



# Assembly Information

**ALL ASHCROFT® ASSEMBLIES ARE DESIGNED BY OUR ENGINEERS TO MAXIMIZE DURABILITY AND MINIMIZE THE POTENTIAL FOR LEAKS AND DAMAGE TO INSTRUMENTS.**

All fittings and adapters are made with high pressure 316 stainless steel fittings. For assemblies involving diaphragm seals or isolation rings, we strive to minimize fill volume to reduce temperature error. By using the compact “tee” or “cross” fittings we avoid “goalpost” configurations and the lengthy pipe sections prone to breakage.

## Ordering Guidelines

- Order all products on separate line items.
- Always include the assembly code option in all part numbers involved in an assembly.
- For assemblies that include a diaphragm seal, always include the system fill code (e.g. CG, CK) on all products containing the fill.
- Many variations are specific to the connection codes involved. Note any connection code requirements when creating a part number.
- Contact Ashcroft for assistance with assemblies that do not fall under any of the variations contained in this guide.

**Assembly coding may affect agency approvals for switches and transducers. Contact Ashcroft for assistance.**

### Coding example for XL5 assembly filled with 50 cSt silicone (XCK)

| Code | Component      | Coding Example        |
|------|----------------|-----------------------|
| L5   | Gauge          | 451279SSL04LXCKL5100# |
|      | Switch         | B424BXCKL5100#        |
|      | Snubber        | 501112SDXCKL5         |
|      | Diaphragm Seal | 50200SS04TXCKL5       |



**DU: INSTRUMENT WELDED TO DIAPHRAGM SEAL**

XDU is the code for welding an instrument to the diaphragm seal. Welded surfaces must be of like materials. Instruments attached directly to diaphragm seals can be welded, and assemblies with capillaries or siphons can be welded at each connection. Fittings (e.g. tee, nipples) cannot be welded, nor can snubbers, dampeners, or PLVs.

**Q7: TAMPER EVIDENT SEALANT**

XQ7 instructs the assembler to apply a brightly-colored, tamper-evident, hardening sealant at each threaded joint on an assembly.

**Q8: ELBOW FOR VERTICAL PIPING**

XQ8 codes for an elbow installed (typically on an isolation ring, though available with diaphragm seals) between the instrument and the isolator. XQ8 is only available on assemblies with 1/4 NPT connections.

For more detailed information about our assemblies, see our full assembly brochure.

**6G: MISCELLANEOUS CONFIGURATIONS**

For assemblies not included in this guide, contact Ashcroft for assistance setting up a custom variation to suit your needs. In most cases, X6G can be used in conjunction with a custom-configured engineering drawing approved by the customer prior to ordering.

**K2: INSTRUMENT, CAPILLARY, PLV, SNUBBER & DIAPHRAGM SEAL**

XK2 applies to assemblies consisting of an instrument (gauge, switch, transducer) attached to a capillary, followed by a PLV, snubber, and finally a diaphragm seal. All connections must be 1/2 NPT. The snubber attaches to the diaphragm seal using a 1/2 NPT nipple.

**Quick Guide**

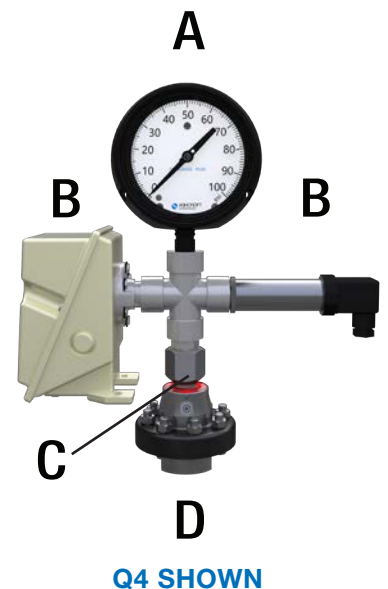
To use the below table, select the number of instruments and accessories required in your assembly; and whether a seal is required. Confirm that the accessories are available in the desired configuration, and note any connection size requirements. See the assembly illustrations on pages 4-7 for more detailed information for each assembly.

