



# SBA Accumulator Safety Blocks

For working pressures up to 350 Bar

aerospace  
climate control  
electromechanical  
filtration  
fluid & gas handling  
**hydraulics**  
pneumatics  
process control  
sealing & shielding



ENGINEERING YOUR SUCCESS.

## Introduction

## SBA Series

### 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 maximised 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 maximise 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.

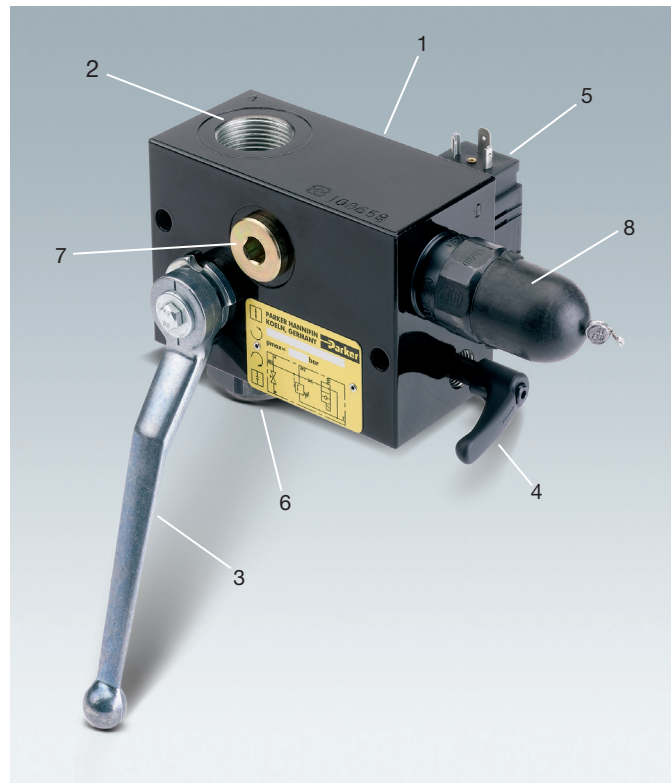
#### About Parker Hannifin

Parker Hannifin is the global leader in motion and control technologies, partnering with its customers to increase their productivity and profitability. The company employs more than 57,000 people in 43 countries around the world, providing customers with technical excellence and first class customer service.

Visit us at [www.parker.com/eu](http://www.parker.com/eu)

### Contents

|  | Page |
|--|------|
| Technical data                         | 3    |
| Flow Data                              | 4    |
| Pressure Relief Valve                  | 4    |
| Manual and Electrical Discharge Valves | 4    |
| Model SBA10                            | 5    |
| Model SBA20                            | 7    |
| Model SBA32                            | 9    |
| Adapters                               | 11   |
| How to Order                           | 11   |



### 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

**Technical Data****Technical Data**

## Construction

- shut-off valve
- pressure relief
- manually-operated discharge valve
- electrically-operated discharge valve

ball valve

poppet-type valve with damping

poppet-type valve

poppet-type valve (where fitted)

## Port type

see table below

## Mounting position

accumulator port A facing upwards

## Mounting screws (not supplied)

M8 to grade 10.9, max. torque 26 + 4Nm

## Ambient temperature

-30°C to +80°C

## Max. operating pressure

350 bar

Relief flow rate G at  $p_{nom}$ 

see table on page 4

## Fluid

mineral oil according to DIN/ISO. For other fluid types, please contact the factory.

## Operating temperature

-15°C to +80°C

## Viscosity

10 to 800 mm<sup>2</sup>/s $\Delta p$ -Q-graphs

see page 4

## Electrical discharge

U=24VDC, 105 VDC (for 115V/60 Hz AC supply), P=26W, 100% ED, IP 65 to DIN 40050, connector to DIN 43650 type A

## Finish

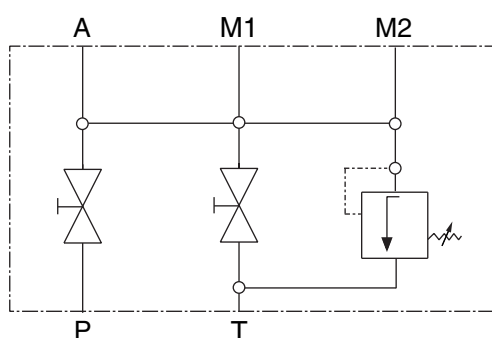
2-coat epoxy

## Seal material

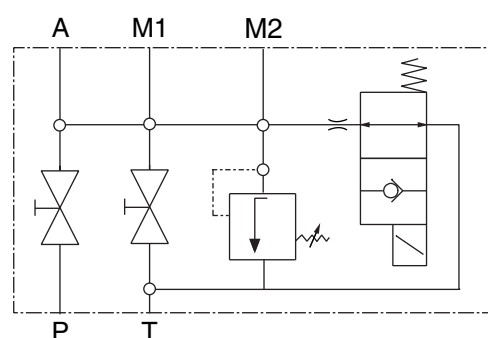
Nitrile

**Dimensions and Weights**

| Type         | A <sup>1</sup> | P                              | T                             | M1                            | M2                            | Weight kg | Model Number <sup>2</sup> |
|--------------|----------------|--------------------------------|-------------------------------|-------------------------------|-------------------------------|-----------|---------------------------|
| 10M (T port) | 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       | SBA10MT1 - xxx            |
| 10E (T port) | 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       | SBA10ET1 - xxx            |
| 20M (T port) | 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       | SBA20MT1 - xxx            |
| 20E (T port) | 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       | SBA20ET1 - xxx            |
| 32M (F port) | Flange         | G1 <sup>1</sup> / <sub>2</sub> | G1                            | G <sup>1</sup> / <sub>2</sub> | G <sup>1</sup> / <sub>4</sub> | 12.0      | SBA32MF1 - xxx            |
| 32E (F port) | Flange         | G1 <sup>1</sup> / <sub>2</sub> | G1                            | G <sup>1</sup> / <sub>2</sub> | G <sup>1</sup> / <sub>4</sub> | 12.6      | SBA32EF1 - xxx            |

