



Version 5.9

Report Table Description

Annex

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Author:	AEgilmez



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1 Overview

1.1 Introduction

This manual describes the tables that are necessary to define one's own reports using the SQL report editor. It describes the tables, views and columns that are released for the external use in regards of self-created reports.

The following prefixes were introduced to enable the quick identification of field types in views:

Prefix	Example	Meaning
OR_	OR_TEXT	Order -> order text
OP_	OP_OPERATION_NUMBER	Operation -> AFO number
OP_	OP_UF_01	Operation -> USER field 1
OP_	OP_UF_11	Operation -> RESERVE field 1
SH_	SH_TYPE_SHORTTEXT	Shift -> Shift flag
MFR_	MFR_MNEMONIC_1	Malfunction reason -> Status detail of level 1
WP_	WP_NAME	Workplace -> Workplace name

1.2 Division of Tables and Views

The tables and views of version 5 can be divided in

- Tables and views of master data
- Tables and views of time line data (= past 1, history without archived data)
- Views of compressed data (= past 2, history including archived data)

Overview

Master Data

Operation User Fields	Workplace Literals	Order Machine
Quantity Reasons	Personnel	Phase
Status	Status Details	

Timeline

Workplace Status + Hits + Quantity
Operation Status + Quantity
Machine Status

Condensed Data

Operation Related
Shift Related

2 Basic Properties of the Database Schema

1. All definitions in English:

Names of tables, views and columns are completely in English

2. Strict normalization:

To provide a redundancy that is as low as possible and therefore has a minimal memory usage, the table schema was created with the aim of a maximum normalization. That means:

- a. References between master data objects (hibernate ID)
 - i. Each master data object has a system-wide unique object ID
 - ii. Any reference or assignment between master data objects is executed by using the object ID. Object references that are not set contain a 0
- Storing of multi-lingual texts as literals
- b. The table structures are designed to manage all texts in master data in multiple languages. Therefore a text is not directly stored in the master data tables, but instead a reference to a text (literal) is stored. All literals are managed centrally and in several languages in one table. The following tables serve this purpose
 - i. FF_MD_LANGUAGE to define the languages listed in the system
 - ii. FR_MD_TRANSLATION_MAP to store texts (literals)

3. All time stamps are saved in the DB specific format (TIMESTAMP):

Time stamps are saved in UTC in milliseconds. The conversion into the time zone-specific display takes place on the screen.

4. All durations are saved in msec (milliseconds):

All time durations are saved in milliseconds. This ensures a uniform calculation basis.

5. No deletion of master data objects, but deactivation:

Master data are not deleted anymore, but deactivated, because master data are also needed via the event sequence in the reporting. Each master data object table contains the column "ACTIVE", which indicates if an object is still relevant with regard to the reporting.

6. 50 user fields per master data object: see User Fields

7. Customer specific fields of the type Text, Integer and Double:

Values of the type **Text**, **Integer** and **Double** can be defined and assigned for individual master data-specific additional fields. These additional fields are usually used by report models to store customer-specific master data values.

8. Master data tables don't contain information about the reporting history

Master data and reporting related status information are strictly separated. This is why master data tables don't have fields that show e.g. the status or amounts of the current master data object. This information is provided via views that are based on time line tables.

3 Master Data Tables and Views

Simple master data tables:

Master data tables contain data that usually provide further information like texts and colors of the individual master data objects like order, operation, workplace, person, operating state and scrap reason.

These master data tables are completely normalized, i.e. the tables are linked to each other via foreign keys. Therefore literals, status details, status and phase have to be triggered with **JOIN** in the query.

The master data views are used to denormalize the master data tables. All normalizations and all literals are dissolved in the master data views.

3.1 Reference of Master Data Tables and Views

Description	Table	View	Remark
Order header	FR_MD_ORDER	V_MD_ORDER	
Operations	FR_MD_OPERATION	V_MD_OPERATION	
Operation components	FR_MD_OPERATION_COMPONENT	V_MD_OPERATION_COMPONENT	
Production resources and tools	FR_MD_PRODUCTION_TOOL_RESOURCE	V_MD_PRODUCTION_TOOL_RESOURCE	
Workplace master data	FR_MD_WORKPLACE	V_MD_WORKPLACE	
Machine master data	FR_MD_MACHINE		
Material	FR_MD_MATERIAL	V_MD_MATERIAL	
Cli-ent/accounting area/plant	FR_MD_ERP_KEY		
Shifts	FR_MD_SHIFT	V_MD_SHIFT	Shift definitions are workplace related and like all master data are not deleted anymore
Shift breaks	FR_MD_SHIFT_BREAK		
Personnel master data	FR_MD_PERSON	V_MD_PERSON	
Personnel client/ac. a./area	FR_MD_PERSON_ERP_KEY		
Target values		V_MD_TARGET_VALUE	Only

Master Data Tables and Views

Description	Table	View	Remark
			available in the new reporting.

3.2 Status Master Data Tables

see [Status Definitions](#)

3.3 Malfunction Reason Definitions

Description	View
View of the malfunction reason vector (seven-stage)	V_MD_MALFUNCTION_REASON_VEC

see [Malfunction Reasons](#)

3.4 Time Bases

Time bases are defined in the table **FR_MD_TIMEBASE**.

The time base entries are stored in the table **FR_MD_TIMEBASE_ENTRY**. Time base entries are the status triple PHASE_ID, STATUS_ID, MALFUNCTION_REASON_ID as well with ID references to workplace phases and the status tables (**FR_MD_WORKPLACE_PHASE_DEF**, **FR_MD_WORKPLACE_STATUS_DEF**) as well as to operation phases and status tables (**FR_MD_OPERATION_PHASE_DEF**, **FR_MD_OPERATION_STATUS_DEF**).

The field MNEMONIC of the particular header table equates to the ID known from version 4, e.g. „BNZ“.

Values entered via the user interface are saved in the table **FR_MD_TIMEBASE_ENTRY**. In doing so, the entries '*' and empty entry are covered in the numeric columns as follows.

Entry	Interpretation
-1	Wildcard = '*'
0	Empty entry
>0	Real hibernate-ID on phase, status or status detail

The view **V_MD_TIMEBASE_ENTRY** is used for the validation of a status triple against a time base on the SQL side. All entries from **FR_MD_TIMEBASE_ENTRY** are completely broken down to explicit hibernate ID status triple in **V_MD_TIMEBASE_ENTRY** per SQL statement.

Example: [SQL Examples and Tips](#).

3.5 Quantity Master Data Tables

Quantity Master Data	Table	View
Quantity reasons	FR_MD_QUANTITY_REASON	V_MD_QUANTITY_REASON
Quantity basic types	FR_MD_OPERATION_QUANTITY_TYPE	V_MD_QUANTITY_TYPE

There is no fixed distinction (explicit columns) of quantities between yield, scrap and rework quantity in version 5.

Therefore each quantity report explicitly provides the quantity type in addition to the quantity reason. The background to it is that the same quantity reason can be reported as scrap or rework quantity or that a distinction between different grades and tolerances is possible with yields.

The quantity types for yield, scrap and rework quantities are already delivered at time of delivery. They are distinguished via the system-internal fixed assignment of the column CODE as follows.

FR_MD_OPERATION_QUANTITY_TYPE.CODE	Quantity Type
1	Yield
2	Scrap
3	Rework

3.6 Deviations

Deviation master data	Table
Deviation reasons	FR_MD_DEVIATION_REASON

3.7 Types

Type master data	Table
Shift type	FR_MD_SHIFT_TYPE_DEF
Operation type	FR_MD_OPERATION_TYPE

3.8 FR_MD_DEVIATION_REASON

Reasons for deviation from planning

Column	Data type	Nullable	Description	Dissolution of foreign keys
ID	NUMBER	No	Technical primary key	
ACTIVE	NUMBER	Yes	Active/passive domain object (1 = active, 0 = inactive)	
CODE	NUMBER	No	Code for reason of deviation from planning	
COLOR	VARCHAR2	Yes	Color for reason of deviation from planning	
DEFAULT_REASON	NUMBER	Yes	1 = is default for reason of deviation from planning (0 otherwise)	
MNEMONIC	VARCHAR2	Yes	Mnemonic	

Master Data Tables and Views

Column	Data type	Nullable	Description	Dissolution of foreign keys
DESCRIPTION_ID	NUMBER	Yes	Description	Join via FR_MD_TRANSLATION_MAP.ID , see Literals

3.9 FR_MD_MACHINE

Table FR_MD_MACHINE - Machine master data table

The workplace table is usually filled via the maintenance surface (ffworkbench) of the FactoryFramework. It contains additional information on the workplace.

Column	Data type	Nulla-ble	Description	Dissolution of foreign keys	Since version
ID	NUM-BER(19,0)	No	Technical primary key		
ACTIVE	NUM-BER(1,0)	Yes	active/passive domain object (1 = active, 0 = inactive)		
EQUIP-MENT_NUMBER	VARCHAR2(255 CHAR)	Yes	Tool number		
ERP_KEY_ID	NUM-BER(19,0)	Yes	Reference to SAP key	Join with FR_MD_ERP_KEY.ID (see Multi client capability)	
NAME	VARCHAR2(255 CHAR)	Yes	Machine name		
NC_MACHINE_TYPE_ID	NUM-BER(19,0)	No	ID of the NC-machine type	Join via FF_NC_MACHINE_TYPE	
UUID	VARCHAR2	No			5.7.0
DESCRIPTION_ID	NUM-BER(19,0)	Yes	Machine de-scription	Join via FR_MD_TRANSLATION_MAP.ID , see Literals	
WORKPLACE_ID	NUM-BER(19,0)	Yes	Workplace the machine is assigned to	Join via FR_MD_WORKPLACE.ID	removed in 5.8.0. MACHINE_ID in FR_MD_WORKPLACE can be used for joins.

3.10 FR_MD_MATERIAL

Material

Column	Data type	Nullable	Description	Dissolution of foreign keys
ID	NUMBER	NO	Technical primary key	
ACTIVE	NUMBER	Yes	Active/passive domain object (1 = active, 0 = inactive)	
CHANGE_TS	TIMESTAMP(6)	Yes	Changed time stamp	
CREATE_TS	TIMESTAMP(6)	Yes	Created time stamp	
EDITOR	VARCHAR2	Yes	Editor of material	
MATERIAL_NUMBER	VARCHAR2	Yes	Material number	
MATERIAL_TYPE	VARCHAR2	Yes	Material type	
USER_DATA_ID	NUMBER	Yes	Reference to User Fields	FR_MD_USER_DATA.ID (see User fields)
DESCRIPTION_ID	NUMBER	Yes	Description	Join via FR_MD_TRANSLATION_MAP.ID , see Literals

3.11 FR_MD_OPERATION

Table FR_MD_OPERATION - Operation table ("Operation" table).
Is filled by the external ERP system (SAP)

Column	Data type	Nulla- ble	Description	Dissolution of foreign keys	Since ver- sion
ID	NUMBER	No	Technical primary key		
ACTIVE	NUM- BER(1,0)	Yes	Active/passive domain object (1 = active, 0 = inactive)		
ERP_PLANNED_SCRAP_QUANTITY	FLOAT	Yes	Planned ERP scrap quantity		
ERP_REWORK_QUANTITY	FLOAT	Yes	ERP rework quantity		
ERP_SCRAP_QUANTITY	FLOAT	Yes	ERP scrap quantity		
ERP_STATUS	VAR- CHAR2	Yes	ERP status		
ERP_STATUS_IDS	VAR- CHAR2	Yes	ERP status IDs		
ERP_STATUS_LA	VAR- CHAR2	Yes	ERP status texts		
ERP_YIELD_QUANTITY	FLOAT	Yes	ERP yield quantity		

Master Data Tables and Views

Column	Data type	Nulla-ble	Description	Dissolution of foreign keys	Since ver-sion
ALTER-NATE_OPERATION_NUMB-ER	VAR-CHAR2	Yes	Alternative operation number		
AUTO_START_ID	VAR-CHAR2	Yes	ID to start an operation automatically		
BLOCK_DESCRIPTION_ID	NUMBER	Yes	ID of the literal to describe the operation block	Join via FR_MD_TRANSLATION_MAP.ID , see Literals	
BLOCK_NUMBER	VAR-CHAR2	Yes	Block number		
CONFIRMATION_NUMBER	VAR-CHAR2	Yes	Confirmation number of operation		
CONTROL_KEY	VAR-CHAR2	Yes	Control key		
COUNTER_NUMBER	NUMBER	Yes	(Parts) counter number		
DEF_COMP_CONSUMPTION_FACTOR	FLOAT	No			5.7.0
DE-FAULT_PIECE_TIME_FACTOR	FLOAT	Yes	Standard time per unit		
DE-FAULT_STROKE_FACTOR	FLOAT	Yes	Default stroke factor		
DE-FAULT_TRANSPORT_QUANTITY	FLOAT	Yes	Default transport quantity		
DESCRIPTION_ID	NUMBER	Yes	ID of literal to describe the operation	Join via FR_MD_TRANSLATION_MAP.ID , see Literals	
DISPLAY_QUANTITY_UNIT	VAR-CHAR2	Yes	Quantity unit for the display		
EARLIEST_END_DATE	TIMESTA-MP	YES			5.7.0
EARLIEST_START_DATE	TIMESTA-MP	YES			5.7.0
ERP_KEY_ID	NUMBER	Yes	Reference to SAP key	Join with FR_MD_ERP_KEY.ID (see Multi Client Capability)	
FUNCTION_TYPE	NUMBER	Yes	Function type		
LATEST_END_DATE	TIMESTA-MP	Yes			5.7.0
LATEST_START_DATE	TIMESTA-MP	Yes			5.7.0
LEADING_OPERATION	NUMBER	Yes	Flag: 1 = actual operation lead operation; 0 oth-		

Master Data Tables and Views

Column	Data type	Nulla-ble	Description	Dissolution of foreign keys	Since ver-sion
			erwise		
MATERIAL_ID	NUMBER	Yes	Material ID of the operation	Join via FR_MD_MATERIAL.ID	
MINIMUM_OVERLAP_TIME	NUMBER	No			5.7.0
MIN_SEND_AHEAD_QUANTITY	FLOAT	No			5.7.0
OPERATION_NUMBER	VAR-CHAR2	Yes	Operation number		
OPERATION_SPLIT	VAR-CHAR2	Yes	Split number of operation		
OPERATIONTEXT_ID	NUMBER	Yes	ID of literal of operation text	Join via FR_MD_TRANSLATION_MAP.ID , see Literals	
ORDER_ID	NUMBER	Yes	Order ID of the operation	Join via FR_MD_ORDER.ID	
ORDER_NUMBER	VAR-CHAR2	Yes	order number		
ORDER_SPLIT	VAR-CHAR2	Yes	Split number of order		
ORDER_TYPE	VAR-CHAR2	Yes	Order type	Join via FR_MD_OPERATION_TYPE.ERP_CODE	
OVERDELIVERY_CHECK	NUMBER	Yes	Flag: Overdelivery check? (1 = ja, 0 = nein)		
OVERDELIVERY_QUANTITY	FLOAT	Yes	Overdelivery quantity		
PLANNED_WORKPLACE_GROUP_ID	NUMBER	No			5.7.0
PLANNED_WORKPLACE_ID	NUMBER	No			5.7.0
PRODUCTION_VERSION	VAR-CHAR2	Yes	Production version		
QUALITY_CHECK_CYCLE	FLOAT	No			5.7.0
SCHEDULED_END_DATE	TIMESTAMP	Yes			5.7.0
SCHEDULED_START_DATE	TIMESTAMP	Yes			5.7.0
OPERATION_SEQUENCE	VAR-CHAR2	Yes	Sequence		
STANDARD_PACK_SIZE	FLOAT	No			5.7.0
STANDARD_UNIT_1, ..., STANDARD_UNIT_6	VAR-CHAR2	Yes	Quantity unit 1 - 6		
STANDARD_VALUE_1, ..., STANDARD_VALUE_6	VAR-CHAR2	Yes	Value 1 - 6		
STANDARD_VALUE_1_MS,	NUMBER	Yes	Value 1 - 6 in milli-		

Master Data Tables and Views

Column	Data type	Nulla-ble	Description	Dissolution of foreign keys	Since ver-sion
..., STAND-ARD_VALUE_6_MS			seconds, if it is a time unit		
TARGET_END_DATE	TIMESTA-MP	Yes	Target end date		
TARGET_MOVE_TIME	NUMBER	No			5.7.0
TAR-GET_PROCESSING_TIME	NUMBER	No			5.7.0
TARGET_QUANTITY	FLOAT	Yes	Target quantity		
TARGET_QUEUE_TIME	NUMBER	No			5.7.0
TARGET_SETUP_TIME	NUMBER	Yes	Target setup time (in milliseconds)		
TARGET_START_DATE	TIMESTA-MP	Yes	Target start date		
TAR-GET_TEARDOWN_TIME	NUMBER	No			5.7.0
TARGET_WAIT_TIME	NUMBER	No			5.7.0
TARGET_WORKGROUP_ID	NUMBER	Yes	Work group ID	Join via FF_MD_HIERARCHY_NODE	
TARGET_WORKPLACE_ID	NUMBER	Yes	Workplace ID	Join via FR_MD_WORKPLACE.ID	
TIME_PER_STROKE	NUMBER	Yes	Planned target stroke duration (in milliseconds)		
TIME_PER_UNIT	NUMBER	Yes	Planned Production time (in milliseconds) per production unit		
TOOL_ASM_STATUS_ID	NUMBER	Yes			5.7.0
UNDERDELIVERY_CHECK	NUMBER	Yes	Flag: Under delivery check? (1 = ja, 0 = nein)		
UNDERDELIV-ERY_QUANTITY	FLOAT	Yes	Underdelivery quantity		
USER_DATA_ID	NUMBER	Yes	Reference to User fields	FR_MD_USER_DATA.ID (see User Fields)	
USER_STATUS	VAR-CHAR2	Yes	User status		
UUID	VARCHAR	No			5.7.0
WORKPLACE_GROUP	VAR-CHAR2	Yes	Workplace group		

3.12 FR_MD_OPERATION_COMPONENT

Operation components

Column	Data type	Nulla-ble	Description	Dissolution of foreign keys	Since ver-sion
ID	NUMBER	No	Technical primary key		
ACTIVE	NUMBER	Yes	Active/passive domain object (1 = active, 0 = inactive)		
BASE_UNIT_OF_MEASURE	VAR-CHAR2	Yes	Base quantity unit		
BATCH_NUMBER	VAR-CHAR2	Yes	Batch number		
COMPONENT_NUMBER	VAR-CHAR2	Yes	Component number		
CONFIRMATION_NUMBER	VAR-CHAR2	Yes	Confirmation number of operation		
DESCRIPTION_ID	NUMBER	Yes	Technical primary key	Join via FR_MD_TRANSLATION_MAP.ID , see Literals	
MATERIAL_GROUP	VAR-CHAR2	Yes	Active/passive domain object (1 = active, 0 = inactive)		
MATERIAL_TYPE	VAR-CHAR2	Yes	Base quantity unit		
OPERATION_ID	NUMBER	Yes	Batch number	Join via FR_MD_OPERATION.ID	
POSITION_NUMBER	VAR-CHAR2	Yes	Technical primary key		
REQUIREMENT_QUANTITY	FLOAT	Yes	Active/passive domain object (1 = active, 0 = inactive)		
REQUIREMENTS_DATE	TIMESTAMP(6)	Yes	Base quantity unit		
RESERVATION_NUMBER	VAR-CHAR2	Yes	Batch number		
STORAGE_BIN	VAR-CHAR2	Yes	Bin location		
STORAGE_LOCATION	VAR-CHAR2	Yes	Storage location		5.7.0
TRACE_NEEDED	NUMBER	No			
USER_DATA_ID	NUMBER	Yes	Reference to User Fields	FR_MD_USER_DATA.ID (see User Fields)	
UUID	VAR-	No			5.7.0

Master Data Tables and Views

Column	Data type	Nullable	Description	Dissolution of foreign keys	Since version
	CHAR2				

3.13 FR_MD_OPERATION_QUANTITY_TYPE

Quantity types

Column	Data type	Nullable	Description	Dissolution of foreign keys
ID	NUMBER	No	Technical primary key	
ACTIVE	NUMBER	Yes	Active/passive domain object (1 = active, 0 = inactive)	
CODE	NUMBER	Yes	Coding of quantity type	
COLOR	VARCHAR2	Yes	Color of quantity type	
DESCRIPTION_ID	NUMBER	Yes	Description	Join via FR_MD_TRANSLATION_MAP.ID , see Literals
SHORTDESCRIPTION_ID	NUMBER	Yes	Short description	Join via FR_MD_TRANSLATION_MAP.ID , see Literals
DEFAULT_REASON_ID	NUMBER	No	ID of the default quantity reason	FR_MD_OPERATION_QUANTITY_TYPE

3.14 FR_MD_OPERATION_TB_ENTRY

Operation time base assignment (removed starting with version 5.6.0)

Column	Data type	Nullable	Description	Dissolution of foreign keys
ID	NUMBER	No	Technical primary key	
MALFUNCTION_REASON_ID	NUMBER	Yes	ID of malfunction reason	Join via FR_MD_MALFUNCTION_REASON.ID , see Malfunction reasons
PHASE_ID	NUMBER	Yes	ID of the phase definition	Join via FR_MD_OPERATION_PHASE_DEF.ID , see also Status definitions
STATUS_ID	NUMBER	Yes	Status definition ID	Join via FR_MD_OPERATION_STATUS_DEF.ID , see also Status definitions
OPERATION_TIME_BASE_ID	NUMBER	Yes	Time base ID	Join via FR_MD_OPERATION_TIME_BASE.ID

3.15 FR_MD_OPERATION_TIME_BASE

Operation time base (removed starting with version 5.6.0)

Column	Data type	Nullable	Description	Dissolution of foreign keys
ID	NUMBER	No	Technical primary key	
MNEMONIC	VARCHAR2	Yes	Mnemonic	
DESCRIPTION_ID	NUMBER	Yes	Description	Join via FR_MD_TRANSLATION_MAP.ID , see Literals
SHORTDESCRIPTION_ID	NUMBER	Yes	Short description	Join via FR_MD_TRANSLATION_MAP.ID , see Literals

3.16 FR_MD_OPERATION_TYPE

Operation type

Column	Data type	Nullable	Description	Dissolution of foreign keys
ID	NUMBER	No	Technical primary key	
ACTIVE	NUMBER	Yes	Active/passive domain object (1 = active, 0 = inactive)	
COLOR	VARCHAR2	Yes	Color (example: „#FF4000“)	
ERP_CODE	VARCHAR2	Yes	Code of the operation type (example: „45P1“)	
HARBOUR_RELEVANT	NUMBER	Yes	Flag: 1 = if harbour report relevant; 0 otherwise	
DESCRIPTION_ID	NUMBER	Yes	Description	Join via FR_MD_TRANSLATION_MAP.ID , see Literals

3.17 FR_MD_ORDER

Order header table. Is filled by external ERP system (SAP).