| Code | Instruments<br>(Gauge, Switch,<br>or Transducer) | Connections | Diaphragm<br>Seal | Number of<br>Accessories | Snubber or<br>Dampener | PLV | Siphon | Valve | Capillary | Notes  |
|------|--|-------------|-------------------|--------------------------|------------------------|-----|--------|-------|-----------|--|
| J9   | 1  | ¼ NPT       | ✓                 | 2                        | ✓                      |     |        | ✓     |           |  |
| K2   | 1  | ½ NPT       | ✓                 | 3                        | ✓                      | ✓   |        |       | ✓         |  |
| K9   | 1  | ¼ or ½ NPT  | ✓                 | 1                        |                        |     | ✓      |       |           | MicroTube™ siphon only                                     |
| L2   | 2  | ¼ NPT       | ✓                 | 1                        |                        | ✓   |        |       |           |  |
| L3   | 2  | ¼ NPT       | ✓                 | 1                        | ✓                      |     |        |       |           |  |
| L4   | 2  | Mix         | ✓                 |                          |                        |     |        |       |           |  |
| L5   | 2  | Mix         | ✓                 | 1                        | ✓                      |     |        |       |           |  |
| L6   | 1  | ½ NPT       | ✓                 | 2                        | ✓                      |     |        | ✓     |           |  |
| E8   | 1  | ¼ or ½ NPT  | ✓                 | 2                        | ✓                      |     |        | ✓     |           | Snubber above<br>diaphragm seal,<br>valve below            |
| F4   | 1  | ¼ or ½ NPT  | ✓                 | 1                        |                        |     |        | ✓     |           | Valve below<br>diaphragm seal                              |
| FL   | 1  | ¼ or ½ NPT  | ✓                 | 1                        |                        |     |        | ✓     |           | Valve between<br>diaphragm seal<br>and instrument          |
| H3   | 2  | ¼ NPT       | ✓                 |                          |                        |     |        |       |           | Both instruments with<br>¼ NPT Male connections            |
| H5   | 2  | ½ NPT       | ✓                 |                          |                        |     |        |       |           | Both instruments with<br>½ NPT Male connections            |
| H6   | 3  | ½ NPT       | ✓                 |                          |                        |     |        |       |           | All instruments with<br>½ NPT Male connections             |
| H7   | 2  | ¼ NPT       | ✓                 |                          |                        |     |        |       |           | 1 Male / 1 Female ¼ NPT<br>instrument connections          |
| H8   | 3  | ¼ NPT       | ✓                 |                          |                        |     |        |       |           |  |
| H9   | 2  | Mix         | ✓                 |                          |                        |     |        |       |           | ¼ NPT Male gauge,<br>½ NPT Female<br>switch/diaphragm seal |
| Q1   | 1  | ½ NPT       | ✓                 | 2                        |                        |     |        | ✓     |           |  |
| Q4   | 3  | ½ NPT       | ✓                 | 1                        | ✓                      |     |        |       |           |  |