<sup>1</sup> A range of adapters is available for accumulator port A – see page 11<sup>2</sup> xxx = pressure setting of pressure relief valve – see page 4

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

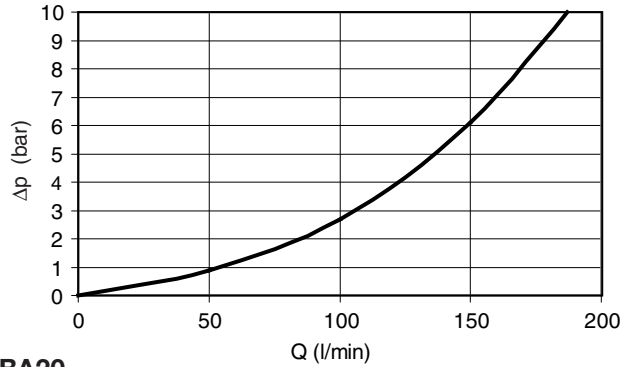


**SBA Type E**  
**Manually- and Electrically-Operated Discharge Valves**

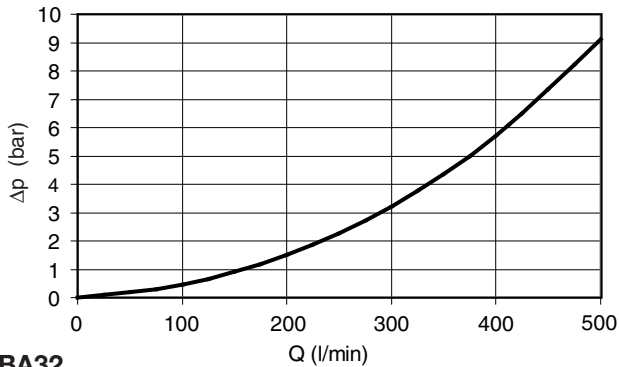
Note: In line with our policy of continuing product improvement, specifications in this catalogue are subject to change without notice.

**Flow – Accumulator (A) to Pump (P)**

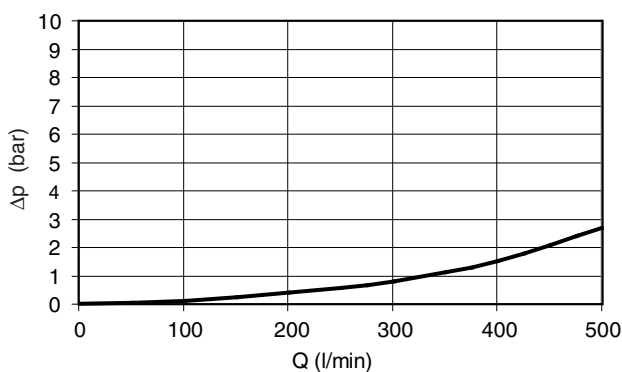
**SBA10**



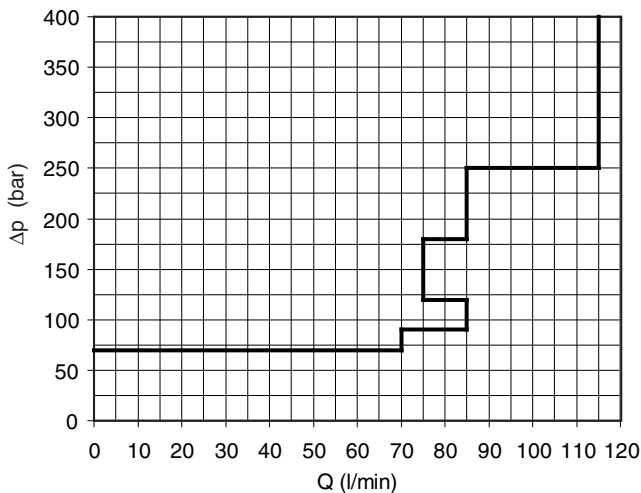
**SBA20**



**SBA32**



**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.

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 security 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, as they will be required in the event of repeat tests.