Column	Data type	Nulla-ble	Description	Dissolution of foreign keys	Since version
ID	NUMBER	No	Technical primary key		
ACTIVE	NUMBER	Yes	Active/passive domain object (1 = active, 0 = inactive)		
ERP_STATUS	VARCHAR2	Yes	ERP status		
ERP_STATUS_IDS	VARCHAR2	Yes	ERP status ID		
ERP_STATUS_LA	VARCHAR2	Yes	ERP status texts		
DISPLAY_QUANTITY_UNIT	VARCHAR2	Yes	Quantity unit		
ERP_KEY_ID	NUMBER	Yes	Reference to the SAP key	Join with FR_MD_ERP_KEY.ID (see Multi Client Capability)	
ORDER_NUMBER	VARCHAR2	Yes	Order number		
ORDER_PRIORITY	VARCHAR2	Yes	Order priority		
ORDER_SPLIT	VARCHAR2	Yes	Split number of the order		
PLAN-NER_GROUP_IN_CHARGE	VARCHAR2	Yes	Responsible planner group/department		
PRODUCTION_VERSION	VARCHAR2	Yes	Production version		
RELEASE_DATE	TIMESTAMP	Yes	Delivery date		
SCHEDULED_END_DATE	TIMESTAMP	Yes			5.7.0
SCHEDULED_START_DATE	TIMESTAMP	Yes			5.7.0
TARGET_END	TIMESTAMP	Yes	Target end date		
TARGET_QUANTITY	FLOAT	Yes	Target quantity		
TARGET_START	TIMESTAMP	Yes	Target start date		
USER_DATA_ID	NUMBER	Yes	Reference to User Fields	FR_MD_USER_DATA.ID (see User Fields)	
UUID	VARCHAR2	No			5.7.0
DESCRIPTION_ID	NUMBER	Yes	Description	Join via FR_MD_TRANSLATION_MAP.ID , see Literals	
MATERIAL_ID	NUMBER	Yes	Material ID	Join via FR_MD_MATERIAL.ID	

3.18 FR_MD_PERSON

Table FR_MD_PERSON - Personnel master data

This table contains master data on employees with report authority. The table is usually synchronized by SAP per the overall supply.

Column	Data type	Nullable	Description	Dissolution of foreign keys	Since version
ID	NUMBER	No	Technical primary key		
ACTIVE	NUMBER	Yes	Active/passive domain object (1 = active, 0 = inactive)		
MES_ONLY	NUMBER	Yes	Flag: If employee is only created via MES (and not via ERP system)		
COST_CENTER	VARCHAR2	Yes	Cost center		
FIRST_NAME	VARCHAR2	Yes	First name		
IDENTIFICATION_NUMBER	VARCHAR2	Yes	Identification number		
LAST_NAME	VARCHAR2	Yes	Last name		
PERSONNEL_ERP_KEY_ID	NUMBER	Yes	Reference to personnel SAP key	Join with FR_MD_PERSON_ERP_KEY.ID (see Multi Client Capability)	
PERSONNEL_NUMBER	VARCHAR2	Yes	Personnel number		
UUID	VARCHAR2	No			5.7.0

3.19 FR_MD_QUANTITY_REASON

Quantity reasons

Column	Data type	Nullable	Description	Dissolution of foreign keys
ID	NUMBER	No	Technical primary key	
ACTIVE	NUMBER	Yes	Active/passive domain object (1 = active, 0 = inactive)	
SAP_CODE	VARCHAR2	Yes	ERP code for quantity reason	
COLOR	VARCHAR2	Yes	Color	
MNEMONIC	VARCHAR2	Yes	Mnemonic	
QUANTITY_TYPE_ID	NUMBER	Yes	Quantity type ID	Join via FR_MD_OPERATION_QUANTITY_TYPE.ID
DESCRIPTION_ID	NUMBER	Yes	Description	Join via FR_MD_TRANSLATION_MAP.ID , see Literals
SHORTDESCRIPTION_ID	NUMBER	Yes	Short description	Join via FR_MD_TRANSLATION_MAP.ID , see Literals

3.20 FR_MD_SHIFT

Shifts

Column	Data type	Nullable	Description	Dissolution of foreign keys
ID	NUMBER	No	Technical primary key	
ASSOCIATED_DAY_TS	TIMESTAMP	Yes	Time stamp of the day the shift belongs to	
START_TS	TIMESTAMP	Yes	Start time	
END_TS	TIMESTAMP	Yes	End time	
SHIFT_TYPE_ID	NUMBER	Yes	Shift type ID	Join via FR_MD_SHIFT_TYPE_DEF.ID
WORKPLACE_ID	NUMBER	Yes	Workplace ID	Join via FR_MD_WORKPLACE.ID

Shift breaks are logged in the table **FR_MD_SHIFT_BREAK**.

3.21 FR_MD_SHIFT_BREAK

Shift breaks

Column	Data type	Nullable	Description	Dissolution of foreign keys
ID	NUMBER	No	Technical primary key	
START_TS	TIMESTAMP(6)	Yes	Start time	
END_TS	TIMESTAMP(6)	Yes	End time	
SHIFT_ID	NUMBER	Yes	Shift ID	Join via FR_MD_SHIFT.ID

3.22 FR_MD_SHIFT_TYPE_DEF

Shift types

Column	Data type	Nul- lable	Description	Dissolution of foreign keys	Since version
ID	NUMBER	No	Technical primary key		
ACTIVE	NUMBER	Yes	Active/passive domain object (1 = active, 0 = inactive)		
CODE	NUMBER	No	Coding of the type		
NONWORK- ING_SHIFT_TYPE	NUMBER	Yes	Flag: 1 = nonworking shift type; 0 otherwise		
SORT_ORDER	NUMBER	Yes			5.7.0
DESCRIPTION_ID	NUMBER	Yes	Description	Join via FR_MD_TRANSLATION_MAP.ID , see Literals	
SHORTDESCRIPTION_ID	NUMBER	Yes	Short description	Join via FR_MD_TRANSLATION_MAP.ID , see Literals	

3.23 FR_MD_WORKPLACE

The workplace master data table is usually filled via the maintenance interface (ffworkbench). It contains additional information on the workplace.

Column	Data type	Nul-lable	Description	Dissolution of foreign keys	Since version
ID	NUMBER	No	Technical primary key		
ACTIVE	NUMBER	Yes	Active/passive domain object (1 = active, 0 = inactive)		
SAP_UPLOAD_ENABLED	NUMBER	No	Flag: Sends logic for the workplace messages to the ERP system		
BOOKING_ACTIVATED	NUMBER	No	Flag: Is booking logic activated		
DE- LETE_UNUSED_SHIFTS	NUMBER	No			5.7.0
DESCRIPTION_ID	NUMBER	Yes	Description	Join via FR_MD_TRANSLATION_MAP.ID , see Literals	
ERP_KEY_ID	NUMBER	Yes	Reference to the SAP key	Join mit FR_MD_ERP_KEY.ID (see Multi Client Capability)	
NAME	VAR-CHAR2	Yes	Workplace name		
ONCE_BOOKING_ACTIVATED	NUMBER	No	Flag: Has booking logic been activated once before		
SORT_ORDER	NUMBER	Yes			5.7.0
SPLIT_STROKE_FACTOR	FLOAT	No			5.7.0
TIMEZONE	VAR-CHAR2	Yes	Time zone		
USER_DATA_ID	NUMBER	Yes	Reference to User Fields	FR_MD_USER_DATA.ID (see User Fields)	
UUID	NUMBER	Yes			5.7.0
MACHINE_ID	NUMBER	Yes			5.7.0

3.24 FR_MD_WORKPLACE_TB_ENTRY

Time bases assignment to workplaces (removed starting with version 5.6.0)

Column	Data type	Nullable	Description	Dissolution of foreign keys
ID	NUMBER	No	Technical primary key	
MALFUNCTION_REASON_ID	NUMBER	Yes	ID of malfunction reason	Join via FR_MD_MALFUNCTION_REASON.ID; see also Malfunction reasons
PHASE_ID	NUMBER	Yes	ID of the phase definition	Join via FR_MD_WORKPLACE_PHASE_DEF.ID
STATUS_ID	NUMBER	Yes	ID of the status definition	Join via FR_MD_WORKPLACE_STATUS_DEF.ID
WORKPLACE_TIME_BASE_ID	NUMBER	Yes	ID of the time base	Join via FR_MD_WORKPLACE_TIME_BASE.ID

3.25 FR_MD_WORKPLACE_TIME_BASE

Workplace time bases (removed starting with version 5.6.0)

Column	Data type	Nullable	Description	Dissolution of foreign keys
ID	NUMBER	No	Technical primary key	
MNEMONIC	VARCHAR2	Yes	Mnemonic	
DESCRIPTION_ID	NUMBER	Yes	Description	Join via FR_MD_TRANSLATION_MAP.ID, see Literals
SHORTDESCRIPTION_ID	NUMBER	Yes	Short description	Join via FR_MD_TRANSLATION_MAP.ID, see Literals

3.26 V_MD_MATERIAL

All data from [FR_MD_MATERIAL](#).

Column	Data type	Nullable	Description	Since version
MATERIAL_ID	NUMBER	No	Technical primary key	5.0.0.15
MATERIAL_ACTIVE	NUMBER	Yes	Active/passive domain object (1 = active, 0 = inactive)	5.0.0.15
MATERIAL_NUMBER	VARCHAR2	Yes	Material number	5.0.0.15
MATERIAL_TYPE	VARCHAR2	Yes	Material type	5.0.0.15
MATERIAL_TEXT	VARCHAR2	Yes	Description	5.0.0.15

3.27 V_MD_OPERATION

(V4 AUFTR_AFO only master data)

Column	Data type	Nul-lable	Description	Source: master data table	Dissolution of foreign keys	Since version
AUTO_START_ID	VAR-CHAR2	Yes	ID to start an operation automatically	FR_MD_OPERATION		
MATERIAL_ID	NUMBER	Yes	Material ID	FR_MD_MATERIAL		5.0.0.15
MATERIAL_NUMBER	VAR-CHAR2	Yes	Material number	FR_MD_MATERIAL		5.0.0.15
MATERIAL_TYPE	VAR-CHAR2	Yes	Material type	FR_MD_MATERIAL		5.0.0.15
MATERIAL_TEXT	VAR-CHAR2	Yes	Material description	FR_MD_MATERIAL		5.0.0.15
UF_01, ..., UF_50	VAR-CHAR2	Yes	Operation user field 1 ... 50	FR_MD_USER_DATA		5.0.0.15
ORDER_ID	NUMBER	Yes	ID of the order header		Join via V_MD_ORDER. ORDER_ID	5.0.0.15
TEXT	VAR-CHAR2	Yes	Description of the operation	FR_MD_OPERATION		5.0.0.15
OPERATION_TEXT	VAR-CHAR2	Yes	Operation text	FR_MD_OPERATION		5.0.0.15
WP_TARGET_NAME	VAR-CHAR2	Yes	Workplace name	FR_MD_WORKPLACE		5.0.0.15
WP_TARGET_TEXT	VAR-CHAR2	Yes				5.7.0
OPERATION_ID	NUMBER	No	Technical primary key	FR_MD_OPERATION		5.0.0.15
ERP_STATUS	VAR-CHAR2	Yes	ERP status	FR_MD_OPERATION		5.0.0.15
ACTIVE	NUMBER	Yes	Active/passive domain object (1 = active, 0 = inactive)	FR_MD_OPERATION		5.0.0.15
BLOCK_NUMBER	VAR-CHAR2	Yes	Block number	FR_MD_OPERATION		5.0.0.15
CONFIRMA-TION_NUMBER	VAR-CHAR2	Yes	Confirmation number of the operation	FR_MD_OPERATION		5.0.0.15
CONTROL_KEY	VAR-CHAR2	Yes	Control key	FR_MD_OPERATION		5.0.0.15
COUNTER_NUMBER	NUMBER	Yes	(Part) counter number	FR_MD_OPERATION		5.0.0.15
DE-FAULT_STROKE_FACTOR	FLOAT	Yes	Default stroke factor	FR_MD_OPERATION		5.0.0.15
DE-	FLOAT	Yes	Default transport	FR_MD_OPERATION		5.0.0.15

Master Data Tables and Views

Column	Data type	Nul-lable	Description	Source: master data table	Dissolution of foreign keys	Since version
FAULT_TRANSPORT_Q_UANTITY			quantity	ON		
FUNCTION_TYPE	NUMBER	Yes	Function type	FR_MD_OPERATION		5.0.0.15
OPERATION_NUMBER	VAR-CHAR2	Yes	Operation number	FR_MD_OPERATION		5.0.0.15
OPERATION_SPLIT	VAR-CHAR2	Yes	Split number of the operation	FR_MD_OPERATION		5.0.0.15
ORDER_NUMBER	VAR-CHAR2	Yes	Order number	FR_MD_OPERATION		5.0.0.15
ORDER_SPLIT	VAR-CHAR2	Yes	Split number of the order	FR_MD_OPERATION		5.0.0.15
ORDER_TYPE	VAR-CHAR2	Yes	Order type	FR_MD_OPERATION	(optional) Join via FR_MD_OPERATION_TYPE.ERP_CODE	5.0.0.15
TYPE_COLOR	VAR-CHAR2	Yes	Operation type color	FR_MD_OPERATION_TYPE		5.0.0.15
TYPE_ERP_CODE	VAR-CHAR2	Yes	Operation type code (example: „45P1“)	FR_MD_OPERATION_TYPE		5.0.0.15
TYPE_TEXT	VAR-CHAR2	Yes	Operation type de-scription	FR_MD_OPERATION_TYPE		5.0.0.15
OVERDELIV-ERY_CHECK	NUMBER	Yes	Flag: Overdelivery check? (1 = yes, 0 = no)	FR_MD_OPERATION		5.0.0.15
OVERDELIV-ERY_QUANTITY	FLOAT	Yes	Overdelivery quantity	FR_MD_OPERATION		5.0.0.15
UNDERDELIV-ERY_CHECK	NUMBER	Yes	Flag: Underdelivery check? (1 = yes, 0 = no)	FR_MD_OPERATION		5.0.0.15
UNDERDELIV-ERY_QUANTITY	FLOAT	Yes	Underdelivery quanti-ty	FR_MD_OPERATION		5.0.0.15
TARGET_END_DATE	TIMESTA-MP(6)	Yes	Target end date	FR_MD_OPERATION		5.0.0.15
TARGET_QUANTITY	FLOAT	Yes	Target quantity	FR_MD_OPERATION		5.0.0.15
TARGET_SETUP_TIME	NUMBER	Yes	Target setup time (in milliseconds)	FR_MD_OPERATION		5.0.0.15
TARGET_START_DATE	TIMESTA-MP(6)	Yes	Target start date	FR_MD_OPERATION		5.0.0.15
TIME_PER_UNIT	NUMBER	Yes	Scheduled production time (in milliseconds) per production unit	FR_MD_OPERATION		5.0.0.15
TIME_PER_STROKE	NUMBER	Yes	Scheduled target time per stroke (in milliseconds)	FR_MD_OPERATION		5.0.0.15
LEADING_OPERATION	NUMBER	Yes	Flag: 1 = actual opera-	FR_MD_OPERATION		5.0.0.15

Master Data Tables and Views

Column	Data type	Nul-lable	Description	Source: master data table	Dissolution of foreign keys	Since version
			tion is leading operation; 0 otherwise	ON		
ERP_PLANNED_SCRAP_QUANTITY	FLOAT	Yes	Scheduled ERP scrap quantity	FR_MD_OPERATION		5.0.0.15
ERP_REWORK_QUANTITY	FLOAT	Yes	ERP rework quantity	FR_MD_OPERATION		5.0.0.15
ERP_SCRAP_QUANTITY	FLOAT	Yes	ERP scrap quantity	FR_MD_OPERATION		5.0.0.15
ERP_YIELD_QUANTITY	FLOAT	Yes	ERP yield quantity	FR_MD_OPERATION		5.0.0.15
ALTERNATE_OPERATION_NUMBER	VAR-CHAR2	Yes	Alternative operation number	FR_MD_OPERATION		5.0.0.15
DISPLAY_QUANTITY_UNIT	VAR-CHAR2	Yes	Quantity unit for display	FR_MD_OPERATION		5.0.0.15
PRODUCTION_VERSION	VAR-CHAR2	Yes	Production version	FR_MD_OPERATION		5.0.0.15
OPERATION_SEQUENCE	VAR-CHAR2	Yes	Sequence	FR_MD_OPERATION		5.0.0.15
STANDARD_UNIT_1, ..., STANDARD_UNIT_6	VAR-CHAR2	Yes	Quantity unit 1 ... 6	FR_MD_OPERATION		5.0.0.15
STANDARD_VALUE_1, ..., STANDARD_VALUE_6	VAR-CHAR2	Yes	Value 1, ..., value 6	FR_MD_OPERATION		5.0.0.15
STANDARD_VALUE_1_MS, ..., STANDARD_VALUE_6_MS	NUMBER	Yes	Value 1 ... 6 in milliseconds, if it is a time unit.	FR_MD_OPERATION		5.0.0.15
USER_STATUS	VAR-CHAR2	Yes	User status	FR_MD_OPERATION		5.0.0.15
WORKPLACE_GROUP	VAR-CHAR2	Yes	Workplace group	FR_MD_OPERATION		5.0.0.15
DEFAULT_PIECE_TIME_FACTOR	FLOAT	Yes	Default time per unit factor	FR_MD_OPERATION		5.0.0.15
LATEST_END_DATE	TIMESTAMP	Yes				5.7.0
SCHEDULED_START_DATE	TIMESTAMP	Yes				5.7.0
SCHEDULED_END_DATE	TIMESTAMP	Yes				5.7.0
EARLIEST_END_DATE	TIMESTAMP	Yes				5.7.0
LATEST_START_DATE	TIMESTAMP	Yes				5.7.0
EARLIEST_START_DATE	TIMESTAMP	Yes				5.7.0
TARGET_QUEUE_TIME	NUMBER	No				5.7.0

