

THERMAL HOSE

The thermal hose is a heat exchanger with bending and elastic properties.

It is used for heating the coating substance and the atomizing air (if present) between the delivery unit (usually a pump) and the spray gun.

DESCRIPTION

A thermal hose consists of the outer hose ① that is limited by the couplings ② and, by the inner hoses (one to three) ③ for the coating substance, the atomizing air and the heat transfer medium.

The heat transfer medium, usually oil, is supplied to the thermal hose on the spray gun side, completely fills the space between the outer hose and the inner hoses and leaves it on the pump side.

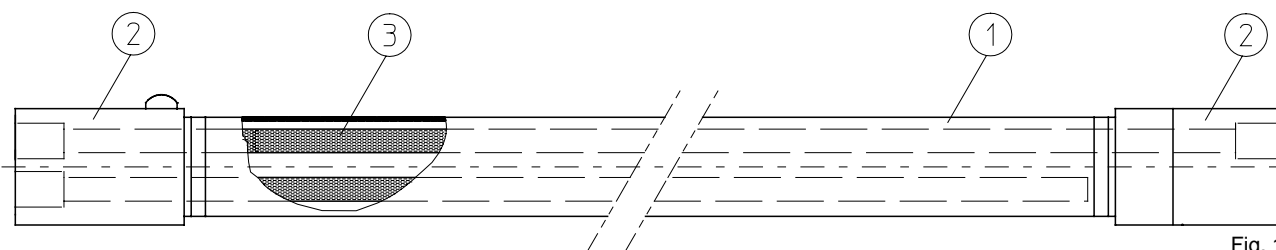


Fig. 1

A thermal hose line ready for connection consists of the thermal hose, connectors and profile sealing rings.

Notice the mounting position of the profile sealing ring.

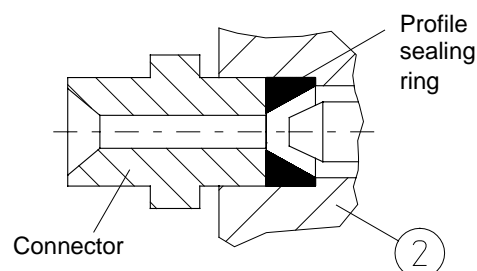


Fig. 2

Depending on the coating procedure, there are thermal hoses for:

- air including HVLP
- Airless Plus®
- Airless

This is again subdivided into:

- With heat transfer medium (oil) – supply unit inside
- With heat transfer medium (oil) – supply unit outside

We reserve the right to make changes

Continued on pages 02 to 07

Prepared by 18.07.00 Klöpp.

Checked 18.07.00 Kuhn

USER INFORMATION
- TECHN. PRODUCT DESCRIPTION -

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FUNCTIONAL DIAGRAM

The arrangement of the thermal hose in the heated system is shown in the following
Airless Plus heated system (applies in principle to air-assisted and Airless).