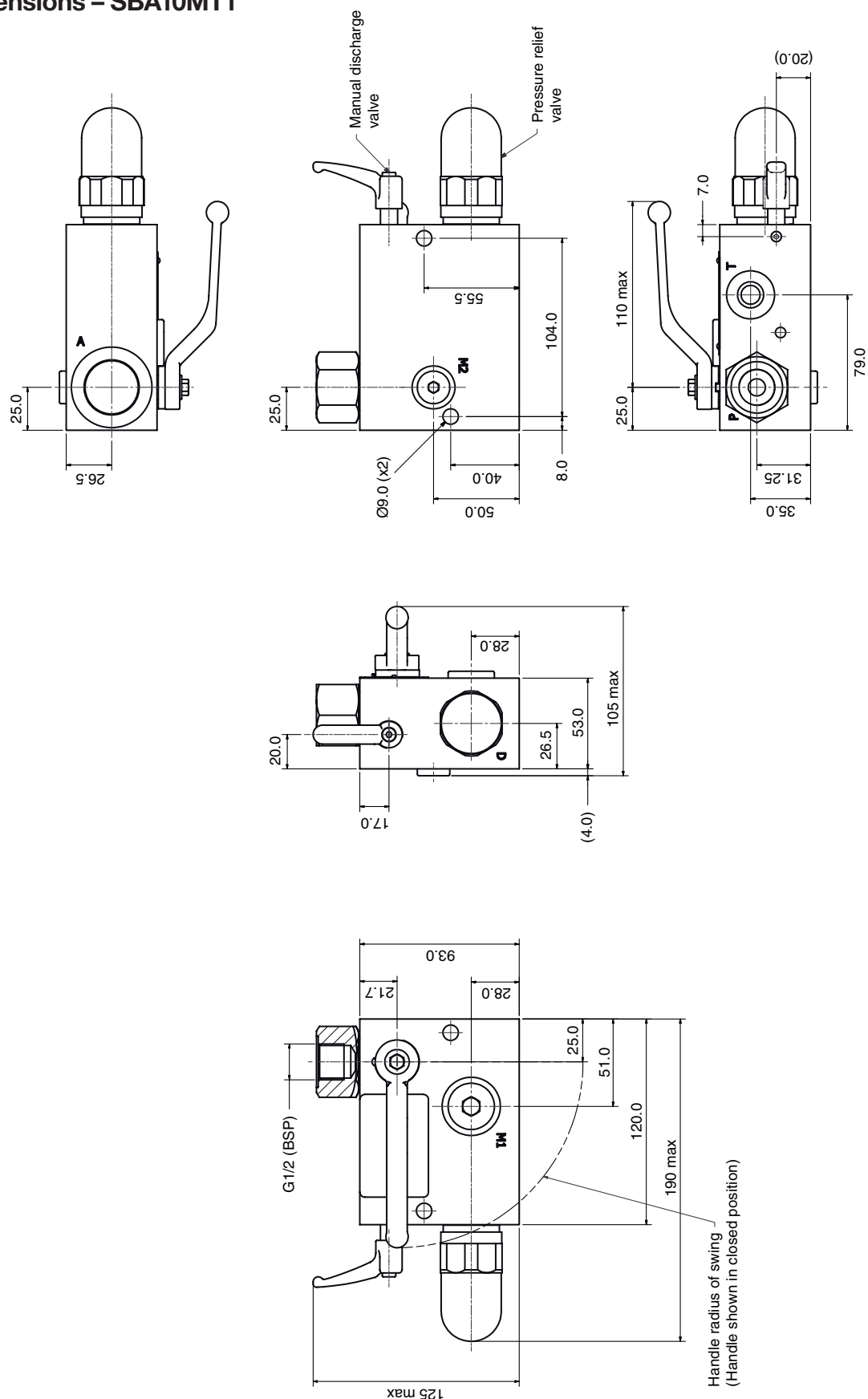
**Pressure Settings**

| Pressure p<br>bar | Max Flow Rate G<br>l/min | Item Number |
|-------------------|--------------------------|-------------|
| 50                | 40                       | SV050       |
| 70                | 50                       | SV070       |
| 100               | 100                      | SV100       |
| 120               | 100                      | SV120       |
| 140               | 100                      | SV140       |
| 160               | 100                      | SV160       |
| 200               | 100                      | SV200       |
| 210               | 100                      | SV210       |
| 250               | 130                      | SV250       |
| 280               | 130                      | SV280       |
| 300               | 130                      | SV300       |
| 330               | 130                      | SV330       |

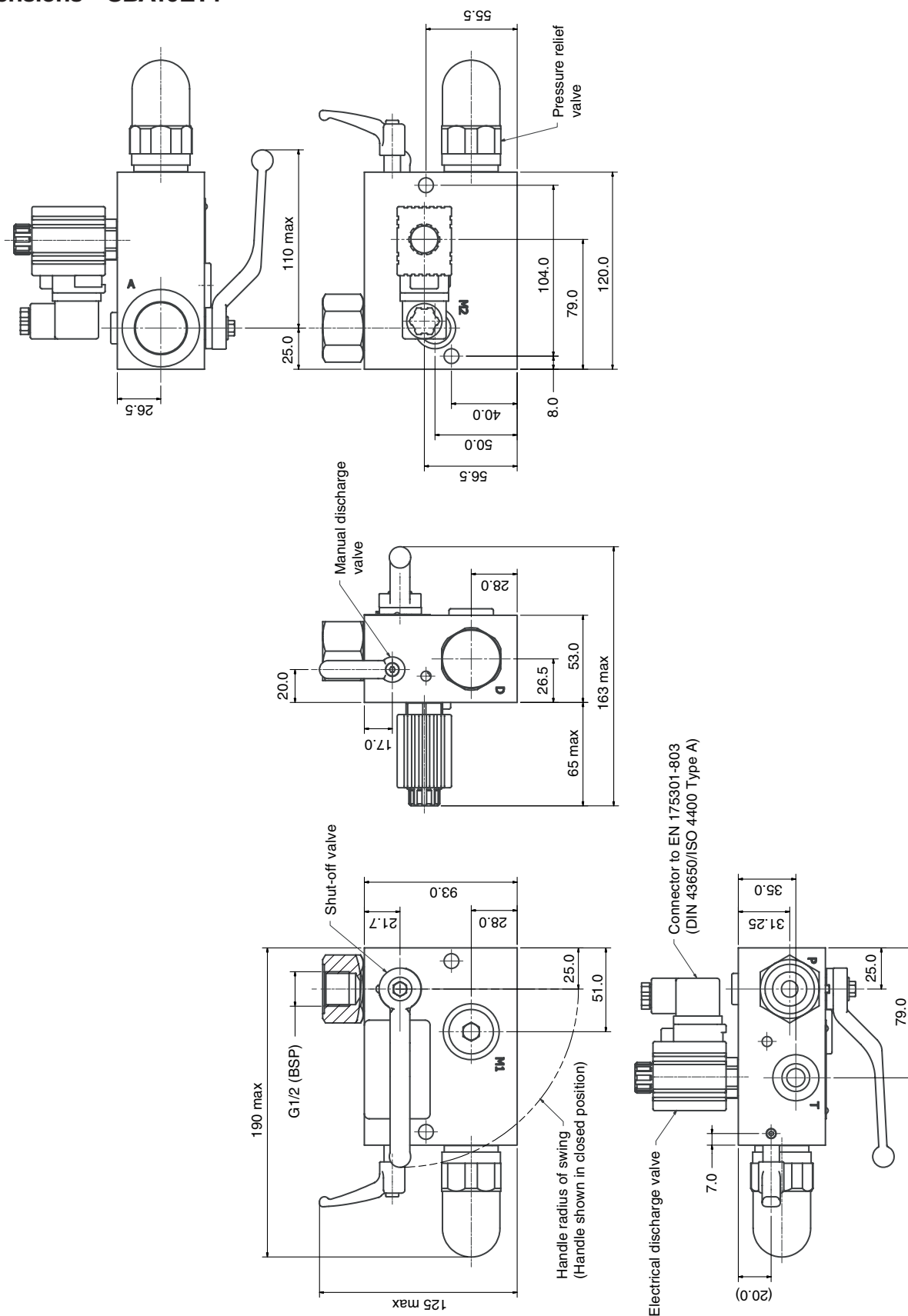
**Manual and Electrical Discharge Valves**

