Database structure
for
ToolsNet 8.7 data collection database

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1 Introduction

1.1 Changes

Version	Date	Author	Change
1.2	2016-04-22	Sofi Seljemark	Initial draft. Database version 23
1.3	2016-09-02	Sofi Seljemark	Updated for database version 24
1.4	2016-09-30	Sofi Seljemark	Added Archive database documentation
1.5	2016-11-09	Sofi Seljemark	Updated for database version 25. Added table ResultOtherData
1.6	2017-06-30	Sofi Seljemark	Updated for database version 26
1.7	2017-06-30	Sofi Seljemark	Updated for database version 27. Added shift information.
1.8	2017-06-30	Sofi Seljemark	Updated for database version 28.

1.2 Purpose

1.2.1 Terms of use

This documentation is distributed to individuals that request the documentation directly from Atlas Copco Industrial Technique AB. It is not distributed with the standard ToolsNet 8 software package.

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1.2.3 Disclaimer

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It is always our goal at Atlas Copco Industrial Technique AB to supply accurate and reliable documentation. Any discrepancy in this document can be reported to the local Atlas Copco Industrial Technique AB sales company

1.3 Scope

The database documentation covers the SQL Server version of the ToolsNet data collection database. There is currently only a data type conversion table documentation for the Oracle version. The basic design is the same but some table and/or column names may have been modified with shorter names.

1.4 References

Reference	Document	Version

1.5 Abbreviations

Abbreviation	Description

2 Table and column description

This section describes more about important columns in the tables. Not all columns in the tables are presented.

2.1 Unit tables

Collection of tables for identifying a controller

Unit table

SystemType	Used to classify a unit as a type of system.
Identifier	UnitIdentifier with name part. Used in previous versions as identifier
OriginalVersionUnitID	Not used in this version due to removal of unit versioning
IsMaster	Tells if the unit is a master system
MasterUnitID	Connects a unit to its master unit.
UnitIdentifier	Unique identifier not dependent on name. The new way of identifying a unit.
IP Address	The last ip address registered for the unit. Stored on reporting controllers, master units.

UnitToProgram connects a program to a unit. One program can be connected to more than one unit and vice versa. UnitChangeLog stores changes of the unit in terms of name and ip address. UnitReporting table stores the latest time an Event or Result has been stored in the database.

2.2 Program

One program version has one entry in the Program table. The version of the program is stored in the different version tables for the different system types. To identify a program the ProgramKeys tables are used for the specific system type. In the program keys tables it is defined how a system type identifies a program. Each system type has their own way of identifying a program version, hence the different version tables.

OriginalProgramVersionID	The ID of the original program version. The same ID for all versions of one program.
Number	The number of the program, 0 if no number is set on programs.
ProgramDateTime	Time from the controller when the program version is created.
ProgramTypeID	Tells what type of program it is, for example Job configurations, Multistage configuration or normal program configuration.
ProgramIdentifier	Used by DataCollectionService and CommonDataCollection service to identify a program. Instead of using the program keys tables.
ProgramVersion	Version of the program. Instead of using the different systemType specific version tables. Used by DataCollectionService and CommonDataCollection service.

2.2.1 ProgramParameter

The limits of the program is stored in this table. For example Angle max limit and Angle min limit.

ProgramParameterTypeID	Tells what type of limit it is, for example angle or torque.
ParameterValue	Target value for the type
LimitHigh	Max limit for the type
LimitLow	Min limit for the type

2.2.2 ProgramToMasterProgram

Used by PF4000 to connect the included programs for Multistage configurations and Job configurations.

Execution order	What order within the configuration this program has.
Batch size	Tells how many results should be performed with this program.

2.2.3 Program Version

Each system type has their own program version table due to that the version is specified differently on different systems. For example is the version on Power Focus 4000 a unix timestamp and for Power Focus 6000 a GUID. Extra parameters and fields for the programs are stored in different ways for each system types. For Power Focus 4000 the PowerFocusProgramParameter table is used. PowerMACS stores extra information in the PowerMacsProgramVersion table, the column called ProgramData.

2.3 Position

Position is used by some systems to determine what position the tool had when a result is produced, for example what bolt was tightened. Each result is linked to a position, default value of undefined exists for systems that doesn't have position information.

2.4 Event

Each event has a sequenceNumber and a datetime when it was created on the controller. The EventCode tells what type of event it is and what level. If an event code doesn't exist in the database it is created.

2.4.1 Event Parameter

Event parameter int, string and float hold extra information about the event and is divided to separate the type of the values. They are identified by the parameterNumber and the eventID to which it belongs.

2.5 Result

The result table is the base table for a result. Each result can either have a corresponding row in ResultTightening, ResultPress, ResultFluid or ResultOtherData tables. The ResultStatusType tells how a result is performed. The status in Result table is the overall status and the statuses in ResultTightening gives information about the torque and angle performance.

2.5.1 Extra information

Data Collection Classic stores result extra information in ResultValue tables which are divided based on the data type of the value in int, string and float. Each value has a ResultValueType which is identified by systemTypeID and ExternalID. The ResultValueSortOrder is used to group values together in the web interface.

DataCollectionService and CommonDataCollection service stores extra information in Json format in table ResultExtraInformation. This is connected to a result by ResultToResultExtraInformation.

2.5.2 Step information

For Data Collection Classic step information works like following: a result can have a number of steps and each step is stored in ResultStep. The parameters to each step is stored in ResultStepValue tables, which are divided based on the data type of the value in int, string and float. ResultStepValueIntegerLookup is used to translate a certain value of a parameter to something more describing information to use in the web interface.

CommonDataCollection service stores step information as result extra information of a certain type.

2.5.3 Error information

To the result it can be a number of errors connected. Each error is identified with the ErrorBit and a system type.

2.5.4 ResultIdentifier

A result can have a number of identifiers. ResultToResultIdentifier connects a result to an identifier, that for example can be a vehicle identification number. One ResultIdentifier can be connected to more than one result. The result identifier is classified as a type, so that different systems can tell what type of identifier each identifier is.

2.6 Tool

Tool information is moved from PowerFocusTool table to Tool table that has extended its number of columns. Extra information is stored in the ToolExtraInformation table.

2.7 Graph

A result can store a number of graphs. The graph can be stored before the result in the database and will then be an unbound graph until the result is stored. A graph is classified as an unbound graph as long as it is no connection in the ResultToGraph table for its ID. The graph values are stored in Graph table and more information about the graph is stored in GraphBase. Extra information sent with the graph is stored in GraphExtrainformation. The graph type contains information about which type of graph it is, for example torque over time. When a result is connected to a graph a link is made in ResultToGraph table.

2.8 Shift

Shift can be setup in the ToolsNet web application and when a shift exists the inserted results are connected to the shift they belong according to the date they are done.

3 Archive database

This section describes the archive database tables.

3.1 Results

When archiving results the results are devided into three tables, TighteningResult_Archive, PressResult_Archive and FluidResult_Archive depending on what type of result it is. The graphs are archived to two tables. GraphBase_Archive stores all information for the graph and the Graph_Archive stores the values in the graph. The Result ID column in GraphBase_Archive is referring to ID column in either TighteningResult_Archive, PressResult_Archive or FluidResult_Archive.