Master Data Tables and Views

Column	Data type	Nul-lable	Description	Source: master data table	Dissolution of foreign keys	Since version
TAR-GET_PROCESSING_TIME	NUMBER	No				5.7.0
TAR-GET_TEARDOWN_TIME	NUMBER	No				5.7.0
TARGET_WAIT_TIME	NUMBER	No				5.7.0
TARGET_MOVE_TIME	NUMBER	No				5.7.0
MIN_SEND_AHEAD_QUANTITY	FLOAT	No				5.7.0
PLANNED_WORKPLACE_GROUP_ID	NUMBER	No				5.7.0
PLANNED_WORKPLACE_ID	NUMBER	No				5.7.0
MINIMUM_OVERLAP_TIME	NUMBER	No				5.7.0
CLIENT	VAR-CHAR2	Yes	ERP key - client (see Multi client capability)	FR_MD_ERP_KEY		5.0.0.15
COMPANY_CODE	VAR-CHAR2	Yes	ERP key - company code (see Multi client capability)	FR_MD_ERP_KEY		5.0.0.15
PLANT	VAR-CHAR2	Yes	ERP key - plant (see Multi client capability)	FR_MD_ERP_KEY		5.0.0.15
ERP_SYSTEM	VAR-CHAR2	Yes				5.7.0

3.28 V_MD_ORDER

View of **FR_MD_ORDER** (order header data)

(V4: as AUSTR, master data only)

Column	Data type	Nul-lable	Description	Source: master data table	Since version
TEXT	VAR-CHAR2	Yes	Description of the order header	FR_MD_ORDER	5.0.0.15
ORDER_ID	NUMBER	No	Technical primary key in FR_MD_ORDER	FR_MD_ORDER	5.0.0.15
ERP_STATUS	VAR-CHAR2	Yes	ERP status	FR_MD_ORDER	5.0.0.15
ACTIVE	NUMBER	Yes	Active/passive domain object (1 = active, 0 = inactive)	FR_MD_ORDER	5.0.0.15
ORDER_NUMBER	VAR-CHAR2	Yes	Order number	FR_MD_ORDER	5.0.0.15
ORDER_PRIORITY	VAR-CHAR2	Yes	Order priority	FR_MD_ORDER	5.0.0.15

Master Data Tables and Views

Column	Data type	Nul-lable	Description	Source: master data table	Since version
ORDER_SPLIT	VAR-CHAR2	Yes	Split number of the orders	FR_MD_ORDER	5.0.0.15
PLAN-NER_GROUP_IN_CHA RGE	VAR-CHAR2	Yes			5.7.0
DIS-PLAY_QUANTITY_UNIT	VAR-CHAR2	Yes	Quantity unit	FR_MD_ORDER	5.0.0.15
PRODUC-TION_VERSION	VAR-CHAR2	Yes	Production version	FR_MD_ORDER	5.0.0.15
RELEASE_DATE	TIMESTA MP	Yes	Delivery date	FR_MD_ORDER	5.0.0.15
TARGET_END	TIMESTA MP	Yes	Target end date	FR_MD_ORDER	5.0.0.15
TARGET_QUANTITY	FLOAT	Yes	Target quantity	FR_MD_ORDER	5.0.0.15
TARGET_START	TIMESTA MP	Yes	Target start date	FR_MD_ORDER	5.0.0.15
SCHED-ULED_START_DATE	TIMESTA MP	Yes			5.7.0
SCHED-ULED_END_DATE	TIMESTA MP	Yes			5.7.0
CLIENT	VAR-CHAR2	Yes	ERP key: client	FR_MD_ERP_KEY	5.0.0.15
COMPANY_CODE	VAR-CHAR2	Yes	ERP key: company code	FR_MD_ERP_KEY	5.0.0.15
PLANT	VAR-CHAR2	Yes	ERP key: plant	FR_MD_ERP_KEY	5.0.0.15
ERP_SYSTEM	VAR-CHAR2	Yes			5.7.0
MATERIAL_NUMBER	VAR-CHAR2	Yes	Material number	FR_MD_MATERIAL	5.0.0.15
MATERIAL_TYPE	VAR-CHAR2	Yes	Material type	FR_MD_MATERIAL	5.0.0.15
MATERIAL_ID	NUMBER	Yes	Material ID	FR_MD_MATERIAL	5.7.0
MATERIAL_TEXT	VAR-CHAR2	Yes	Material description	FR_MD_MATERIAL	5.0.0.15
UF_01, ..., UF_50	VAR-CHAR2	Yes	User field 1 ... 50	FR_MD_USER_DATA	5.0.0.15

3.29 V_MD_QUANTITY_REASON

Column	Data type	Nul-lable	Description	Source: master data table	Since version
REASON_ID	NUMBER	No	Technical primary key of FR_MD_QUANTITY_REASON	FR_MD_QUANTITY_REASON	5.0.0.15
DE-FAULT_REASON_ACTIVE	NUMBER	Yes	Active/passive quantity reason (1 = active, 0 = inactive)	FR_MD_QUANTITY_REASON	5.0.0.15
DE-FAULT_REASON_COLOR	VAR-CHAR2	Yes	Color of quantity reason	FR_MD_QUANTITY_REASON	5.0.0.15
DEFAULT_REASON	NUMBER	Yes	Flag: 1 = default reason; 0 otherwise	FR_MD_QUANTITY_REASON	5.0.0.15
DE-FAULT_REASON_MNEMONIC	VAR-CHAR2	Yes	Mnemonic of reason	FR_MD_QUANTITY_REASON	5.0.0.15
DE-FAULT_REASON_TEXT	VAR-CHAR2	Yes	Description of quantity reason	FR_MD_QUANTITY_REASON	5.0.0.15
DE-FAULT_REASON_SHORTTEXT	VAR-CHAR2	Yes	Short description of quantity reason	FR_MD_QUANTITY_REASON	5.0.0.15
DE-FAULT_REASON_SORT_ORDER	NUMBER	Yes	Sort order of quantity reason	FR_MD_QUANTITY_REASON	5.7.1 SP1
TYPE_ACTIVE	NUMBER	Yes	Active/passive quantity type (1 = active, 0 = inactive)	FR_MD_OPERATION_QUANTITY_TYPE	5.0.0.15
TYPE_CODE	NUMBER	Yes	Coding of quantity type	FR_MD_OPERATION_QUANTITY_TYPE	5.0.0.15
TYPE_COLOR	VAR-CHAR2	Yes	Color of quantity type	FR_MD_OPERATION_QUANTITY_TYPE	5.0.0.15
TYPE_TEXT	VAR-CHAR2	Yes	Description of quantity type	FR_MD_OPERATION_QUANTITY_TYPE	5.0.0.15
TYPE_SHORTTEXT	VAR-CHAR2	Yes	Short description of quantity type	FR_MD_OPERATION_QUANTITY_TYPE	5.0.0.15
TYPE_SORT_ORDER	NUMBER	Yes	Sort order of quantity type	FR_MD_OPERATION_QUANTITY_TYPE	5.7.1 SP1

3.30 V_MD_QUANTITY_TYPE

Column	Data type	Nul-lable	Description	Source: master data table	Since version
TYPE_ID	NUMBER	No	Technical primary key	FR_MD_OPERATION_QUANTITY_TYPE	5.0.0.15
TYPE_ACTIVE	NUMBER	Yes	Active/passive quantity type (1 = active, 0 = inactive)	FR_MD_OPERATION_QUANTITY_TYPE	5.0.0.15
TYPE_CODE	NUMBER	Yes	Coding of quantity type	FR_MD_OPERATION_QUANTITY_TYPE	5.0.0.15
TYPE_COLOR	VAR-CHAR2	Yes	Color of quantity type	FR_MD_OPERATION_QUANTITY_TYPE	5.0.0.15
TYPE_SORT_ORDER	NUMBER	Yes	Sort order of quantity type		5.7.1 SP1
DEFAULT_REASON	NUMBER	Yes			5.7.0
TYPE_TEXT	VAR-CHAR2	Yes	Description	FR_MD_OPERATION_QUANTITY_TYPE	5.0.0.15
TYPE_SHORTTEXT	VAR-CHAR2	Yes	Short description	FR_MD_OPERATION_QUANTITY_TYPE	5.0.0.15

3.31 V_MD_SHIFT

Column	Data type	Nul-lable	Description	Source: master data table	Dissolution of foreign keys	Since version
SHIFT_ID	NUMBER	No	Technical primary key	FR_MD_SHIFT		5.0.0.15
ASSOCIATED_DAY_TS	TIMESTAMP	Yes	Time stamp of the day the shift belongs to. For additional derived columns, see Time stamp for grouping and sorting	FR_MD_SHIFT		5.0.0.15
ASSOCIATED_DAY_TS_MONTH	VAR-CHAR2	Yes	Year/month of the date time stamp of the shift day for grouping after ...	FR_MD_SHIFT		
ASSOCIATED_DAY_TS_WEEK	VAR-CHAR2	Yes	Year/week of the date time stamp of the shift day for grouping after ...	FR_MD_SHIFT		
ASSOCIATED_DAY_TS_ISOYEAR	VAR-CHAR2	Yes				5.7.0

Master Data Tables and Views

Column	Data type	Nul-lable	Description	Source: master data table	Dissolution of foreign keys	Since ver-sion
R						
ASSOCIATED_DAY_TS_ISOWEEK	VAR-CHAR2	Yes	Year/ISOweek of the date time stamp of the shift day for grouping after ...	FR_MD_SHIFT		
ASSOCIATED_DAY_TS_DATE	VAR-CHAR2	Yes	Date of the date time stamp of the shift day for grouping after ...	FR_MD_SHIFT		
ASSOCIATED_DAY_TS_DATETIME	VAR-CHAR2	Yes	Date/time of the date time stamp of the shift day for grouping after ...	FR_MD_SHIFT		
START_TS	TIMESTAMP	Yes	Start time	FR_MD_SHIFT		5.0.0.15
START_TS_YEAR	VAR-CHAR2	Yes	Year of the date time stamp of the start time for grouping after ...	FR_MD_SHIFT		
START_TS_MONTH	VAR-CHAR2	Yes	Year/Monat of the date time stamp of the start time for grouping after...	FR_MD_SHIFT		
START_TS_WEEK	VAR-CHAR2	Yes	Year/week of the date time stamp of the start time for grouping after...	FR_MD_SHIFT		
START_TS_ISOYEAR	VAR-CHAR2	Yes				5.7.0
START_TS_ISOWEEK	VAR-CHAR2	Yes	Year/ISOweek of the date time stamp of the start time for grouping after ...	FR_MD_SHIFT		
START_TS_DATE	VAR-CHAR2	Yes	Date of the date time stamp of the start time for grouping after ...	FR_MD_SHIFT		
START_TS_DATETIME	VAR-CHAR2	Yes	Date/time of the date time stamp of the start time for grouping after ...	FR_MD_SHIFT		

Master Data Tables and Views

Column	Data type	Nul-lable	Description	Source: master data table	Dissolution of foreign keys	Since ver-sion
END_TS	TIMESTAMP	Yes	End time	FR_MD_SHIFT		5.0.0.15
END_TS_YEAR	VAR-CHAR2	Yes	Year of the date time stamp of the end time for grouping after ...	FR_MD_SHIFT		
END_TS_MONTH	VAR-CHAR2	Yes	Year/month of the date time stamp of the end time for grouping after...	FR_MD_SHIFT		
END_TS_WEEK	VAR-CHAR2	Yes	Year/week of the date time stamp of the end time for grouping after ...	FR_MD_SHIFT		
END_TS_ISOYEAR	VAR-CHAR2	Yes				5.7.0
END_TS_ISOWEEK	VAR-CHAR2	Yes	Year/ISOweek of the date time stamp of the end time for grouping after...	FR_MD_SHIFT		
END_TS_DATE	VAR-CHAR2	Yes	Date of the date time stamp of the end time for grouping after ...	FR_MD_SHIFT		
END_TS_DATETIME	VAR-CHAR2	Yes	Date/time of the date time stamp of the end time for grouping after...	FR_MD_SHIFT		
TYPE_CODE	NUMBER	Yes	Coding of shift type	FR_MD_SHIFT_TYPE_DEF		5.0.0.15
NONWORKING_SHIFT_TYPE	NUMBER	Yes	Flag: 1 = non-working shift type; 0 otherwise	FR_MD_SHIFT_TYPE_DEF		5.0.0.15
TYPE_TEXT	VAR-CHAR2	Yes	Description of shift type	FR_MD_SHIFT_TYPE_DEF		5.0.0.15
TYPE_SHORTTEXT	VAR-CHAR2	Yes	Short description of shift type	FR_MD_SHIFT_TYPE_DEF		5.0.0.15
TYPE_SORT_ORDER	NUMBER	Yes	Sort order of shift type			5.7.1.0 SP1

Master Data Tables and Views

Column	Data type	Nul-lable	Description		Source: master data table	Dissolution of foreign keys	Since version
WORKPLACE_ID	NUMBER	Yes	Workplace ID	FR_MD_SHIFT	Join with V_MD_WORKPLACE.WORKPLACE_ID		5.0.0.15
WORKPLACE_SORT_ORDER	NUMBER	Yes	Sort order of workplaces				5.7.1 SP1

3.32 V_MD_WORKPLACE

Column	Data type	Nul-lable	Description		Source: master data table	Since version
TEXT	VARCHAR2	Yes	Description		FR_MD_WORKPLACE	5.0.0.15
BOOKING_TYPE	NUMBER	Yes				5.7.0
CURE_PERIOD	NUMBER	Yes	Grace period (in milliseconds)	FR_MD_WORKPLACE	5.0.0.15	
CURE_PERIOD_FACTO R	FLOAT	Yes				5.7.0
ERP_CYCLE_TIME	NUMBER	Yes	Cycle time (msec) for cyclic booking to SAP	FR_MD_WORKPLACE	5.0.0.15	
ERP_UPLOAD_ACTIVE	NUMBER	Yes				5.7.0
SHIFT_DAY_CHANGE_OFFSET	NUMBER	Yes	Offset of the shift day change (in milliseconds)	FR_MD_WORKPLACE	5.0.0.15	
PIECE_TIME_UNIT	NUMBER	Yes	The unit of time, represented in msec of the corresponding unit. This is NOT the unit of PIECE_TIME_VALUE.	FR_MD_WORKPLACE	5.0.0.15	
PIECE_TIME_VALUE	FLOAT	Yes	The time in msec for one piece - > time per unit.	FR_MD_WORKPLACE	5.0.0.15	
PIECE_VALUE	NUMBER	Yes	Value for the quantity/count (movement quantity).	FR_MD_WORKPLACE	5.0.0.15	
WORKPLACE_ID	NUMBER	No	Technical primary key	FR_MD_WORKPLACE	5.0.0.15	
ACTIVE	NUMBER	Yes	Active/passive domain object (1 = active, 0 = inactive)	FR_MD_WORKPLACE	5.0.0.15	
NAME	VARCHAR2	Yes	Workplace name	FR_MD_WORKPLACE	5.0.0.15	
WORKPLACE_SORT_ORDER	NUMBER	Yes	Sort order of the workplace	FR_MD_WORKPLACE	5.7.1 SP1	
CLIENT	VARCHAR2	Yes	ERP key: client	FR_MD_ERP_KEY	5.0.0.15	
COMPANY_CODE	VARCHAR2	Yes	ERP key: company code	FR_MD_ERP_KEY	5.0.0.15	
PLANT	VARCHAR2	Yes	ERP key: plant	FR_MD_ERP_KEY	5.0.0.15	
UF_01, ..., UF_50	VARCHAR2	Yes	User field 1 - 50	FR_MD_USER_DATA	5.0.0.15	

3.33 V_MD_PERSON

View of **FR_MD_PERSON** (personnel data)

(V4: as PERS_EBENE0, master data only)

Column	Data type	Nul-lable	Description	Source: master data table	Since version
PERSON_ID	NUMBER	No	Technical primary key in FR_MD_PERSON	FR_MD_PERSON	5.0.0.15
ACTIVE	NUMBER	Yes	Active/passive domain object (1 = active, 0 = inactive)	FR_MD_PERSON	5.0.0.15
COST_CENTER	VARCHAR2	Yes	Cost center	FR_MD_PERSON	5.0.0.15
FIRST_NAME	VARCHAR2	Yes	First name	FR_MD_PERSON	5.0.0.15
LAST_NAME	VARCHAR2	Yes	Last name	FR_MD_PERSON	5.0.0.15
IDENTIFICA-TION_NUMBER	VARCHAR2	Yes	Identification number	FR_MD_PERSON	5.0.0.15
CLIENT	VARCHAR2	Yes	ERP key - client (see Multi Client Capability)	FR_MD_PERSON_E RP_KEY	5.0.0.15
COMPANY_CODE	VARCHAR2	Yes	ERP key - company code (see Multi Client Capability)	FR_MD_PERSON_E RP_KEY	5.0.0.15
PERSONNEL_AREA	VARCHAR2	Yes	ERP key - cost center (see Multi Client Capability)	FR_MD_PERSON_E RP_KEY	5.0.0.15
PERSONNEL_NUMBER	VARCHAR2	Yes	Personnel number	FR_MD_PERSON	5.0.0.15

3.34 V_MD_OPERATION_COMPONENT

Operation components

Column	Data type	Description	Source: master data table	Dissolution of foreign keys	Since version
OPERATION_ID	NUMBER	Associated operation	FR_MD_OPERATION_CO MPONENT	Join via V_MD_OPERATI ON.OPERATION_ID	5.0.0.15
ACTIVE	NUMBER	Active/passive do-main object (1 = active, 0 = inactive)	FR_MD_OPERATION_CO MPONENT		5.0.0.15
BASE_UNIT_OF_MEASURE	VARCHAR2	Base quantity unit	FR_MD_OPERATION_CO MPONENT		5.0.0.15
BATCH_NUMBER	VARCHAR2	Batch number	FR_MD_OPERATION_CO MPONENT		5.0.0.15
COMPONENT_NUMBER	VARCHAR2	Component number	FR_MD_OPERATION_CO MPONENT		5.0.0.15
CONFIRMA-TION_NUMBER	VARCHAR2	Confirmation number of the operation	FR_MD_OPERATION_CO MPONENT		5.0.0.15

Master Data Tables and Views

Column	Data type	Description	Source: master data table	Dissolution of foreign keys	Since version
MATERIAL_GROUP	VARCHAR2	Product group	FR_MD_OPERATION_COMPONENT		5.0.0.15
MATERIAL_TYPE	VARCHAR2	Material type	FR_MD_OPERATION_COMPONENT		5.0.0.15
POSITION_NUMBER	VARCHAR2	Position number of reservation / of dependent requirements	FR_MD_OPERATION_COMPONENT		5.0.0.15
REQUIREMENT_QUANTITY	FLOAT	Required quantity	FR_MD_OPERATION_COMPONENT		5.0.0.15
REQUIREMENTS_DATE	TIMESTAMP	Required date	FR_MD_OPERATION_COMPONENT		5.0.0.15
RESERVATION_NUMBER	VARCHAR2	Number of reservation / of secondary requirement	FR_MD_OPERATION_COMPONENT		5.0.0.15
STORAGE_BIN	VARCHAR2	Storage bin	FR_MD_OPERATION_COMPONENT		5.0.0.15
STORAGE_LOCATION	VARCHAR2	Storage location	FR_MD_OPERATION_COMPONENT		5.0.0.15
UF_01, ..., OP_UF_50	VARCHAR2	Component user field 1 - 50	FR_MD_USER_DATA		5.0.0.15
TEXT	VARCHAR2	Component description	FR_MD_OPERATION_COMPONENT		5.0.0.15

ER Diagram:

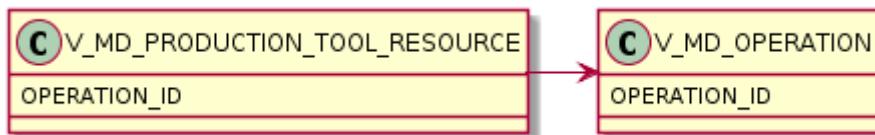


3.35 V_MD_PRODUCTION_TOOL_RESOURCE

Tools

Column	Data type	Description	Source: master data table	Dissolution of foreign keys	Since version
ACTIVE	NUMBER	Active/passive domain object (1 = active, 0 = inactive)	FR_MD_PRODUCTION_TOOL_RESOURCE		5.0.0.15
UNIT	VARCHAR2	Special stock indicator	FR_MD_PRODUCTION_TOOL_RESOURCE		5.0.0.15
PRT_NUMBE R	VARCHAR2	Material number	FR_MD_PRODUCTION_TOOL_RESOURCE		5.0.0.15
OPERA TION_ID	NUMBER	Operation ID	FR_MD_PRODUCTION_TOOL_RESOURCE	Join via V_MD_OPERATION. OPERATION_ID	5.0.0.15
PRT_GROUP	VARCHAR2	Order status	FR_MD_PRODUCTION_TOOL_RESOURCE		5.0.0.15
QUANTITY	FLOAT	Quantity	FR_MD_PRODUCTION_TOOL_RESOURCE		5.0.0.15
PRT_SEQUE NCE	VARCHAR2	Sequence	FR_MD_PRODUCTION_TOOL_RESOURCE		5.0.0.15
PRT_TYPE	VARCHAR2	Type	FR_MD_PRODUCTION_TOOL_RESOURCE		5.0.0.15
UF_01, ..., OP_UF_50	VARCHAR2	Tool user field 1 ... 50	FR_MD_USER_DATA		5.0.0.15
TEXT	VARCHAR2	Description of the tool	FR_MD_PRODUCTION_TOOL_RESOURCE		5.0.0.15

ER Diagram:



3.36 V_OPERATION_TIMEBASE (adopted from 5.4.)

Operation time bases

Column	Data type	Description	Source: master data table	Dissolution of foreign keys	Since version
TIME_BASE_MNEMONIC	VARCHAR2(255 CHAR)	Mnemonic of operation time bases	FR_MD_OPERATION_TB_ENTRY		5.0.0.18
PHASE_CODE	NUMBER(19)	Operation phase	FR_MD_OPERATION_PHASE_DEF		5.0.0.18
STATUS_CODE	NUMBER(19)	Operation status	FR_MD_OPERATION_STATUS_DEF		5.0.0.18
MFR_CODE	NUMBER(19)	Error code	FR_MD_MALFUNCTION_REASON		5.0.0.18

3.37 V_WORKPLACE_TIMEBASE (adopted from 5.4.)

Workplace time bases

Column	Data type	Description	Source: master data table	Dissolution of foreign keys	Since version
TIME_BASE_MNEMONIC	VARCHAR2(255 CHAR)	Mnemonic of the workplace time bases	FR_MD_WORKPLACE_TB_ENTRY		5.0.0.18
PHASE_CODE	NUMBER(19)	Workplace phase	FR_MD_WORKPLACE_PHASE_DEF		5.0.0.18
STATUS_CODE	NUMBER(19)	Workplace status	FR_MD_WORKPLACE_STATUS_DEF		5.0.0.18
MFR_CODE	NUMBER(19)	Error code	FR_MD_MALFUNCTION_REASON		5.0.0.18

3.38 V_MD_TARGET_VALUE

All data from REP50_TARGET_VALUE:

Column	Data type	Description	Since version
GROUPNAME	VARCHAR2	Group name	5.2.8
MATERIAL_ID	NUMBER	Material ID if OBJECTTYPE = 'MATERIAL', otherwise NULL	5.2.8
NAME	VARCHAR2	Name of target value	5.2.8
OBJECTTYPE	VARCHAR2	One of: "WORKPLACE", "MATERIAL", "COMPANY"	5.2.8
REFERENCE	VARCHAR2	Description of the reference	5.2.8
UNIT	VARCHAR2	Description of the unit	5.2.8
TARGET_VALUE	FLOAT	The actual target value	5.2.8
WORKPLACE_ID	NUMBER	Workplace ID if OBJECTTYPE = 'WORKPLACE', otherwise NULL	5.2.8

Master Data Tables and Views

Column	Data type	Description	Since version
YEAR	NUMBER	Year in which the target value is valid.	5.2.8

3.39 FO_TA_TICKET

Table FO_TA_TICKET - Ticket table

The ticket table is filled by creating tickets. This takes places during the recording of comments during recoding or during the reporting of quantities.

Column	Data type	Nulla-ble	Description	Dissolution of foreign keys
ID	NUMBER	No	Technical primary key	
WORKPLACE_ID	NUMBER	Y	Workplace ID	Join via FR_MD_WORKPLACE.ID
OPERATION_ID	NUMBER	Y	Operation ID	Join via FR_MD_OPERATION.ID
WORKPLACE_STATUS_ID	NUMBER	Y	ID of the workplace status	Join via FR_MD_WORPLACE_STATUS_DEF.ID
WORKPLACE_PHASE_ID	NUMBER	Y	ID of the workplace phase	Join via FR_MD_WORKPLACE_PHASE_DEF.ID
MALFUNC-TION_REASON_VECTOR_ID	NUMBER	Y	ID of the malfunction reason vector	Join via FR_MD_MALFUNCTION_REASON_VEC.ID
SHIFT_ID	NUMBER	Y	ID of the associated shift	Join via FR_MD_SHIFT.ID
SHIFT_DATE_TS	TIMESTAM P	Y	Date of the shift	
MATERIAL_ID	NUMBER	Y	Material ID	Join via FR_MD_MATERIAL.ID
QUANTITY_TYPE_REASON_ID	NUMBER	Y	ID of the quantity reason	Join via FR_MD_QUANTITY_REASON.ID
CLASS	NUMBER	Y	ID of the ticket class	
PRIORITY	NUMBER	N	Priority	
CREATE_TS	TIMESTAM P	N	Revision time stamp	
CHANGE_TS	TIMESTAM P	N	Revision time stamp	
STATUS	NUMBER	Y	Ticket status	
START_TS	TIMESTAM P	Y	Start time (UTC)	

Master Data Tables and Views

Column	Data type	Nulla-ble	Description	Dissolution of foreign keys
DURATION	NUMBER	Y	Duration	
EDITOR	VARCHAR2	Y	User of the last revision	
TICKET_DESC	VARCHAR2	Y	Description	
TITLE	VARCHAR2	Y	Title	
ROOT_CAUSE	VARCHAR2	Y	Reason	
USER1 - USER 5	VARCHAR2	Y	User fields 1 to 5	
OBJECTVERSION	NUMBER	N	Version	

4 Status Modeling

4.1 General

The status of an operation or a workplace is defined by the triple <phase, status, malfunction reason>.

Examples of this are:

Status combination	Phase	Status	Malfunction reason	Derived operating state (operating state)
Operation not registered	Not active			
Setup	Setup	Setup		Setup
Production	Production	Production		Production
Disruption during setup	Setup	Standstill	Feeding equipment	Feeding equipment
Disruption during production	Production	Standstill	Scrap disposal	Scrap disposal

Special features of the status definition are:

- The operating state that is displayed on the interface and that is used in version 4.x (Status2, APLSTAT) is splitted in status and malfunction reason in version 5.x
 - There is a malfunction reason only in status standstill
 - The malfunction reason is not set ,except in status standstill
 - Phase, status and malfunction reason always have the special fields
 - CODE
 - Serves as system-wide internal reference for the reporting logic
 - MNEMONIC (mnemonic) =
 - Is delivered with the old IDs of version 4.x
 - Serves as reference between versions 4.x and 5.x during migration
 - Can be customized
 - The values for phase and status are defined per delivery and are bases of the reporting models.
 - Malfunction reasons can be specifically defined by the customer and be used via recoding.
- Extension by V4-compatible operating state
- To support the operating state oriented V4, the (derived) operating state is provided for the reporting in all status-matching views.

4.2 Status Definitions

4.2.1 Master Data Tables

The definition of phase and status for operation and workplace are stored each in their own tables:

Operation status master data	Table	View
Operation phase	FR_MD_OPERATION_PHASE_DEF	V_MD_OPERATION_PHASE
Operation status	FR_MD_OPERATION_STATUS_DEF	V_MD_OPERATION_STATUS

Workplace status masterdata	Table	View
Workplace phase	FR_MD_WORKPLACE_PHASE_DEF	V_MD_WORKPLACE_PHASE
Workplace status	FR_MD_WORKPLACE_STATUS_DEF	V_MD_WORKPLACE_STATUS

4.2.2 Values

The phase is the status share from the perspective of the operation or of operations. The used values depend on the customer's reporting model. The value of the column Code is FORCAM-internal and is customer-wide defined.

The combination status/malfunction reason is the status share from the perspective of the workplace.

4.2.2.1 Values of the operation phase (FR_MD_OPERATION_PHASE_DEF)

Meaning	Code	MNEMONIC
Inactive	1	45
Setup	3	48
Production	4	50
Finished	2	90
Completed	7	7
Incorporating	6	83

4.2.2.2 Values of the workplace phases (FR_MD_WORKPLACE_PHASE_DEF)

Meaning	Code	MNEMONIC
Not occupied	1	--
Setup	2	48
Production	3	50
Incorporating	4	83
Maintenance	5	50

4.2.2.3 Values of the operation status (FR_MD_OPERATION_STATUS_DEF)

Meaning	Code	MNEMONIC
Not registered	1	---
Standstill	2	999
Setup	3	020
Production	4	000
Incorporated	5	440
Maintenance	6	430
Pause	7	993
No shift	8	970
Produced with operation without personnel	10	110
Finished	11	---
Completed	12	---

4.2.2.4 Values of the workplace status (FR_MD_WORKPLACE_STATUS_DEF)

Bedeutung	Code	MNEMONIC
Standstill	1	999
Setup	2	020
Production	3	000
Incorporated	4	440
Maintenance	5	430
Pause	6	993
No shift	7	970
Machine not occupied	8	010
Produced with operation without personnel	9	110
Produced without operation with personnel	10	010

4.2.3 FR_MD_MACHINE_STATUS_DEF

Machine status

Column	Data type	Nullable	Description	Dissolution of foreign keys
ID	NUMBER	N	Technical primary key	
ACTIVE	NUMBER	Y	Active/passive domain object (1 = active, 0 = inactive)	
CODE	NUMBER	Y	Coding	
COLOR	VARCHAR2	Y	Color	
DEFAULT_STATUS	NUMBER	Y	Flag: 1 = default status; 0 otherwise	
MNEMONIC	VARCHAR2	Y	Mnemonic	
DESCRIPTION_ID	NUMBER	Y	Description	Join via

Status Modeling

Column	Data type	Nullable	Description	Dissolution of foreign keys
				FR_MD_TRANSLATION_MAP.ID, see Literals
SHORTDESCRIPTION_ID	NUMBER	Y	Short description	Join via FR_MD_TRANSLATION_MAP.ID, see Literals

4.2.4 FR_MD_OPERATION_PHASE_DEF

Operation phase

Column	Data type	Nullable	Description	Dissolution of foreign keys
ID	NUMBER	N	Technical primary key	
ACTIVE	NUMBER	Y	Active/passive domain object (1 = active, 0 = inactive)	
CODE	NUMBER	Y	Coding	
COLOR	VARCHAR2	Y	Color	
DEFAULT_STATUS	NUMBER	Y	Flag: 1 = default status; 0 otherwise	
MNEMONIC	VARCHAR2	Y	Mnemonic	
ACTIVE_PHASE	NUMBER	Y	Flag: 1 = if phase is active phase; 0 otherwise	
DESCRIPTION_ID	NUMBER	Y	Description	Join via FR_MD_TRANSLATION_MAP.ID, see Literals
SHORTDESCRIPTION_ID	NUMBER	Y	Short Description	Join via FR_MD_TRANSLATION_MAP.ID, see Literals

4.2.5 FR_MD_OPERATION_STATUS_DEF

Operation status

Column	Data type	Nullable	Description	Dissolution of foreign keys
ID	NUMBER	N	Technical primary key	
ACTIVE	NUMBER	Y	Active/passive domain object (1 = active, 0 = inactive)	
CODE	NUMBER	Y	Coding	
COLOR	VARCHAR2	Y	Color	
DEFAULT_STATUS	NUMBER	Y	Flag: 1 = default status; 0 otherwise	
MNEMONIC	VARCHAR2	Y	Mnemonic	
DESCRIPTION_ID	NUMBER	Y	Description	Join via FR_MD_TRANSLATION_MAP.ID, see Literals
SHORTDESCRIPTION_ID	NUMBER	Y	Short description	Join via FR_MD_TRANSLATION_MAP.ID, see Literals

4.2.6 FR_MD_PERSON_STATUS_DEF

Personnel status

Column	Data type	Nullable	Description	Dissolution of foreign keys
ID	NUMBER	N	Technical primary key	
ACTIVE	NUMBER	Y	Active/passive domain object (1 = active, 0 = inactive)	
CODE	NUMBER	Y	Coding	
COLOR	VARCHAR2	Y	Color	
DEFAULT_STATUS	NUMBER	Y	Flag: 1 = default status; 0 otherwise	
MNEMONIC	VARCHAR2	Y	Mnemonic	
DESCRIPTION_ID	NUMBER	Y	Description	Join via FR_MD_TRANSLATION_MAP.ID , see Literals
SHORTDESCRIPTION_ID	NUMBER	Y	Short description	Join via FR_MD_TRANSLATION_MAP.ID , see Literals

4.2.7 FR_MD_SHIFT_STATUS_DEF

Shift status

Column	Data type	Nullable	Description	Dissolution of foreign keys
ID	NUMBER	N	Technical primary key	
ACTIVE	NUMBER	Y	Active/passive domain object (1 = active, 0 = inactive)	
CODE	NUMBER	Y	Coding	
COLOR	VARCHAR2	Y	Color	
DEFAULT_STATUS	NUMBER	Y	Flag: 1 = default status; 0 otherwise	
MNEMONIC	VARCHAR2	Y	Mnemonic	
DESCRIPTION_ID	NUMBER	Y	Description	Join via FR_MD_TRANSLATION_MAP.ID , see Literals
SHORTDESCRIPTION_ID	NUMBER	Y	Short description	Join via FR_MD_TRANSLATION_MAP.ID , see Literals

4.2.8 FR_MD_WORKPLACE_PHASE_DEF

Workplace phase

Column	Data type	Nullable	Description	Dissolution of foreign keys
ID	NUMBER	N	Technical primary key	
ACTIVE	NUMBER	Y	Active/passive domain object (1 = active, 0 = inactive)	
CODE	NUMBER	Y	Coding	
COLOR	VARCHAR2	Y	Color	
DEFAULT_STATUS	NUMBER	Y	Flag: 1 = default status; 0 otherwise	
MNEMONIC	VARCHAR2	Y	Mnemonic	
DESCRIPTION_ID	NUMBER	Y	Description	Join via FR_MD_TRANSLATION_MAP.ID , see Literals
SHORTDESCRIPTION_ID	NUMBER	Y	Short description	Join via FR_MD_TRANSLATION_MAP.ID , see Literals

4.2.9 FR_MD_WORKPLACE_STATUS_DEF

Workplace status

Column	Data type	Nullable	Description	Dissolution of foreign keys
ID	NUMBER	N	Technical primary key	
ACTIVE	NUMBER	Y	Active/passive domain object (1 = active, 0 = inactive)	
CODE	NUMBER	Y	Coding	
COLOR	VARCHAR2	Y	Color	
DEFAULT_STATUS	NUMBER	Y	Flag: 1 = default status; 0 otherwise	
MNEMONIC	VARCHAR2	Y	Mnemonic	
DESCRIPTION_ID	NUMBER	Y	Description	Join via FR_MD_TRANSLATION_MAP.ID , see Literals
SHORTDESCRIPTION_ID	NUMBER	Y	Short description	Join via FR_MD_TRANSLATION_MAP.ID , see Literals
ANNOTATABLE	NUMBER	N	1 = status annotatable; 0 otherwise	
RECODEABLE	NUMBER	Y	1 = status is recodeable; 0 otherwise	
SPLITTABLE	NUMBER	Y	1= status is splittable; 0 otherwise	

4.2.10 V_MD_MACHINE_STATUS

Column	Data type	Description	Source: master data table	Since version
STATUS_ID	NUMBER	Technical primary key	FR_MD_WORKPLACE_STATUS_DEF	5.0.0.15
STATUS_ACTIVE	NUMBER	Active/passive domain object (1 = active, 0 = inactive)	FR_MD_WORKPLACE_STATUS_DEF	5.0.0.15
STATUS_CODE	NUMBER	Coding	FR_MD_WORKPLACE_STATUS_DEF	5.0.0.15
STATUS_COLOR	VARCHAR2	Color	FR_MD_WORKPLACE_STATUS_DEF	5.0.0.15
STATUS_DEFAULT_STATUS	NUMBER	Flag: 1 = default status; 0 otherwise	FR_MD_WORKPLACE_STATUS_DEF	5.0.0.15
STATUS_MNEMONIC	VARCHAR2	Mnemonic	FR_MD_WORKPLACE_STATUS_DEF	5.0.0.15
STATUS_TEXT	VARCHAR2	Description	FR_MD_WORKPLACE_STATUS_DEF	5.0.0.15
STATUS_SHORTTEXT	VARCHAR2	Short description	FR_MD_WORKPLACE_STATUS_DEF	5.0.0.15

4.2.11 V_MD_OP_OPERATING_STATUS

View for permitted operation operating states as combination of STATUS and STATUSREASON
(Attention! Is subject to historic changes, if additional status reasons were added that are not linked to status=standstill.

Is used in FFNewOffice in filter operating states.

Column	Data type	Description	Source: master data table	Since version
STATUS_ID	NUMBER	Status ID	FR_MD_OPERATION_STATUS_DEF	5.3
MALFUNC-TION_REASON_ID	NUMBER	ID of status reason	FR_MD_MALFUNCTION_REASON	5.3
OPERATING_STATUS_ID	NUMBER	ID of status or status reason	FR_MD_OPERATION_STATUS_DEF FR_MD_MALFUNCTION_REASON	5.3
SORT_ORDER	NUMBER	Sort order from status or status reason	FR_MD_OPERATION_STATUS_DEF FR_MD_MALFUNCTION_REASON	5.7.1.1
COLOR	VAR-CHAR2	Color	FR_MD_OPERATION_STATUS_DEF FR_MD_MALFUNCTION_REASON	5.3
MNEMONIC	VAR-CHAR2	Mnemonic	FR_MD_OPERATION_STATUS_DEF FR_MD_MALFUNCTION_REASON	5.3
DESCRIPTION	VAR-CHAR2	Description	FR_MD_OPERATION_STATUS_DEF FR_MD_MALFUNCTION_REASON	5.3
SHORTDESCRIPTION	VAR-CHAR2	Short description	FR_MD_OPERATION_STATUS_DEF FR_MD_MALFUNCTION_REASON	5.3

4.2.12 V_MD_OPERATING_STATE_CLASS

View for configured operating state classes.