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.

## Dimensions – SBA10MT1

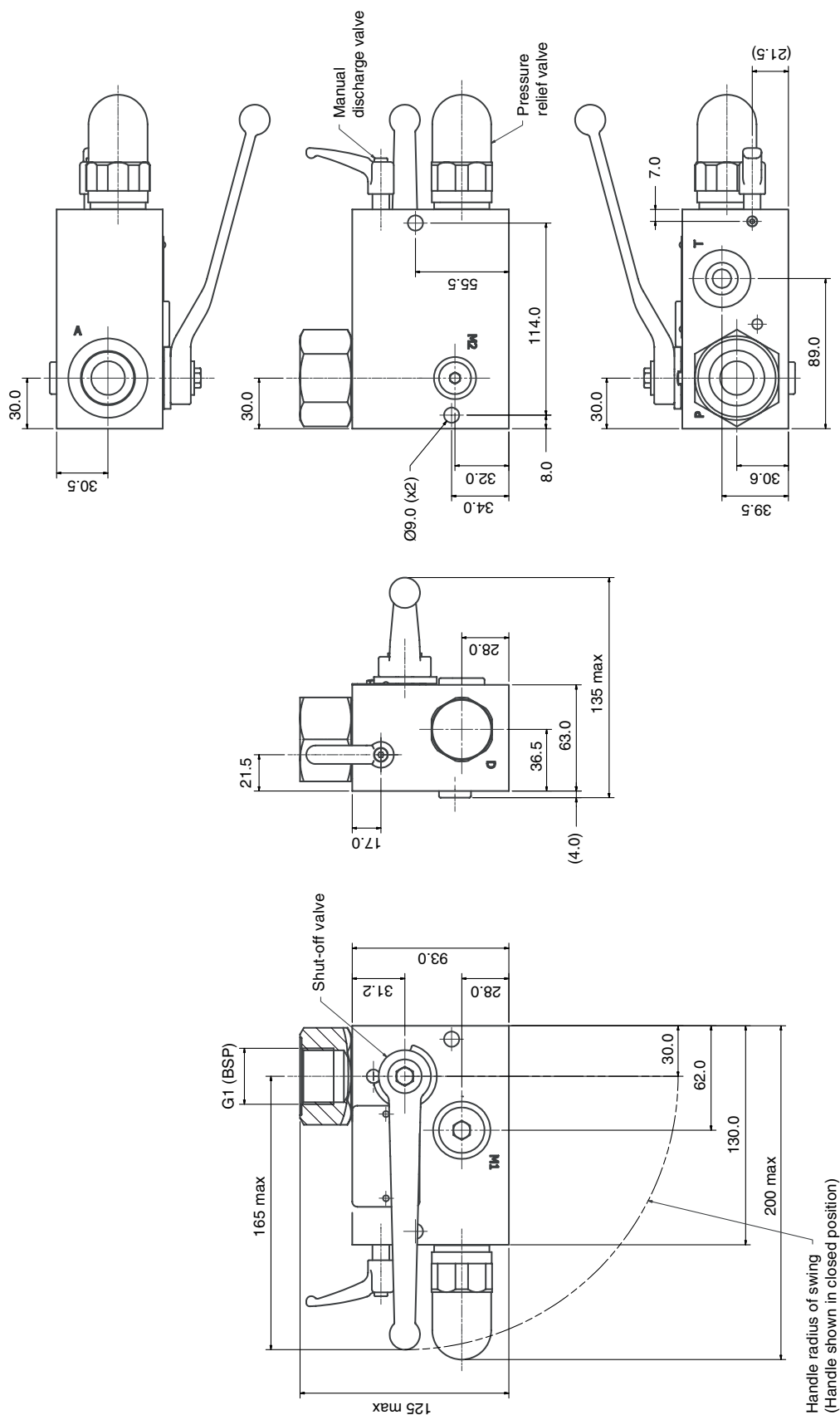


All dimensions are in millimetres unless otherwise stated.