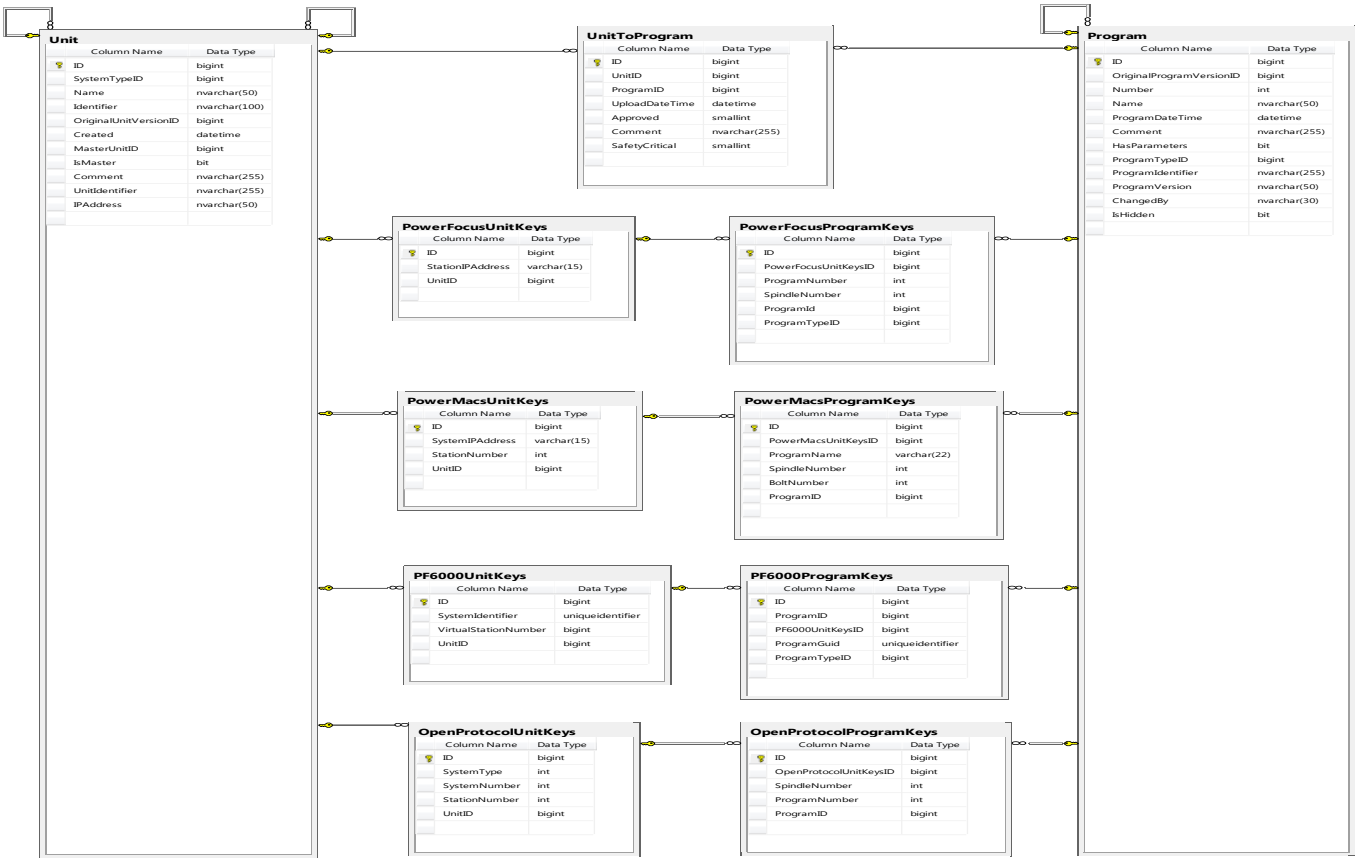
The result identifiers are archived to ResultIdentifier_Archive. This table stored only the value of the identifier and the result id to which it belongs.

3.2 Version

The version of the archive database is stored in Version table. It also stores information on when the database is created.

4 Diagrams

4.1 Unit and program connections

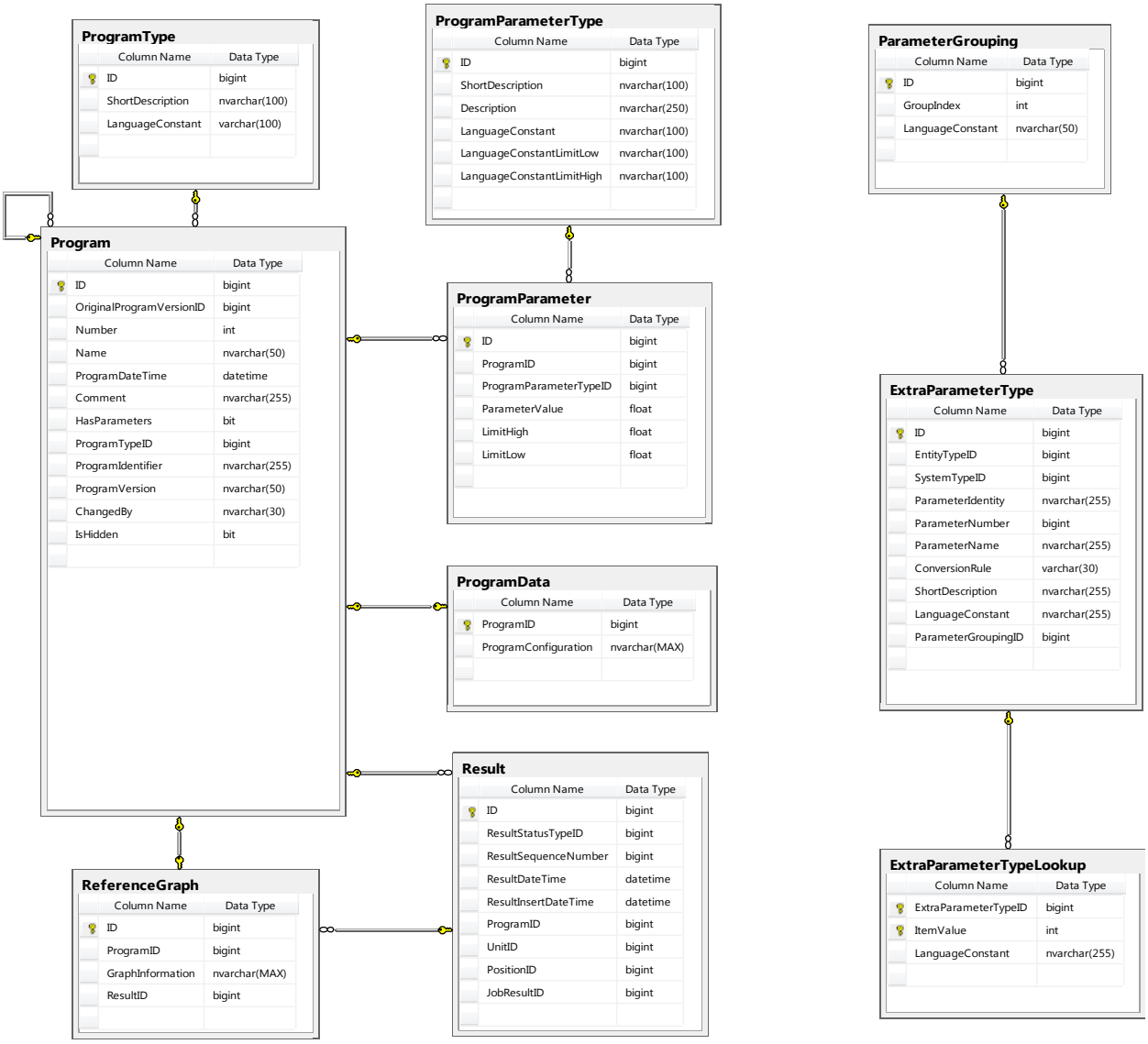



SystemType
Column Name Data Type
ID bigint
ShortDescription nvarchar(100)
LanguageConstant nvarchar(100)
ProgramType
Column Name Data Type
ID bigint
ShortDescription nvarchar(100)
LanguageConstant varchar(100)
Unit
Column Name Data Type
ID bigint
SystemTypeID bigint
Name nvarchar(50)
Identifier nvarchar(100)
OriginalUnitVersionID bigint
Created datetime
MasterUnitID bigint
IsMaster bit
Comment nvarchar(255)
UnitIdentifier nvarchar(255)
IPAddress nvarchar(50)
UnitToProgram
Column Name Data Type
ID bigint
UnitID bigint
ProgramID bigint
UploadDateTime datetime
Approved smallint
Comment nvarchar(255)
SafetyCritical smallint
Program
Column Name Data Type
ID bigint
OriginalProgramVersionID bigint
Number int
Name nvarchar(50)
ProgramDateTime datetime
Comment nvarchar(255)
HasParameters bit
ProgramTypeID bigint
ProgramIdentifier nvarchar(255)
ProgramVersion nvarchar(50)
ChangedBy nvarchar(30)
IsHidden bit
UnitReporting
Column Name Data Type
UnitID bigint
LatestEventReported datetime
LatestResultReported datetime
LatestReportedAsNonReporting datetime
UnitChangeLog
Column Name Data Type
ID bigint
ValidFromDateTime datetime
ValidUntilDateTime datetime
UnitID bigint
SystemTypeID bigint
Name nvarchar(50)
Identifier nvarchar(100)
OriginalUnitVersionID bigint
Created datetime
MasterUnitID bigint
IsMaster bit
Comment nvarchar(255)
UnitIdentifier nvarchar(255)
LogInfo nvarchar(255)
IPAddress nvarchar(50)

