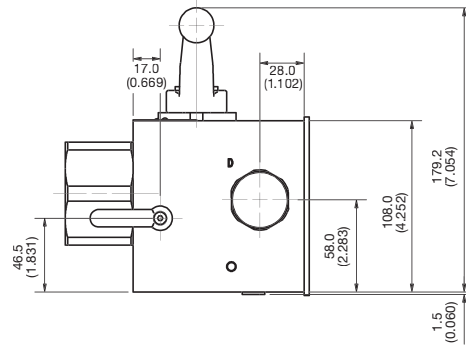
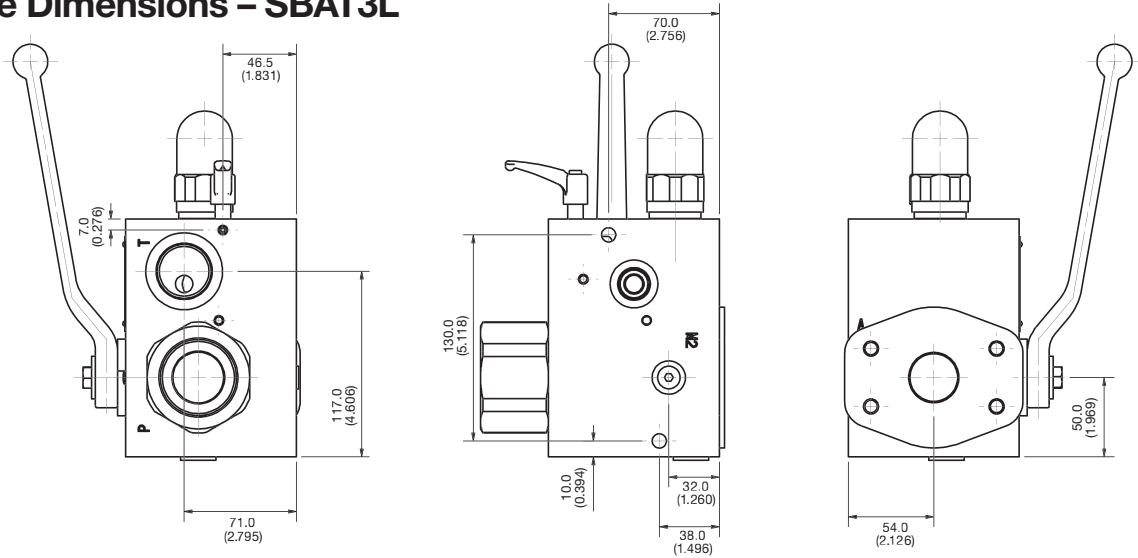