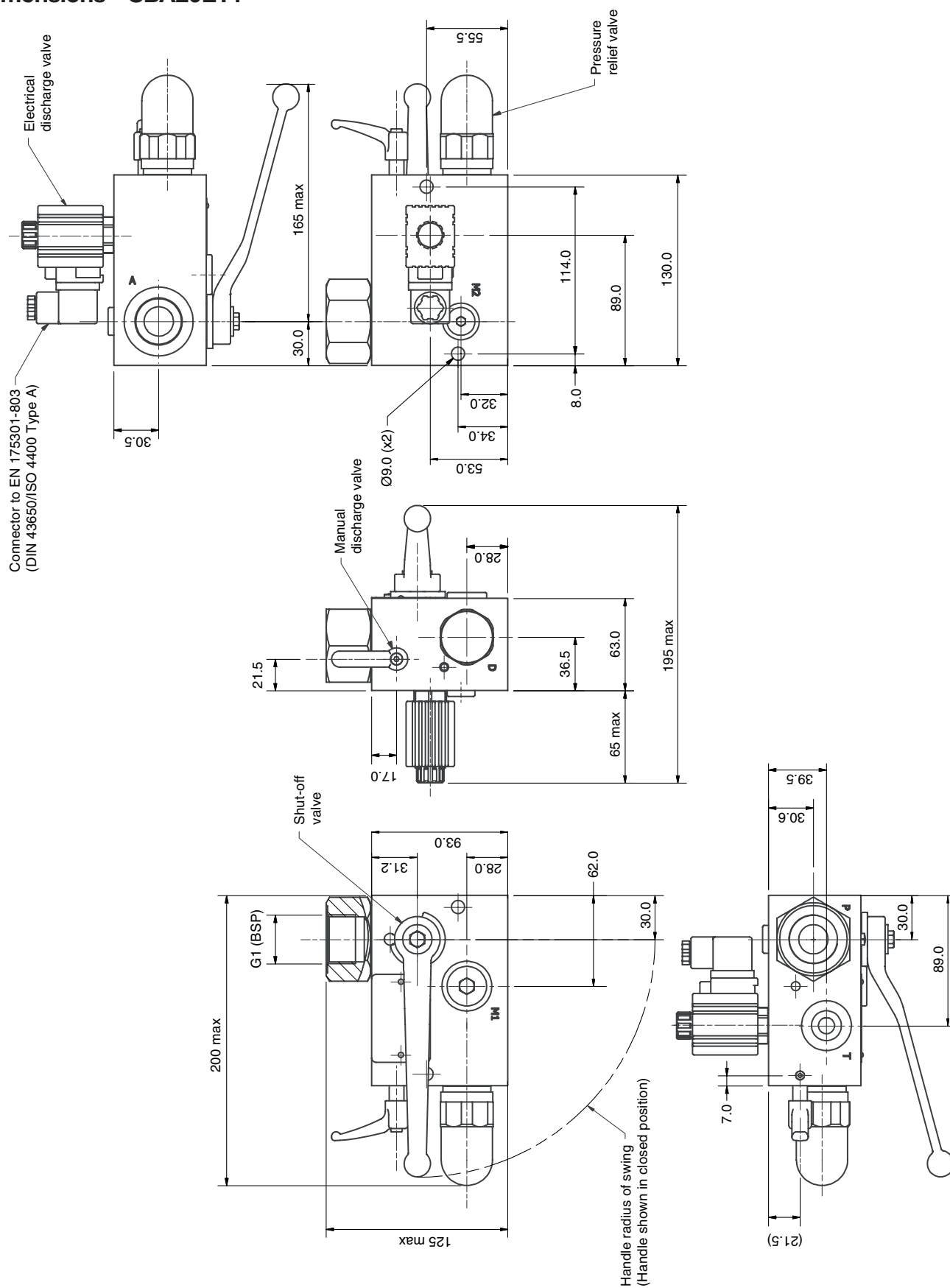
**Dimensions – SBA10ET1**

All dimensions are in millimetres unless otherwise stated.

