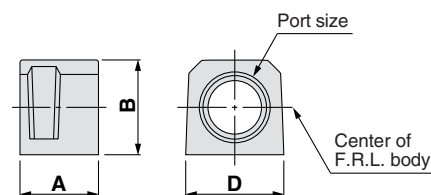
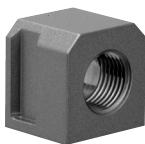


# F.R.L. Unit *Series AC*

## Attachment Specifications

### Piping Adapter (E) M5 x 0.8, 1/8, 1/4, 3/8, 1/2, 3/4, 1

A piping adapter allows installation/removal of the component without removing the piping and thus makes maintenance easier.



| Model <sup>Note)</sup> | Port size | A  | B    | D  | Applicable model                      |
|------------------------|-----------|----|------|----|---------------------------------------|
| E100-M5                | M5 x 0.8  | 10 | 14   | 14 | AC10□, AW10, AF10, AR10, AL10         |
| E200-□01               | 1/8       | 30 | 23.5 | 28 | AC20□                                 |
| E200-□02               | 1/4       |    |      |    | AF20, AR20□, AW20□                    |
| E200-□03               | 3/8       |    |      |    | AL20, AFM20, AFD20, AWM20, AWD20      |
| E300-□02               | 1/4       | 32 | 30   | 30 | AC25□, AC30□                          |
| E300-□03               | 3/8       |    |      |    | AF30, AR30□, AW30□                    |
| E300-□04               | 1/2       |    |      |    | AL30, AFM30, AFD30, AWM30, AWD30      |
| E400-□02               | 1/4       | 32 | 36   | 36 | AC40□                                 |
| E400-□03               | 3/8       |    |      |    | AF40, AR40□, AW40□                    |
| E400-□04               | 1/2       |    |      |    | AL40, AFM40, AFD40                    |
| E400-□06               | 3/4       |    |      |    | AWM40, AWD40                          |
| E500-□06               | 3/4       | 32 | 40   | 44 | AC40□-06, AF40-06, AR40□-06, AW40□-06 |
| E600-□06               | 3/4       | 35 | 48   | 53 | AL40-06, AFM40-06, AFD40-06           |
| E600-□10               | 1         |    |      |    | AC50, AC55, AC60, AC50B, AC55B, AC60B |
|                        |           |    |      |    | AF50, AR50□, AL50, AF60, AR60□, AL60  |

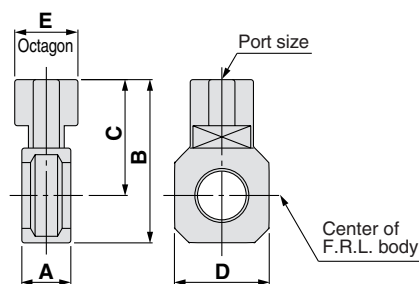
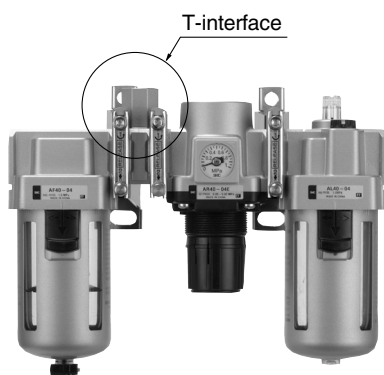
Notes) • □ in model numbers indicates a thread type. No indication is necessary for Rc; however, indicate N for NPT, and F for G.

• Separate interfaces are required for modular unit.

\* Factory mounting of a piping adapter on the AC models is available as a special order.

### T-interface (T) M5 x 0.8, 1/8, 1/4, 3/8, 1/2

Using a T-interface facilitates the redirection of air flow.