**Reference Dimensions – SBAR32**



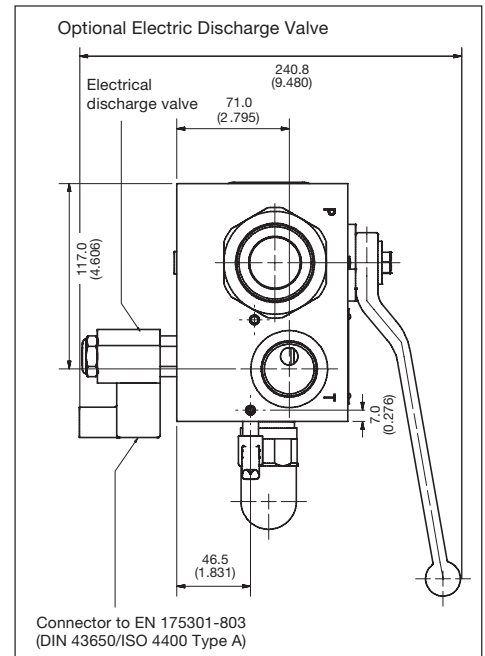
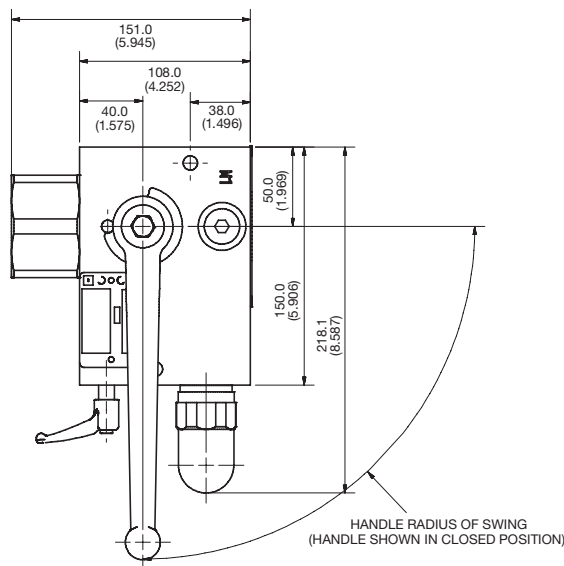
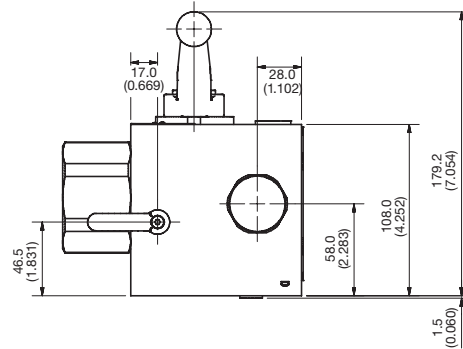
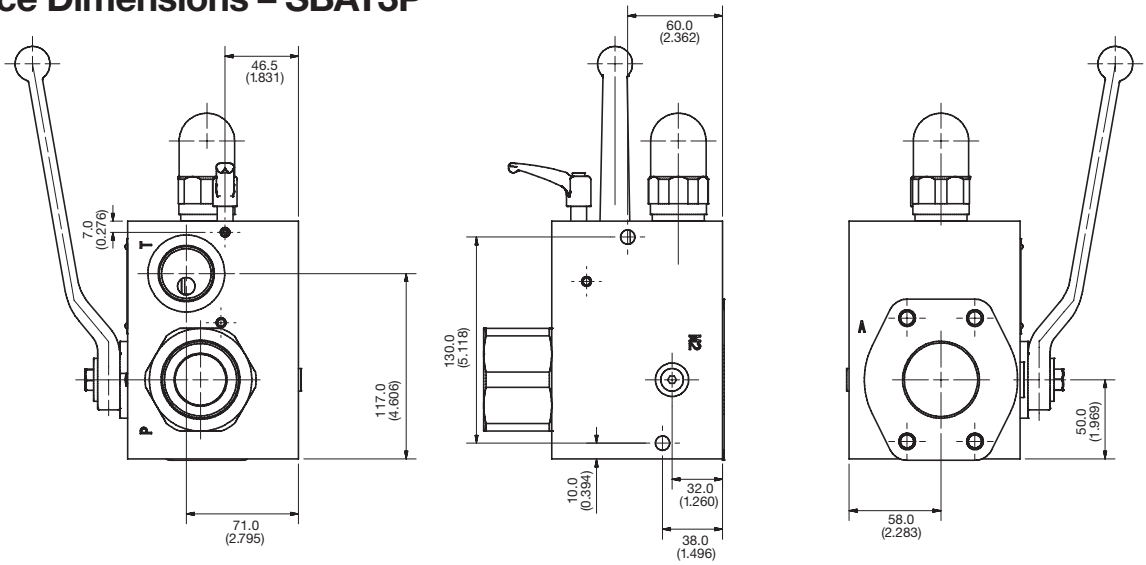
All dimensions are in millimeters (inches).

**Reference Dimensions – SBAT3L**



All dimensions are in millimeters (inches).

**Reference Dimensions – SBAT3P**



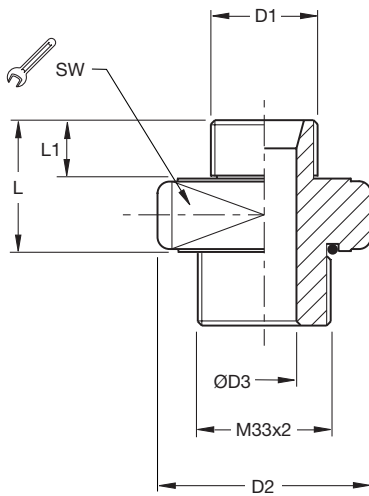
All dimensions are in millimeters (inches).