4.2 Program


ProgramParameterType
Column Name Data Type
ID bigint
ShortDescription nvarchar(100)
Description nvarchar(250)
LanguageConstant nvarchar(100)
LanguageConstantLimitLow nvarchar(100)
LanguageConstantLimitHigh nvarchar(100)
ProgramType
Column Name Data Type
ID bigint
ShortDescription nvarchar(100)
LanguageConstant varchar(100)
ProgramToMasterProgram
Column Name Data Type
ID bigint
MasterProgramID bigint
ProgramID bigint
ExecutionOrder int
BatchSize int
ProgramParameter
Column Name Data Type
ID bigint
ProgramID bigint
ProgramParameterTypeID bigint
ParameterValue float
LimitHigh float
LimitLow float
Program
Column Name Data Type
ID bigint
OriginalProgramVersionID bigint
Number int
Name nvarchar(50)
ProgramDateTime datetime
Comment nvarchar(255)
HasParameters bit
ProgramTypeID bigint
ProgramIdentifier nvarchar(255)
ProgramVersion nvarchar(50)
ChangedBy nvarchar(30)
IsHidden bit
ReferenceGraph
Column Name Data Type
ID bigint
ProgramID bigint
GraphInformation nvarchar(MA...
ResultID bigint
PowerFocusProgramVersion
Column Name Data Type
ProgramID bigint
ProgramVersion int
PowerMacsProgramVersion
Column Name Data Type
ProgramID bigint
ProgramVersion uniqueidentifier
ProgramData image
ProgramData
Column Name Data Type
ProgramID bigint
ProgramConfiguration nvarchar(MAX)
Result
Column Name Data Type
ID bigint
ResultStatusTypeID bigint
ResultSequenceNumber bigint
ResultDateTime datetime
ResultInsertDateTime datetime
ProgramID bigint
UnitID bigint
PositionID bigint
JobResultID bigint
PowerFocusProgramParameter
Column Name Data Type
ID bigint
ProgramID bigint
PowerFocusParameterTypeID bigint
ValueString nvarchar(50)
ValueInteger int
ValueFloat float
PowerFocusProgramParameterTyp
Column Name Data Type
ID bigint
ExternalId bigint
ParameterDataType nvarchar(50)
ParameterGroupingId bigint
SortOrder int
LanguageConstant nvarchar(100)
ParameterGrouping
Column Name Data Type
ID bigint
GroupIndex int
LanguageConstant nvarchar(50)
ProgramExtraParamTypeLookup
Column Name Data Type
ProgramExtraParameterTypeID bigint
ItemValue int
LanguageConstant nvarchar(255)

4.2.1 Extra information

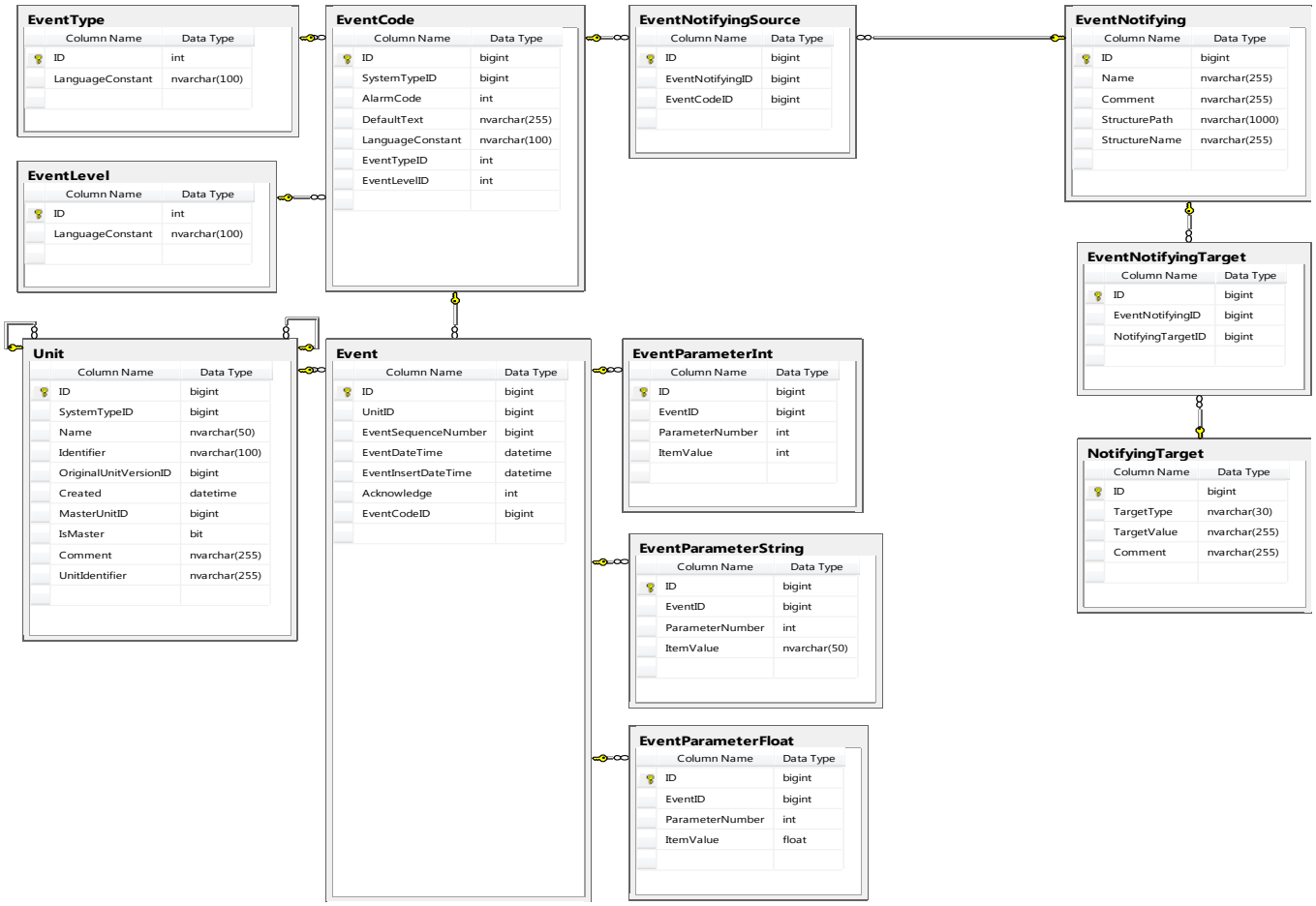


4.3 Position

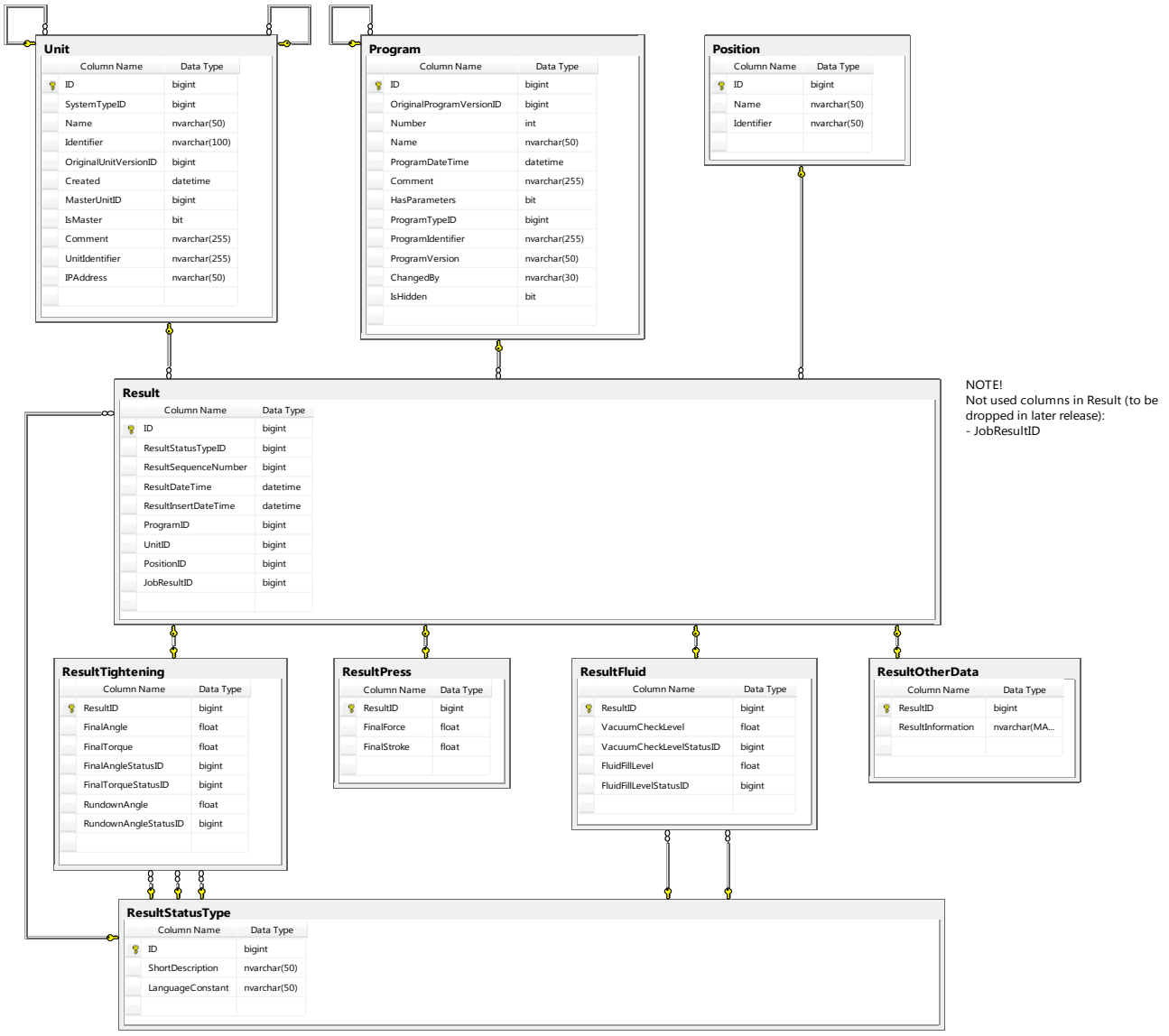
Position

Column Name	Data Type
ID	bigint
Name	nvarchar(50)
Identifier	nvarchar(50)

