OPPID Pipeline To-From SQL

**Document Type:** TechNote

**Product(s):** OpenPlant PowerPID

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# Description

OpenPlant Power PID writes To-From destination data to the NOZZLE table. (*To be clear To-From destination data does not refer to Off Page connections)*. Foreign key values are used to store these relationships. These relationships are made graphically in the OpenPlant Power PID application. When a Pipeline is placed on a piece of equipment, a nozzle is automatically placed and a relationship is made. When a Pipeline or Pipe run is placed on another Pipeline or Pipe run a relationship is created. This type of connection is called a Run termination.

The EC relationships are defined in PlantProjectSchema.01.02\_Autoplant\_PIW.01.02.mapping.xml.

* NOZZLE\_CONNECTS\_TO\_SEGMENT
* SEGMENT\_CONNECTS\_TO\_NODE
* REDUCER\_CONNECTS\_TO\_SEGMENT
* SEGMENT\_CONNECTS\_TO\_SEGMENT
* EQUIPMENT\_HAS\_NOZZLE

These mappings determine the table and column in which the database values are written to.

# Connection types

### Pipeline to Equipment

Records that connect a Pipeline to a piece of Equipment are stored in the NOZZLE table.

These Nozzle records have a corresponding record in the TAG\_REG table.

NOZZLE.NLINE = Keytag of Pipe run.

NOZZLE.NEQUIP = Keytag of Equipment.

### Pipeline to Pipeline via Pipe run to Pipe run

Records that connect a Pipeline to Pipeline are stored in the NOZZLE table.

The foreign key values are that of the Pipe Run

NOZZLE.NLINE = Keytag of Pipe run.

NOZZLE.NEQUIP = Keytag of Pipe run

NOZZLE.NINT1 = RUN\_TERM

The Pipeline value is stored in the PIPE\_RUN.LINE\_ID column

| **NOZZLE** |
| --- |
| **KEYTAG** | **PDIRECT** | **NDESC** | **NLINE** | **NEQUIP** | **NINT1** |
| 0000000603 | From |  | 0000000608 | 0000000602 | VIRTUAL\_NOZZLE |
| 0000000605 | To |  | 0000000608 | 0000000604 | SINGLE\_NOZZLE |
| 0000000606 | To |  | 0000000609 | 0000000604 | SINGLE\_NOZZLE |
| 0000000612 | From |  | 0000000610 | 0000000611 | VIRTUAL\_NOZZLE |
| 0000000614 | To | Run Term | 0000000610 | 0000000608 | RUN\_TERM |
| 0000000615 | To | Run Term | 0000000609 | 0000000608 | RUN\_TERM |

This table contains four nozzles and two run termination records

# Drawing Example

This simple drawing contains three pieces of equipment, 2 Pipelines and 3 pipe runs and 4 nozzles



### SQL

SELECT TAG\_REG.KEYTAG, TAG\_REG.TAG\_NO, PIPE\_RUN.RUN\_NAME, NOZZLE.NINT1, NOZZLE.PDIRECT, [TAG\_REG\_1].[TAG\_NO] & "" & [TAG\_REG\_2].[TAG\_NO] AS TAG

FROM (((PIPE\_RUN RIGHT JOIN (TAG\_REG RIGHT JOIN PROCESS ON TAG\_REG.KEYTAG = PROCESS.KEYTAG) ON PIPE\_RUN.LINE\_ID = PROCESS.KEYTAG) LEFT JOIN NOZZLE ON PIPE\_RUN.KEYTAG = NOZZLE.NLINE) LEFT JOIN TAG\_REG AS TAG\_REG\_1 ON NOZZLE.NEQUIP = TAG\_REG\_1.KEYTAG) LEFT JOIN (PIPE\_RUN AS PIPE\_RUN\_1 LEFT JOIN (PROCESS AS PROCESS\_1 LEFT JOIN TAG\_REG AS TAG\_REG\_2 ON PROCESS\_1.KEYTAG = TAG\_REG\_2.KEYTAG) ON PIPE\_RUN\_1.LINE\_ID = PROCESS\_1.KEYTAG) ON NOZZLE.NEQUIP = PIPE\_RUN\_1.KEYTAG;

### Design View