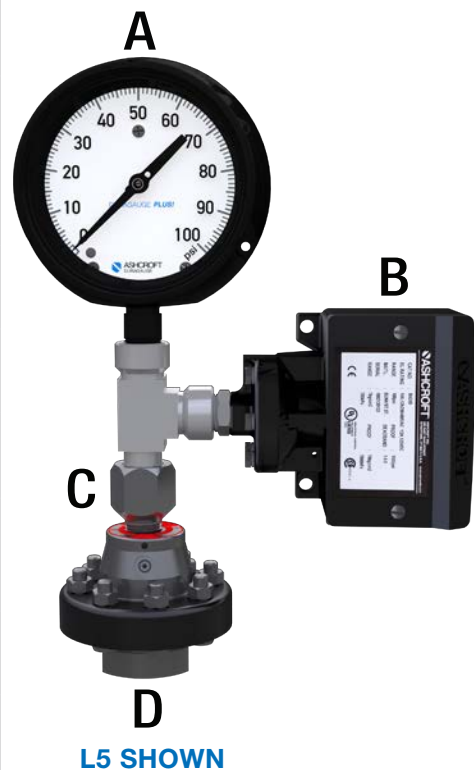
| Code | Instruments<br>(Gauge, Switch,<br>or Transducer) | Connections | Diaphragm<br>Seal | Number of<br>Accessories | Snubber or<br>Dampener | PLV | Siphon | Valve | Capillary | Notes   |
|------|--|-------------|-------------------|--------------------------|------------------------|-----|--------|-------|-----------|---|
| 5G   | 1  | ¼ or ½ NPT  |                   | 1                        | ✓                      | ✓   | ✓      |       | ✓         | Direct connection only                                |
| E7   | 2  | ½ NPT       |                   | 1                        | ✓                      |     |        |       |           |   |
| E9   | 1  | ¼ or ½ NPT  |                   | 2                        |                        | ✓   | ✓      |       |           |   |
| FC   | 1  | ¼ or ½ NPT  |                   | 2                        |                        |     | ✓      | ✓     |           |   |
| F2   | 1  | ¼ or ½ NPT  |                   | 1                        |                        |     | ✓      |       |           |   |
| FA   | 1  | ¼ or ½ NPT  | ✓                 | 2                        | ✓                      |     |        |       | ✓         |   |
| F3   | 1  | ¼ or ½ NPT  | ✓                 | 1                        |                        |     | ✓      |       |           | Siphon below<br>diaphragm seal                        |
| F6   | 1  | ¼ or ½ NPT  | ✓                 | 1                        | ✓                      |     |        |       |           |   |
| F7   | 1  | ¼ or ½ NPT  | ✓                 | 1                        |                        | ✓   |        |       |           |   |
| F8   | 1  | ¼ or ½ NPT  | ✓                 | 1                        |                        |     |        |       | ✓         | Capillary between<br>instrument and<br>diaphragm seal |
| F9   | 1  | ¼ or ½ NPT  | ✓                 | 2                        |                        | ✓   |        |       | ✓         |   |

**3 instruments attached to a diaphragm seal**

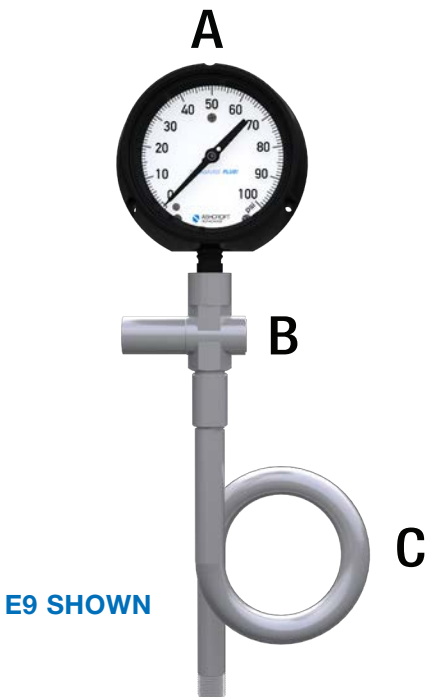
| Code | Instrument A | Instrument B    | Accessory C         | Seal D                                 |
|------|--------------|-----------------|---------------------|--|
| H6   | ½ NPT Male   | 2x ½ NPT Male   | N/A                 | ½ NPT Female<br>diaphragm seal or ring |
| H8   | ¼ NPT Male   | 2x ¼ NPT Female | N/A                 | ¼ NPT Female<br>diaphragm seal or ring |
| Q4   | ½ NPT Male   | 2x ½ NPT Male   | Snubber or Dampener | ½ NPT Female<br>diaphragm seal or ring |



| Assemblies consisting of 2 instruments |              |                             |                           |   |
|--|--------------|-----------------------------|---------------------------|---|
| Code                                   | Instrument A | Instrument B                | Accessory C               | Isolator D                                  |
| E7                                     | ½ NPT Male   | ½ NPT Male <sup>(1)</sup>   | ½ NPT Snubber or Dampener | N/A   |
| L2                                     | ½ NPT Male   | ¼ NPT Female                | ¼ NPT PLV                 | ¼ NPT diaphragm seal or isolation ring      |
| L3                                     | ¼ NPT Male   | ¼ NPT Female                | ¼ NPT Snubber or Dampener | ¼ NPT diaphragm seal or isolation ring      |
| L4                                     | ½ NPT Male   | ¼ NPT Female                | N/A                       | ½ NPT diaphragm seal or isolation ring      |
| L5                                     | ½ NPT Male   | ¼ NPT Female                | ½ NPT Snubber or Dampener | ½ NPT diaphragm seal or isolation ring      |
| H3                                     | ¼ NPT Male   | ¼ NPT Male                  | N/A                       | ½ NPT diaphragm seal or isolation ring      |
| H5                                     | ½ NPT Male   | ½ NPT Male                  | N/A                       | ½ or ¼ NPT diaphragm seal or isolation ring |
| H7                                     | ¼ NPT Male   | ¼ NPT Female                | N/A                       | ¼ NPT diaphragm seal or isolation ring      |
| H9                                     | ½ NPT Male   | ½ NPT Female <sup>(1)</sup> | N/A                       | ½ NPT diaphragm seal or isolation ring      |



