

Dry Disconnect Coupling TR

Operating instruction



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1 General description

Function:

The type TR dry disconnect coupling consists of two coupling halves that are called male part (TRV) and female part (TRM) respectively. When disconnected they are closed by a shutoff valve each.

The two coupling halves are connected by a bayonet catch. By turning the TRM by 120° on the TRV a pressure-sealed connection is made and the valves are opened to release the conduit.

When disconnected the spring-loaded valves in the female part and the male part are closed impervious to fluids.

For the operator:

The dry disconnect coupling has to be checked once a month for technically flawless condition. The results of the inspection have to be documented.

In so far as the dry disconnect coupling is part of a mandatory inspected system, the dry disconnect coupling has to be checked by a technical expert during the first as well as all repeating inspections.

The system pressure has to be reduced to less than 6bar before coupling or uncoupling.

Only qualified personnel may be assigned with assembling the TRV/TRM.

(Qualifications: experts, technicians, vocational training, job experience)

2 Nominal widths and pressure levels

Type	DN	Thread	Nominal pressure
TRV/TRM	25	G1"	PN25
	32	G1¼"	
	40	G1½"	
	50	G2"	
	65	G2½"	
	80	G3"	
	100	G4"	
	150	6"	PN16 (AL)

3 Technical data

3.1 Materials

Component	Material no.	Material
Case Closing cone Spider	1.4571	X6CrNiMoTi17122
	2.4602	NiCr21Mo14W (Hastelloy C22)
	2.4610	NiMo16Cr16Ti (Hastelloy C4)
	3.3547	EN AW-5083 H112
Spring / ball	1.4401	X12CrNi177
Handwheel	PP	Polypropylen
	1.4571	X6CrNiMoTi17-12-2

3.2 Seals

Component	Material	Designation
O-ring	NBR	Perbunan
	Ethylene-Propylene-Diene-Monomer EPDM	Buna AP
	Perfluoroelastomer FFKM	Kalrez™ Chemraz™
	Fluoroelastomer FKM	Viton
Thread seal	PUR	Vulkollan
	PTFE	Teflon

Kalrez, Viton, Teflon = registered Trademarks of DuPont

4 Range of applications

4 Range of applications

4.1 Industrial

- Plant engineering and construction
- Power plant construction
- Chemical industry
- Pharmaceutical industry
- Food and beverage processing industry
- Process technology
- Tank cleaning
- Filling systems for:
 - railroad tank wagons
 - tanker trucks
 - ships
 - tank containers

4.2 Media

- Lyes
- Acids
- Fuels and oils
- Pharmaceutical products
- Gases

As special fittings with appropriate approval also for:


- food
- LPG/LNG, CNG
- Materials hazardous to the environment and water

4.3 Temperature ranges

The permissible temperature range is defined by the combination of materials for the coupling components and sealing materials. The use of the dry disconnect coupling outside the temperature range is not permitted.

Coupling body made of Stainless steel A4 or Hastelloy:

Material		Temperature range
Housing	Sealing	
1.4571, 1.4301, 1.4307, 1.4404, 1.4408, 2.4600, 2.4610, 2.4602, 2.4819	FKM	-20°C until +150°C
	EPDM	-40°C until +150°C
	NBR	-20°C until +100°C
	FFKM	-20°C until +150°C
	KALREZ 0040	-40°C until +150°C

 WARNING
TRM with PP- Handwheel maximum 100°C

5 Installation / assembly

Mounting of the dry disconnect coupling may be carried out only by companies authorized by Stäubli Hamburg GmbH. The dry disconnect coupling is delivered ready for mounting and can be installed directly into a supply line.

The installation is as follows:

- a.** Remove the packaging and the tread protection caps.
- b.** Check the coupling for transport damages before mounting.
- c.** To prevent damages during mounting a suitable wrench should be used for the intended nut flats on the coupling.
- d.** Screw the dry disconnect coupling's female part (TRM) firmly onto the male thread of the steam hose or respectively on the end of the pipeline.
- e.** Screw the dry disconnect coupling's male part (TRV) firmly onto the end desired connection such as a rinsing pipe of a tank wagon's fill nozzle.

Electrical grounding of Dry Disconnect Coupling:

The grounding takes place via a conductive hose- /pipeline, consisting of a Hose/Pipe with a guaranteed electrical contact resistance of $R < 10$ Ohm and via a conductive integration of the hose- or pipe-fitting when it is connected to ground.

The grounding of the female coupling part is made through the connecting thread to the hose-/pipefitting.

Screw the male coupling part (TRV) firmly onto the end of the desired connection, for example on a filler neck of a tank wagon.

- f.** The grounding of the male coupling part is done via the connecting thread and the grounding of the whole tank car.

6 Start-ups

Functional and seal test

- a. Before starting up the first time check the coupling once without pressure and without medium for its function. Couple the TRM once onto the TRV; an increased resistance will have to be overcome at the beginning and end of the coupling process.
- b. Check the connections of the coupling's seals to the system before start-up.
- c. The connections of the coupling to the system must be checked for leaks before starting up.

7 Removal

- a. Wear suitable personal safety equipment.
- b. DANGER OF BURNS: Lower coupling temperature, max. temperature 50°C
- c. Make sure that the coupling halves are depressurized.
- d. Clean coupling before disassembly.
- e. Unscrew female and male parts with a fitting wrench.

8 Maintenance / repair

Maintenance and repair of the dry disconnect coupling may be carried out only by Stäubli Hamburg GmbH or by companies authorized by Stäubli Hamburg GmbH.

9 Marking

An identification is engraved in the case on each half of the coupling.

The following information always has to be given on the case:

- TÜ AGG 270-97
- EX-marking: Ex II 2G T(x)
- CE-marking: CE 0575
- Manufacturer ID: Stäubli Hamburg
- Article no.: 561.050200.120-xx
- Serial number / Year ,manufactured
- Consecutive no. / material name (housing)
- Ü-sign
- DN PN

10 Miscellaneous

Stäubli Hamburg GmbH accepts no responsibility for damages due to faulty installation, faulty handling, as well as negligent or incorrect maintenance.

The operator is solely responsible for the installation, operation, and maintenance of the coupling.



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