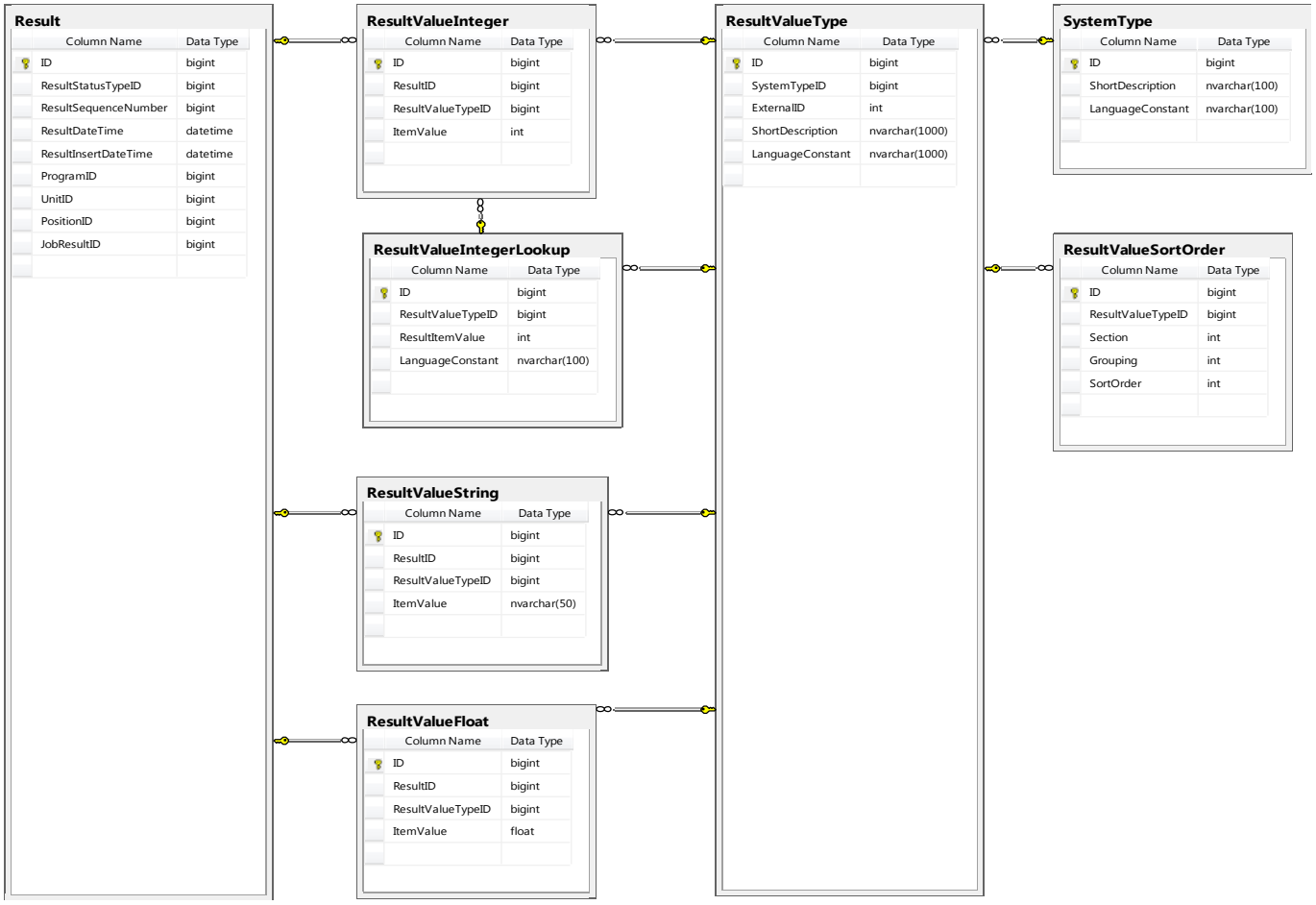
4.4 Event


EventType
Column Name Data Type
ID int
LanguageConstant nvarchar(100)
EventCode
Column Name Data Type
ID bigint
SystemTypeID bigint
AlarmCode int
DefaultText nvarchar(255)
LanguageConstant nvarchar(100)
EventTypeID int
EventLevelID int
EventNotifyingSource
Column Name Data Type
ID bigint
EventNotifyingID bigint
EventCodeID bigint
EventNotifying
Column Name Data Type
ID bigint
Name nvarchar(255)
Comment nvarchar(255)
StructurePath nvarchar(1000)
StructureName nvarchar(255)
EventLevel
Column Name Data Type
ID int
LanguageConstant nvarchar(100)
EventNotifyingTarget
Column Name Data Type
ID bigint
EventNotifyingID bigint
NotifyingTargetID bigint
Unit
Column Name Data Type
ID bigint
SystemTypeID bigint
Name nvarchar(50)
Identifier nvarchar(100)
OriginalUnitVersionID bigint
Created datetime
MasterUnitID bigint
IsMaster bit
Comment nvarchar(255)
UnitIdentifier nvarchar(255)
Event
Column Name Data Type
ID bigint
UnitID bigint
EventSequenceNumber bigint
EventDateTime datetime
EventInsertDateTime datetime
Acknowledge int
EventCodeID bigint
EventParameterInt
Column Name Data Type
ID bigint
EventID bigint
ParameterNumber int
ItemValue int
NotifyingTarget
Column Name Data Type
ID bigint
TargetType nvarchar(30)
TargetValue nvarchar(255)
Comment nvarchar(255)
EventParameterString
Column Name Data Type
ID bigint
EventID bigint
ParameterNumber int
ItemValue nvarchar(50)
EventParameterFloat
Column Name Data Type
ID bigint
EventID bigint
ParameterNumber int
ItemValue float

