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 untill 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	Brass	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	Stainless steel	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

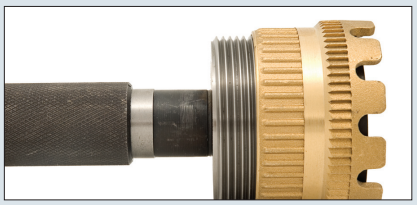
Our high-technology measuring system checks that the dimensions of our TW couplings comply with the standard. Although ordinary measuring systems are unable to give precise measurements, our measuring system is able to measure the less accessible parts and shapes. This minimizes inspection times and 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.

TW COUPLINGS

EN 14420-6 / DIN 28450

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

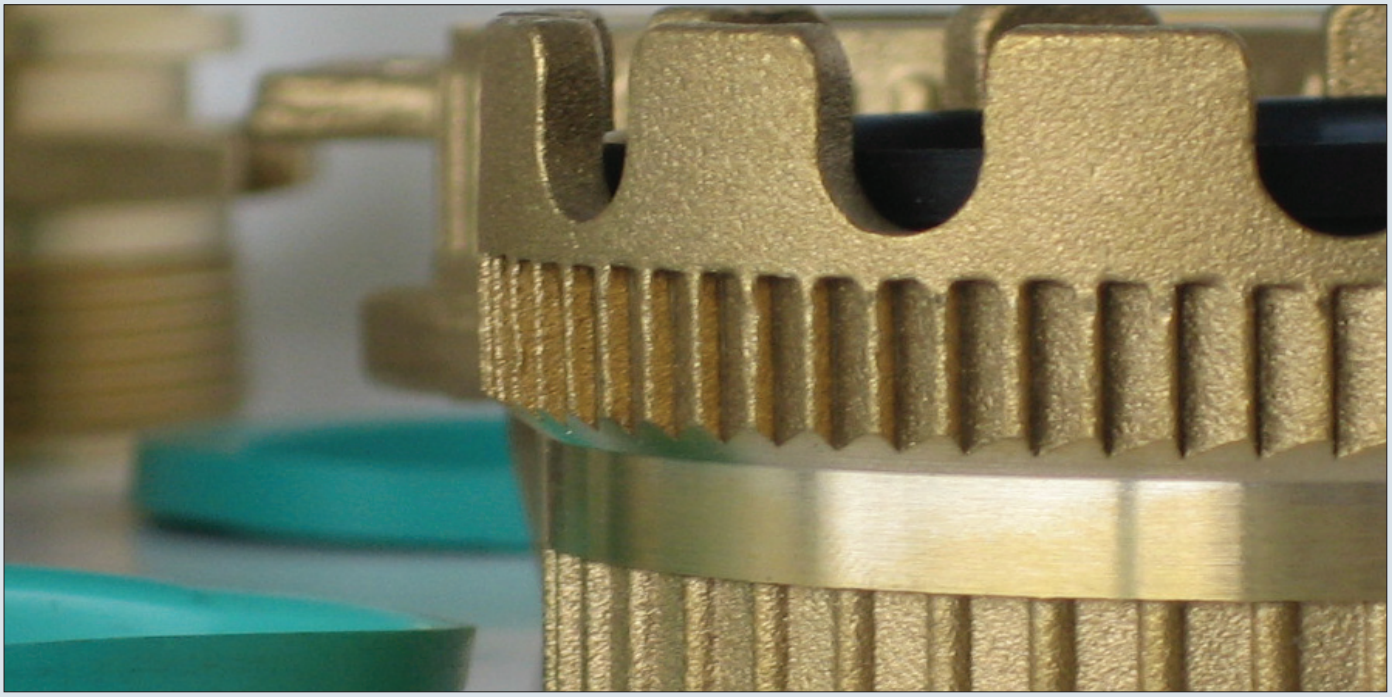


- Design

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



TW COUPLINGS

TYPE MK: FEMALE PART - FEMALE THREADED WITH LOCKING LEVER

ND	Inch	Thread EN ISO 228-1	Thread seal	Profiled seal	Material	Weight/pc Kg	Reference
50	2"	G 2	PU	NBR	Brass	0.74	MK050
80	3"	G 3	PU	NBR	Brass	1.46	MK080
100	4"	G 4	PU	NBR	Brass	2.71	MK100
50	2"	G 2	PTFE	CSM	Stainless steel	0.63	MKRR050
80	3"	G 3	PTFE	CSM	Stainless steel	1.30	MKRR080
100	4"	G 4	PTFE	CSM	Stainless steel	2.16	MKRR100

Stainless steel: AISI 316 - 1.4401
Female thread: EN ISO 228-1, BSP
For the dimension ND 100 an o-ring seal is used.