Column	Data type	Description	Source: master data table	Since version
STATE_CLASS_ID	NUMBER	Status class ID	FR_MD_TIMEBASE	5.7.1
STATE_CLASS_MNEMONIC	VAR-CHAR2	Mnemonic	FR_MD_TIMEBASE	5.7.1
STATE_CLASS_SORT_ORDER	NUMBER	Sort order	FR_MD_TIMEBASE	5.7.1 SP1
STATE_CLASS_COLOR	VAR-CHAR2	Color	FR_MD_TIMEBASE	5.7.1
STATE_CLASS_TEXT	VAR-CHAR2	Text	FR_MD_TIMEBASE FR_MD_TRANSLATION_MAP	5.7.1
STATE_CLASS_SHORTTEXT	VAR-CHAR2	Short text	FR_MD_TIMEBASE FR_MD_TRANSLATION_MAP	5.7.1

4.2.13 V_MD_OPERATION_PHASE

Column	Data type	Description	Source: master data table	Since version
PHASE_ID	NUMBER	Technical primary key	FR_MD_OPERATION_PHASE_DEF	5.0.0.15
PHASE_ACTIVE	NUMBER	Active/passive domain object (1 = active, 0 = inactive)	FR_MD_OPERATION_PHASE_DEF	5.0.0.15
PHASE_ACTIVE_PHASE	NUMBER	Flag: 1 = if phase is active phase; 0 otherwise	FR_MD_OPERATION_PHASE_DEF	5.0.0.15
PHASE_CODE	NUMBER	Coding	FR_MD_OPERATION_PHASE_DEF	5.0.0.15
PHASE_COLOR	VARCHAR2	Color	FR_MD_OPERATION_PHASE_DEF	5.0.0.15
PHASE_DEFAULT_STATUS	NUMBER	Flag: 1 = default status; 0 otherwise	FR_MD_OPERATION_PHASE_DEF	5.0.0.15
PHASE_MNEMONIC	VARCHAR2	Mnemonic	FR_MD_OPERATION_PHASE_DEF	5.0.0.15
PHASE_SORT_ORDER	NUMBER	Sort order	FR_MD_OPERATION_PHASE_DEF	5.7.1 SP1
PHASE_TEXT	VARCHAR2	Description	FR_MD_OPERATION_PHASE_DEF	5.0.0.15
PHASE_SHORTTEXT	VARCHAR2	Short description	FR_MD_OPERATION_PHASE_DEF	5.0.0.15

4.2.14 V_MD_OPERATION_STATUS

Column	Data type	Description	Source: master data table	Since version
STATUS_ID	NUMBER	Technical primary key	FR_MD_OPERATION_STATUS_DEF	5.0.0.15
STATUS_ACTIVE	NUMBER	Active/passive domain object (1 = active, 0 = inactive)	FR_MD_OPERATION_STATUS_DEF	5.0.0.15
STATUS_CODE	NUMBER	Coding	FR_MD_OPERATION_STATUS_DEF	5.0.0.15
STATUS_COLOR	VARCHAR2	Color	FR_MD_OPERATION_STATUS_DEF	5.0.0.15
STATUS_DEFAULT_STATUS	NUMBER	Flag: 1 = default status; 0 otherwise	FR_MD_OPERATION_STATUS_DEF	5.0.0.15
STATUS_MNEMONIC	VARCHAR2	Mnemonic	FR_MD_OPERATION_STATUS_DEF	5.0.0.15
STATUS_SORT_ORDER	NUMBER	Sort order	FR_MD_OPERATION_STATUS_DEF	5.7.1 SP1
STATUS_TEXT	VARCHAR2	Description	FR_MD_OPERATION_STATUS_DEF	5.0.0.15
STATUS_SHORTTEXT	VARCHAR2	Short description	FR_MD_OPERATION_STATUS_DEF	5.0.0.15

4.2.15 V_MD_PERSON_STATUS

Column	Data type	Description	Source: master data table	Since version
STATUS_ID	NUMBER	Technical primary key	FR_MD_PERSON_STATUS_DEF	5.0.0.15
STATUS_ACTIVE	NUMBER	Active/passive domain object (1 = active, 0 = inactive)	FR_MD_PERSON_STATUS_DEF	5.0.0.15
STATUS_CODE	NUMBER	Coding	FR_MD_PERSON_STATUS_DEF	5.0.0.15
STATUS_COLOR	VARCHAR2	Color	FR_MD_PERSON_STATUS_DEF	5.0.0.15
STATUS_DEFAULT_STATUS	NUMBER	Flag: 1 = default status; 0 otherwise	FR_MD_PERSON_STATUS_DEF	5.0.0.15
STATUS_MNEMONIC	VARCHAR2	Mnemonic	FR_MD_PERSON_STATUS_DEF	5.0.0.15
STAUS_SORT_ORDER	NUMBER	Sort order	FR_MD_PERSON_STATUS_DEF	5.7.1 SP1
STATUS_TEXT	VARCHAR2	Description	FR_MD_PERSON_STATUS_DEF	5.0.0.15
STATUS_SHORTTEXT	VARCHAR2	Short description	FR_MD_PERSON_STATUS_DEF	5.0.0.15

4.2.16 V_MD_SHIFT_STATUS

Column	Data type	Description	Source: master data table
STATUS_ID	NUMBER	Technical primary key	FR_MD_SHIFT_STATUS_DEF
STATUS_ACTIVE	NUMBER	Active/passive domain object (1 = active, 0 = inactive)	FR_MD_SHIFT_STATUS_DEF
STATUS_CODE	NUMBER	Coding	FR_MD_SHIFT_STATUS_DEF
STATUS_COLOR	VARCHAR2	Color	FR_MD_SHIFT_STATUS_DEF
STATUS_DEFAULT_STATUS	NUMBER	Flag: 1 = default status; 0 otherwise	FR_MD_SHIFT_STATUS_DEF
STATUS_MNEMONIC	VARCHAR2	Mnemonic	FR_MD_SHIFT_STATUS_DEF
STATUS_TEXT	VARCHAR2	Description	FR_MD_SHIFT_STATUS_DEF
STATUS_SHORTTEXT	VARCHAR2	Short description	FR_MD_SHIFT_STATUS_DEF

4.2.17 V_MD_WORKPLACE_PHASE

Column	Data type	Description	Source: master data table	Since version
PHASE_ID	NUMBER	Technical primary key	FR_MD_WORKPLACE_PHASE_DEF	5.0.0.15
PHASE_ACTIVE	NUMBER	Active/passive domain object (1 = active, 0 = inactive)	FR_MD_WORKPLACE_PHASE_DEF	5.0.0.15
PHASE_CODE	NUMBER	Coding	FR_MD_WORKPLACE_PHASE_DEF	5.0.0.15
PHASE_COLOR	VARCHAR2	Color	FR_MD_WORKPLACE_PHASE_DEF	5.0.0.15
PHASE_DEFAULT_STATUS	NUMBER	Flag: 1 = default status; 0 otherwise	FR_MD_WORKPLACE_PHASE_DEF	5.0.0.15
PHASE_MNEMONIC	VARCHAR2	Mnemonic	FR_MD_WORKPLACE_PHASE_DEF	5.0.0.15
PHASE_TEXT	VARCHAR2	Description	FR_MD_WORKPLACE_PHASE_DEF	5.0.0.15
PHASE_SHORTTEXT	VARCHAR2	Short description	FR_MD_WORKPLACE_PHASE_DEF	5.0.0.15
PHASE_SORT_ORDER	NUMBER	Sort order	FR_MD_WORKPLACE_PHASE_DEF	5.7.1 SP1

4.2.18 V_MD_WORKPLACE_STATUS

Column	Data type	Description	Source: master data table	Since version
STATUS_ID	NUMBER	Technical primary key	FR_MD_WORKPLACE_STATUS_DEF	5.0.0.15
STATUS_ACTIVE	NUMBER	Active/passive domain object (1 = active, 0 = inactive)	FR_MD_WORKPLACE_STATUS_DEF	5.0.0.15
STATUS_CODE	NUMBER	Coding	FR_MD_WORKPLACE_STATUS_DEF	5.0.0.15
STATUS_COLOR	VARCHAR2	Color	FR_MD_WORKPLACE_STATUS_DEF	5.0.0.15
STATUS_DEFAULT_STATUS	NUMBER	Flag: 1 = default status; 0 otherwise	FR_MD_WORKPLACE_STATUS_DEF	5.0.0.15
STATUS_MNEMONIC	VARCHAR2	Mnemonic	FR_MD_WORKPLACE_STATUS_DEF	5.0.0.15
STATUS_RECODEABLE	NUMBER	1 = status is recodeable; 0 otherwise	FR_MD_WORKPLACE_STATUS_DEF	5.0.0.15
STATUS_SPLITTABLE	NUMBER	1= status is splittable; 0 otherwise	FR_MD_WORKPLACE_STATUS_DEF	5.0.0.15
STATUS_ANNOTATABLE	NUMBER	1 = status is annotatable; 0 otherwise	FR_MD_WORKPLACE_STATUS_DEF	5.0.0.15
STATUS_TEXT	VARCHAR2	Description	FR_MD_WORKPLACE_STATUS_DEF	5.0.0.15
STATUS_SHORTTEXT	VARCHAR2	Short description	FR_MD_WORKPLACE_STATUS_DEF	5.0.0.15

4.2.19 V_MD_WP_OPERATING_STATUS

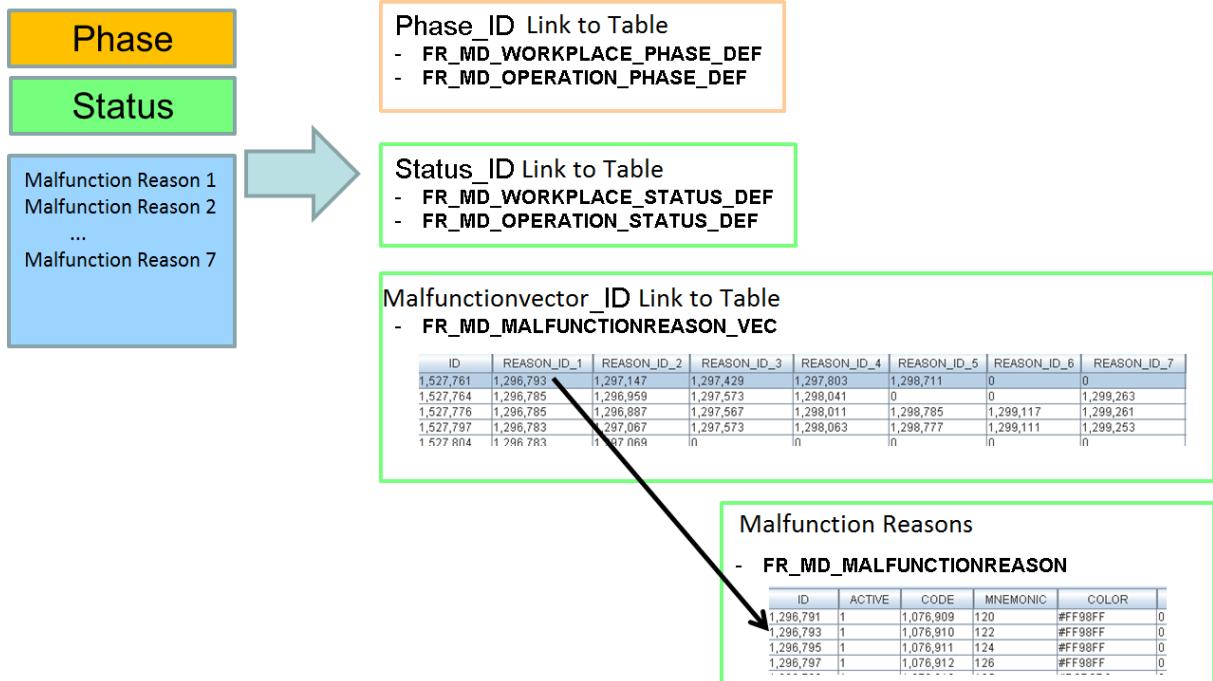
View for permitted workplace operating states as combination of STATUS and STATUSREASON
(Attention! Is subject to historic changes, if additional status reasons were added that are not linked to status=standstill.

Is used in FFNewOffice in filter operating states workplace.

Column	Data type	Description	Source: master data table	Since version
STATUS_ID	NUMBER	Status ID	FR_MD_WORKPLACE_STATUS_DEF	5.3
MALFUNCTION_REASON_ID	NUMBER	ID of status reason	FR_MD_MALFUNCTION_REASON	5.3
OPERATING_STATUS_ID	NUMBER	ID of status or status reason	FR_MD_WORKPLACE_STATUS_DEF FR_MD_MALFUNCTION_REASON	5.3
OPERATING_STAUS_SORT_ORDER	NUMBER	Sort order of status or status reason	FR_MD_WORKPLACE_STATUS_DEF FR_MD_MALFUNCTION_REASON	5.7.1 SP1
COLOR	VARCHAR2	Color of status or status reason	FR_MD_WORKPLACE_STATUS_DEF FR_MD_MALFUNCTION_REASON	5.3
MNEMONIC	VARCHAR2	Mnemonic of status or status reason	FR_MD_WORKPLACE_STATUS_DEF FR_MD_MALFUNCTION_REASON	5.3
DESCRIPTION	VARCHAR2	Description of status or status reason	FR_MD_WORKPLACE_STATUS_DEF FR_MD_MALFUNCTION_REASON	5.3
SHORTDESCRIPTION	VARCHAR2	Short description of status or status reason	FR_MD_WORKPLACE_STATUS_DEF FR_MD_MALFUNCTION_REASON	5.3

4.3 Malfunction Reasons

Because up to seven malfunction reason stages can be used to classify a standstill, the reference to a seven-stage malfunction reason vector is always used in the status.



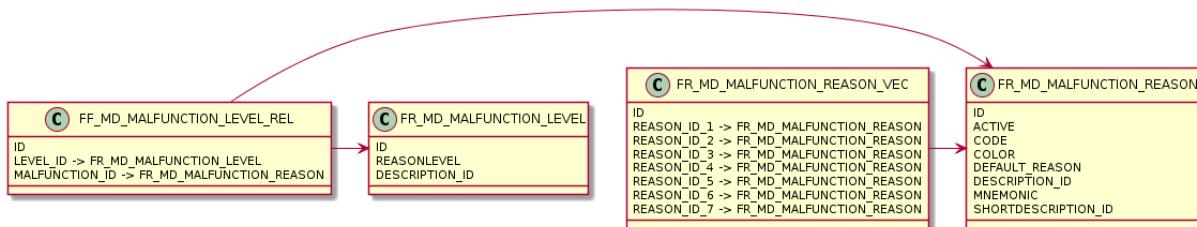
4.3.1 Master Data

Malfunction reason definitions are valid operation workplace wide.

The View V_MD_MALFUNCTION_REASON_VEC contains all malfunction reason attributes from the four master data tables (denormalized). This way the direct use of the tables is not necessary anymore.

Malfunction reason master data	Table	View
Malfunction reason vector (seven-stage)	FR_MD_MALFUNCTION_REASON_VEC	V_MD_MALFUNCTION_REASON_VEC
Malfunction reason	FR_MD_MALFUNCTION_REASON	
Malfunction reason levels	FF_MD_MALFUNCTION_LEVEL	
Stage assignment	FF_MD_MALFUNCTION_LEVEL_REL	

4.3.2 ER Diagram



4.3.3 FF_MD_MALFUNCTION_LEVEL

Malfunction reason levels

Column	Data type	Nullable	Description	Dissolution of foreign keys
ID	NUMBER	N	Technical primary key	
REASONLEVEL	NUMBER	N	Malfunction reason stage	
DESCRIPTION_ID	NUMBER	Y	Description	Join via FR_MD_TRANSLATION_MAP.ID , see Literals

Exemplary content:

```
select r.id, r.reasonlevel, tm.text as DESCRIPTION_TEXT
from FF_MD_MALFUNCTION_LEVEL r
join fr_md_translation_map tm on tm.literal_id = r.description_id
where tm.translationmap_key = 250000
```

ID	REASONLEVEL	DESCRIPTION_TEXT
3365000	1	BDE status
3365001	2	BDE functional unit
3365002	3	Unit/component
3365003	4	Component/element
3365004	5	Damage
3365005	6	Operation
3365006	7	Group of craftsmen

4.3.4 FF_MD_MALFUNCTION_LEVEL_REL

Level assignments

Column	Data type	Nullable	Description	Dissolution of foreign keys
ID	NUMBER	No	Technical primary key	
LEVEL_ID	NUMBER	Yes	ID of malfunction reason stage	Join via FF_MD_MALFUNCTION_LEVEL.ID
MALFUNCTION_REASON_ID	NUMBER	Yes	ID of malfunction reason	Join via FR_MD_MALFUNCTION_REASON.ID

4.3.5 FR_MD_MALFUNCTION_REASON

Malfunction reason

Column	Data type	Nullable	Description	Dissolution of foreign keys
ID	NUMBER	N	Technical primary key	
ACTIVE	NUMBER	Y	Active/passive domain object (1 = active, 0 = inactive)	
CODE	NUMBER	N	Coding of malfunction reason	
COLOR	VARCHAR2	Y	Color	
DEFAULT_REASON	NUMBER	Y	Flag: 1 = default status; 0 otherwise	
MNEMONIC	VARCHAR2	Y	Mnemonic	
DESCRIPTION_ID	NUMBER	Y	Description	Join via FR_MD_TRANSLATION_MAP.ID , see Literals
SHORTDESCRIPTION_ID	NUMBER	Y	Short description	Join via FR_MD_TRANSLATION_MAP.ID , see Literals
CUSTOMER_CODE	VARCHAR2	Y	Customer specific code	
ANNOTATABLE	NUMBER	N	Flag: Status reason can get a remark added	
RECODEABLE	NUMBER	N	Flag: Status reason is recodeable	
SPLITTABLE	NUMBER	N	Flag: Status reason is splittable	
SORT_ORDER	NUMBER	Y	Index for sorting	

4.3.6 FR_MD_MALFUNCTION_REASON_VEC

Malfunction reason vector (seven-stage)

Column	Data type	Nullable	Description	Fremdschlüssel Auflösung
ID	NUMBER	N	Technical primary key	
REASON_ID_1	NUMBER	Y	Malfunction reason stage 1	Join via FR_MD_MALFUNCTION_REASON.ID
REASON_ID_2	NUMBER	Y	Malfunction reason stage 2	Join via FR_MD_MALFUNCTION_REASON.ID
REASON_ID_3	NUMBER	Y	Malfunction reason stage 3	Join via FR_MD_MALFUNCTION_REASON.ID
REASON_ID_4	NUMBER	Y	Malfunction reason stage 4	Join via FR_MD_MALFUNCTION_REASON.ID
REASON_ID_5	NUMBER	Y	Malfunction reason stage 5	Join via FR_MD_MALFUNCTION_REASON.ID
REASON_ID_6	NUMBER	Y	Malfunction reason stage 6	Join via FR_MD_MALFUNCTION_REASON.ID
REASON_ID_7	NUMBER	Y	Malfunction reason stage 7	Join via FR_MD_MALFUNCTION_REASON.ID

4.3.7 V_MD_MALFUNCTION_REASON_VEC

View of the malfunction reason vector (seven-stage)

Column	Data type	Description	Source: master data table	Since version
MFR_VECTOR_ID	NUMBER	Technical primary key	FR_MD_MALFUNCTION_REASON_VEC	5.0.0.15
CODE_1 ... CODE_7	NUMBER	Codierung des Störgrunds	FR_MD_MALFUNCTION_REASON	5.0.0.15- 5.2.7.x
MFR1_CODE ... MFR7_CODE	NUMBER	Coding of malfunction reason	FR_MD_MALFUNCTION_REASON	5.2.8
COLOR_1	VARCHAR2	Farbe	FR_MD_MALFUNCTION_REASON	5.0.0.15- 5.2.7.x
MFR1_COLOR	VARCHAR2	Color	FR_MD_MALFUNCTION_REASON	5.2.8
MNEMONIC_1 ... MNEMONIC_7	VARCHAR2	Mnemonic	FR_MD_MALFUNCTION_REASON	5.0.0.15- 5.2.7.x
MFR1_MNEMONIC ... MFR7_MNEMONIC	VARCHAR2	Mnemonic	FR_MD_MALFUNCTION_REASON	5.2.8
MFR1_SORT_ORDER ... MFR7_SORT_ORDER	NUMBER	Sort order	FR_MD_MALFUNCTION_REASON	5.7.1 SP1
MFR1_TEXT ... MFR7_TEXT	VARCHAR2	Description	FR_MD_MALFUNCTION_REASON	5.0.0.15
MFR1_SHORTTEXT ... MFR7_SHORTTEXT	VARCHAR2	Short description	FR_MD_MALFUNCTION_REASON	5.0.0.15

4.3.8 V_MD_MALFUNCTION_REASON_VEC1

Since version 5.2.6.

View for the malfunction reason vector (only the first stage of the seven-stage malfunction reason vector).

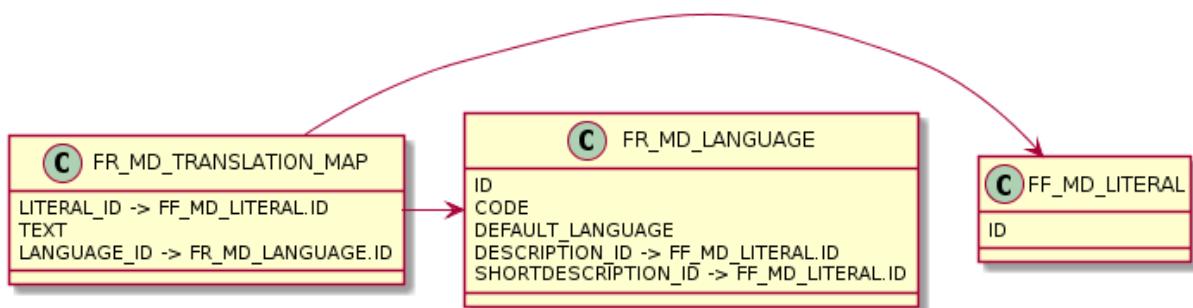
As V_MD_MALFUNCTION_REASON_VEC, but only the first stage of the seven-stage malfunction reason vector is requested. This provides a slightly better performance.