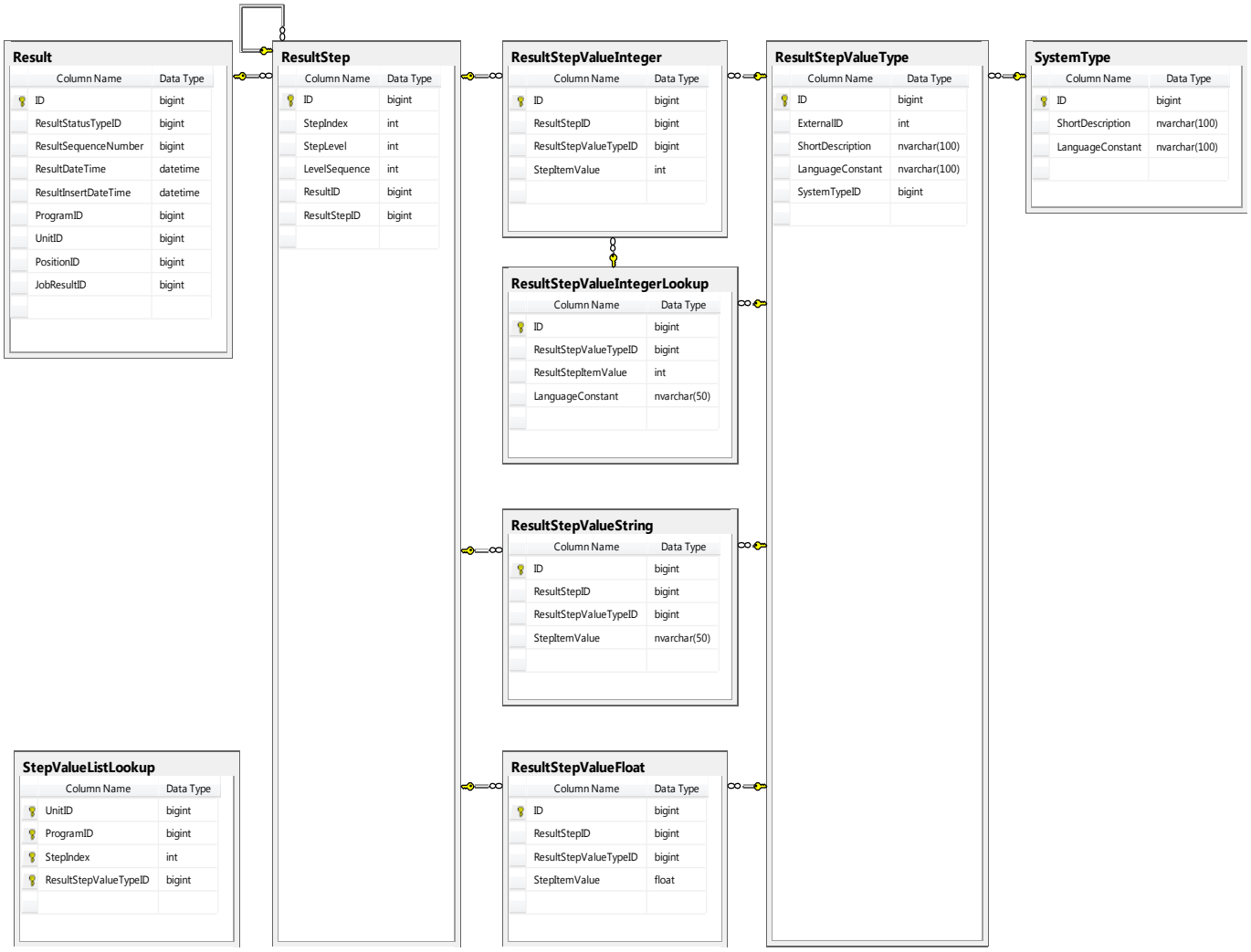
4.5 Result


Unit
Column Name Data Type
ID bigint
SystemTypeID bigint
Name nvarchar(50)
Identifier nvarchar(100)
OriginalUnitVersionID bigint
Created datetime
MasterUnitID bigint
IsMaster bit
Comment nvarchar(255)
UnitIdentifier nvarchar(255)
IPAddress nvarchar(50)
Program
Column Name Data Type
ID bigint
OriginalProgramVersionID bigint
Number int
Name nvarchar(50)
ProgramDateTime datetime
Comment nvarchar(255)
HasParameters bit
ProgramTypeID bigint
ProgramIdentifier nvarchar(255)
ProgramVersion nvarchar(50)
ChangedBy nvarchar(30)
IsHidden bit
Position
Column Name Data Type
ID bigint
Name nvarchar(50)
Identifier nvarchar(50)
Result
Column Name Data Type
ID bigint
ResultStatusTypeID bigint
ResultSequenceNumber bigint
ResultDateTime datetime
ResultInsertDateTime datetime
ProgramID bigint
UnitID bigint
PositionID bigint
JobResultID bigint
NOTE!
Not used columns in Result (to be dropped in later release):
- JobResultID
ResultTightening
Column Name Data Type
ResultID bigint
FinalAngle float
FinalTorque float
FinalAngleStatusID bigint
FinalTorqueStatusID bigint
RundownAngle float
RundownAngleStatusID bigint
ResultPress
Column Name Data Type
ResultID bigint
FinalForce float
FinalStroke float
ResultFluid
Column Name Data Type
ResultID bigint
VacuumCheckLevel float
VacuumCheckLevelStatusID bigint
FluidFillLevel float
FluidFillLevelStatusID bigint
ResultOtherData
Column Name Data Type
ResultID bigint
ResultInformation nvarchar(MA...
ResultStatusType
Column Name Data Type
ID bigint
ShortDescription nvarchar(50)
LanguageConstant nvarchar(50)