TYPE VK: MALE PART - FEMALE THREADED WITH THREAD SEAL

ND	Inch	Thread EN ISO 228-1	Thread seal	Material	Weight/pc Kg	Reference
50	2"	G 2	PU	Brass	0.30	VK050
80	3"	G 3	PU	Brass	0.78	VK080
100	4"	G 4	PU	Brass	1.22	VK100
50	2"	G 2	PTFE	Stainless steel	0.32	VKR050
80	3"	G 3	PTFE	Stainless steel	0.74	VKR080
100	4"	G 4	PTFE	Stainless steel	1.25	VKR100

Stainless steel: AISI 316 - 1.4401
Female thread: EN ISO 228-1, BSP

TYPE MKH: LOCKING RING WITH LEVER

ND	Inch	Material	Weight/pc Kg	Reference
50	2"	Brass	0.51	MKH050
80	3"	Brass	0.93	MKH080
50	2"	Stainless steel	0.43	MKHR050
80	3"	Stainless steel	0.91	MKHR080

Stainless steel: AISI 316 - 1.4401
The locking ring with lever in the dimension ND 100 is not seperately available.

TYPE MKV: CROWN PART FEMALE THREADED

ND	Inch	Thread EN ISO 228-1	Thread seal	Profiled seal	Material	Weight/pc Kg	Reference
50	2"	G 2	PU	NBR	Brass	0.23	MKV050
80	3"	G 3	PU	NBR	Brass	0.55	MKV080
50	2"	G 2	PTFE	CSM	Stainless steel	0.20	MKVR050
80	3"	G 3	PTFE	CSM	Stainless steel	0.49	MKVR080

Stainless steel: AISI 316 - 1.4401
Female thread: EN ISO 228-1, BSP
The dimension ND 100 is not separately available.

TYPE MB: DUST CAP

ND	Inch	Seal	Material	Weight/pc Kg	Reference
50	2"	NBR	Brass	0.37	MB050
80	3"	NBR	Brass	0.88	MB080
100	4"	NBR	Brass	1.14	MB100
50	2"	CSM	Stainless steel	0.35	MBR050
80	3"	CSM	Stainless steel	0.81	MBR080
100	4"	CSM	Stainless steel	1.21	MBR100
50	2"	NBR	Aluminium	0.19	MBA050
80	3"	NBR	Aluminium	0.32	MBA080
100	4"	NBR	Aluminium	0.47	MBA100

Stainless steel AISI 316 - 1.4401
Chain not included
ND 100 is an o-ring seal

TYPE VB: DUST PLUG

ND	Inch	Material	Weight/pc Kg	Reference
50	2"	Brass	0.36	VB050
80	3"	Brass	0.89	VB080
100	4"	Brass	1.10	VB100
50	2"	Stainless steel	0.30	VBR050
80	3"	Stainless steel	0.71	VBR080
100	4"	Stainless steel	0.99	VBR100
50	2"	Aluminium	0.10	VBA050
80	3"	Aluminium	0.30	VBA080
100	4"	Aluminium	0.48	VBA100
50	2"	Polypropylene	0.10	VBP050
80	3"	Polypropylene	0.30	VBP080
100	4"	Polypropylene	0.48	VBP100

Stainless steel AISI 316 - 1.4401
Chain not included
Polypropylene dust plugs are not pressure resistant

TW COUPLINGS

TYPE MKST: FEMALE PART WITH LOCKING LEVER AND SMOOTH HOSE SHANK

ND	Inch	Material	For hose mm	Weight/pc Kg	Reference
50	2"	Brass	50	1.20	MKST050
80	3"	Brass	75	2.37	MKST080
50	2"	Stainless steel	50	1.09	MKSTRR050
80	3"	Stainless steel	75	2.21	MKSTRR080