**Adapters – Accumulator to Safety Block**

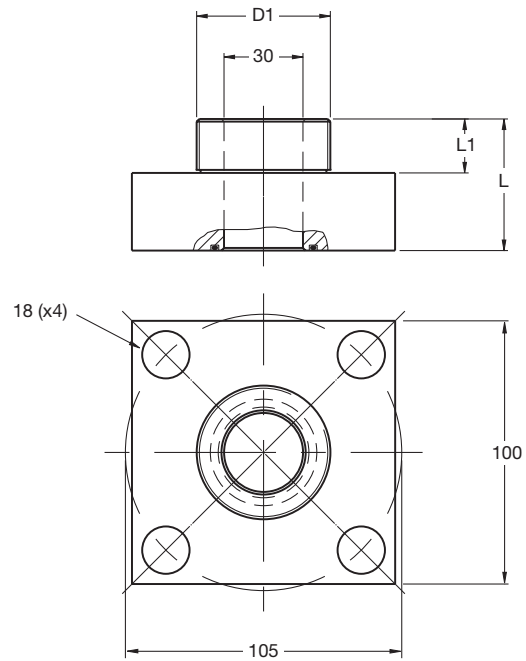
**SBAR Series**

Accumulator Fluid Port D1		Safety Block Port A	SW	L	L1	D2	D3	Part Number	Use with SBAR	For Accumulator Type		
										Bladder	Diaphragm	Piston
G <sup>3/4</sup>	ISO 228	M33x2	46	33	16	53	16	UEST-T- <sup>3/4</sup>	10 & 20	X		
G1 <sup>1/4</sup>	ISO 228	M33x2	55	41	20	63	20	UEST-T-1 <sup>1/4</sup>	10 & 20	X		
G2	ISO 228	M33x2	80	46	22	90	20	UEST-T-2	10 & 20	X		
G2	ISO 228	Flange 100	-	50	22	-	30	UEST-F-2	32	X		
G <sup>1/2</sup>	ISO 228	M33x2	46	34	14	53	12	UEST-T- <sup>1/2</sup> ED	10 & 20		X	X
G <sup>3/4</sup>	ISO 228	M33x2	46	36	16	53	16	UEST-T- <sup>3/4</sup> ED	10 & 20		X	X
G1 1/2	ISO 228	Flange 100	-	70	22	-	30	UEST-F-1 <sup>1/2</sup>	32			X