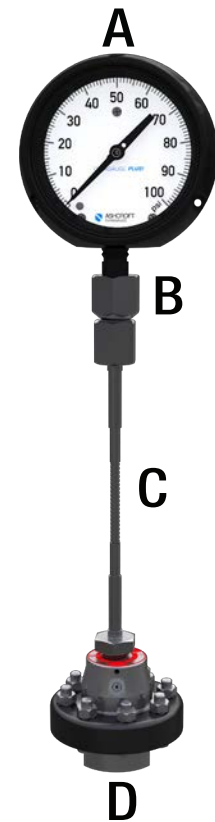
1. Instrument B installed in the 9 o'clock position



| Assemblies for 1 instrument without a diaphragm seal |                 |  |  |
|--|-----------------|--|--|
| Code   | Instrument A    | Accessory B  | Accessory C                              |
| 5G   | ½ or ¼ NPT      | ½ or ¼ NPT   | N/A                                      |
| E9   | ½ or ¼ NPT Male | Snubber, Dampener, or PLV with Male process connection | Siphon with Female instrument connection |
| FC   | ½ or ¼ NPT Male | Needle valve with Female inlet and outlet              | Siphon with Male instrument connection   |
| F2   | ½ or ¼ NPT Male | N/A  | Siphon with Female instrument connection |

Note: All components must mate without the use of adapter fittings: all connections must be ½ or ¼ NPT for a given assembly.

| Assemblies with 1 instrument, accessory(ies), and isolators |                 |                           |                    |                                  |
|---|-----------------|---------------------------|--------------------|----------------------------------|
| Code  | Instrument A    | Accessory B               | Accessory C        | Diaphragm Seal D                 |
| FA  | ½ or ¼ NPT Male | Snubber or Dampener       | Capillary          | Diaphragm seal or isolation ring |
| FL  | ½ or ¼ NPT Male | Needle valve              | N/A                | Diaphragm seal                   |
| F6  | ½ or ¼ NPT Male | Snubber or Dampener       | N/A                | Diaphragm seal or isolation ring |
| F7  | ½ or ¼ NPT Male | PLV                       | N/A                | Diaphragm seal or isolation ring |
| F8  | ½ or ¼ NPT      | N/A                       | Capillary          | Diaphragm seal or isolation ring |
| F9  | ½ or ¼ NPT Male | PLV                       | Capillary          | Diaphragm seal or isolation ring |
| K9  | ½ or ¼ NPT Male | N/A                       | MicroTube™ siphon  | Diaphragm seal                   |
| L6  | ½ NPT Male      | ½ NPT Snubber or Dampener | ½ NPT Needle valve | Diaphragm seal                   |



FA SHOWN

| Diaphragm seals with accessories attached at process connection |                 |                     |  |                               |
|---|-----------------|---------------------|--|-------------------------------|
| Code  | Instrument A    | Accessory B         | Diaphragm Seal C                               | Accessory D                   |
| F3  | ½ or ¼ NPT Male | N/A                 | Diaphragm seal                                 | Siphon or Capillary           |
| J9  | ¼ NPT Male      | N/A                 | Diaphragm seal with ¼ NPT Female PC            | Snubber or Dampener and valve |
| E8  | ½ or ¼ NPT Male | Snubber or Dampener | Diaphragm seal                                 | Valve                         |
| F4  | ½ or ¼ NPT Male | N/A                 | Diaphragm Seal                                 | Valve                         |
| Q1  | ½ or ¼ NPT Male | N/A                 | Diaphragm Seal with XDB or ½ NPT model 82 ring | 2x ½ NPT Valves               |



F4 SHOWN