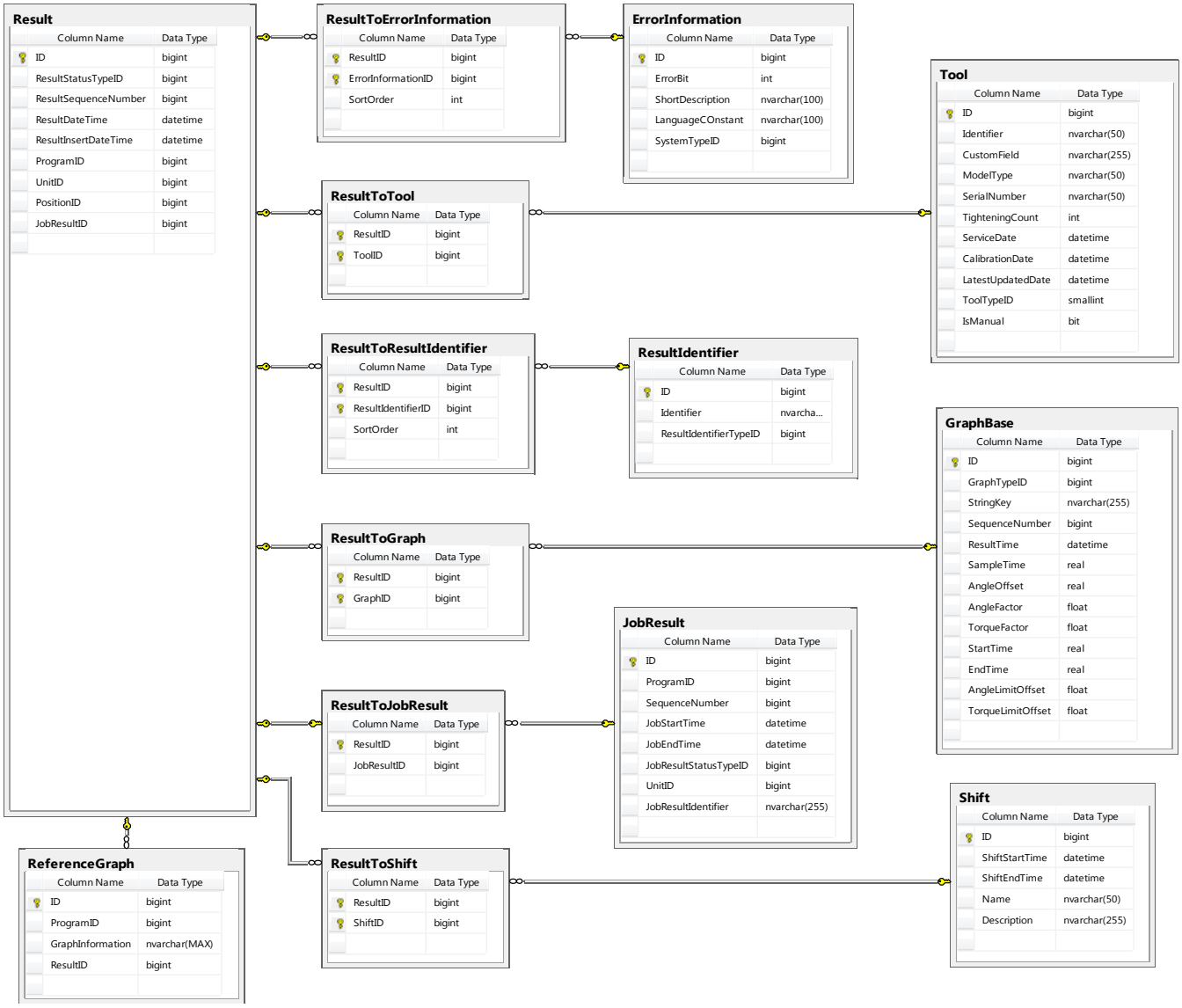
4.5.1 Result extra information



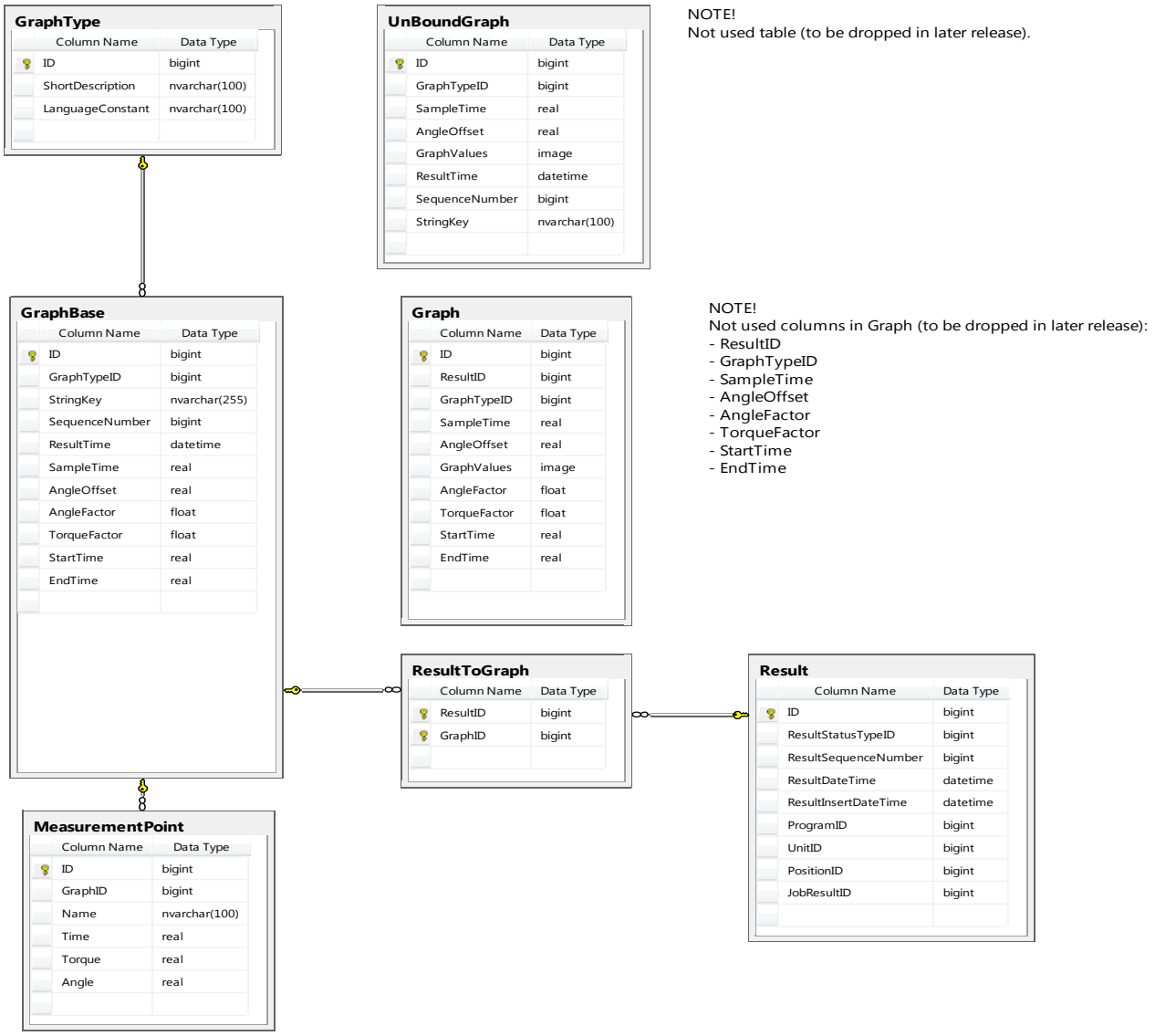
4.5.2 Step information



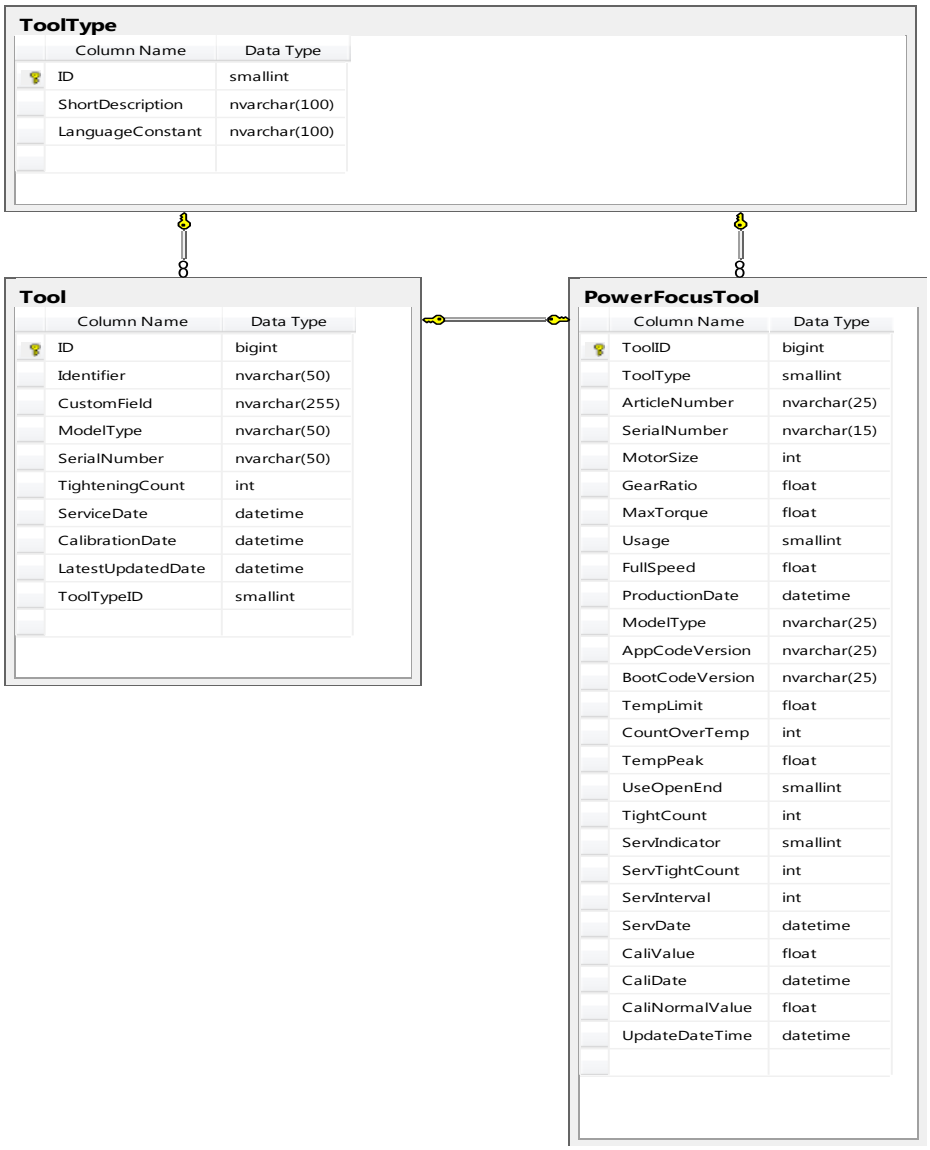
4.5.3 Result connections

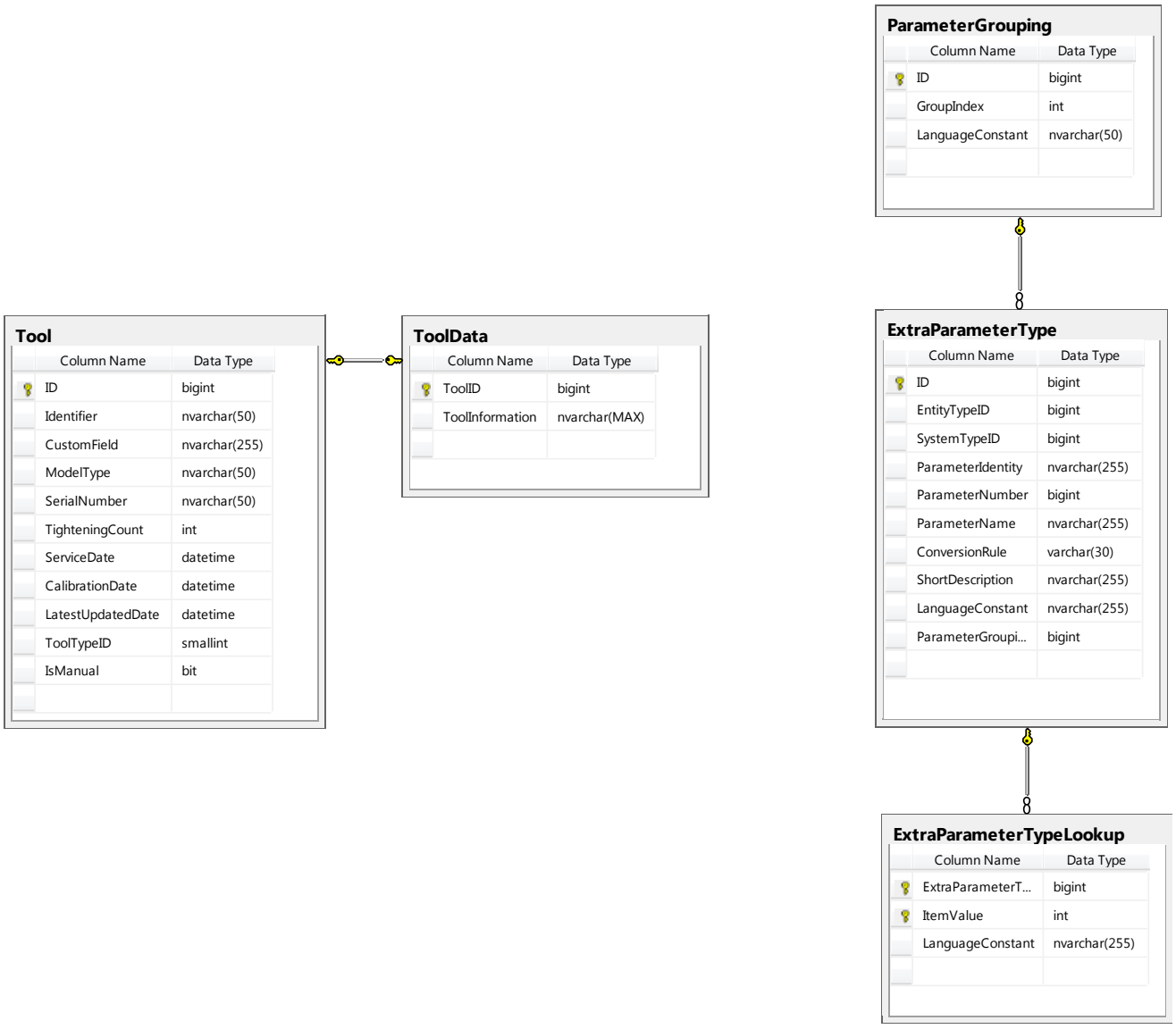


4.6 Graph

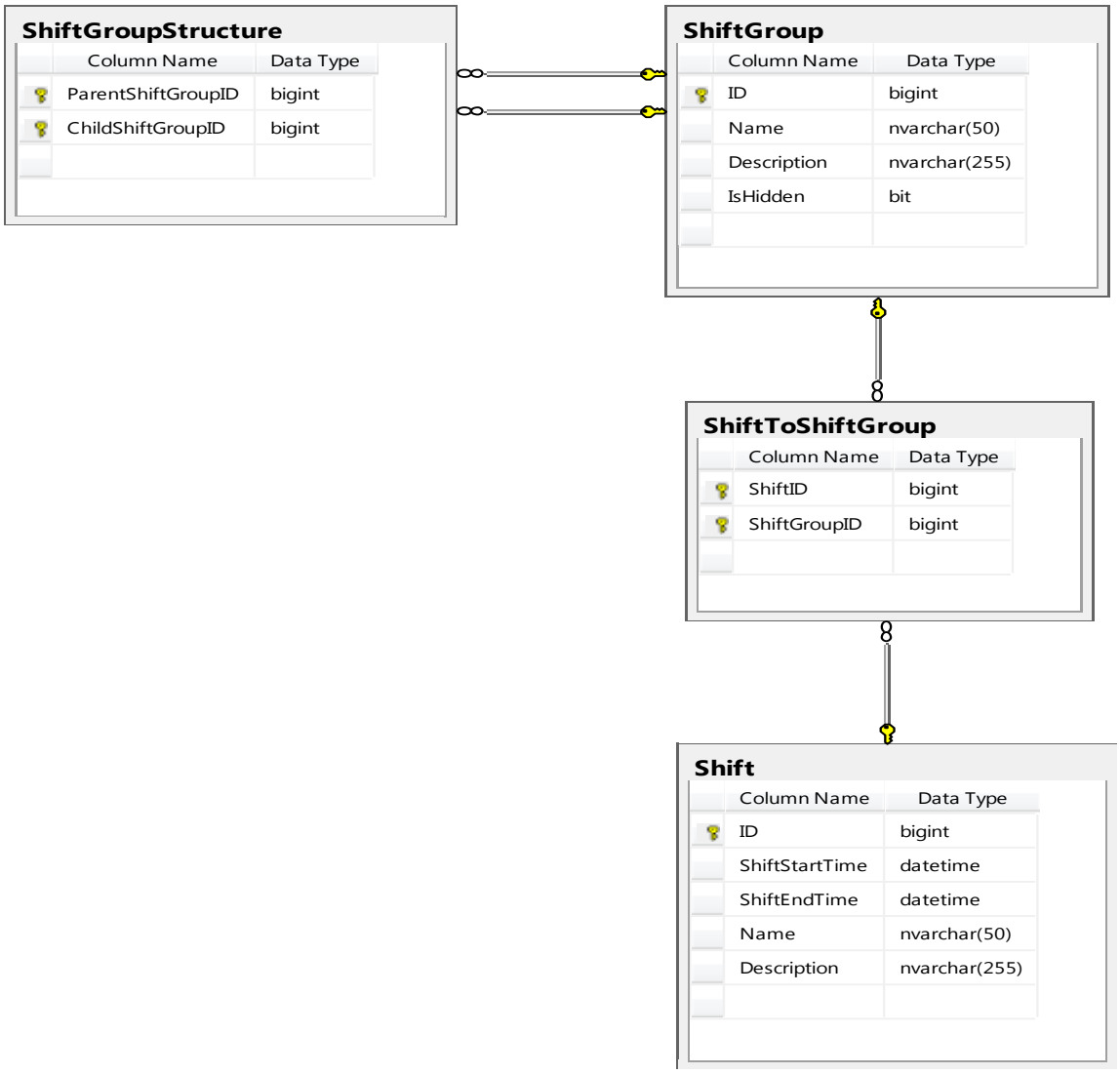

GraphType
Column Name Data Type
ID bigint
ShortDescription nvarchar(100)
LanguageConstant nvarchar(100)
UnBoundGraph
Column Name Data Type
ID bigint
GraphTypeID bigint
SampleTime real
AngleOffset real
GraphValues image
ResultTime datetime
SequenceNumber bigint
StringKey nvarchar(100)
NOTE!
Not used table (to be dropped in later release).
GraphBase
Column Name Data Type
ID bigint
GraphTypeID bigint
StringKey nvarchar(255)
SequenceNumber bigint
ResultTime datetime
SampleTime real
AngleOffset real
AngleFactor float
TorqueFactor float
StartTime real
EndTime real
Graph
Column Name Data Type
ID bigint
ResultID bigint
GraphTypeID bigint
SampleTime real
AngleOffset real
GraphValues image
AngleFactor float
TorqueFactor float
StartTime real
EndTime real
NOTE!
Not used columns in Graph (to be dropped in later release):
- ResultID
- GraphTypeID
- SampleTime
- AngleOffset
- AngleFactor
- TorqueFactor
- StartTime
- EndTime
ResultToGraph
Column Name Data Type
ResultID bigint
GraphID bigint
Result
Column Name Data Type
ID bigint
ResultStatusTypeID bigint
ResultSequenceNumber bigint
ResultDateTime datetime
ResultInsertDateTime datetime
ProgramID bigint
UnitID bigint
PositionID bigint
JobResultID bigint
MeasurementPoint
Column Name Data Type
ID bigint
GraphID bigint
Name nvarchar(100)
Time real
Torque real
Angle real

4.7 Tool


ToolType
Column Name
Data Type
ID
smallint
ShortDescription
nvarchar(100)
LanguageConstant
nvarchar(100)
Tool
Column Name
Data Type
ID
bigint
Identifier
nvarchar(50)
CustomField
nvarchar(255)
ModelType
nvarchar(50)
SerialNumber
nvarchar(50)
TighteningCount
int
ServiceDate