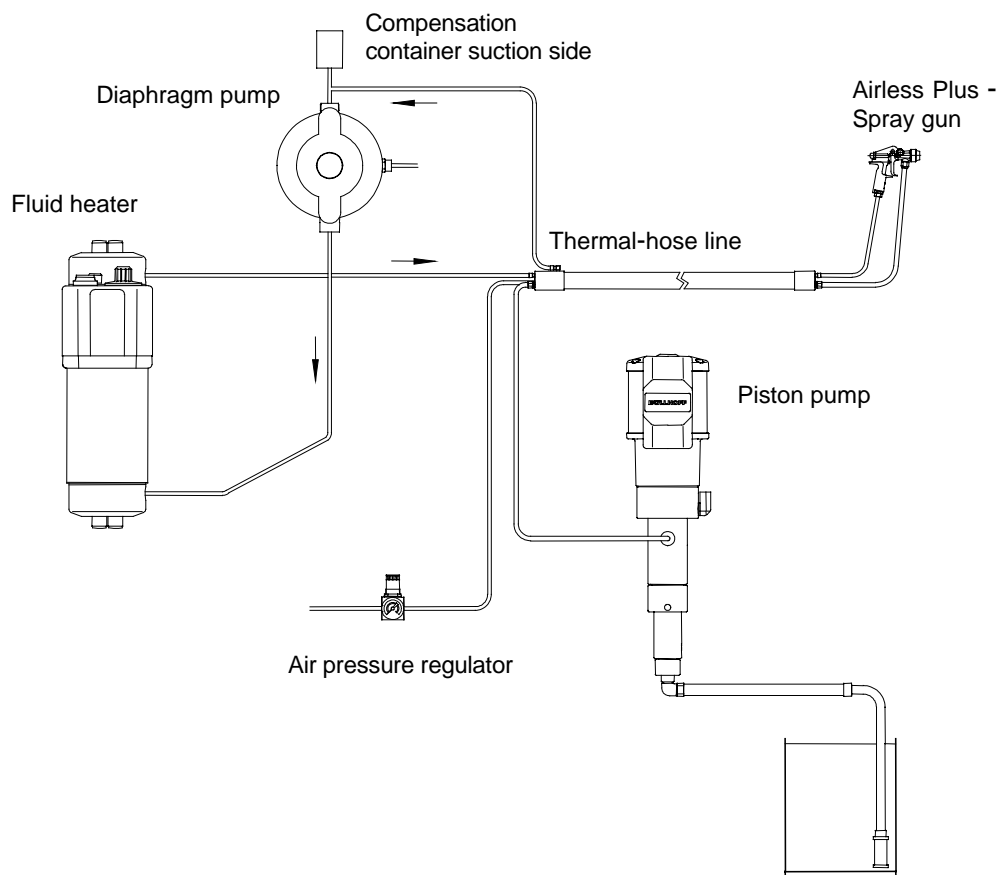


Fig. 3

Heat transfer medium supply unit inside

Heat transfer medium supply unit outside

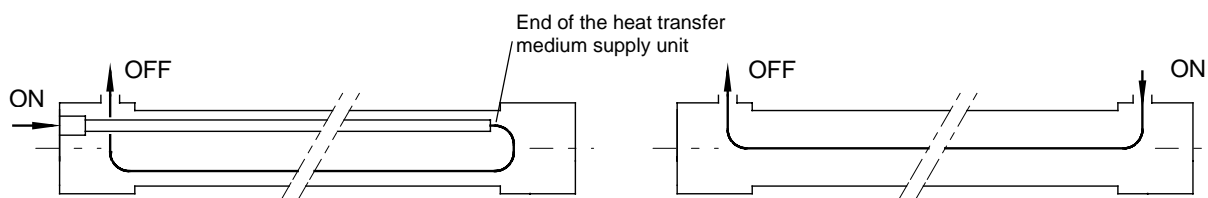


Fig. 4

TECHNICAL DATA

KEY TO DESIGNATION

THERMAL HOSE

N N - N N

Coating system

Supply mode of the heat transfer medium

L = air including HVLP

WI = inside

AP = Airless Plus®

WA = outside

A = Airless

MODEL RANGE

		Length	Part number
L-WI	Thermal hose for HVLP with air, heat, transfer medium supply unit on the inside material: Al	L 5000	78845 001002
		L 7500	78845 001003
		L 10000	78845 001004
L-WA	Thermal hose for HVLP with air, heat, transfer medium supply unit on the outside material: Al	L 5000	78845 002002
		L 7500	78845 002003
		L 10000	78845 002004
AP-WI	Thermal hose for Airless Plus, heat, transfer medium supply unit on the inside material: Al	L 5000	78845 003002
		L 7500	78845 003003
		L 10000	78845 003004
AP-WI	Thermal hose for Airless Plus, heat, transfer medium supply unit on the inside material: stainless steel	L 5000	78845 003005
		L 7500	78845 003006
		L 10000	78845 003007
AP-WA	Thermal hose for Airless Plus, heat transfer medium supply unit on the outside material: Al	L 5000	78845 004002
		L 7500	78845 004003
		L 10000	78845 004004
A-WI	Thermal hose for Airless, heat transfer medium supply unit on the inside material: Al	L 5000	78845 005002
		L 7500	78845 005003
		L 10000	78845 005004
A-WA	Thermal hose for Airless, heat transfer medium supply unit on the outside material: Al	L 5000	78845 006002
		L 7500	78845 006003
		L 10000	78845 006004

The lengths of the thermal hoses are standardized.

The length should be compensated using the supply and discharge hose lines, when a different length from the standard length is required.

