

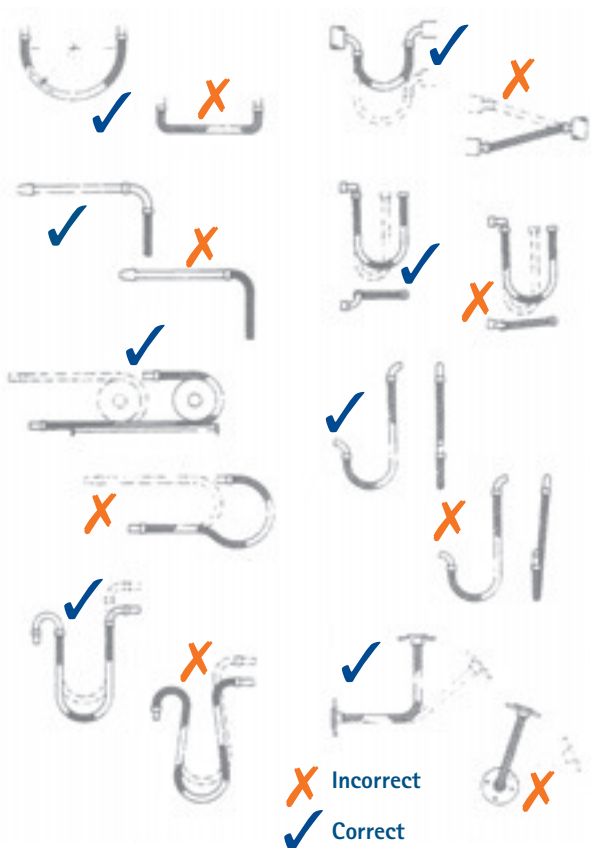
## ▶ Hose Routing and Maintenance

- Correct hose installation can have a dramatic effect on hose life. Here are some basic guidelines to follow when selecting a hose assembly.
- Where appropriate secure the hose to the equipment in such a way as to protect the hose assembly from being damaged. Following the framework of the equipment is generally best. Try to secure the hose away from points of abrasion or wear. If this is not possible, use an appropriate abrasion-resistant sleeve or protective cover.
- When routing, do not exceed the minimum bend radius of the hose. If hoses of various ID's are bundled together, the largest ID hose will dictate the minimum bend radius. If the hose pivots, rotates, flexes or reciprocates during operation, be sure to allow enough length for free movement at all points in the cycle. Even in a stationary application, be sure to allow for length change during pressure cycles.

- Where extreme heat cannot be avoided, especially when conveying flammable substances, always use fire sleeving.
- Hose is a good compensator in multi-plane flexing applications, but it will fail quickly if subjected to torquing or twisting. In these applications route the hose so as to avoid torque or twist, or use a rotary joint or fitting. Always avoid torquing the hose assembly when attaching the second end.
- If the hose is subject to frequent handling, be sure to do so safely and appropriately. Observe minimum bend radius guidelines. Abuse is the number one cause of shortened hose life and hose failure. When replacing a failed hose, be sure it was properly installed in the first place. Look for areas of wear and kinks. Never assume the hose was properly installed to begin with.

For more information on hose routing and maintenance, please refer to our website.

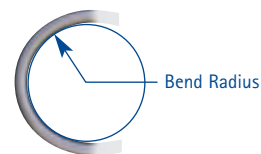
## ▶ Installation



## ▶ Definitions

### Bend Radius:

The radius of a bent section of hose, measured to the innermost surface of the curved portion (see below)



### Minimum Bend Radius:

The maximum amount to which a hose can be bent before causing kinking or damage.

Follow the formula below to determine the minimum length of hose to make the angle of bend required. NOTE: The bend should take effect over the entire minimum length, not just a portion of it.

### General Formula

$$\text{angle of bend} \div 360 \times 2 \times r = \text{minimum length of hose to make bend}$$

$$r = \text{given bend radius of hose}$$

$$\pi = \text{approximately } 3.14$$

### Example:

To make a 90° bend with TCMW1B1 38mm ID

$$r = 120\text{mm}$$

$$\text{angle of bend} = 90^\circ$$

$$90 \div 360 \times 2 \times 3.14 \times 120 = 188.4\text{mm}$$

188.4mm is the minimum length to make a bend without damage.

**Note:** The minimum bend radius listed in the catalogue is for a static bend at ambient temperature. Dynamic bending, especially at elevated temperatures will increase the minimum bend radius accordingly. Always consult KA Fluid Systems with specific applications.