## Dimensions – SBA20MT1

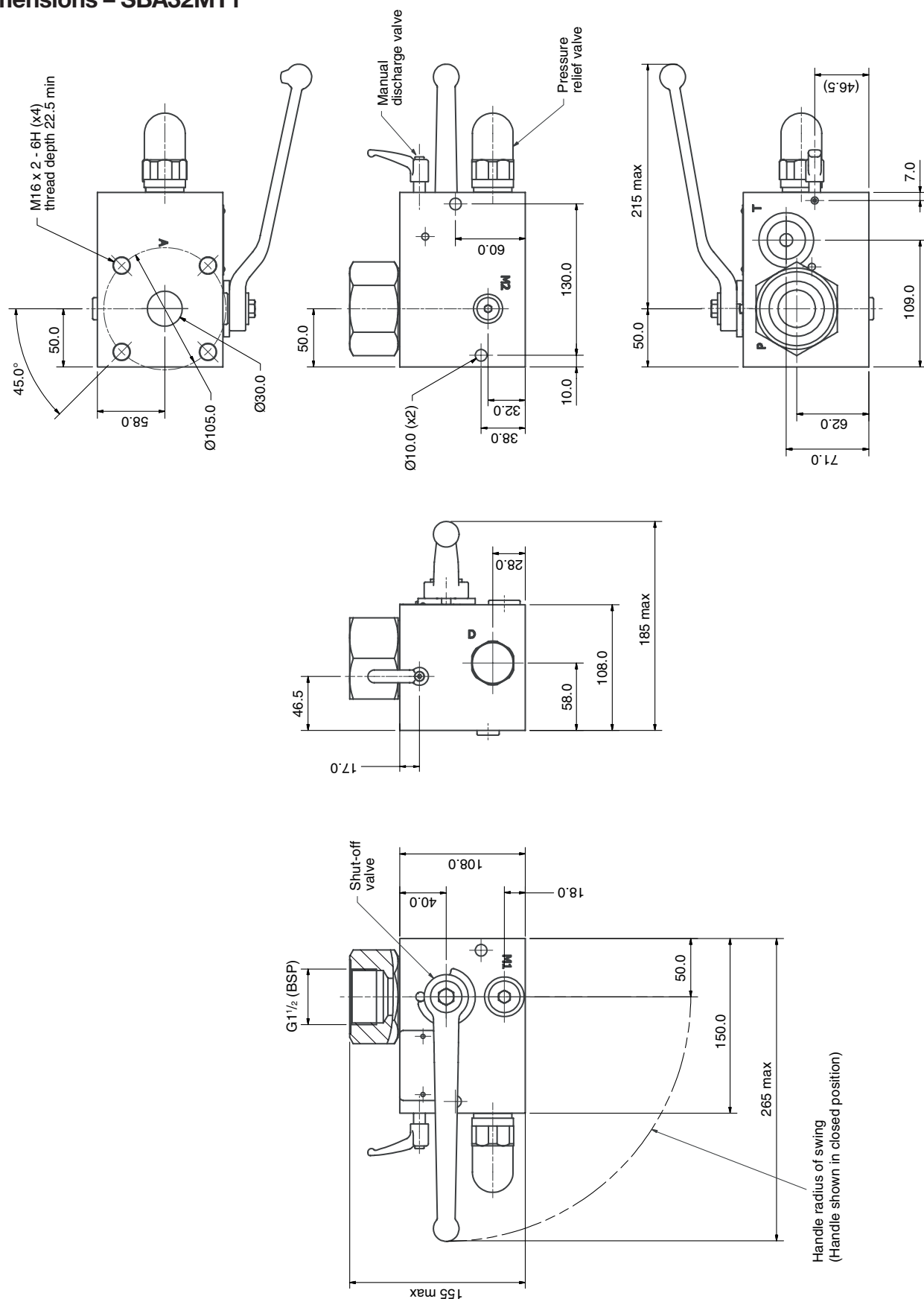


All dimensions are in millimetres unless otherwise stated.

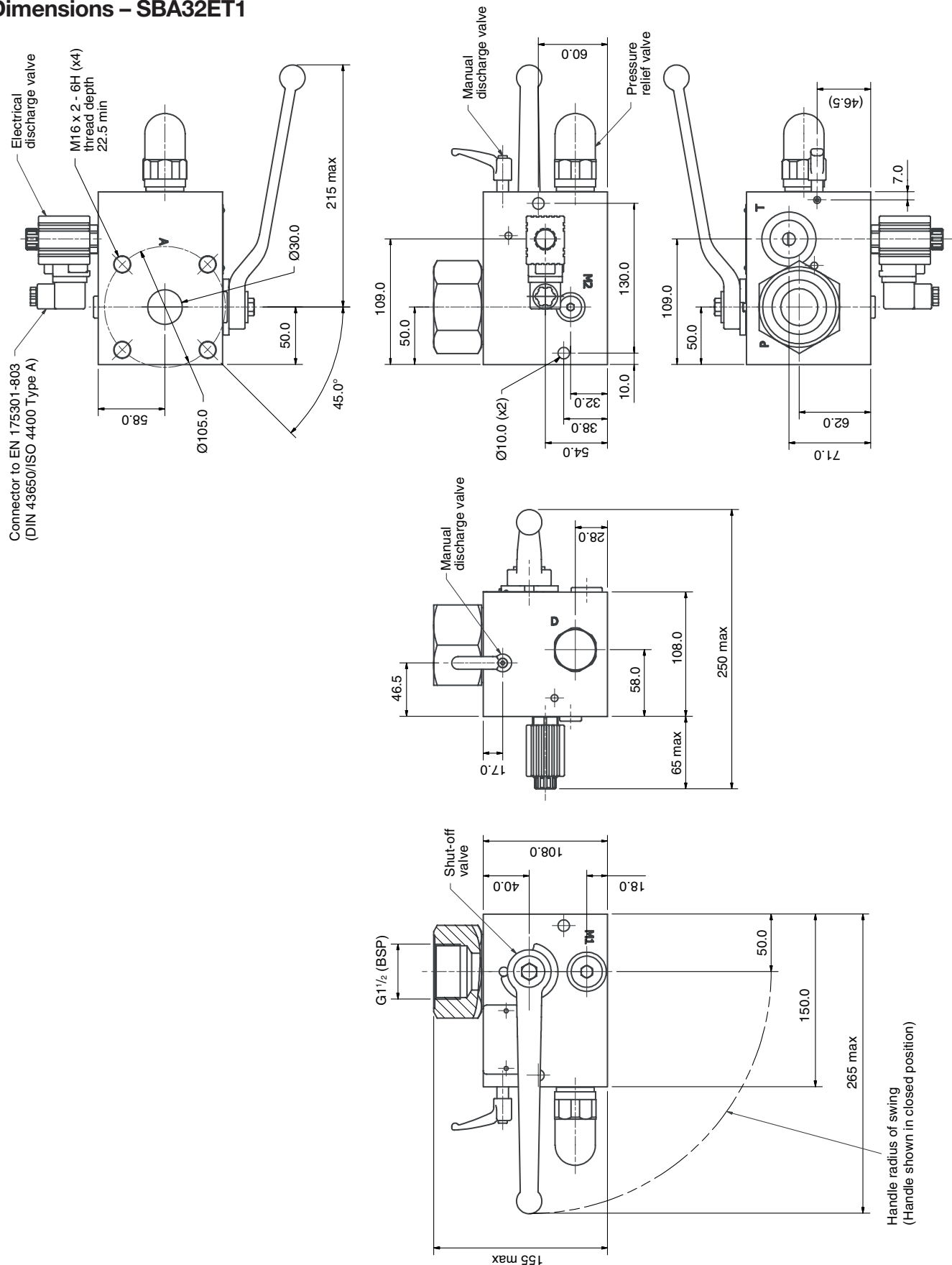
**Dimensions – SBA20ET1**

All dimensions are in millimetres unless otherwise stated.