Column	Data type	Description	Source: master data table	Since version
MFR_VECTOR_ID	NUMBER	Technical primary key	FR_MD_MALFUNCTION_REASON_VEC	5.0.0.20
CODE_1	NUMBER	Coding of malfunction reason	FR_MD_MALFUNCTION_REASON	5.0.0.20
COLOR_1	VARCHAR2	Color	FR_MD_MALFUNCTION_REASON	5.0.0.20
MNEMONIC_1	VARCHAR2	Mnemonic	FR_MD_MALFUNCTION_REASON	5.0.0.20
SORT_ORDER_1	NUMBER	Sort order	FR_MD_MALFUNCTION_REASON	5.7.1 SP1
MFR1_TEXT	VARCHAR2	Description	FR_MD_MALFUNCTION_REASON	5.0.0.20
MFR1_SHORTTEXT	VARCHAR2	Short description	FR_MD_MALFUNCTION_REASON	5.0.0.20

5 Literals

The scope Literals for the multilingual saving of master data texts is covered by the two tables `FF_MD_LANGUAGE` and `FR_MD_TRANSLATION_MAP` abgedeckt.

The table `FF_MD_LANGUAGE` is used to define the languages used at the customer's place of business.
The table `FR_MD_TRANSLATION_MAP` saves the multilingual texts.



5.1 Dissolving of Master Data Literals

Literals are already dissolved when using the master data views. If the tables are used directly, the literals have to be dissolved by oneself.

There are two functions for the dissolving of literals, which are called-up in a different way in Oracle and SQL.

	Oracle	SQL Server
Selecting the language in the current data base session. The selection of the language is done automatically in the office client. The statement can be run directly in any SQL editor. If no language is selected, the default language is used.	<pre>set_ff_context_pkg.set_language_id('de-DE')</pre>	<pre>EXECUTE \$XSCHEMA.set_language @language_code = N'de-DE';</pre>
Query of the ID of the used language in SQL queries	<pre>set_ff_context_pkg.get_language_id()</pre>	<pre>SELECT \$XSCHEMA.get_language_id()</pre>

Example: Query of the text in an operation (Oracle):

Literal reference in an operation (`FR_MD_OPERATION`):

Literals

ID	ORDER_NUMBER	OPERATION_NUMBER	DESCRIPTION_ID
1,282,338	00010965	0010	1,282,337
1,282,351	00010965	0011	1,282,350
1,282,355	00010965	0012	1,282,354
1,282,368	00010965	0020	1,282,367
1,282,372	00010965	0021	1,282,371
1,282,388	00010965	0022	1,282,387
1,282,404	00010965	0030	1,282,403

The Select toward the literal table with language restrictions looks like the following:

```

set_ff_context_pkg.set_language_id('de-DE')

select o.id, o.order_number, o.operation_number, tm.text
from FR_MD_OPERATION o
left join fr_md_translation_map tm on o.description_id = tm.literal_id and
tm.language_id = set_ff_context_pkg.get_language_id();
    
```

The result is:

ID	ORDER_NUMBER	OPERATION_NUMBER	TEXT
1 660041	403423	0080	1. Nebenteil-AVO
2 660042	403423	0090	2. Nebenteil-AVO
3 660043	403423	0100	3. Nebenteil-AVO
4 660044	403423	0110	4. Nebenteil-AVO
5 660045	403683	0070	Einplanungs-AVO
6 660046	403683	0080	1. Nebenteil-AVO
7 660047	403683	0090	2. Nebenteil-AVO
8 660048	403683	0100	3. Nebenteil-AVO
9 660049	403683	0110	4. Nebenteil-AVO
10 735000	403881	0070	Einplanungs-AVO
11 735001	403881	0080	1. Nebenteil-AVO

Literals

5.2 FF_MD_LANGUAGE

see [Literals](#)

Column	Data type	Nullable	Description	Auflösung der Fremdschlüssel
ID	NUMBER	No	Technical primary key	
CODE	VARCHAR2	Yes	Code of the language in which the product is delivered: de-DE, en-GB, fr-FR	
DEFAULT_LANGUAGE	NUMBER	Yes	1 = language is the default language; 0 = language is not the default language	
DESCRIPTION_ID	NUMBER	Yes	Description	Join via FR_MD_TRANSLATION_MAP.ID , see Literals
SHORTDESCRIPTION_ID	NUMBER	Yes	Short description	Join via FR_MD_TRANSLATION_MAP.ID , see Literals
DEACTIVATABLE	NUMBER	No	Flag: Language can be deactivated	
DEACTIVATED	NUMBER	No	Flag: Language is deactivated	

5.3 FF_MD_LITERAL

see [Literals](#)

The literal table defines the keys of all existing literals.

Column	Data type	Nullable	Description
ID	NUMBER	No	Technical primary key
LITERAL_KEY	VARCHAR2	Yes	Key to translation in CSV file
REF_CONTENT_OVERWRITTEN	NUMBER	No	Flag: Were translations from CSV file overwritten

5.4 FR_MD_TRANSLATION_MAP

see [Literals](#)

Column	Data type	Nullable	Description	Auflösung der Fremdschlüssel
LITERAL_ID	NUMBER	No	Literal ID	Join via FF_MD_LITERAL.ID
TEXT	VARCHAR2	Yes	Literal text	
LANGUAGE_ID	NUMBER	No	Language ID	Join via FF_MD_LANGUAGE.ID

User Fields

6 User Fields

Freely usable user fields are saved normalized in an own table. 50 user fields are provided. When using the master data views, the user fields are already denormalized. If queries are done directly on the master data tables, the user fields have to be joined to do so. The USER FIELD set in table Table **FR_MD_USER_DATA** in the column **USER_DATA_ID** of the master data table is uniquely referenced by the following reporting relevant master data:

Description	Table
Order header	FR_MD_ORDER
Operations	FR_MD_OPERATION
Operation components	FR_MD_OPERATION_COMPONENT
Workplace master data	FR_MD_WORKPLACE
Material	FR_MD_MATERIAL

The master data objects workplace, operation and order have a reference in column „USER_DATA_ID“ (e.g. **FR_MD_OPERATION**)

ID	ORDER_NUMBER	OPERATION_NUMBER	USER_DATA_ID
1,282,338	00010965	0010	1,282,336
1,282,351	00010965	0011	1,282,349
1,282,355	00010965	0012	1,282,353
1,282,368	00010965	0020	1,282,366

to a line of the user field table **FR_MD_USER_DATA**

ID	UF_01	UF_02	UF_03	UF_04	UF_
1,282,333	userField1	userField2	userField3	userField4	userFie
1,282,336	userField1	userField2	userField3	userField4	userFie
1,282,341	554	<null>	<null>	<null>	<null>
1,282,349	userField1	userField2	userField3	userField4	userFie

The select to dissolve looks like the following

```
select o.id, o.order_number, ud.*
from FR_MD_OPERATION o
left join fr_md_user_data ud on o.user_data_id = ud.id
```

The result is:

ID	ORDER_NUMBER	UF_01	UF_02	UF_03	UF_04	UF_05	UF_06	UF_07	UF_08	UF_09	UF_10	UF_11	UF_12	UF_13	UF_14	UF_15	UF_16	UF_17	UF_18	UF_19	UF_20	UF_21	UF_22	UF_23
1 660000 402673	655001 TESTWERKSTOFF	0000,00x0000,00x0000,00 -120,42 -123,42 U	TESTWERKSTOFF	userField15	(null)	(null)	(null)	FT	(null)															
2 660001 402673	655007 TESTWERKSTOFF	0000,00x0000,00x0000,00 -120,42 -123,42 U	TESTWERKSTOFF	userField15	(null)	(null)	(null)	FT	(null)															

User Fields

6.1 FR_MD_USER_DATA

S. User fields

Column	Data type	Nullable	Description
ID	NUMBER	No	<p>Technical key, referenced by foreign key with the name USER_DATA_ID in the following entities:</p> <ul style="list-style-type: none"> • FR_MD_WORKPLACE • FR_MD_MATERIAL • FR_MD_OPERATION • FR_MD_OPERATION_COMPONENT • FR_MD_ORDER • FR_MD_PRODUCTION_TOOL_RESOURCE • FF_NC_ELEMENT • FF_NC_PACKET
UF_01, ..., UF_50	VARCHAR2(255)	Yes	User field with customer-specific defined content

7 Customer-Specific Fields

Customer-specific fields that are filled by the report model (rule engine), are defined via a header table **FR_MD_USER_DATA_TYPE** per metadata and are saved in one of the following data tables:

Data table	Use for
FR_MD_USER_CHARACTERISTIC	Double values
FR_MD_USER_COUNTER	Long values
FR_MD_USER_DENOTATION	String values

7.1 Meta Definition

Define the meta data in table **FR_MD_USER_DATA_TYPE**

ID	DATA_TYPE	DEFAULT_VALUE	DOMAIN_TYPE	MNEMONIC	PRESET_TYPE	DESCRIPTION_ID
739	COUNTER	<null>	OPERATION	100STROKES	0	740
741	COUNTER	<null>	OPERATION	OPERATION_STROKE_COUNTER	0	742
743	DENOTATION	<null>	OPERATION	DEVIATION_DESCRIPTION	0	744
745	COUNTER	<null>	WORKPLACE	SHIFT_DOWNTIME_COUNTER	0	746

- DATA-TYPE references the value table (see above); occurrences can be e.g.:

DATA_TYPE
1 DENOTATION
2 COUNTER
3 COUNTER_TIMELINE
4 CHARACTERISTIC_TIMELINE

- DOMAIN TYPE points to the master data type; occurrences:

DOMAIN_TYPE
MALFUNCTION_REASON
WORKPLACE
OPERATION_STATUS
WORKPLACE_STATUS
OPERATION

- MNEMONIC is a language neutral key

Customer-Specific Fields

7.2 Dissolving of Customer-Specific Fields

Example:

```
select o.id, o.order_number, o.operation_number, udt.mnemonic, uc.counter_value
from fr_md_operation o
join fr_md_user_counter uc on uc.domain_id = o.id -- Domain Objekt Filter
join fr_md_user_data_type udt on udt.id = uc.type_id -- Type-Filter
where udt.mnemonic = '100STROKES'
```

The result is:

ID	ORDER_NUMBER	OPERATION_NUMBER	MNEMONIC	COUNTER_VALUE
23423434	1774934	0020-H	100STROKES	6550620

7.3 FR_MD_USER_CHARACTERISTIC

Double values

Column	Data type	Nullable	Description	Dissolution of foreign keys
ID	NUMBER	N	Technical primary key	
DOMAIN_ID	NUMBER	Y	ID of the related domain object	Join via corresponding master data table (see Customer-Specific Fields)
TYPE_ID	NUMBER	Y	ID of the characteristic type	Join via FR_MD_USER_DATA_TYPE.ID
USER_BULK_DATA_ID	NUMBER	Y	ID of the data container for user fields	Join via FR_MD_USER_DATA.ID (see User fields)
CHARACTERISTIC	FLOAT	Y	Characteristic	

see also [Customer-Specific Fields](#)

7.4 FR_MD_USER_COUNTER

Long values

Column	Data type	Nullable	Description	Dissolution of foreign keys
ID	NUMBER	N	Technical primary key	
DOMAIN_ID	NUMBER	Y	ID of the related domain object	Join via corresponding master data table (see Customer-Specific Fields)
TYPE_ID	NUMBER	Y	ID of the characteristic type	Join via FR_MD_USER_DATA_TYPE.ID
USER_BULK_DATA_ID	NUMBER	Y	ID of the data container for user fields	Join via FR_MD_USER_DATA.ID (see User fields)
COUNTER_VALUE	NUMBER	Y	Characteristic (long value)	

see also [Customer-Specific Fields](#)

Customer-Specific Fields

7.5 FR_MD_USER_DENOTATION

String values

Column	Data type	Nullable	Description	Dissolution of foreign keys
ID	NUMBER	N	Technical primary key	
DOMAIN_ID	NUMBER	Y	ID of the related domain object	Join via corresponding master data table (see Customer-Specific Fields)
TYPE_ID	NUMBER	Y	ID of the characteristic type	Join via FR_MD_USER_DATA_TYPE.ID
USER_BULK_DATA_ID	NUMBER	Y	ID of the data container for user fields	Join via FR_MD_USER_DATA.ID (see User fields)
DENOTATION_VALUE	VARCHAR2	Y	String value	

see also Customer-Specific Fields

7.6 FR_MD_USER_DATA_TYPE

Column	Data type	Nullable	Description	Dissolution of foreign keys
ID	NUMBER	N	Technical primary key	
DATA_TYPE	VARCHAR2	Y	Type identification of the data type	
DEFAULT_VALUE	VARCHAR2	Y	Default value	
DOMAIN_TYPE	VARCHAR2	Y	Domain type	
MNEMONIC	VARCHAR2	Y	Mnemonic (language neutral key)	
PRESET_TYPE	NUMBER	Y	1 = default value shall be set initially automatically; 0 otherwise	
DESCRIPTION_ID	NUMBER	Y	Description	Join via FR_MD_TRANSLATION_MAP.ID, see Literals

see also Customer-Specific Fields

8 Multi-Client Capability

All master data objects referenced by the ERP (SAP) system have a reference to a so-called ERP key in column „ERP_KEY_ID“.

These characteristics are already denormalized in the master data views.

Description	Fremdschlüssel
Order header	FR_MD_ORDER.ERP_KEY_ID -> FR_MD_ERP_KEY.ID
Operations	FR_MD_OPERATION.ERP_KEY_ID -> FR_MD_ERP_KEY.ID
Workplace master data	FR_MD_WORKPLACE.ERP_KEY_ID -> FR_MD_ERP_KEY.ID
Machine master data	FR_MD_MACHINE.ERP_KEY_ID -> FR_MD_ERP_KEY.ID
Personnel master data	FR_MD_PERSON.PERSONELL_ERP_KEY_ID -> FR_MD_PERSON_ERP_KEY.ID

The ERP references are managed in table **FR_MD_ERP_KEY** or respectively in case of personnel master data in table **FR_MD_PERSON_ERP_KEY** verwaltet.

ID	ACTIVE	CLIENT	COMPANY_CODE	PLANT
1,267,120	1	1000	021	3000

8.1 FR_MD_ERP_KEY

Summarizing of ERP or SAP key data respectively (client / company code / plant)
see [Multi-client capability](#)

Column	Data type	Nullable	Description
ID	NUMBER	N	Technical primary key
ACTIVE	NUMBER	Y	1 = active SAP key; 0 = inactive
CLIENT	VARCHAR2	Y	Client
COMPANY_CODE	VARCHAR2	Y	Company code
PLANT	VARCHAR2	Y	Plant
SYSTEM_ID	VARCHAR2	Y	System ID

8.2 FR_MD_PERSON_ERP_KEY

Personnel client/company code/area

Column	Data type	Nullable	Description	Dissolution of foreign keys
ID	NUMBER	N	Technical primary key	
ACTIVE	NUMBER	Y	Active/passive domain object (1 = active, 0 = inactive)	
CLIENT	VARCHAR2	Y	Client	
COMPANY_CODE	VARCHAR2	Y	Company code	
PERSONNEL_AREA	VARCHAR2	Y	Personnel area	
SYSTEM_ID	VARCHAR2	Y	System ID	

9 Time Stamp for Grouping and Sorting

All time stamps, especially the shift day in views, are additionally fragmented into the following components, so that it is possible to group or selected toward these components. The original time stamp remains in the views.

Description	Example	Format	Column	Remark
Year	2013	YYYY	*_YEAR	
Month	2015/08	YYYY/MM	*_MONTH	
Calendar week	2014/33	YYYY/WW	*_WEEK	
ISO week		YYYY/WW	*_ISOWEEK	Week of year (1-52 or 1-53) based on the ISO standard. (equals date format in Oracle: "IW" => http://docs.oracle.com/cd/B28359_01/olap.111/b28126/dml_commands_1029.htm)
Date	2013/08/01	YYYY/MM/DD	*_DATE	This format is international, sortable alphabetically and behaves optimal when indexing via a function Based index
Time (in UTC)	2013/08/01 12:16.53	YYYY/MM/DD hh:mm:ss	*_DATETIME	

10 View Overview Based on Time Periods

	Workplace grouped by shift	Operation grouped by shift	Operation
Past 2 History incl. archived data, compressed	V_SC_WORKPLACE_BASE Status compression grouped by workplace, shift, status, phase, malfunction reason.	V_SC_OPERATION_BASE Status compression grouped by operation, shift, status, phase, malfunction reason.	V_C_OPERATION_STATUS_DURATION Duration of a phase/status per operation (grouped by operation, status, phase)
	V_SC_WORKPLACE_QUANTITY Quantity compression grouped by workplace, shift, status, phase, malfunction reason and quantity reason. This view goes one stage deeper than the others (grouping by quantity reason).	V_SC_OPERATION_QUANTITY Quantity compression grouped by operation, shift, status, phase, malfunction reason, quantity reason. This view goes one stage deeper than the others (grouping by quantity reason).	V_C_OPERATION_QUANTITY_OP Quantity grouped by operation, status, phase, malfunction reason and quantity reason. This view goes one stage deeper than the others (grouping by quantity reason).
	V_SC_WORKPLACE_STROKE Stroke compression grouped by workplace, shift, status, phase and malfunction reason.	V_SC_OPERATION_STROKE Stroke compression grouped by operation, shift, status, phase, malfunction reason.	
	V_SC_WORKPLACE_QUANTITY_SUM Status, quantity types, strokes grouped by workplace, shift, status, phase, malfunction reason.	V_SC_OPERATION_QUANTITY_SUM Status, quantity types, strokes grouped by operation, shift, status, phase, malfunction reason.	
			V_C_OPERATION_QUANTITY_OP_SUM Yield, scrap quantity, rework quantity grouped by operation, status, phase, malfunction reason.
			V_C_OPERATION_TIMESTAMPS Start and end times of phases of an operation (grouped by operation). It is used to determine minimal start time, maximal end time and the duration of the single operation phases.
	V_SC_PERS_WORKPLACE_BASE Status compression grouped by person, operation, shift, person status, operation status, operation phase, malfunction reason.	V_SC_PERS_OPERATION_BASE Status compression grouped by person, operation, shift, person status, operation status, operation phase, malfunction reason.	
	Workplace timeline views	Operation timeline views	
Past 1 History	V_TL_WORKPLACE Quantity and stroke sum com-	V_TL_OPERATION Quantity and stroke sum com-	

View Overview Based on Time Periods

	Workplace grouped by shift	Operation grouped by shift	Operation
without archived data, uncompressed	pressed with regard to workplace, shift and status	pressed with regard to operation, shift und status	
	V_TL_WORKPLACE_QUANTITY Quantity with regard to a workplace (uncompressed)	V_TL_OPERATION_QUANTITY Operation quantity (uncompressed)	
	V_TL_WORKPLACE_STROKE Strokes with regard to a workplace (uncompressed)	V_TL_OPERATION_STROKE Operation strokes (uncompressed)	
	V_TL_WORKPLACE_ATTRIB User-defined specific timeline attributes, e.g. stroke factor.	V_TL_OPERATION_ATTRIB User-defined specific timeline attributes, e.g. stroke factor.	
		V_TL_OPERATION_BASE_OP View delivers intervals grouped by operation, status, phase and malfunction reason. Multiple shifts are grouped too, if the status within does not change.	
		V_TL_OPERATION_QUANTITY_OP_LE Quantity grouped by operation, phase, status and quantity type. To determine the actual quantity of an operation.	
	V_TL_PERS_WORKPLACE_BASE Status with regard to person, workplace, shift und status	V_TL_PERS_OPERATION_BASE Status with regard to person, operation, workplace, shift und status	
	Regard to workplace	Regard to operation	
Gegenwart Status	V_ST_WORKPLACE Current workplace status	V_ST_OPERATION Current operation status	

11 Past 1

A report timeline reflects the temporal sequence of the reporting of a workplace, an operation or a person. In what way the reports arrange the timeline, depends on the definition of the ticket model. A timeline always consists of a

- View at a status interval table, that maps the status of a master data object with assignment to the current shift (machine status, workplace status, operation status) and
- Single events for strokes or quantities

New status intervals are created in the case of

- Status changes
- Shift events

11.1 When Is a Timeline Updated?

The timeline is updated with a slight delay after a report. How big the delay really is depends on the current load. The process of the timeline update can be slowed down by a subsequent correction, so that the timeline is updated with a delay of a few seconds.