The female part, type MKST is a monoblock version
Standard hose shank EN 14420-2 / DIN 2817
Assembly: RK and RKP safety clamps EN 14420-3 / DIN 2817
FLEXOLINE® safety clamps
Stainless steel AISI 316 - 1.4401

TYPE VKST: MALE PART WITH SMOOTH HOSE SHANK

ND	Inch	Material	For hose mm	Weight/pc Kg	Reference
50	2"	Brass	50	0.76	VKST050
80	3"	Brass	75	1.69	VKST080
50	2"	Stainless steel	50	0.78	VKSTR050
80	3"	Stainless steel	75	1.65	VKSTR080

The male part, type VKST is a monoblock version
Standard hose shank EN 14420-2 / DIN 2817
Assembly: RK and RKP safety clamps EN 14420-3 / DIN 2817
FLEXOLINE® safety clamps
Stainless steel AISI 316 - 1.4401

ACCESSORIES

CHAIN WITH S-HOOK

Length mm	Material	Weight/pc Kg	Reference
200	Stainless steel	0.015	KETR200

Stainless steel AISI 304 - 1.4301

PROFILED CROWN SEAL

ND	Inch	Material	Colour	Ø OD +/- 0.2 mm	Ø ID +/- 0.3 mm	Height +/- 0.2 mm	Weight Kg	Reference
50	2"	NBR	Black	62.5	49.0	10.0	0.01	GSDB050
80	3"	NBR	Black	92.0	76.0	11.6	0.03	GSDB080
50	2"	CSM	Green	62.5	49.0	10.0	0.01	GSDH050
80	3"	CSM	Green	92.0	76.0	11.6	0.03	GSDH080
50	2"	FPM	Black	62.5	49.0	10.0	0.01	GSDV050
80	3"	FPM	Black	92.0	76.0	11.6	0.03	GSDV080

SQUARE SEAL FOR FEMALE CAP TYPE MB

ND	Inch	Material	Colour	Ø OD +/- 0.6 mm	Ø ID +/- 0.3 mm	Height +/- 0.2 mm	Weight Kg	Reference
50	2"	NBR	Black	61.5	49.0	5.0	0.01	TWFB050
80	3"	NBR	Black	92.0	77.0	6.0	0.02	TWFB080
50	2"	CSM	Green	61.5	49.0	5.0	0.01	TWFH050
80	3"	CSM	Green	92.0	77.0	6.0	0.02	TWFH080
50	2"	PTFE	White	61.5	49.0	5.0	0.01	TWFP050
80	3"	PTFE	White	92.0	77.0	6.0	0.02	TWFP080
50	2"	FPM	Black	61.5	49.0	5.0	0.01	TWFV050
80	3"	FPM	Black	92.0	77.0	6.0	0.02	TWFV080

O-RING FOR FEMALE CAP TYPE MB AND CROWN PART TYPE MKV

ND	Inch	Material	Colour	Ø OD +/- 0.8 mm	Ø ID +/- 0.8 mm	Height +/- 0.3 mm	Weight Kg	Reference
100	4"	NBR	Black	113.0	99.0	7.0	0.02	TWFB100
100	4"	CSM	Green	113.0	99.0	7.0	0.02	TWFH100
100	4"	FPM	Black	113.0	99.0	7.0	0.02	TWFV100

THREAD SEAL

ND	Inch	Material	Colour	Ø OD mm	Ø ID mm	Height mm	Weight Kg	Reference
50	2"	PTFE	White	60	49	2	0.004	X2RP050
80	3"	PTFE	White	88	77	3	0.010	X2RP075
100	4"	PTFE	White	114	100	3	0.015	X2RP100
50	2"	PU	Brown	60	49	2	0.002	X2RV050
80	3"	PU	Brown	88	77	3	0.005	X2RV075
100	4"	PU	Brown	114	100	3	0.008	X2RV100

Thread seal dimensions in compliance with EN 14420-5
Seal colours are subject to change without prior notice