datetime
CalibrationDate
datetime
LatestUpdatedDate
datetime
ToolTypeID
smallint
PowerFocusTool
Column Name
Data Type
ToolID
bigint
ToolType
smallint
ArticleNumber
nvarchar(25)
SerialNumber
nvarchar(15)
MotorSize
int
GearRatio
float
MaxTorque
float
Usage
smallint
FullSpeed
float
ProductionDate
datetime
ModelType
nvarchar(25)
AppCodeVersion
nvarchar(25)
BootCodeVersion
nvarchar(25)
TempLimit
float
CountOverTemp
int
TempPeak
float
UseOpenEnd
smallint
TightCount
int
ServIndicator
smallint
ServTightCount
int
ServInterval
int
ServDate
datetime
CaliValue
float
CaliDate
datetime
CaliNormalValue
float
UpdateDateTime
datetime


ParameterGrouping
Column Name
Data Type
ID
bigint
GroupIndex
int
LanguageConstant
nvarchar(50)
Tool
Column Name
Data Type
ID
bigint
Identifier
nvarchar(50)
CustomField
nvarchar(255)
ModelType
nvarchar(50)
SerialNumber
nvarchar(50)
TighteningCount
int
ServiceDate
datetime
CalibrationDate
datetime
LatestUpdatedDate
datetime
ToolTypeID
smallint
IsManual
bit
ToolData
Column Name
Data Type
ToolID
bigint
ToolInformation
nvarchar(MAX)
ExtraParameterType
Column Name
Data Type
ID
bigint
EntityTypeID
bigint
SystemTypeID
bigint
ParameterIdentity
nvarchar(255)
ParameterNumber
bigint
ParameterName
nvarchar(255)
ConversionRule
varchar(30)
ShortDescription
nvarchar(255)
LanguageConstant
nvarchar(255)
ParameterGroupi...
bigint
ExtraParameterTypeLookup
Column Name
Data Type
ExtraParameterT...
bigint
ItemValue
int
LanguageConstant
nvarchar(255)

4.8 Shift

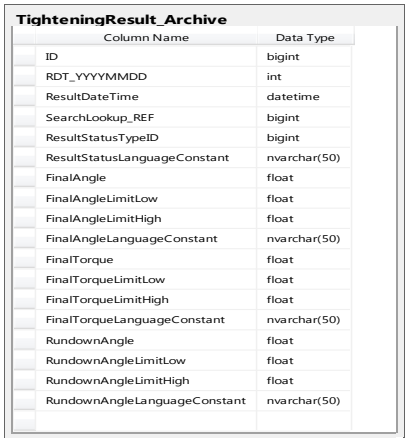

ShiftGroupStructure
Column Name
Data Type
ParentShiftGroupID
bigint
ChildShiftGroupID
bigint
ShiftGroup
Column Name
Data Type
ID
bigint
Name
nvarchar(50)
Description
nvarchar(255)
IsHidden
bit
ShiftToShiftGroup
Column Name
Data Type
ShiftID
bigint
ShiftGroupID
bigint
Shift
Column Name
Data Type
ID
bigint
ShiftStartTime
datetime
ShiftEndTime
datetime
Name
nvarchar(50)
Description
nvarchar(255)