| Model    | Port size | A  | B  | C  | D  | E  | Applicable model  |
|----------|-----------|----|----|----|----|----|-------------------|
| Y110-M5  | M5 x 0.8  | 11 | 19 | 12 | 14 | 8  | AC10, AC10B       |
| Y210-□01 | 1/8       | 15 | 42 | 32 | 28 | 19 | AC20, AC20B       |
| Y210-□02 | 1/4       |    |    |    |    |    | AC20C             |
| Y310-□01 | 1/8       | 15 | 53 | 39 | 30 | 19 | AC25, AC25B       |
| Y310-□02 | 1/4       |    |    |    |    |    | AC25C, AC30       |
| Y410-□02 | 1/4       | 19 | 62 | 44 | 36 | 24 | AC30B, AC30C      |
| Y410-□03 | 3/8       |    |    |    |    |    | AC40, AC40B       |
| Y510-□02 | 1/4       | 19 | 66 | 46 | 44 | 24 | AC40C             |
| Y510-□03 | 3/8       |    |    |    |    |    | AC40-06, AC40B-06 |
| Y610-□03 | 3/8       | 22 | 81 | 57 | 53 | 30 | AC40C-06          |
| Y610-□04 | 1/2       |    |    |    |    |    | AC50, AC55        |
|          |           |    |    |    |    |    | AC60, AC50B       |
|          |           |    |    |    |    |    | AC55B, AC60B      |

Notes) • □ in model numbers indicates a thread type. No indication is necessary for Rc; however, indicate N for NPT, and F for G.

• Separate interfaces are required for modular unit.

\* Refer to the attachment table on Front matter 2 for standard port sizes when using with AC.

### Caution in Mounting

- If a T-interface is used on the IN side of the lubricator, lubricant may be mixed. Use the series AKM check valve to avoid such possibility.

## Pressure Switch (S)

A compact integrated pressure switch can be easily installed and facilitates the pressure detection of the line.



### Specifications

|                               |                               |
|-------------------------------|-------------------------------|
| Fluid                         | Air                           |
| Proof pressure                | 1.0MPa                        |
| Maximum operating pressure    | 0.7MPa                        |
| Set pressure range (off)      | 0.1 to 0.4MPa                 |
| Differential                  | 0.08MPa                       |
| Ambient and fluid temperature | -5 to 60°C (with no freezing) |

### Switch characteristics

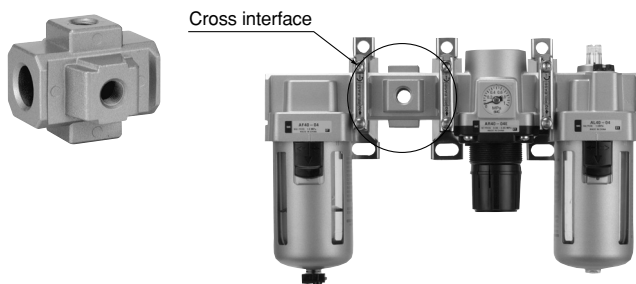
|                                |                                                               |
|--------------------------------|---------------------------------------------------------------|
| Contact point configuration    | 1a                                                            |
| Maximum contact point capacity | 2VA(AC), 2W(DC)                                               |
| Operating voltage: AC, DC      | 100V or less                                                  |
| Maximum operating current      | AC, DC12V to 24V: 50mA<br>AC, DC48V: 40mA<br>AC, DC100V: 20mA |

## Cross Interface (C)

M5 x 0.8, 1/8, 1/4, 3/8, 1/2

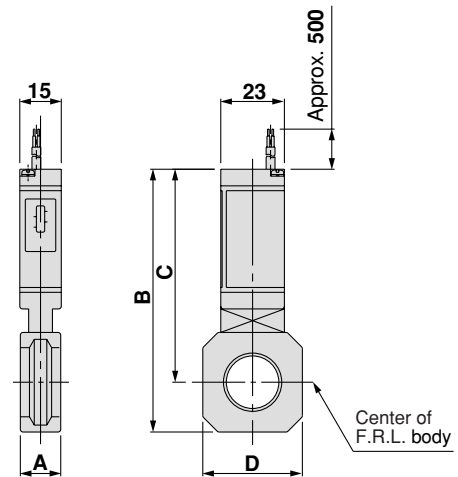
Pipings are possible in all 4 directions.

IN/OUT ports are not machined for threads. Contact SMC if threaded (machined) ports are required.



