

CWP FLOW METERS

Purpose

The purpose of this Tech Note is to describe the flowmeters used by the CWP 100H/S water systems, describe the recent change to the Product Water Return flowmeter, and to provide replacement kit ordering information.

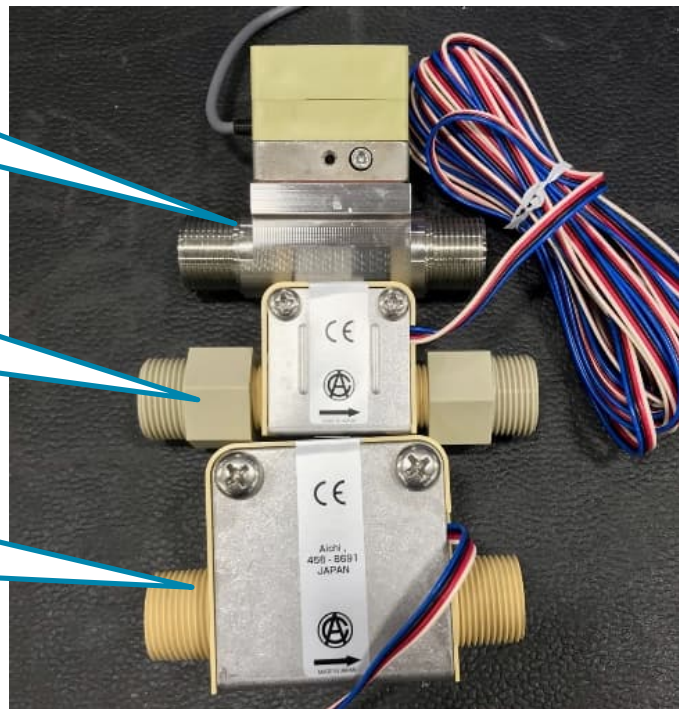
Recent Changes

- Starting March 2021, the Product Water Return flowmeter will change to a Truflo TKW series (paddle wheel) for all CWP models (101-106H/S). The temperature rating of this flowmeter (120°C) exceeds the return temperature during a HW circulation.
- Prior to March 2021, the Product Water Return flowmeter was manufactured by AICHI TOKEI DENKI.
 - A CWP 104-106H/S used P/N W3T577816 (old p/n WTW616002001).
 - A CWP 101-102H/S used P/N W3T577815 (old p/n WTW616001001).

P/N W3T577779: Return Flowmeter (CWP 101-106H/S) starting March 2021

P/N W3T577815: Return Flowmeter (CWP 101-102H/S) up to March 2021

P/N W3T577816: Return Flowmeter (CWP 104-106H/S) up to March 2021



CWP Water System Flowmeter Information

The following is a comprehensive description of the flowmeters used in the CWP 100H/S water systems. Every CWP water system contains three flowmeters (circled in the schematic):

- Inlet Flowmeter (denomination F1, sensor position 3).
- Reject Flowmeter (denomination F2, sensor position 42).
- Return Flowmeter (denomination F4, sensor position 51). NOTE: This is the only flowmeter that is exposed to hot water during a HW circulation.