**Threaded Adapter**  
**UEST-T-xx**



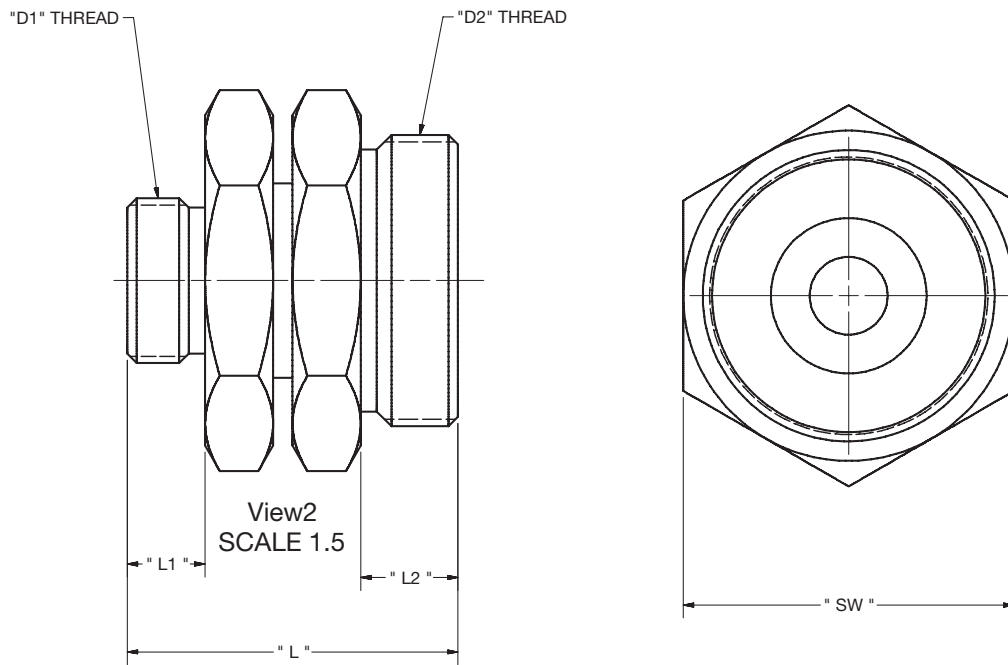
**Flanged Adapter**  
**UEST-F-xx**



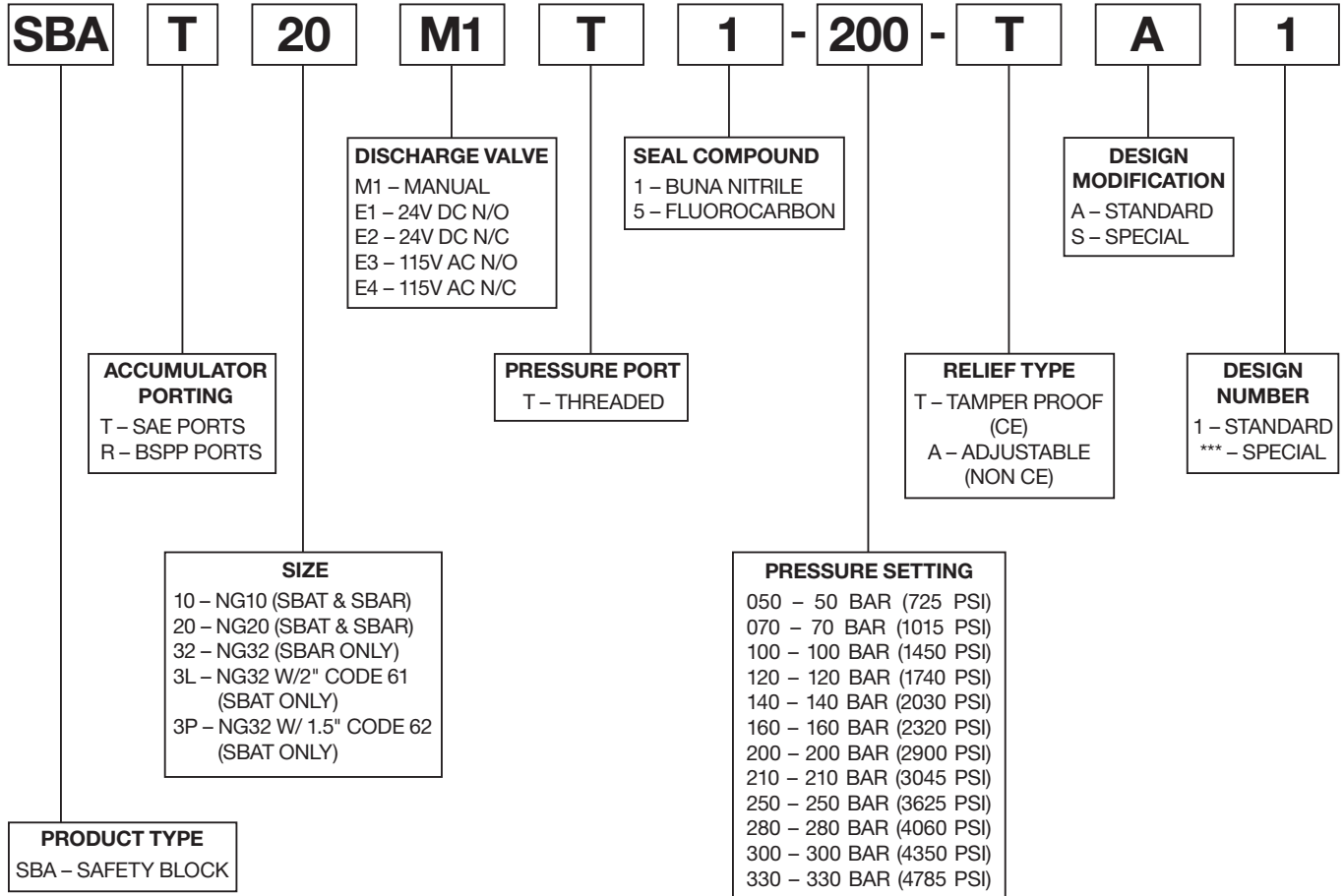
**SBAT Series**

Accumulator Fluid Port D1		Safety Block Port A	SW	L	L1	D2	D3	Part Number	Use with SBAT	For Accumulator Type		
										Bladder	Diaphragm	Piston
3/4-16	UNF-2A	#16 SAE	1-1/2	2.20	0.594	1 5/16-12	-	8727991608	10		X	X
1 1/16-12	UNF-2A	#16 SAE	1-1/2	2.20	0.594	1 5/16-12	-	8727991612	10			X
1 5/16-12	UNF-2A	#16 SAE	1-1/2	2.44	0.594	1 5/16-12	-	8727991616	10			X
1 5/8-12	UNF-2A	#16 SAE	1-1/2	2.60	0.594	1 5/16-12	-	8727991620	10	X		X
1 7/8-12	UNF-2A	#16 SAE	2-1/8	2.44	0.594	1 7/8-12	-	8727992416	10	X		X
1 5/8-12	UNF-2A	#24 SAE	2-1/8	2.44	0.594	1 7/8-12	-	8727992416	20			X
1 5/8-12	UNF-2A	#24 SAE	2-1/8	2.44	0.594	1 7/8-12	-	8727992420	20	X		X
1 7/8-12	UNF-2A	#24 SAE	2-1/8	2.44	0.594	1 7/8-12	-	8727992424	20	X		X

**SAE to SAE Adapter**



**How to Order – Safety Block Model Code Structure**





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