

## STANDARD

LMC's TW couplings are asymmetric couplings used for the transport of liquids, solids and gases, with the exception of liquefied gas and steam. The locking lever fitted to the female (MK) coupling engages in the rim of the male (VK) coupling. It is turned until both halves are tightly compressed. The locking lever is then pushed downwards and is used to prevent loosening which can lead to disconnection.

## OPERATION

The female coupling (type MK) is connected to the male coupling (type VK) of the same diameter by pushing one into the other. The locking lever fitted to the female (MK) coupling engages in the rim of the male (VK) coupling. The locking lever is turned until both couplings are compressed tightly. The locking lever is then pushed downwards to seal the MK-VK joint. The locking lever prevents the connection from becoming loose as a result of vibration.

N.B.: Male and female dust caps (types VB and MB) are pressure-resistant plugs, with the exception of polypropylene dust plugs. A locking device must be used for all connected and pressurised hose assemblies.

## FEATURES



1. Designed in full compliance with EN 14420-6 / DIN 28450
2. Brass TW coupling is forged
3. Right material composition
4. Mechanical resistant lever
5. Couplings are tested using the latest gauges required by the EN 14420-6 standard

## APPLICATION

For the transport of liquids, solids and gases, with the exception of liquefied gas and steam

## WORKING PRESSURE

25 bar / 362 psi

## TEMPERATURE

-30°C / -22°F up to 120°C / 248°F

Hose, coupling, assembly method and seal must be chosen in relation with the desired application and temperature range.

## MATERIAL

- Coupling
  - Stainless steel AISI 316 / 1.4401 by investment casting
  - Brass CW1617N by forging
  - Aluminium by forging
  - Polypropylene



## ■ Seal

| COUPLING                                                 | MATERIAL COUPLING | TYPE SEAL      | STANDARD SEAL |
|----------------------------------------------------------|-------------------|----------------|---------------|
| Type MK: female part, female threaded with locking lever | Brass             | Profiled seal* | NBR-black     |
|                                                          |                   | Thread seal    | PU- brown     |
| Type VK: male part, female threaded                      |                   | Thread seal    | PU- brown     |
| Type MB: dust cap                                        | Brass             | Square seal    | NBR-black     |
| Type MK: female part, female threaded with locking lever | Stainless steel   | Profiled seal* | CSM-green     |
|                                                          |                   | Thread seal    | PTFE-white    |
| Type VK: male part, female threaded                      |                   | Thread seal    | PTFE-white    |
| Type MB: dust cap                                        | Stainless steel   | Square seal    | CSM-green     |
| Type MB: dust cap                                        | Aluminium         | Square seal    | NBR-black     |

\* Profiled seals only valid for the dimensions ND 50 and ND 80.  
For the dimension ND 100 an o-ring seal is used.

## ASSEMBLY

RK and RKP safety clamps in compliance with EN 14420-3 / DIN 2817  
 FLEXOLINE® safety clamps  
 Band clamps  
 Worm drive clamps

## THREADS

Female thread EN ISO 228-1, BSP



## TESTING

TW couplings at LMC-Couplings are regularly tested. Because the TW locking ring is mostly affected by falling, extra testing is done to ensure our customers a high quality product. Test levels:

- Mechanical resistance
- Material composition
- Manufacturing process
- Dimensions
- Design

### ■ Mechanical resistance

The locking ring of the TW coupling is one of the components most likely to be affected by impact. Distortion of the TW locking ring is tested using pressures in excess of the accepted upper pressure limit. Under normal circumstances, the locking ring is prevented from distorting by its crown. The distortion test checks the mechanical strength of the locking ring.



**Test results:**

- Mechanical reformed (as accepted)
- No signs of fractions
- No signs of cracks
- Elasticity not affected

The fact that LMC-Couplings brass TW locking rings pass the distortion test demonstrates that their material structure complies with the recommendations of the EN 14420-6 and DIN 28450 standards.

**■ Material composition**

Material quality effects the elasticity of the lever. In compliance with EN 14420-6 the following materials can be used:

**Brass**

- CuZn39Pb3-H80 material CW614N as specified in EN 12420

**Stainless steel**

- GX5CrNiMo19-11-2 material 1.4401 as specified in 10213-4

An in-house spectroscope is used to test the material composition used in TW couplings. We can therefore offer our customers a guarantee that the materials used comply fully with the EN 14420-6 standard.

**■ Manufacturing process**

LMC-Couplings TW couplings are manufactured in compliance with EN 14420-6 / DIN 28450. Compliance with the EN 14420-6 and DIN 28450 standards guarantees material quality and the manufacturing process. The European 14420-6 standard requires brass TW couplings to be drop-forged. During the forging process, the solid brass piece is subject to heavy impact. Evidence of this impact on the resulting coupling is a sign of quality. Stainless steel couplings are manufactured from investment-castings, as required by the European 14420-6 standard.

**■ Dimensions**

TW coupling dimensions are specified in EN 14420-6 and DIN 28450. All TW couplings manufactured in compliance with this standard are interchangeable. LMC-Couplings TW couplings are randomly checked for correct dimensions using two different measuring methods:

- A. Measuring tooling
- B. Gauges

Our high-technology measuring system checks that the dimensions of our TW couplings comply with the standard. Although ordinary measuring systems are unable to give precise measurements, our measuring system is able to measure the less accessible parts and shapes. This minimizes inspection times and ensures the highest levels of product quality. The European EN 14420-6 standard requires the use of gauges to guarantee interchangeability of TW couplings. LMC-Couplings uses gauges at random as a quality measurement system at several production stages, in our production plants, on arrival in our warehouse and before goods are shipped to our customers.

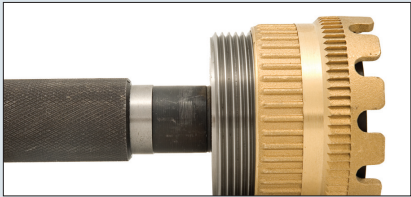






Using the gauges required by the European EN 14420-6 standard, LMC-Couplings measures the following four quality-point dimensions of its TW couplings:

- A. Seal groove
- B. Locking ring
- C. Seal ring
- D. Inside diameter



■ Design

Not only do LMC’s TW couplings meet the high requirements set by EN 14420-6 and DIN 28450, but we also pay a lot of attention to the design of the coupling. The design of the complete coupling, its ergonomic locking lever, smooth inner surface, branding, etc. All these properties ensure a product with a high quality of finish.

CROSS REFERENCES

|       |           |        |           |       |         |         |          |
|-------|-----------|--------|-----------|-------|---------|---------|----------|
| MK050 | TW 1502-5 | MKH050 | TW 1503-4 | MB050 | TW 1506 | TWFB050 | 1505     |
| MK080 | TW 502-5  | MKH080 | TW 503-4  | MB080 | TW 506  | TWFB080 | 505      |
| VK050 | TW 1501   | MKV050 | TW 1502   | VB050 | TW 1507 | GSDH050 | 1505 GSD |
| VK080 | TW 501    | MKV080 | TW 502    | VB080 | TW 507  | GSDH080 | 505 GSD  |