11.2 Timeline Tables

Currently there are timelines for the reporting of

- Workplace status with quantity and strokes through tables

Table	Data
FR_DS_WORKPLACE_BASE_TL	Status intervals table
FR_DS_WORKPLACE_QUANTITY_LE	Quantity reports
FR_DS_WORKPLACE_STROKE_LE	Stroke reports
FR_DS_WORKPLACE_ATTRIB_TL	Attribute history

- Operation timeline with quantities

Table	Data
FR_DS_OPERATION_BASE_TL	Status intervals table
FR_DS_OPERATION_QUANTITY_LE	Quantity reports
FR_DS_OPERATION_STROKE_LE	Stroke reports
FR_DS_OPERATION_ATTRIB_TL	Attribute history

A new entry in the interval tables (new interval) always takes place, if

- the interval status (phase, status, seven-stage coding) changes or
- a shift event occurs and the shift status changes because of it or
- another interval relevant attribute changes (e.g. number of persons logged-in at the workplace)

Because of the shift boundary or respectively a unique shift assignment in the interval tables, the compression can be executed via materialized views.

11.2.1 Timeline Basis

The status interval always consist of the basic information/columns

Start time stamp	= START_TS
End time stamp	= END_TS
Status	= PHASE_ID + STATUS_ID + MALFUNCTION_REASON_VECTOR_ID
Shift reference	= SHIFT_ID
Useable intervals	= CURRENT_ELEMENT
Current interval	= CURRENT_OPEN_INTERVAL
Interval duration	= DURATION
Status via shift change	= FROM_LAST_SHIFT
Status change general	= STATUS_CHANGE_IDENTIFIED

All intervals that are useable for an analysis are marked with

- CURRENT_ELEMENT = 1

The timeline is always created similarly by the opening and closing of intervals. To design the replay logic as easy as possible, the process is

1. Open interval is created with END_TS = 0 and is marked with CURRENT_ELEMENT = 1 and CURRENT_OPEN_INTERVAL = 1.
2. => Status or attribute change lead to
 - a. Update of the currently open interval with CURRENT_ELEMENT = 0 and CURRENT_OPEN_INTERVAL = 0
 - b. Closed interval is created with END_TS ≠ 0 and is marked with CURRENT_ELEMENT = 1 and CURRENT_OPEN_INTERVAL = 0.
 - c. Open interval is created with END_TS = 0 and is marked with CURRENT_ELEMENT = 1 and CURRENT_OPEN_INTERVAL = 1.

The current status is marked by an interval with the identifier

- CURRENT_OPEN_INTERVAL = 1 (and END_TS = 0)

If the status does not change in case of a shift event,

- FROM_LAST_SHIFT = 1 is set.

If a status change occurred,

- STATUS_CHANGE_IDENTIFIED = 1 is set.

Past 1

11.2.2 FR_DS_OPERATION_ATTRIB_TL

Column	Data type	Nullable	Description	Dissolution of foreign keys
ID	NUMBER	N	Technical primary key	
CHANGE_TS_ORDER_INDEX	NUMBER	N	Change time stamp: order index (with identical time stamp (UTC) of the event)	
CHANGE_TS	TIMESTAMP(6)	N	Change time stamp	
CREATOR_ID	NUMBER	Y	Creator	
CURRENT_ELEMENT	NUMBER	Y	Flag: 1 = is current element (regarding version history); 0 otherwise	
VERSION_NUMBER	NUMBER	Y	Change version	
CURRENT_OPEN_INTERVAL	NUMBER	Y	Flag: 1 = interval is currently open interval; 0 otherwise	
DURATION	NUMBER	Y	Duration (msec) of the interval	
END_TS	TIMESTAMP(6)	Y	End time (UTC) of the interval	
OPEN_INTERVAL	NUMBER	Y	Flag: 1 = interval is open interval; 0 otherwise	
START_TS	TIMESTAMP(6)	Y	Start time (UTC) of the interval	
ATTRIBUTE_VALUE_1, ..., ATTRIBUTE_VALUE_10	VARCHAR2	Y	Value of attribute 1 .. 10	
BASE_INTERVAL_ID	NUMBER	Y	ID of the related interval of the base history	Join via FR_DS_OPERATION_BASE_TL
OPERATION_ID	NUMBER	Y	Operation ID	Join via FR_MD_OPERATION
TYPE_ID	NUMBER	Y	ID of the attribute type	Join via FR_MD_TIMELINE_ATTRIBUTE
WORKPLACE_ID	NUMBER	Y	Workplace ID	Join via FR_MD_WORKPLACE

11.2.3 FR_DS_OPERATION_BASE_TL

Status interval table

Column	Data type	Nullable	Description	Dissolution of foreign keys
ID	NUMBER	N	Technical primary key	
WORKPLACE_ID	NUMBER	Y	Workplace ID	Join via FR_MD_WORKPLACE.ID
OPERATION_ID	NUMBER	Y	Operation ID	Join via FR_MD_OPERATION.ID
OPERATION_STATUS_ID	NUMBER	Y	ID of the operation status	Join via FR_MD_OPERATION_STATUS_DEF.ID
OPERATION_PHASE_ID	NUMBER	Y	ID of the operation phase	Join via FR_MD_OPERATION_PHASE_DEF.ID
MALFUNCTION_REASON_VECTOR_ID	NUMBER	Yes	ID of the malfunction reason vector	Join via FR_MD_MALFUNCTION_REASON_VEC.ID
SHIFT_ID	NUMBER	Y	ID of the related shift	Join via FR_MD_SHIFT.ID
FROM_LAST_SHIFT	NUMBER	Y	Flag: 1 = workplace status of last shift adopted; 0 otherwise	
STATUS_CHANGE_IDENTIFIED	NUMBER	Y	Flag: 1 = intervall change was caused by a satuss change (status/change); 0 otherwise	
VERSION_NUMBER	NUMBER	Y	Change version	
CURRENT_ELEMENT	NUMBER	Y	1 = is current element (regarding version history); 0 otherwise	
CHANGE_TS_ORDER_INDEX	NUMBER	N	Change time stamp (order index)	
CHANGE_TS	TIMESTAMP(6)	N	Change time stamp	
CREATOR_ID	NUMBER	Y	Creator ID	
DURATION	NUMBER	Y	Duration (msec) of the interval	
START_TS	TIMESTAMP(6)	Y	Start time (UTC) of the interval	
END_TS	TIMESTAMP(6)	Y	End time (UTC) of the interval	
OPEN_INTERVAL	NUMBER	Y	1 = interval is open interval; 0 otherwise	
CURRENT_OPEN_INTERVAL	NUMBER	Y	1 = interval is currently open interval; 0 otherwise	
ACTIVE_PHASE	NUMBER	Y	1 = phase is active	

Past 1

Column	Data type	Nullable	Description	Dissolution of foreign keys
			phase; 0 otherwise	
TICKET_ID	NUMBER	Y	Ticket ID	Join via FO_TA_TICKET.ID

11.2.4 FR_DS_OPERATION_CS

Table of current status values.

Column	Data type	Nulla-ble	Description	Dissolution of foreign keys
ID	NUMBER	N	Technical primary key	
WORKPLACE_ID	NUMBER	Y	Workplace ID	Join via FR_MD_WORKPLACE.ID
OPERATION_ID	NUMBER	Y	Operation ID	Join via FR_MD_OPERATION.ID
OPERATION_STATUS_ID	NUMBER	Y	ID of the operation status	Join via FR_MD_OPERATION_STATUS_DEF.ID
OPERATION_PHASE_ID	NUMBER	Y	ID of the operation phase	Join via FR_MD_OPERATION_PHASE_DEF.ID
MALFUNC-TION_REASON_VECTOR_ID	NUMBER	Y	ID of the malfunction reason vector	Join via FR_MD_MALFUNCTION_REASON_VEC.ID
TEMP_MACHINE_QUANTITY_COU-NT	FLOAT	Y	Temporal machine quantity	
UNBOOKED_QTY_COUNT_SHIFT	FLOAT	Y	Temporal machine quantity of current shift	
CHANGE_TS	TIMESTAMP(6)	N	Change time stamp	
STARTED_TS	TIMESTAMP(6)		Time stamp when operation was active the first time	
COMPLETED_TS	TIMESTAMP(6)		Time stamp when operation was finished the last time	
UNBOOKED_QTY_COUNT_SHIFT	TIMESTAMP(6)		Current amount of unbooked quantities	

11.2.5 FR_DS_OPERATION_QUANTITY_LE

Quantity reports

Column	Data type	Nulla-ble	Description	Dissolution of foreign keys
ID	NUMBER	N	Technical primary key	
WORKPLACE_ID	NUMBER	Y	Workplace ID	Join via FR_MD_WORKPLACE.ID
OPERATION_ID	NUMBER	Y	Operation ID	Join via FR_MD_OPERATION.ID
OPERATION_STATUS_ID	NUMBER	Y	ID of the operation status	Join via FR_MD_OPERATION_STATUS_DEF.ID
OPERATION_PHASE_ID	NUMBER	Y	ID of the operation phase	Join via FR_MD_OPERATION_PHASE_DEF.ID
MALFUNC-TION_REASON_VECTOR_ID	NUMBER	Y	ID of the malfunction reason vector	Join via FR_MD_MALFUNCTION_REASON_VECTOR.ID
SHIFT_ID	NUMBER	Y	ID of the related shift	Join via FR_MD_SHIFT.ID
CHANGE_TS_ORDER_INDEX	NUMBER	N	Change time stamp (order index)	
CHANGE_TS	TIMESTAMP(6)	N	Change time stamp	
CREATOR_ID	NUMBER	Y	Creator ID	
START_TS	TIMESTAMP(6)	Y	Start time (UTC) of the interval	
AMOUNT	FLOAT	Y	Amount	
QUANTITY_TYPE_ID	NUMBER	Y	Quantity type	Join via FR_MD_OPERATION_QUANTITY_TYPE.ID
QUANTITY_TYPE_REASON_ID	NUMBER	Y	ID of the quantity reason	Join via FR_MD_QUANTITY_REASON.ID
TICKET_ID	NUMBER	Y	Ticket ID with remark	Join via FO_TA_TICKET.ID

11.2.6 FR_DS_OPERATION_STROKE_LE

Stroke reports

Column	Data type	Nulla-ble	Description	Dissolution of foreign keys
ID	NUMBER	N	Technical primary key	
WORKPLACE_ID	NUMBER	Y	Workplace ID	Join via FR_MD_WORKPLACE.ID
OPERATION_ID	NUMBER	Y	Operation ID	Join via FR_MD_OPERATION.ID
OPERATION_STATUS_ID	NUMBER	Y	ID of the operation status	Join via FR_MD_OPERATION_STATUS_DEF.ID
OPERATION_PHASE_ID	NUMBER	Y	ID of the operation phase	Join via FR_MD_OPERATION_PHASE_DEF.ID
MALFUNC-TION_REASON_VECTOR_ID	NUMBER	Y	ID of the malfunction reason vector	Join via FR_MD_MALFUNCTION_REASON_VEC.ID
SHIFT_ID	NUMBER	Y	ID of the related shift	Join via FR_MD_SHIFT.ID
CHANGE_TS_ORDER_INDEX	NUMBER	N	Change time stamp (order index)	
CHANGE_TS	TIMESTAMP(6)	N	Change time stamp	
CREATOR_ID	NUMBER	Y	Creator ID	
START_TS	TIMESTAMP(6)	Y	Start time (UTC) of the interval	
NUMBER_OF_STROKES	NUMBER	Y	Number of strokes	

11.2.7 FR_DS_PERS_OPERATION_BASE_TL

Status interval table

Column	Data type	Nul-labl-e	Description	Dissolution of foreign keys
ID	NUMBER	N	Technical primary key	
WORKPLACE_ID	NUMBER	Y	Workplace ID	Join via FR_MD_WORKPLACE.ID
OPERATION_ID	NUMBER	Y	Operation ID	Join via FR_MD_OPERATION.ID
OPERATION_STATUS_ID	NUMBER	Y	ID of the operation status	Join via FR_MD_OPERATION_STATUS_DEF.ID
OPERATION_PHASE_ID	NUMBER	Y	ID of the operation phase	Join via FR_MD_OPERATION_PHASE_DEF.ID
MALFUNCTION_REASON_VECTOR_ID	NUMBER	Y	ID of the malfunction reason vector	Join via FR_MD_MALFUNCTION_REASON_VEC.ID
SHIFT_ID	NUMBER	Y	ID of the related shift	Join via FR_MD_SHIFT.ID
PERSON_ID	NUMBER	Y	Worker ID	Join via FR_MD_PERSON.ID
PERSON_STATUS_ID	NUMBER	Y	ID of the personnel status	Join via FR_MD_PERSON_STATUS_DEF.ID
FROM_LAST_SHIFT	NUMBER	Y	Flag: 1 = workplace status adopted from last shift; 0 otherwise	
STATUS_CHANGE_IDENTIFIED	NUMBER	Y	Flag: 1 = interval change was caused by a status change (status/phase); 0 otherwise	
VERSION_NUMBER	NUMBER	Y	Change version	
CURRENT_ELEMENT	NUMBER	Y	1 = is current element (regarding version history); 0 otherwise	
CHANGE_TS_ORDER_INDEX	NUMBER	N	Change time stamp (order index)	
CHANGE_TS	TIMESTAMP(6)	N	Change time stamp	
CREATOR_ID	NUMBER	Y	Creator ID	
DURATION	NUMBER	Y	Duration (msec) of the interval	
START_TS	TIMESTAMP(6)	Y	Start time (UTC) of the interval	
END_TS	TIMESTAMP(6)	Y	End time (UTC) of the interval	
OPEN_INTERVAL	NUMBER	Y	1 = interval is open interval; 0 otherwise	
CURRENT_OPEN_INTERVAL	NUMBER	Y	1 = interval is currently open interval; 0 otherwise	

Past 1

Column	Data type	Null- able	Description	Dissolution of foreign keys
PERCENT_WEIGHTING	FLOAT	Y	Weighting	
ANNOTATION	VARCHAR2	Y	Additional remark	

11.2.8 FR_DS_PERS_WORKPLACE_BASE_TL

Status interval table

Column	Data type	Nullable	Description	Dissolution of foreign keys
ID	NUMBER	N	Technical primary key	
WORKPLACE_ID	NUMBER	Y	Workplace ID	Join via FR_MD_WORKPLACE.ID
WORKPLACE_STATUS_ID	NUMBER	Y	ID of the workplace status	Join via FR_MD_WORKPLACE_STATUS_DEF.ID
WORKPLACE_PHASE_ID	NUMBER	Y	ID of the workplace phase	Join via FR_MD_WORKPLACE_PHASE_DEF.ID
MALFUNC-TION_REASON_VECTOR_ID	NUMBER	Y	ID of the malfunction reason vector	Join via FR_MD_MALFUNCTION_REASON_VEC.ID
SHIFT_ID	NUMBER	Y	ID of the related shift	Join via FR_MD_SHIFT.ID
PERSON_ID	NUMBER	Y	Worker ID	Join via FR_MD_PERSON.ID
PERSON_STATUS_ID	NUMBER	Y	ID of the personnel status	Join via FR_MD_PERSON_STATUS_DEF.ID
FROM_LAST_SHIFT	NUMBER	Y	Flag: 1 = workplace status adopted from last shift; 0 otherwise	
STA-TUS_CHANGE_IDENTIFIED	NUMBER	Y	Flag: 1 = interval change was caused by a status change (status/phase); 0 otherwise	
VERSION_NUMBER	NUMBER	Y	Change version	
CURRENT_ELEMENT	NUMBER	Y	1 = is current element (regarding version history); 0 otherwise	
CHANGE_TS_ORDER_INDEX	NUMBER	N	Change time stamp (order index)	
CHANGE_TS	TIMESTAMP(6)	N	Change time stamp	
CREATOR_ID	NUMBER	Y	Creator ID	
DURATION	NUMBER	Y	Duration (msec) of the interval	
START_TS	TIMESTAMP(6)	Y	Start time (UTC) of the interval	

Past 1

Column	Data type	Nullable	Description	Dissolution of foreign keys
END_TS	TIMESTAMP(6))	Y	End time (UTC) of the interval	
OPEN_INTERVAL	NUMBER	Y	1 = interval is open interval; 0 otherwise	
CURRENT_OPEN_INTERVAL	NUMBER	Y	1 = interval is currently open interval; 0 otherwise	
ANNOTATION	VARCHAR2	Y	Additional remark	

11.2.9 FR_DS_WORKPLACE_ATTRIB_TL

Column	Data type	Nullable	Description	Dissolution of foreign keys
ID	NUMBER	N	Technical primary key	
CHANGE_TS_ORDER_INDEX	NUMBER	N	Change time stamp: order index (when identical time stamp (UTC) of the event)	
CHANGE_TS	TIMESTAMP(6)	N	Change time stamp	
CREATOR_ID	NUMBER	Y	Creator	
CURRENT_ELEMENT	NUMBER	Y	Flag: 1 = is current element (regarding version history); 0 otherwise	
VERSION_NUMBER	NUMBER	Y	Change version	
CURRENT_OPEN_INTERVAL	NUMBER	Y	Flag: 1 = interval is currently open interval; 0 otherwise	
DURATION	NUMBER	Y	Duration (msec) of the intervals	
END_TS	TIMESTAMP(6)	Y	End time (UTC) of the interval	
OPEN_INTERVAL	NUMBER	Y	Flag: 1 = interval is open interval; 0 otherwise	
START_TS	TIMESTAMP(6)	Y	Start time (UTC) of the interval	
ATTRIBUTE_VALUE_1, ..., ATTRIBUTE_VALUE_10	VARCHAR2	Y	Attribute value 1 .. 10	
BASE_INTERVAL_ID	NUMBER	Y	ID of the related interval of the base history	Join via FR_DS_WORKPLACE_BASE_TL.ID
TYPE_ID	NUMBER	Y	ID of the attribute type	Join via FR_MD_TIMELINE_ATTRIBUT_E
WORKPLACE_ID	NUMBER	Y	Workplace ID	Join via FR_MD_WORKPLACE.ID

Past 1

11.2.10 FR_DS_WORKPLACE_BASE_TL

Status intervals for workplaces

Column	Data type	Nulla-ble	Description	Dissolution of foreign keys
ID	NUMBER	N	Technical primary key	
WORKPLACE_ID	NUMBER	Y	Workplace ID	
WORKPLACE_STATUS_ID	NUMBER	Y	ID of the workplace status	Join via FR_MD_WORKPLACE_STATUS_DEF.ID
WORKPLACE_PHASE_ID	NUMBER	Y	ID of the workplace phase	Join via FR_MD_WORKPLACE_PHASE_DEF.ID
MALFUNC-TION_REASON_VECTOR_ID	NUMBER	Y	ID of the malfunction reason vector	Join via FR_MD_MALFUNCTION_REASON_VEC.ID
SHIFT_ID	NUMBER	Y	ID of the related shift	Join via FR_MD_SHIFT.ID
TICKET_ID	NUMBER	Y	Ticket ID	Join via FO_TA_TICKET.ID
FROM_LAST_SHIFT	NUMBER	Y	Flag: 1 = Workplace status adopted from last shift; 0 otherwise	
TIME_PER_UNIT	NUMBER	Y	Workplace target time per unit (in msec)	
STROKE_FACTOR	FLOAT	Y	Workplace stroke factor	
LEADING_OPERATION_ID	NUMBER	Y	ID (of the representative) leading operation	Join via FR_MD_OPERATION.ID
NUM-BER_ACTIVE_OPERATIONS	NUMBER	Y	Number of active operations at the workplace	
NUM-BER_ASSIGNED_PERSONS	NUMBER	Y	Number of logged in persons	
GENERIC_VALUE_1, ..., GENERIC_VALUE_5	VARCHAR2	Y	Generic value 1 ... 5	
STATUS_CHANGE_IDENTIFIED	NUMBER	Y	Flag: 1 = interval change was caused by a status change (status/phase); 0 otherwise	
VERSION_NUMBER	NUMBER	Y	Change version	
CURRENT_ELEMENT	NUMBER	Y	1 = is current element (regarding version history); 0 otherwise	
CHANGE_TS_ORDER_INDEX	NUMBER	N	Change time stamp (order index)	
CHANGE_TS	TIMESTAMP	N(6)	Change time stamp	
CREATOR_ID	NUMBER	Y	Creator ID	
ANNOTATION	VARCHAR2	Y	Additional remark	
DURATION	NUMBER	Y	Duration (msec) of the interval	
START_TS	TIMESTAMP	Y	Start time (UTC) of the	