### Cautions in Mounting

- When mounting a cross interface directly on the IN side of the lubricator, be sure to use a series AKM check valve between the lubricator and cross interface.
- Factory mounting of a cross interface on the AC model is available as a special order.



| Model      | A  | B    | C    | D  | Applicable model    |
|------------|----|------|------|----|---------------------|
| IS1000M-20 | 11 | 76   | 66   | 28 | AC20□               |
| IS1000M-30 | 13 | 86   | 72   | 30 | AC25□, AC30□        |
| IS1000M-40 | 15 | 95   | 77   | 36 | AC40□               |
| IS1000M-50 | 17 | 99   | 79   | 44 | AC40□-06            |
| IS1000M-60 | 22 | 92.5 | 68.5 | 53 | AC50□, AC55□, AC60□ |

Note) Separate interfaces are required for modular unit.

### How to Order

**IS1000M-30** — **□**

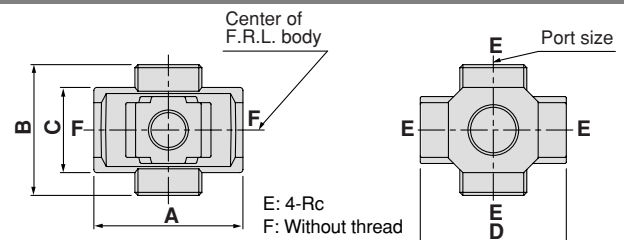
Pressure switch  
Body size

|    |                      |
|----|----------------------|
| 20 | For AC20             |
| 30 | For AC25, AC30       |
| 40 | For AC40-02 to 04    |
| 50 | For AC40-06          |
| 60 | For AC50, AC55, AC60 |

### Accessories

|      |                                                                   |
|------|-------------------------------------------------------------------|
| X201 | Lead wire length: 3m                                              |
| X202 | Regulating pressure range: 0.1 to 0.6MPa                          |
| X207 | MPa/PSI Dual scale                                                |
| X215 | Lead wire length: 3m;<br>Regulating pressure range: 0.1 to 0.6MPa |

This product is for overseas use only according to the new Measurement Law. (The SI unit type is provided for use in Japan.)



| Model   | Port size | A  | B  | C  | D  | Applicable model |
|---------|-----------|----|----|----|----|------------------|
| Y14-M5  | M5        | 23 | 16 | 14 | 25 | AC10□            |
| Y24-□01 | 1/8       | 40 | 40 | 22 | 40 | AC20□            |
| Y24-□02 | 1/4       |    |    |    |    |                  |
| Y34-□01 | 1/8       | 49 | 43 | 28 | 48 | AC25□, AC30□     |
| Y34-□02 | 1/4       |    |    |    |    |                  |
| Y44-□02 | 1/4       | 60 | 48 | 36 | 54 | AC40□            |
| Y44-□03 | 3/8       |    |    |    |    |                  |
| Y54-□03 | 3/8       | 72 | 62 | 40 | 62 | AC40□-06         |
| Y54-□04 | 1/2       |    |    |    |    |                  |

Notes) □ in the model numbers indicates a thread type. No indication is necessary for Rc; however, indicate N for NPT, and F for G.

• If threaded ports are required, they are available as a special order. Contact SMC.

# Series AC Spacers and Brackets Accessories

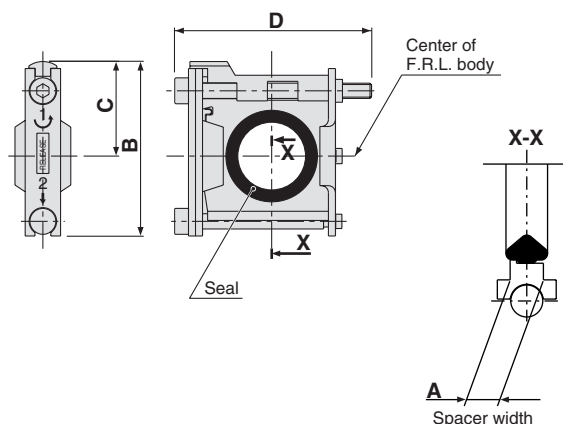
## Spacer (X)