Order Example:

Thermal hose L-WI, L 5000, Part number 78845 001002

- Special designs possible on request

DATA

	Coating substance			Air			Heat transfer medium (oil)		
	PN	DN	tN	PN	DN	tN	PN	DN	tN
L-WI	8	8	80	8	8	80	6	6	80
L-WA	8	8	80	8	8	80	6	6	80
AP-WI	100	6	80	8	8	80	6	6	80
AP-WA	100	6	80	8	8	80	6	6	80
A-WI	365	6	80				6	6	80
A-WA	365	6	80				6	6	80

PN = Max. permissible operating overpressure in bar

DN = Nominal width in mm

tN = Max. operating temperature in °C

The data for each thermal hose can be found on the associated manufacturer's nameplate.

The outer hose is designed for an internal pressure of max. 6 bar and is electrically conducting, – max. permissible resistance $3 \cdot 10^4 \Omega/\text{m}$ and the leakage resistance to earth is $< 10^6 \Omega$ (suitable for use in areas with an explosion hazard).

The outer hose is also resistant to solvents under certain circumstances and free of substances affecting the wetting properties of paints.

CONSTRUCTION MATERIALS

Coupling Al or stainless steel (see model range)

Outer hose cover Chloroprene rubber

Inner hose:

Coating substance PA

Atomizing air PA

Heat transfer medium PA

Parts in contact with coating substance : SST

GROUNDING

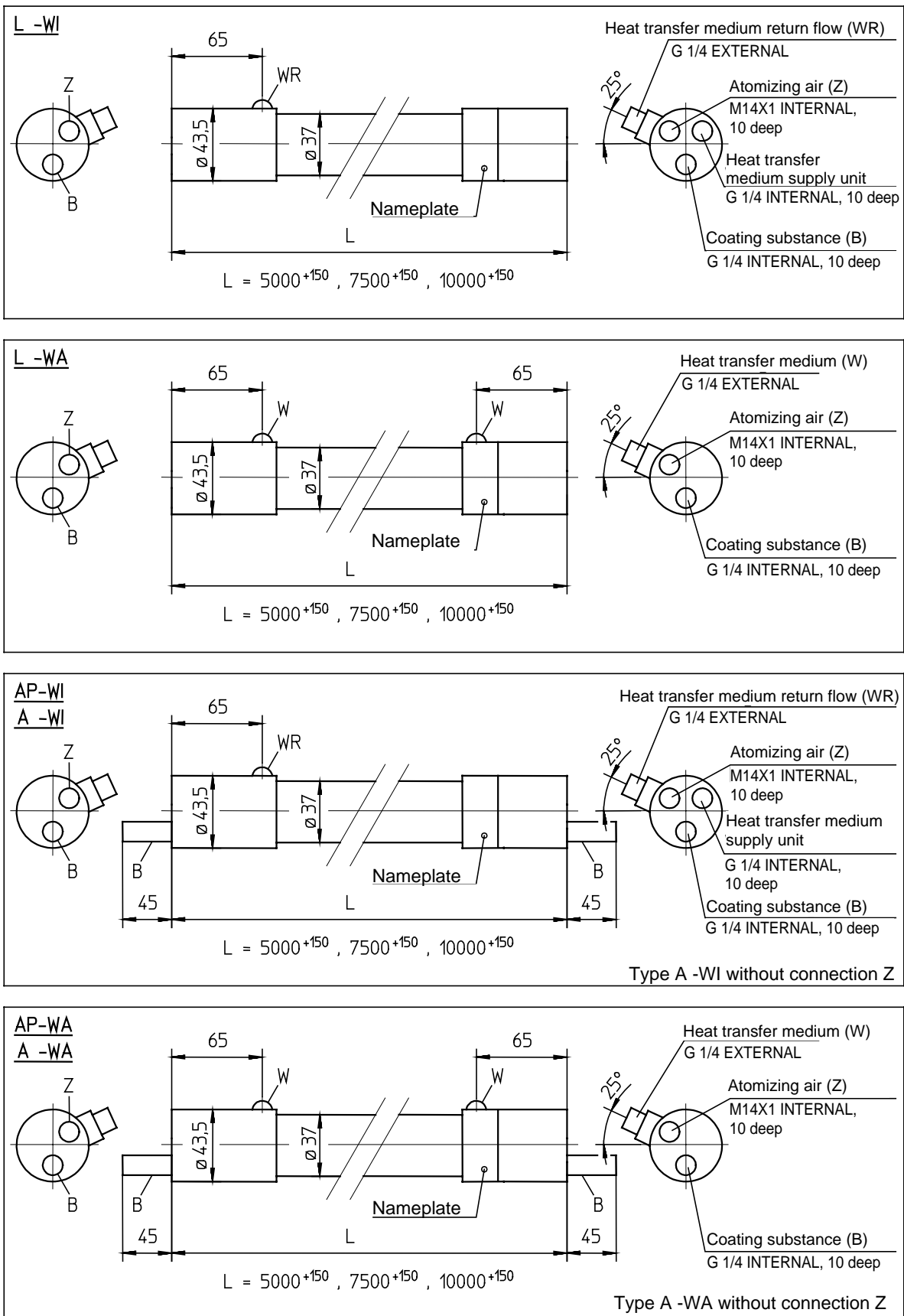


Fig. 5

The external thread connections have 60° inner taper for sealing head (ball type nipple) connections.

ACCESSORIES

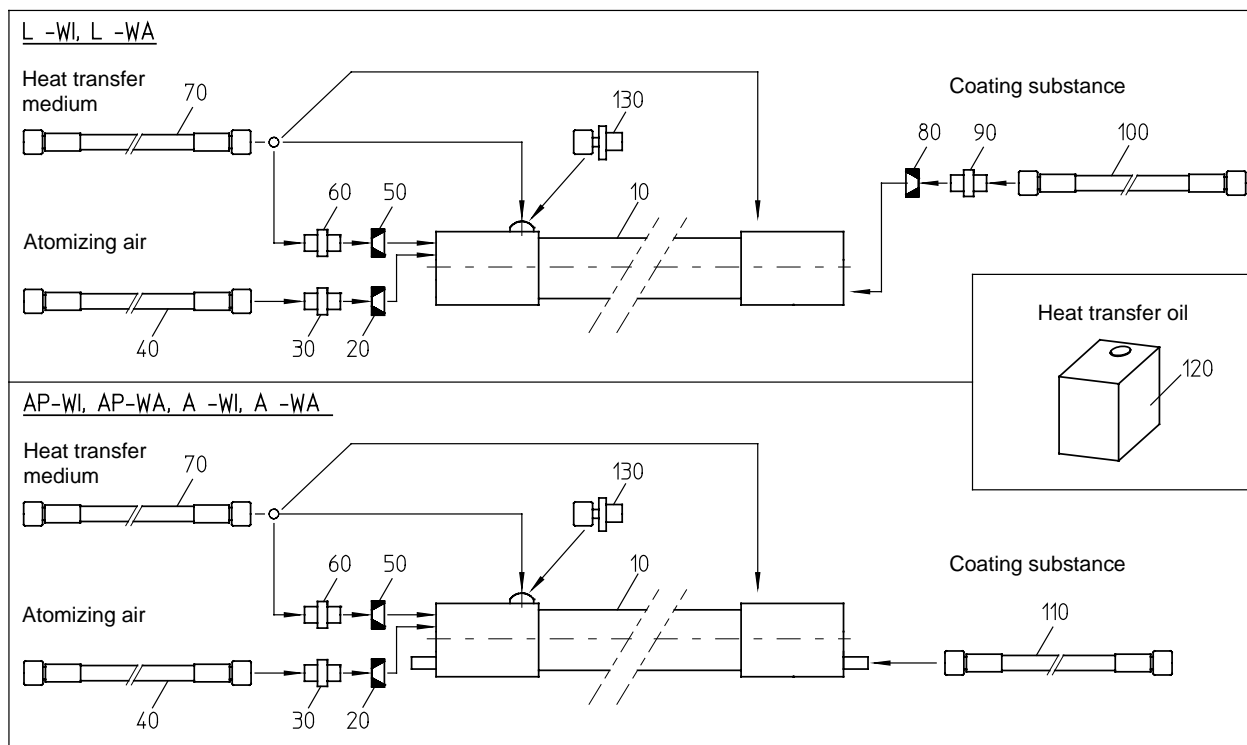


Fig.6

L-WI	L-WA	AP-WI	AP-WA	A-WI	A-W	Remark	Description	Part number 7...
Pos.								Sales documentation
10						See pages 02 and 03		
20						both sides	Profile sealing ring 10.3x12.5x4	76193 042003
30							Connector M14x1	76640 028002
40							Hose DN8	07.5001
50	-	50	-	50	-	one side	Profile sealing ring 8.3x11x4	76193 042002
60	-	60	-	60	-		Connector G1/4A	76640 027002
								76640 027003 only stainless steel construction
70						both sides	Hose line G1/4 DN6	07.3001
							Hose line . . . oil	*
80	-				Profile sealing ring 8.3x11x4		76193 042002	
90	-				Connector G1/4A		76640 027002	
100	-				Hose line G1/4 DN9		07.3001	
-	110				Hose line G1/4 DN6		07.3001	
120''						Canister 5l	Heat transfer oil	77675 001003
130						both sides	Ball nipple G3/8A-G1/4I	77254 011002

