



CAMLOCK FITTINGS

Literature



Introduction:



Figure 1 Camlock Fittings

Cam and groove fitting is a kind of fittings that are used to connect and disconnect on fitting on pipes and hoses. Cam and groove fitting are well known as Ever-tite or Cam and groove couplings. It is made in accordance with EN 14420-7 standards (DIN 2828). Due to its economical and easy installation, cam and groove fittings are being used in extensive applications. However, these fittings are not recommended for gas service like steam and air.

Material:

Cam and groove couplings are available in a variety of materials which includes stainless steel, brass, steel, and aluminum. Its availability in various kinds of material allowed it to be used for different media.



Figure 2 Male Adapter

Size Range & Pressure Rating:

The available size range for cam and groove fittings are from 1/2" to 4". The maximum working pressure is up to 250 psi. Working pressure of cam and groove fittings will be affected by its material and working temperature. Below table shows the maximum allowable working pressure (PSI) of cam and groove couplings.

Sizes	1/2"	3/4" - 2"	2 1/2"	3"	4"
Aluminium	150	250	150	125	100
Stainless Steel	150	250	225	200	100
Brass	150	250	150	125	100

However, ambient temperature will also affect the cam and groove couplings pressure ratings. The temperature de-rating factors are as below table.

Temperature (°F)	Temperature (°C)	Aluminium	Stainless Steel	Brass
100	37.80	1	1	1
150	65.60	1	1	1
200	93.30	1	1	1

250	121.10	0.81	1	1
300	148.90	-	1	0.97
350	176.70	-	1	0.95
400	204.40	-	1	0.92
450	232.20	-	1	0.90
500	260.00	-	1	-

Connection Type:

The connections of cam and groove couplings include screw end or hose shank. Cam and groove fittings contain two parts: male adaptor and female coupler. There are six types to categorize male and female parts.

TYPE A	MALE ADAPTER with FEMALE THREAD
TYPE B	FEMALE COUPLER with MALE THREAD
TYPE C	FEMALE COUPLER with HOSE SHANK
TYPE D	FEMALE COUPLER with FEMALE THREAD
TYPE E	MALE ADAPTER with HOSE SHANK
TYPE F	MALE ADAPTER with MALE THREAD
TYPE DC	DUST CAP
TYPE DP	DUST PLUG

How to connect adaptor with coupler:



Step 1:

Pull the lever to the above of cam handle.



Step 2:

Slide in the adaptor to the female coupler with normal hand pressure.



Step 3:

By pressing down the levers, it will lock the adaptor inside the female coupler.

How to disconnect adaptor from coupler:

To disconnect the adaptor from the coupler, depressurized the cam-lock couplings connection first. Pulling up the levers to above the cam handle then the adaptor can be removed from the coupler. Whenever adaptors or couplers are not in use, connect to a dust cap or dust plug to prevent it from damage.

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