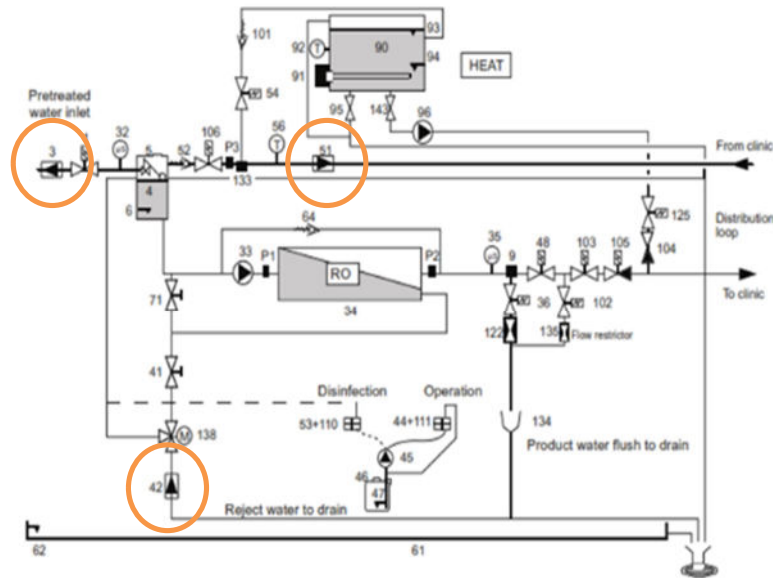


Fig.2.1 Flow diagram CWP 100, model WRO H

All other flow values indicated at the CWP water system HMI are calculated using these three flowmeters:

- Product Water Consumption: $F5 = F1 - F2$
- Product Water Flow: $F6 = F1 - F2 + F4$

Inlet Flowmeter

- Purpose is to measure Feed Water Flow rate and is used to calculate Product Water Consumption and Product Water Flow.
- Used for the following CWP water system alarms: 8 (LOW FLOW F5), 16 (LOW FLOW F1) and Valve Test alarms.
- P/N W3T577816 has been the Inlet Flowmeter since 2010.
- All CWP water systems built since 2010 (101-106H/S) use W3T577816 at the Inlet (3) location.
- This flowmeter connects to transmitter FX1; Red wire to FX1-5, Black wire to FX1-6, Blue and White wires to FX1-7.

Reject Flowmeter

- Purpose is to measure Reject to Drain Flow rate and is used to calculate Product Water Consumption and Product Water Flow.
- Used for the following CWP water systems alarms: 8 (LOW FLOW F5), 17 (LOW FLOW F2) and Valve Test alarms.
- P/N W3T577815 has been the Reject Flowmeter since 2010.
- All CWP water systems built since 2010 (101-106H/S) use W3T577815 at the Reject (42) location.
- This flowmeter connects to transmitter FX2; Red wire to FX2-5, Black wire to FX2-6, Blue and White wires to FX2-7.

Return Flowmeter

- Purpose is to measure Product Water Return Flow Rate and is used to calculate Product Water Flow.
- Used for CWP alarm 19 (HW LOOP LEAKAGE).
- P/N W3T577779 (previous p/n 3035981) has been the Return Flowmeter since March 2021 on all CWP systems (101-106H/S) since 2010.
- The flowmeter found in kit W3T577779 is rated for 120°C operating temperature and is designed to withstand the 90°C return temperatures during nightly HW Circulation.
- This flowmeter connects to transmitter FX3; Brown wire to FX3-5, Blue wire to FX3-6, Black wire to FX3-7.
- This flowmeter requires the following F4 CONSTANT settings in Tech Info Level 3:
 - T = 4400, K = 1.0

Ordering Information

When flowmeter problems arise on installed systems use the ordering information below for replacement parts:

Inlet Flowmeter

- W3T577816 - Replacement Inlet Flowmeter Kit (all models).
 - Has been the replacement Inlet Flowmeter Kit since before the acquisition of the CWP from Gambro (2010).
- Ordering Information for Complete Inlet Assemblies is found in Tech Note 240 (W3T575588).

Reject Flowmeter

- W3T577815 - Replacement Reject Flowmeter Kit (all models).
 - Has been the replacement Reject Flowmeter Kit since before the acquisition of the CWP water system from Gambro (2010).

Return Flowmeter

- W3T577779 - Replacement Product Water Return Flowmeter Kit (all models).
 - Contains Truflo TKW series paddle wheel flowmeter (120°C temperature rating).
 - Has been the replacement Return Flowmeter Kit since March 2021.
 - Up until March 2021, WTW616002001 (now p/n W3T577816) was the replacement Return Flowmeter Kit for a CWP 104-106H/S.
 - Up until March 2021, WTW616001001 (now p/n W3T577815) was the replacement Return Flowmeter Kit for a CWP 101-102H/S water system.