Y200



Y400



| Model | A | B    | C    | D  | Applicable model                        |
|-------|---|------|------|----|-----------------------------------------|
| Y100  | 6 | 27   | 15   | 33 | AC10, AC10A, AC10B                      |
| Y200  | 3 | 35.5 | 18.5 | 48 | AC20□                                   |
| Y300  | 4 | 47   | 26   | 59 | AC25□, AC30□                            |
| Y400  | 5 | 57   | 31   | 65 | AC40□                                   |
| Y500  | 5 | 61   | 33   | 70 | AC40□-06                                |
| Y600  | 6 | 75.5 | 41   | 86 | AC50, AC55, AC60<br>AC50B, AC55B, AC60B |

## Replacement parts

| Description | Material                | Part no.                       |            |            |            |            |            |
|-------------|-------------------------|--------------------------------|------------|------------|------------|------------|------------|
|             |                         | Y100                           | Y200       | Y300       | Y400       | Y500       | Y600       |
| Seal        | HNBR <sup>Note 2)</sup> | Y100P-060AS <sup>Note 1)</sup> | Y200P-060S | Y300P-060S | Y400P-060S | Y500P-060S | Y600P-060S |

Note 1) Y-100 comes with 2 O-rings.

Note 2) NBR seal is used for Y100 spacer because of no direct contact with fluid.

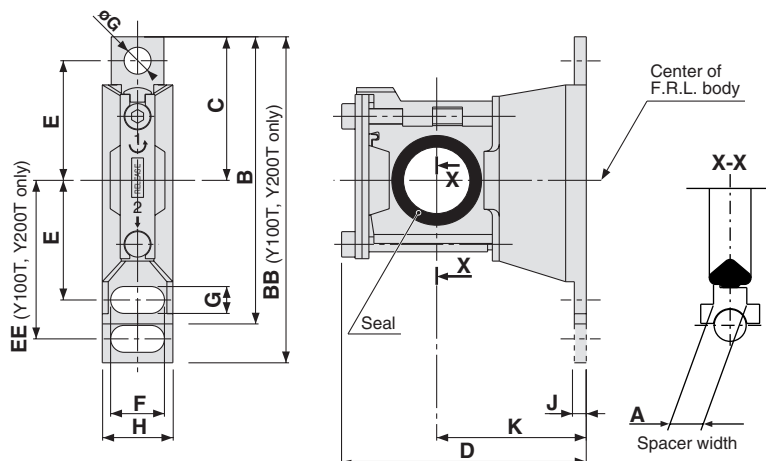
## Spacer with Bracket (Z)



Y200T



Y400T



| Model | A | B   | BB | C    | D    | E  | EE | F   | G   | øG  | H  | J   | K  | Applicable model                      |
|-------|---|-----|----|------|------|----|----|-----|-----|-----|----|-----|----|---------------------------------------|
| Y100T | 6 | —   | 56 | 24.5 | 40.5 | 20 | 27 | 6.8 | 4.5 | 4.5 | 14 | 2.8 | 25 | AC10□                                 |
| Y200T | 3 | —   | 67 | 29   | 53   | 24 | 33 | 12  | 5.5 | 5.5 | 19 | 3.2 | 30 | AC20□                                 |
| Y300T | 4 | 82  | —  | 41   | 68   | 35 | —  | 14  | 7   | 7   | 21 | 4   | 41 | AC25□, AC30□                          |
| Y400T | 5 | 96  | —  | 48   | 81.5 | 40 | —  | 18  | 9   | 9   | 26 | 4   | 50 | AC40□                                 |
| Y500T | 5 | 96  | —  | 48   | 86   | 40 | —  | 18  | 9   | 9   | 27 | 4.6 | 50 | AC40□-06                              |
| Y600T | 6 | 120 | —  | 60   | 112  | 50 | —  | 20  | 11  | 11  | 31 | 6.4 | 70 | AC50, AC55, AC60, AC50B, AC55B, AC60B |