**Dimensions – SBA32MT1**

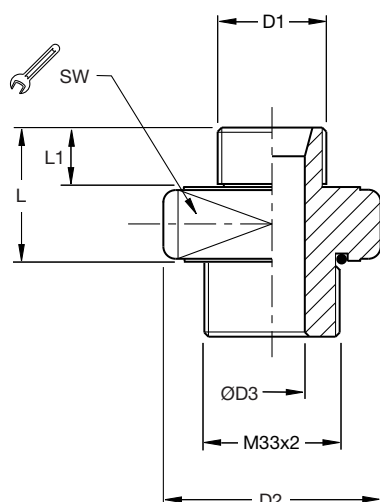
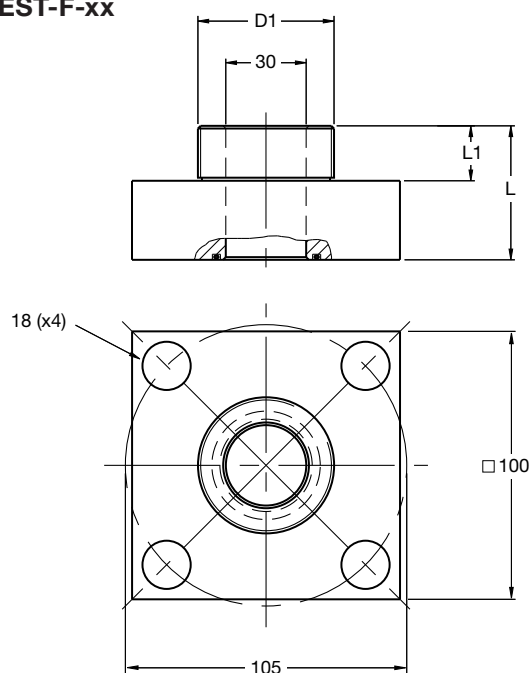
All dimensions are in millimetres unless otherwise stated.

**Dimensions – SBA32ET1**

All dimensions are in millimetres unless otherwise stated.

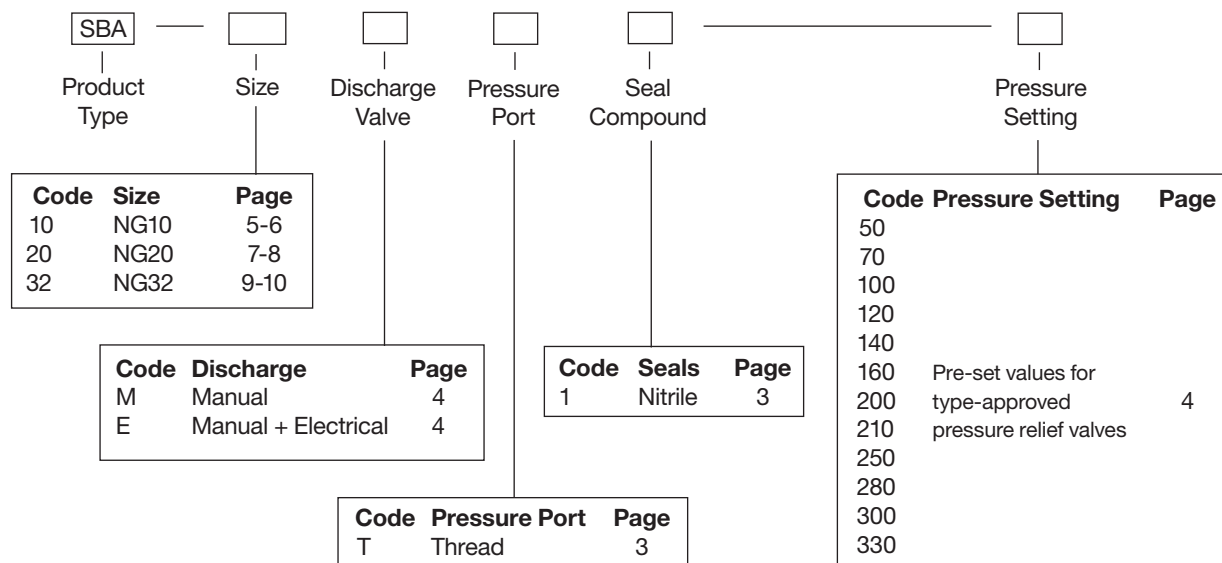
## Adapters – Accumulator to Safety Block

| Accumulator Fluid Port<br>D1   |         | Safety Block Port A | SW | L  | L1 | D2 | D3 | Weight kg | Part Number                            | Use with SBA | For Accumulator Type |           |        |
|--------------------------------|---------|---------------------|----|----|----|----|----|-----------|--|--------------|----------------------|-----------|--------|
|                                |         |                     |    |    |    |    |    |           |  |              | Bladder              | Diaphragm | Piston |
| G <sup>3</sup> / <sub>4</sub>  | ISO 228 | M33 x 2             | 46 | 33 | 16 | 53 | 16 | 0.4       | UEST-T- <sup>3</sup> / <sub>4</sub>    | 10 & 20      | X                    |           |        |
| G1 <sup>1</sup> / <sub>4</sub> | ISO 228 | M33 x 2             | 55 | 41 | 20 | 63 | 20 | 0.4       | UEST-T-1 <sup>1</sup> / <sub>4</sub>   | 10 & 20      | X                    |           |        |
| G2                             | ISO 228 | M33 x 2             | 80 | 46 | 22 | 90 | 20 | 1.5       | UEST-T-2                               | 10 & 20      | X                    |           |        |
| G2                             | ISO 228 | Flange □ 100        | –  | 50 | 22 | –  | 30 | 2.2       | UEST-F-2                               | 32           | X                    |           |        |
| G <sup>1</sup> / <sub>2</sub>  | ISO 228 | M33 x 2             | 46 | 34 | 14 | 53 | 12 | 0.4       | UEST-T- <sup>1</sup> / <sub>2</sub> ED | 10 & 20      |                      | X         | X      |
| G <sup>3</sup> / <sub>4</sub>  | ISO 228 | M33 x 2             | 46 | 36 | 16 | 53 | 16 | 0.4       | UEST-T- <sup>3</sup> / <sub>4</sub> ED | 10 & 20      |                      | X         | X      |
| G1 <sup>1</sup> / <sub>2</sub> | ISO 228 | Flange □ 100        | –  | 70 | 22 | –  | 30 | 2.3       | UEST-F-1 <sup>1</sup> / <sub>2</sub>   | 32           |                      |           | X      |