5 Archive database diagrams

5.1 Result

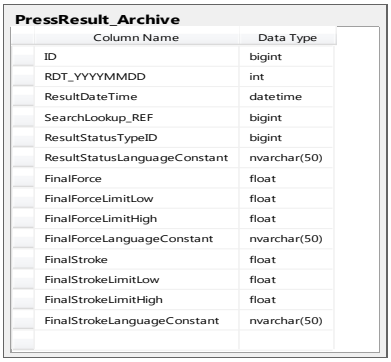
ArchiveSearchLookup

Column Name	Data Type
ID	bigint
Path	nvarchar(500)
SystemTypeID	bigint
SystemTypeLanguageConstant	nvarchar(100)
UnitID	bigint
UnitName	nvarchar(100)
OriginalUnitID	bigint
OriginalUnitName	nvarchar(100)
ProgramID	bigint
ProgramName	nvarchar(100)
OriginalProgramID	bigint
OriginalProgramName	nvarchar(100)
PositionID	bigint
PositionName	nvarchar(100)
PositionIdentifier	nvarchar(50)



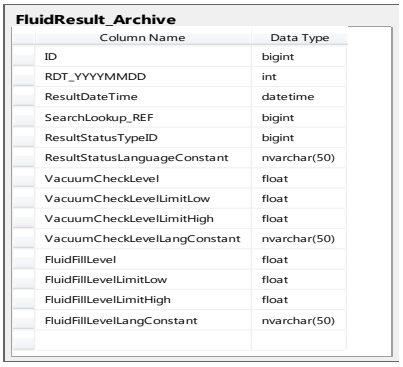
TighteningResult_Archive

Column Name	Data Type
ID	bigint
RDT_YYYYMMDD	int
ResultDateTime	datetime
SearchLookup_REF	bigint
ResultStatusTypeID	bigint
ResultStatusLanguageConstant	nvarchar(50)
FinalAngle	float
FinalAngleLimitLow	float
FinalAngleLimitHigh	float
FinalAngleLanguageConstant	nvarchar(50)
FinalTorque	float
FinalTorqueLimitLow	float
FinalTorqueLimitHigh	float
FinalTorqueLanguageConstant	nvarchar(50)
RundownAngle	float
RundownAngleLimitLow	float
RundownAngleLimitHigh	float
RundownAngleLanguageConstant	nvarchar(50)



PressResult_Archive

Column Name	Data Type
ID	bigint
RDT_YYYYMMDD	int
ResultDateTime	datetime
SearchLookup_REF	bigint
ResultStatusTypeID	bigint
ResultStatusLanguageConstant	nvarchar(50)
FinalForce	float
FinalForceLimitLow	float
FinalForceLimitHigh	float
FinalForceLanguageConstant	nvarchar(50)
FinalStroke	float
FinalStrokeLimitLow	float
FinalStrokeLimitHigh	float
FinalStrokeLanguageConstant	nvarchar(50)



FluidResult_Archive

Column Name	Data Type
ID	bigint
RDT_YYYYMMDD	int
ResultDateTime	datetime
SearchLookup_REF	bigint
ResultStatusTypeID	bigint
ResultStatusLanguageConstant	nvarchar(50)
VacuumCheckLevel	float
VacuumCheckLevelLimitLow	float
VacuumCheckLevelLimitHigh	float
VacuumCheckLevelLangConstant	nvarchar(50)
FluidFillLevel	float
FluidFillLevelLimitLow	float
FluidFillLevelLimitHigh	float
FluidFillLevelLangConstant	nvarchar(50)

5.2 Graph

TighteningResult_Archive

Column Name	Data Type
ID	bigint
RDT_YYYYMMDD	int
ResultDateTime	datetime
SearchLookup_REF	bigint
ResultStatusTypeID	bigint
ResultStatusLanguageConstant	nvarchar(50)
FinalAngle	float
FinalAngleLimitLow	float
FinalAngleLimitHigh	float
FinalAngleLanguageConstant	nvarchar(50)
FinalTorque	float
FinalTorqueLimitLow	float
FinalTorqueLimitHigh	float
FinalTorqueLanguageConstant	nvarchar(50)
RundownAngle	float
RundownAngleLimitLow	float
RundownAngleLimitHigh	float
RundownAngleLanguageConstant	nvarchar(50)

PressResult_Archive

Column Name	Data Type
ID	bigint
RDT_YYYYMMDD	int
ResultDateTime	datetime
SearchLookup_REF	bigint
ResultStatusTypeID	bigint
ResultStatusLanguageConstant	nvarchar(50)
FinalForce	float
FinalForceLimitLow	float
FinalForceLimitHigh	float
FinalForceLanguageConstant	nvarchar(50)
FinalStroke	float
FinalStrokeLimitLow	float
FinalStrokeLimitHigh	float
FinalStrokeLanguageConstant	nvarchar(50)

FluidResult_Archive

Column Name	Data Type
ID	bigint
RDT_YYYYMMDD	int
ResultDateTime	datetime
SearchLookup_REF	bigint
ResultStatusTypeID	bigint
ResultStatusLanguageConstant	nvarchar(50)
VacuumCheckLevel	float
VacuumCheckLevelLimitLow	float
VacuumCheckLevelLimitHigh	float
VacuumCheckLevelLangConstant	nvarchar(50)
FluidFillLevel	float
FluidFillLevelLimitLow	float
FluidFillLevelLimitHigh	float
FluidFillLevelLangConstant	nvarchar(50)

GraphBase_Archive

Column Name	Data Type
ID	bigint
RDT_YYYYMMDD	int
ResultID	bigint
GraphTypeID	bigint
GraphTypeLanguageConstant	nvarchar(100)
SampleTime	real
AngleOffset	real
AngleFactor	float
TorqueFactor	float
StartTime	real
EndTime	real

Graph_Archive

Column Name	Data Type
ID	bigint
GraphValues	image

5.3 Identifier

TightteningResult_Archive

Column Name	Data Type
ID	bigint
RDT_YYYYMMDD	int
ResultDateTime	datetime
SearchLookup_REF	bigint
ResultStatusTypeID	bigint
ResultStatusLanguageConstant	nvarchar(50)
FinalAngle	float
FinalAngleLimitLow	float
FinalAngleLimitHigh	float
FinalAngleLanguageConstant	nvarchar(50)
FinalTorque	float
FinalTorqueLimitLow	float
FinalTorqueLimitHigh	float
FinalTorqueLanguageConstant	nvarchar(50)
RundownAngle	float
RundownAngleLimitLow	float
RundownAngleLimitHigh	float
RundownAngleLanguageConstant	nvarchar(50)

PressResult_Archive

Column Name	Data Type
ID	bigint
RDT_YYYYMMDD	int
ResultDateTime	datetime
SearchLookup_REF	bigint
ResultStatusTypeID	bigint
ResultStatusLanguageConstant	nvarchar(50)
FinalForce	float
FinalForceLimitLow	float
FinalForceLimitHigh	float
FinalForceLanguageConstant	nvarchar(50)
FinalStroke	float
FinalStrokeLimitLow	float
FinalStrokeLimitHigh	float
FinalStrokeLanguageConstant	nvarchar(50)

FluidResult_Archive

Column Name	Data Type
ID	bigint
RDT_YYYYMMDD	int
ResultDateTime	datetime
SearchLookup_REF	bigint
ResultStatusTypeID	bigint
ResultStatusLanguageConstant	nvarchar(50)
VacuumCheckLevel	float
VacuumCheckLevelLimitLow	float
VacuumCheckLevelLimitHigh	float
VacuumCheckLevelLangConstant	nvarchar(50)
FluidFillLevel	float
FluidFillLevelLimitLow	float
FluidFillLevelLimitHigh	float
FluidFillLevelLangConstant	nvarchar(50)

ResultIdentifier_Archive

Column Name	Data Type
ResultID	bigint
RDT_YYYYMMDD	int
Identifier	nvarchar(1024)

5.4 Version

ArchiveVersion

Column Name	Data Type
MajorLevel	int
MinorLevel	int
PatchLevel	int
CreatedDateTi...	datetime

6 Datatype mapping between SQL Server and Oracle

SQL Server	Oracle	Note
bigint	number(19)	
int	number(10)	
smallint	number(5)	
bit	number(1)	
float	binary_double	
real	binary_float	
datetime	timestamp(6) alt date	
uniqueidentifier	char(38) alt raw	
varchar	varchar2 alt nvarchar2	
nvarchar	nvarchar2	
nvarchar(max)	nclob	
image	blob	