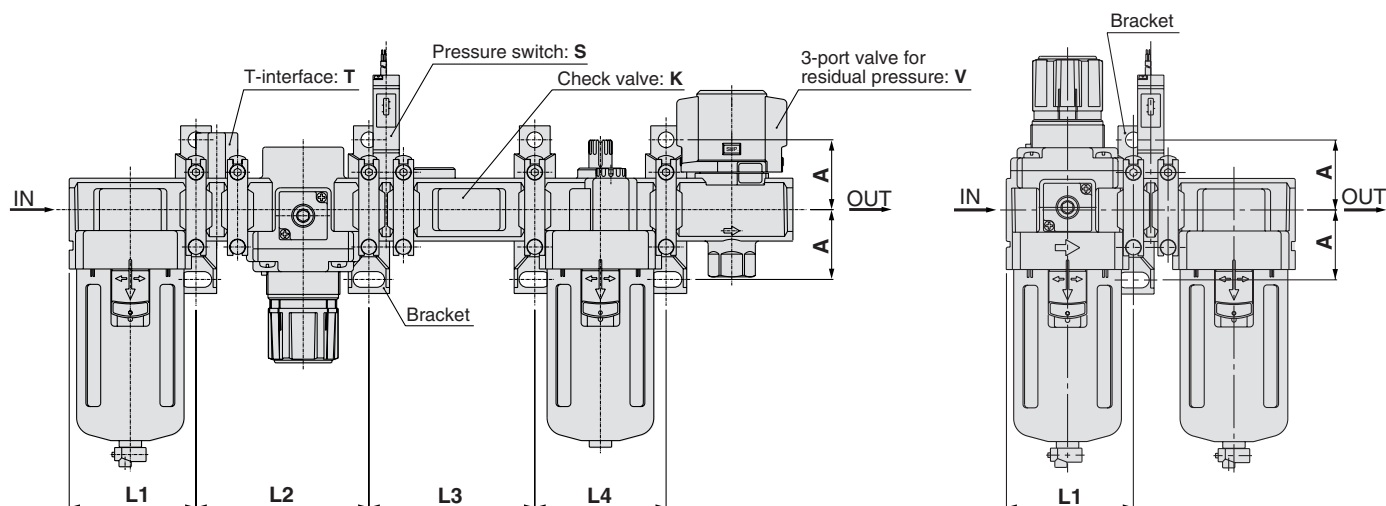
## Replacement parts

| Description | Material                | Part no.                       |            |            |            |            |            |
|-------------|-------------------------|--------------------------------|------------|------------|------------|------------|------------|
|             |                         | Y100T                          | Y200T      | Y300T      | Y400T      | Y500T      | Y600T      |
| Seal        | HNBR <sup>Note 2)</sup> | Y100P-060AS <sup>Note 1)</sup> | Y200P-060S | Y300P-060S | Y400P-060S | Y500P-060S | Y600P-060S |

Note 1) Y-100T comes with 2 O-rings.

Note 2) NBR seal is used for Y100T spacer because of no direct contact with fluid.

## Mounting Position for Spacer with Bracket



| Attachment<br>Model | K    |    |    | S    |     |      | T   |      |    | V  |      |    | KS |      |    | KT |      |    | KV |    |    |      | KST |    |    |
|---------------------|------|----|----|------|-----|------|-----|------|----|----|------|----|----|------|----|----|------|----|----|----|----|------|-----|----|----|
|                     | L1   | L2 | L3 | L1   | L2  | L3   | L1  | L2   | L3 | L1 | L2   | L3 | L1 | L2   | L3 | L1 | L2   | L3 | L1 | L2 | L3 | L4   | L1  | L2 | L3 |
| AC10                | —    | —  | —  | —    | —   | —    | 28  | 48   | —  | —  | —    | —  | —  | —    | —  | —  | —    | —  | —  | —  | —  | —    | —   | —  | —  |
| AC20                | 41.5 | 43 | 43 | 41.5 | 43  | 41.5 | 61  | 41.5 | 43 | 43 | 41.5 | 43 | 57 | 41.5 | 61 | 43 | 41.5 | 43 | 43 | 43 | 43 | 41.5 | 61  | 57 | —  |
| AC25                | 55   | 57 | 57 | 55   | 57  | 55   | 76  | 55   | 57 | 57 | 55   | 57 | 74 | 55   | 76 | 57 | 55   | 57 | 57 | 57 | 57 | 55   | 76  | 74 | —  |
| AC30                | 55   | 57 | 57 | 55   | 57  | 55   | 76  | 55   | 57 | 57 | 55   | 57 | 74 | 55   | 76 | 57 | 55   | 57 | 57 | 57 | 57 | 55   | 76  | 74 | —  |
| AC40                | 72.5 | 75 | 75 | 72.5 | 75  | 72.5 | 99  | 72.5 | 75 | 75 | 72.5 | 75 | 95 | 72.5 | 99 | 75 | 72.5 | 75 | 75 | 75 | 75 | 72.5 | 99  | 95 | —  |
| AC40-06             | —    | —  | —  | 77.5 | 80  | 77.5 | 104 | 77.5 | 80 | 80 | —    | —  | —  | —    | —  | —  | —    | —  | —  | —  | —  | —    | —   | —  | —  |
| AC50                | —    | —  | —  | 93   | 96  | 93   | 124 | 93   | 96 | 96 | —    | —  | —  | —    | —  | —  | —    | —  | —  | —  | —  | —    | —   | —  | —  |
| AC55                | —    | —  | —  | 98   | 96  | 98   | 124 | —    | —  | —  | —    | —  | —  | —    | —  | —  | —    | —  | —  | —  | —  | —    | —   | —  | —  |
| AC60                | —    | —  | —  | 98   | 101 | 98   | 129 | —    | —  | —  | —    | —  | —  | —    | —  | —  | —    | —  | —  | —  | —  | —    | —   | —  | —  |