Threaded Adapter  
UEST-T-xxFlanged Adapter  
UEST-F-xx

All dimensions are in millimetres unless otherwise stated.

## How to Order



# Sales Offices

**AE – United Arab Emirates,**  
Abu Dhabi  
Tel: +971 2 67 88 587

**AR – Argentina,** Buenos Aires  
Tel: +54 3327 44 4129

**AT – Austria,** Wiener Neustadt  
Tel: +43 (0)2622 23501-0

**AT – Austria,** Wiener Neustadt  
(Eastern Europe)  
Tel: +43 (0)2622 23501 970

**AU – Australia,** Castle Hill  
Tel: +61 (0)2-9634 7777

**AZ – Azerbaijan,** Baku  
Tel: +61 (0)2-9634 7777

**BE – Belgium,** Nivelles  
Tel: +32 (0)67 280 900

**BR – Brazil,** Cachoeirinha RS  
Tel: +55 51 3470 9144

**BY – Belarus,** Minsk  
Tel: +375 17 209 9399

**CA – Canada,** Milton, Ontario  
Tel: +1 905 693 3000

**CH – Switzerland**  
See Germany

**CN – China,** Shanghai  
Tel: +86 21 5031 2525

**CN – China,** Beijing  
Tel: +86 10 6561 0520

**CZ – Czech Republic,** Klecany  
Tel: +420 284 083 111

**DE – Germany,** Kaarst  
Tel: +49 (0)2131 4016 0

**DK – Denmark,** Ballerup  
Tel: +45 43 56 04 00

**ES – Spain,** Madrid  
Tel: +34 91 675 73 00

**FI – Finland,** Vantaa  
Tel: +358 20 753 2500

**FR – France,**  
Contamine-sur-Arve  
Tel: +33 (0)4 50 25 80 25

**GR – Greece,** Athens  
Tel: +30 210 933 6450

**HK – Hong Kong**  
Tel: +852 2428 8008

**HU – Hungary,** Budapest  
Tel: +36 1 220 4155

**IE – Ireland,** Dublin  
Tel: +353 (0)1 466 6370

**IN – India,** Mumbai  
Tel: +91 22 6513 7081-85

**IT – Italy,** Corsico (MI)  
Tel: +39 02 45 19 21

**JP – Japan,** Fujisawa  
Tel: +(81) 4 6635 3050

**KR – South Korea,** Seoul  
Tel: +82 2 559 0400

**KZ – Kazakhstan,** Almaty  
Tel: +7 3272 505 800

**LV – Latvia,** Riga  
Tel: +371 74 52601

**MX – Mexico,** Apodaca  
Tel: +52 81 8156 6000

**MY – Malaysia,** Subang Jaya  
Tel: +60 3 5638 1476

**NL – The Netherlands,**  
Oldenzaal  
Tel: +31 (0)541 585 000

**NO – Norway,** Ski  
Tel: +47 64 91 10 00

**NZ – New Zealand,** Mt Wellington  
Tel: +64 9 574 1744

**PL – Poland,** Warsaw  
Tel: +48 (0)22 573 24 00

**PT – Portugal,** Leca  
da Palmeira  
Tel: +351 22 999 7360

**RO – Romania,** Bucharest  
Tel: +40 21 252 1382

**RU – Russia,** Moscow  
Tel: +7 495 645-2156

**RU – Russia,** Krasnoyarsk  
Tel: +7 3912 52 73 35

**RU – Russia,**  
Yuzhno-Sakhalinsk  
Tel: +7 4242 42 35 27

**RU – Russia,** St. Petersburg  
Tel: +7 812 320 49 37

**SE – Sweden,** Spånga  
Tel: +46 (0)8 59 79 50 00

**SG – Singapore**  
Tel: +65 6887 6300

**SL – Slovenia,** Novo Mesto  
Tel: +386 7 337 6650

**SK – Slovakia**  
See Czech Republic

**TH – Thailand,** Bangkok  
Tel: +662 717 8140

**TR – Turkey,** Merter/Istanbul  
Tel: +90 212 482 91 06 or 07

**TW – Taiwan,** Taipei  
Tel: +886 2 2298 8987

**UA – Ukraine,** Kyiv  
Tel: +380 44 494 2731

**UK – United Kingdom,**  
Warwick  
Tel: +44 (0)1926 317 878

**US – USA,** Cleveland  
(industrial)  
Tel: +1 216 896 3000

**US – USA,** Lincolnshire  
(mobile)  
Tel: +1 847 821 1500

**US – USA,** Miami  
(Pan American Division)  
Tel: +1 305 470 8800

**VE – Venezuela,** Caracas  
Tel: +58 212 238 5422

**ZA – South Africa,**  
Kempton Park  
Tel: +27 (0)11 961 0700