* see tables - drawing 77846 011000

** In the SST version, water also possible

REPLACEMENT PARTS, REPAIRS



Repair on thermal hoses should only be carried out by dealers that are authorized by Graco to do so.

- Lists of repair parts for outside use are therefore not available.
- An exchange system for standard thermal hoses shortens the down times for the operator.

INFORMATION CONCERNING START-UP AND OPERATION

The thermal hoses are usually supplied without heat transfer medium (oil).

The thermal hose should be filled with the heat transfer medium and completely vented, before start-up.

This means that the connection for the return flow of the heat transfer medium must be at the top (highest point).

The pressure of the heat transfer medium should correspond to that of the atomizing air or be lower.



The service life of the thermal hose is adversely affected, and thus shortened by surrounding influences (oxygen in air, temperature, light, etc.), even if correctly handled.

It is recommended to make a visual inspection every day and a functional test from time to time.

As a precaution, the thermal hose should be replaced by a new one after a period of time set by the operator (e.g. after 2 to 3 years).



Never carry out any dismantling work on a thermal hose under pressure.

FOOTNOTE

This technical product description also serves as operating instructions.

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GRACO STANDARD WARRANTY

Graco warrants all equipment referenced in this document which is manufactured by Graco and bearing its name to be free from defects in material and workmanship on the date of sale by an authorized Graco distributor to the original purchaser for use. With the exception of any special, extended, or limited warranty published by Graco, Graco will, for a period of twelve months from the date of sale, repair or replace any part of the equipment determined by Graco to be defective. This warranty applies only when the equipment is installed, operated and maintained in accordance with Graco's written recommendations.

This warranty does not cover, and Graco shall not be liable for general wear and tear, or any malfunction, damage or wear caused by faulty installation, misapplication, abrasion, corrosion, inadequate or improper maintenance, negligence, accident, tampering, or substitution of non-Graco component parts. Nor shall Graco be liable for malfunction, damage or wear caused by the incompatibility of Graco equipment with structures, accessories, equipment or materials not supplied by Graco, or improper design, manufacture, installation, operation or maintenance of structures, accessories, equipment or materials not supplied by Graco.

This warranty is conditioned upon the repaid return of equipment claimed to be defective to an authorized Graco distributor for verification of claimed defect. If the claimed defect is verified, Graco will repair or replace free of charge any defective parts. The equipment will be returned to the original purchaser transportation prepaid. If inspection of the equipment does not disclose any defect in material or workmanship, repairs will be made at a reasonable charge, which charges may include the costs of parts, labor, and transportation.

THIS WARRANTY IS EXCLUSIVE, AND IS IN LIEU OF ANY OTHER WARRANTIES, EXPRESS OR IMPLIED, INCLUDING BUT NOT LIMITED TO WARRANTY OF MERCHANTABILITY OR WARRANTY OF FITNESS FOR A PARTICULAR PURPOSE.

Graco's sole obligation and buyer's sole remedy for any breach of warranty shall be as set forth above. The buyer agrees that no other remedy (including, but not limited to, incidental or consequential damages for lost profits, lost sales, injury to person or property, or any other incidental or consequential loss) shall be available. Any action for breach of warranty must be brought within two (2) years of the date of sale.

Graco does not extend its warranty to accessories, appliances, materials or components which are sold by Graco but are not manufactured by Graco and makes no guarantee, however implied, with regard to the brand capability and suitability for a certain purpose. These parts sold by Graco but not manufactured by Graco (such as electric motors, switches, hoses, etc.) are covered by the warranties of the respective manufacturers. Graco will support the buyer in enforcing any warranty claim with the proviso that in no event can Graco be made liable for indirect, incidental, special or consequential damages which arise from the supply of appliances by Graco under the conditions governed by these provisions, or the supply, performance or use of any products or other goods which are sold under the conditions governed by these provisions, whether as the result of breach of contract, breach of warranty, negligence on the part of Graco or for any other reason.

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