| Attachment<br>Model | KSV  |    |    |    | KTV  |    |    |    | KSTV |    |    |    | ST   |     | SV   |    |     | STV  |     |     | TV   |     |    |
|---------------------|------|----|----|----|------|----|----|----|------|----|----|----|------|-----|------|----|-----|------|-----|-----|------|-----|----|
|                     | L1   | L2 | L3 | L4 | L1   | L2 | L3 | L4 | L1   | L2 | L3 | L4 | L1   | L2  | L1   | L2 | L3  | L1   | L2  | L3  | L1   | L2  | L3 |
| AC10                | —    | —  | —  | —  | —    | —  | —  | —  | —    | —  | —  | —  | —    | —   | —    | —  | —   | —    | —   | —   | —    | —   | —  |
| AC20                | 41.5 | 43 | 57 | 43 | 41.5 | 61 | 43 | 43 | 41.5 | 61 | 57 | 43 | 41.5 | 61  | 41.5 | 43 | 57  | 41.5 | 61  | 57  | 41.5 | 61  | 43 |
| AC25                | 55   | 57 | 74 | 57 | 55   | 76 | 57 | 57 | 55   | 76 | 74 | 57 | 55   | 76  | 55   | 57 | 74  | 55   | 76  | 74  | 55   | 76  | 57 |
| AC30                | 55   | 57 | 74 | 57 | 55   | 76 | 57 | 57 | 55   | 76 | 74 | 57 | 55   | 76  | 55   | 57 | 74  | 55   | 76  | 74  | 55   | 76  | 57 |
| AC40                | 72.5 | 75 | 95 | 75 | 72.5 | 99 | 75 | 75 | 72.5 | 99 | 95 | 75 | 72.5 | 99  | 72.5 | 75 | 95  | 72.5 | 99  | 95  | 72.5 | 99  | 75 |
| AC40-06             | —    | —  | —  | —  | —    | —  | —  | —  | —    | —  | —  | —  | 77.5 | 104 | 77.5 | 80 | 102 | 77.5 | 104 | 102 | 77.5 | 104 | 80 |
| AC50                | —    | —  | —  | —  | —    | —  | —  | —  | —    | —  | —  | —  | 93   | 124 | 93   | 96 | 124 | 93   | 124 | 124 | 93   | 124 | 96 |
| AC55                | —    | —  | —  | —  | —    | —  | —  | —  | —    | —  | —  | —  | 98   | 124 | —    | —  | —   | —    | —   | —   | —    | —   | —  |
| AC60                | —    | —  | —  | —  | —    | —  | —  | —  | —    | —  | —  | —  | 98   | 129 | —    | —  | —   | —    | —   | —   | —    | —   | —  |

| Attachment<br>Model | K    |    | S    |      | V  |      | KS |      | KV |    |      | KSV |    |      | SV   |     |
|---------------------|------|----|------|------|----|------|----|------|----|----|------|-----|----|------|------|-----|
|                     | L1   | L2 | L1   | L2   | L1 | L2   | L1 | L2   | L1 | L2 | L3   | L1  | L2 | L3   | L1   | L2  |
| AC20A               | 41.5 | 43 | 41.5 | 41.5 | 43 | 41.5 | 57 | 41.5 | 43 | 43 | 41.5 | 57  | 43 | 41.5 | 57   | —   |
| AC30A               | 55   | 57 | 55   | 55   | 57 | 55   | 74 | 55   | 57 | 57 | 55   | 74  | 57 | 55   | 74   | —   |
| AC40A               | 72.5 | 75 | 72.5 | 72.5 | 75 | 72.5 | 95 | 72.5 | 75 | 75 | 72.5 | 95  | 75 | 72.5 | 95   | —   |
| AC40A-06            | —    | —  | 77.5 | 77.5 | 80 | —    | —  | —    | —  | —  | —    | —   | —  | —    | 77.5 | 102 |

| Attachment<br>Model | S    |      | T    |    | V    |     | SV   |     | TV |    |
|---------------------|------|------|------|----|------|-----|------|-----|----|----|
|                     | L1   | L1   | L1   | L2 | L1   | L2  | L1   | L2  | L1 | L2 |
| AC10B               | —    | 28   | —    | —  | —    | —   | —    | —   | —  | —  |
| AC20B               | 41.5 | 41.5 | 41.5 | 43 | 41.5 | 57  | 41.5 | 61  | —  | —  |
| AC25B               | 55   | 55   | 55   | 57 | 55   | 74  | 55   | 76  | —  | —  |
| AC30B               | 55   | 55   | 55   | 57 | 55   | 74  | 55   | 76  | —  | —  |
| AC40B               | 72.5 | 72.5 | 72.5 | 75 | 72.5 | 95  | 72.5 | 99  | —  | —  |
| AC40B-06            | 77.5 | 77.5 | 77.5 | 80 | 77.5 | 102 | 77.5 | 104 | —  | —  |
| AC50B               | 93   | 93   | 93   | 96 | 93   | 124 | 93   | 124 | —  | —  |
| AC55B               | 98   | 98   | —    | —  | —    | —   | —    | —   | —  | —  |
| AC60B               | 98   | 98   | —    | —  | —    | —   | —    | —   | —  | —  |

| Attachment<br>Model | S    |    | T    |    | V    |    |    | SV   |    |     | TV   |    |     |
|---------------------|------|----|------|----|------|----|----|------|----|-----|------|----|-----|
|                     | L1   | L2 | L1   | L2 | L1   | L2 | L3 | L1   | L2 | L3  | L1   | L2 | L3  |
| AC20C               | 41.5 | 43 | 41.5 | 43 | 41.5 | 43 | 43 | 41.5 | 43 | 57  | 41.5 | 43 | 61  |
| AC25C               | 55   | 57 | 55   | 57 | 55   | 57 | 57 | 55   | 57 | 74  | 55   | 57 | 76  |
| AC30C               | 55   | 57 | 55   | 57 | 55   | 57 | 57 | 55   | 57 | 74  | 55   | 57 | 76  |
| AC40C               | 72.5 | 75 | 72.5 | 75 | 72.5 | 75 | 75 | 72.5 | 75 | 95  | 72.5 | 75 | 99  |
| AC40C-06            | 77.5 | 80 | 77.5 | 80 | 77.5 | 80 | 80 | 77.5 | 80 | 102 | 77.5 | 80 | 104 |

| Attachment<br>Model | S    |      | V  |      | SV  |    |
|---------------------|------|------|----|------|-----|----|
|                     | L1   | L1   | L2 | L1   | L2  | L2 |
| AC20D               | 41.5 | 41.5 | 43 | 41.5 | 57  | —  |
| AC30D               | 55   | 55   | 57 | 55   | 74  | —  |
| AC40D               | 72.5 | 72.5 | 75 | 72.5 | 95  | —  |
| AC40D-06            | 77.5 | 77.5 | 80 | 77.5 | 102 | —  |

L1: Dimensions from the end of the IN side to the center of the mounting hole for the first bracket.  
 L2: Mounting hole pitch between the first and the second bracket.  
 L3: Mounting hole pitch between the second and the third bracket.  
 L4: Mounting hole pitch between the third and the fourth bracket.  
 Refer to dimensions pages for dimension A from the center of the piping and the mounting hole.