Past 1

Column	Data type	Nullable	Description	Dissolution of foreign keys
	P(6)		interval	
END_TS	TIMESTAMP P(6)	Y	End time (UTC) of the interval	
OPEN_INTERVAL	NUMBER	Y	1 = interval is open interval; 0 otherwise	
CURRENT_OPEN_INTERVAL	NUMBER	Y	1 = interval is currently open interval; 0 otherwise	

11.2.11 FR_DS_WORKPLACE_QUANTITY_LE

Quantity history assigned to the workplace base history

Column	Data type	Nullable	Description	Dissolution of foreign keys
ID	NUMBER	N	Technical primary key	
WORKPLACE_ID	NUMBER	Y	Workplace ID	
WORKPLACE_STATUS_ID	NUMBER	Y	ID of the workplace status	Join via FR_MD_WORKPLACE_STATUS_DEF
WORKPLACE_PHASE_ID	NUMBER	Y	ID of the workplace phase	Join via FR_MD_WORKPLACE_PHASE_DEF
MALFUNC-TION_REASON_VECTOR_ID	NUMBER	Y	ID of the malfunction reason vector	Join via FR_MD_MALFUNCTION_REASON_VEC.ID
SHIFT_ID	NUMBER	Y	ID of the related shift	Join via FR_MD_SHIFT.ID
CHANGE_TS_ORDER_INDEX	NUMBER	N	Change time stamp (order index)	
CHANGE_TS	TIMESTAMP(6)	N	Change time stamp	
CREATOR_ID	NUMBER	Y	Creator ID	
START_TS	TIMESTAMP(6)	Y	Start time (UTC) of the interval	
AMOUNT	FLOAT	Y	Amount	
QUANTITY_TYPE_ID	NUMBER	Y	Quantity type	Join via FR_MD_OPERATION_QUANTITY_TYPE.ID
QUANTI-TY_TYPE_REASON_ID	NUMBER	Y	ID of the reason for the chosen quantity type	Join via FR_MD_QUANTITY_REASON.ID
TICKET_ID	NUMBER	Y	Ticket ID	Join via FO_TA_TICKET.ID

Past 1

11.2.12 FR_DS_WORKPLACE_STROKE_LE

Stroke reports

Column	Data type	Nullable	Description	Dissolution of foreign keys
ID	NUMBER	N	Technical primary key	
WORKPLACE_ID	NUMBER	Y	Workplace ID	
WORKPLACE_STATUS_ID	NUMBER	Y	ID of the workplace status	Join via FR_MD_WORKPLACE_STATUS_DEF.ID
WORKPLACE_PHASE_ID	NUMBER	Y	ID of the workplace phase	Join via FR_MD_WORKPLACE_PHASE_DEF.ID
MALFUNC-TION_REASON_VECTOR_ID	NUMBER	Y	ID of the malfunction reason vector	Join via FR_MD_MALFUNCTION_REASON_VEC.ID
SHIFT_ID	NUMBER	Y	ID of the related shift	Join via FR_MD_SHIFT.ID
CHANGE_TS_ORDER_INDEX	NUMBER	N	Change time stamp (order index)	
CHANGE_TS	TIMESTAMP(6)	N	Change time stamp	
CREATOR_ID	NUMBER	Y	Creator ID	
START_TS	TIMESTAMP(6)	Y	Start time (UTC) of the interval	
NUMBER_OF_STROKES	NUMBER	Y	Number of strokes	

11.2.13 FR_MD_TIMELINE_ATTRIBUTE

Master data table of the timeline attributes

Column	Data type	Nullable	Description
ID	NUMBER	N	Technical primary key
DOMAIN_TYPE	VARCHAR2	Y	Domain area (WORKPLACE, OPERATION etc.)
MNEMONIC	VARCHAR2	Y	Mnemonic of the attribute

11.2.14 FR_DS_OP_MACHINE_QUANTITY_LOG

Stores operation-related machine quantities.

 Entries in the table are not changed by quantity corrections.

Column	Data type	Nullable	Description	Dissolution of foreign keys
ID	NUMBER	N	Technical primary key	
CHANGE_TS	TIMESTAMP(6)	N	Change time stamp	
CHANGE_TS_ORDER_INDEX	NUMBER	N	Change time stamp (order index)	
CREATOR_ID	NUMBER	Y	Creator ID	
WORKPLACE_ID	NUMBER	Y	Workplace ID	Join über FR_MD_WORKPLACE.ID
OPERATION_ID	NUMBER	Y	Operation ID	Join

Past 1

Column	Data type	Nullable	Description	Dissolution of foreign keys
BASE_START_TS	TIMESTAMP(6)	Y	Start time (UTC) of the interval	über FR_MD_OPERATION.ID
AMOUNT	FLOAT	Y	Quantity	

11.2.15 FR_DS_WP_MACHINE_QUANTITY_LOG

Stores workplace-related machine quantities.

i Entries in the table are not changed by quantity corrections.

Column	Data type	Nullable	Description	Dissolution of foreign keys
ID	NUMBER	N	Technical primary key	
CHANGE_TS	TIMESTAMP(6)	N	Change time stamp	
CHANGE_TS_ORDER_INDEX	NUMBER	N	Change time stamp (order index)	
CREATOR_ID	NUMBER	Y	Creator ID	
WORKPLACE_ID	NUMBER	Y	Workplace ID	Join über FR_MD_WORKPLACE.ID
BASE_START_TS	TIMESTAMP(6)	Y	Start time (UTC) of the interval	
AMOUNT	FLOAT	Y	Quantity	

11.3 Timeline Views

11.3.1 Views of Workplace Timelines

View name	Meaning
V_TL_WORKPLACE	Quantity and stroke sum compressed regarding workplace, shift and status <ul style="list-style-type: none"> Quantity summarized based on quantity type (scrap quantity, yield quantity, rework quantity) and strokes in one line
V_TL_WORKPLACE_QUANTITY	Quantity with regard to a workplace (uncompressed) like in BDE_ERG Is needed i.e. for the cycle time analysis.
V_TL_WORKPLACE_STROKE	Strokes with regard to a workplace (uncompressed) like in BDE_ERG Is needed i.e. for the cycle time analysis.
V_TL_WORKPLACE_ATTRIB	User defined specific timeline attributes, e.g. stroke factor.

11.3.1.1 V_TL_WORKPLACE

11.3.1.1.1 Purpose

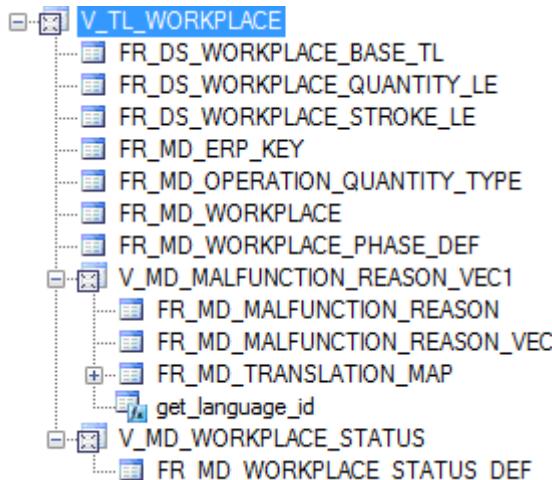
Quantities and strokes sum with regard to workplace, shift and status

- Quantities summarized with regard to quantity type (scrap quantity, yield, rework quantity) and strokes in one line

Past 1

View of the tables FR_DS_WORKPLACE_BASE_TL, FR_DS_WORKPLACE_QUANTITY_LE respectively
FR_DS_WORKPLACE_STROKE_LE.

11.3.1.1.2 Dependencies



11.3.1.1.3 Columns

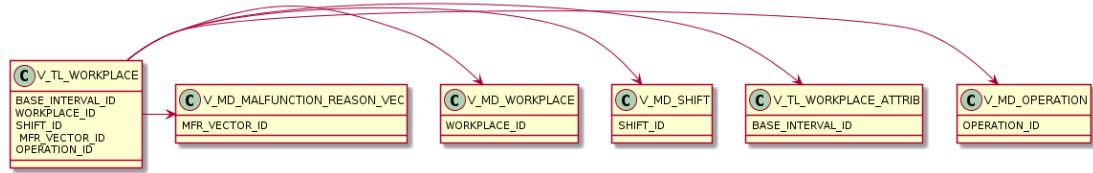
Column	Data type	Description	Source: master data table	Dissolution of foreign keys	Since version
BASE_INTERVAL_ID	NUMBER	ID of the base interval	FR_DS_WORKPLACE_B ASE_TL	Join via V_TL_WORKPLACE_ATTRIB.BASE_INTERVAL_ID	5.0.0.15
WORKPLACE_ID	NUMBER	Workplace ID	FR_DS_WORKPLACE_B ASE_TL	Join via V_MD_WORKPLACE.WORK PLACE_ID	5.0.0.15
SHIFT_ID	NUMBER	Shift ID	FR_DS_WORKPLACE_B ASE_TL	Join via V_MD_SHIFT.SHIFT_ID	5.0.0.15
MFR_VECTOR_ID	NUMBER	Malfunction reason vector	FR_DS_WORKPLACE_B ASE_TL	Join via V_MD_MALFUNCTION_REASON_VEC.MFR_VECTOR_ID	5.0.0.15
ANNOTATION	VARCHAR2	Annotation of the status reason	FR_DS_WORKPLACE_B ASE_TL		
PHASE_ID	NUMBER	ID of the workplace phase	FR_DS_WORKPLACE_B ASE_TL		5.3.0
STATUS_ID	NUMBER	ID of the workplace status	FR_DS_WORKPLACE_B ASE_TL		5.3.0
START_TS	TIMESTAMP(6)	Start time (UTC) of the interval; additional derived columns see Timestamp for grouping and sorting	FR_DS_WORKPLACE_B ASE_TL		5.0.0.15
END_TS	TIMESTAMP(6)	End- End time (UTC) of the interval; additional derived col-	FR_DS_WORKPLACE_B ASE_TL		5.0.0.15

Past 1

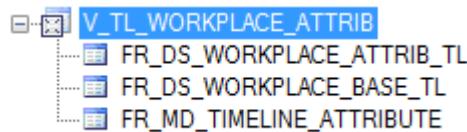
Column	Data type	Description	Source: master data table	Dissolution of foreign keys	Since version
		umns see Timestamp for grouping and sorting			
QTY	NUMBER	Overall quantity	FR_DS_WORKPLACE_Q_UANTITY_LE FR_MD_OPERATION_QUANTITY_TYPE		5.0.0. 15
YIELD_QTY	NUMBER	Yield	FR_DS_WORKPLACE_Q_UANTITY_LE FR_MD_OPERATION_QUANTITY_TYPE		5.0.0. 15
SCRAP_QTY	NUMBER	Scrap quantity	FR_DS_WORKPLACE_Q_UANTITY_LE FR_MD_OPERATION_QUANTITY_TYPE		5.0.0. 15
REWORK_QTY	NUMBER	Rework quantity	FR_DS_WORKPLACE_Q_UANTITY_LE FR_MD_OPERATION_QUANTITY_TYPE		5.0.0. 15
NUMBER_OF_STROKES	NUMBER	Strokes	FR_DS_WORKPLACE_S_TROKE_LE		5.0.0. 15
DURATION	NUMBER	Duration (msec) of the interval	FR_DS_WORKPLACE_BASE_TL		5.0.0. 15
FROM_LAST_SHIFT	NUMBER	Flag: 1 = workplace status adopted from last shift; 0 otherwise	FR_DS_WORKPLACE_BASE_TL		5.0.0. 15
TICKET_ID	NUMBER	Ticket ID	FR_DS_WORKPLACE_BASE_TL	Join via FO_TA_TICKET	
GENERIC_VALUE_1,...,GENERIC_VALUE_5	VAR-CHAR2	Generic value 1 ... 5	FR_DS_WORKPLACE_BASE_TL		5.0.0. 15
NUMBER_ACTIVE_OPERATIONS	NUMBER	Number of active operations on the workplace	FR_DS_WORKPLACE_BASE_TL		5.0.0. 15
NUMBER_ASSIGNED_PERSONS	NUMBER	Number of logged-in persons	FR_DS_WORKPLACE_BASE_TL		5.0.0. 15
STROKE_FACTOR	FLOAT	Workplace stroke factor	FR_DS_WORKPLACE_BASE_TL		5.0.0. 15
TIME_PER_UNIT	NUMBER	Workplace target time per unit (in msec)	FR_DS_WORKPLACE_BASE_TL		5.0.0. 15
STATUS_CHANGE_IDENTIFIED	NUMBER	Flag: 1 = interval change was caused by a status change (status/phase); 0 otherwise	FR_DS_WORKPLACE_BASE_TL		5.0.0. 15

Past 1

Column	Data type	Description	Source: master data table	Dissolution of foreign keys	Since version
STATUS_COLOR	VAR-CHAR2	Workplace status: color	FR_MD_WORKPLACE_STATUS_DEF		5.0.0.15
STA-TUS_MNEMONIC	VAR-CHAR2	Workplace status: mnemonic	FR_MD_WORKPLACE_STATUS_DEF		5.0.0.15
STATUS_CODE	NUMBER	Workplace status: code	FR_MD_WORKPLACE_STATUS_DEF		5.0.0.15
STATUS_TEXT	VAR-CHAR2	Workplace status: description	FR_MD_WORKPLACE_STATUS_DEF		5.0.0.15
STATUS_SHORTTEXT	VAR-CHAR2	Workplace status: short description	FR_MD_WORKPLACE_STATUS_DEF		5.0.0.15
PHASE_COLOR	VAR-CHAR2	Workplace phase: color	FR_MD_WORKPLACE_PHASE_DEF		5.0.0.15
PHASE_MNEMONIC	VAR-CHAR2	Workplace phase: mnemonic	FR_MD_WORKPLACE_PHASE_DEF		5.0.0.15
PHASE_CODE	NUMBER	Workplace phase: code	FR_MD_WORKPLACE_PHASE_DEF		5.0.0.15
PHASE_TEXT	VAR-CHAR2	Workplace phase: description	FR_MD_WORKPLACE_PHASE_DEF		5.0.0.15
PHASE_SHORTTEXT	VAR-CHAR2	Workplace phase: short description	FR_MD_WORKPLACE_PHASE_DEF		5.0.0.15
LEAD-ING_OPERATION_ID	NUMBER	ID (of the representative) leading operations	FR_DS_WORKPLACE_B ASE_TL	Join via V_MD_OPERATION.OPERATION_ID	5.0.0.15
OPERAT-ING_STATUS_ID	NUMBER	Operating status: ID	V_MD_WORKPLACE_STATUS V_MD_MALFUNCTION_REASON_VEC1		5.3.0
OPERAT-ING_STATUS_COLO R	VAR-CHAR2	Operating status: color	V_MD_WORKPLACE_STATUS V_MD_MALFUNCTION_REASON_VEC1		5.3.0
OPERAT-ING_STATUS_MNE MONIC	VAR-CHAR2	Operating status: mnemonic	V_MD_WORKPLACE_STATUS V_MD_MALFUNCTION_REASON_VEC1		5.3.0
OPERAT-ING_STATUS_TEXT	VAR-CHAR2	Operating status: description	V_MD_WORKPLACE_STATUS V_MD_MALFUNCTION_REASON_VEC1		5.3.0
OPERAT-ING_STATUS_SHOR TTEXT	VAR-CHAR2	Operating status: short description	V_MD_WORKPLACE_STATUS V_MD_MALFUNCTION_REASON_VEC1		5.3.0

Past 1
11.3.1.1.4 ER Diagram

11.3.1.2 V_TL_WORKPLACE_ATTRIB
11.3.1.2.1 Purpose

User defined specific timeline attributes, e.g. stroke factor.

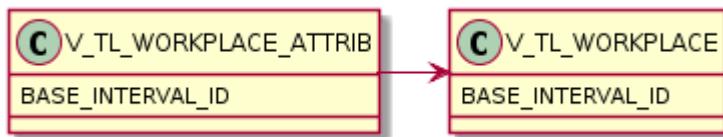
11.3.1.2.2 Dependencies

11.3.1.2.3 Columns

Column	Data type	Description	Source: master data table	Dissolution of foreign keys	Since version
BASE_INTERVAL_ID	Number	ID of the base interval	FR_DS_WORKPLACE_ATTRIB_TL	Join via V_TL_WORKPLACE_ATTRIB.BASE_INTERVAL_ID	5.0.0.15
DURATION	NUMBER	Duration (msec) of the interval	FR_DS_WORKPLACE_ATTRIB_TL		5.0.0.15
OCCURRENCE	NUMBER	Always 1			5.0.0.15
CNT_OCCURRENCE	NUMBER	Status is valid across shifts	FR_DS_WORKPLACE_BASE_TL		5.0.0.15
START_TS	TIMESTAMP(6)	Start time (UTC) of the interval; additional derived columns see Timestamp for grouping and sorting	FR_DS_WORKPLACE_ATTRIB_TL		5.0.0.15
END_TS	TIMESTAMP(6)	End time (UTC) of the interval; additional derived columns see Timestamp for grouping and sorting	FR_DS_WORKPLACE_ATTRIB_TL		5.0.0.15
CHANGE_TS	TIMESTAMP(6)	Time (UTC) of the report; additional derived columns see Timestamp for grouping and sorting	FR_DS_WORKPLACE_ATTRIB_TL		5.0.0.21
ANNOTATION	VARCHAR2	Additional remark	FR_DS_WORKPLACE_BASE_TL		5.0.0.15
ATTRIBUTE_1	VARCHAR2	Attribute value (attribute)	FR_DS_WORKPLACE_ATTRIB_TL		5.0.0.

Past 1

Column	Data type	Description	Source: master data table	Dissolution of foreign keys	Since version
... ATTRIB-UTE_10		1..10)	RIB_TL		15
DOMAIN_TYPE	VARCHAR2	Workplace ID	FR_MD_TIMELINE_ATTRIBUT		5.0.0. 15
MNEMONIC	VARCHAR2	Domain type of the timeline attribute	FR_MD_TIMELINE_ATTRIBUT		5.0.0. 15

11.3.1.2.4 ER Diagram

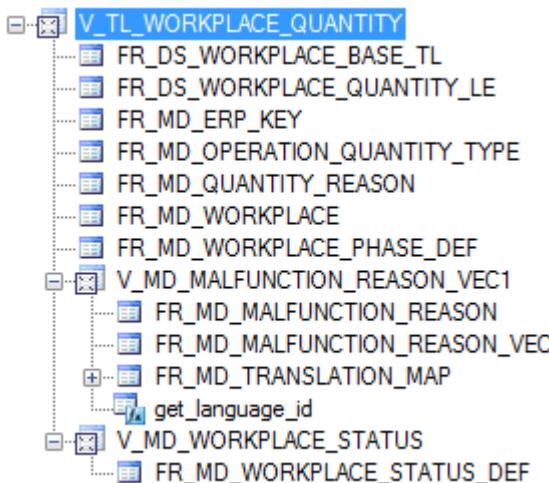


11.3.1.3 V_TL_WORKPLACE_QUANTITY

11.3.1.3.1 Purpose

(Workplace-related view with quantity as in BDE_ERG of V4)

11.3.1.3.2 Dependencies



11.3.1.3.3 Columns

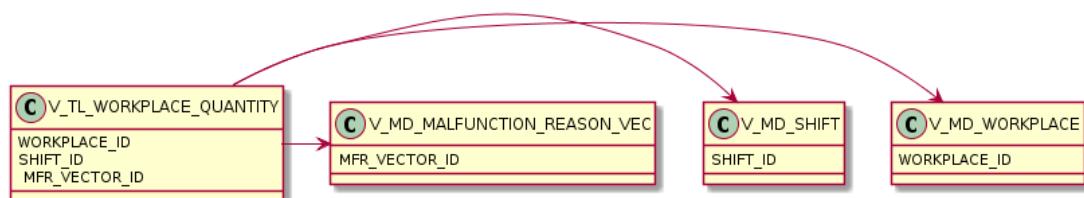
Column	Data type	Description	Source: master data table	Dissolution of foreign keys	Since version
AMOUNT	FLOAT	Amount	FR_DS_WORKPLACE_QUANTITY_LE		5.0.0. 15
START_TS	TIMESTAMP(6)	Start time (UTC) of the interval; additional derived columns see Timestamp for grouping and sorting	FR_DS_WORKPLACE_QUANTITY_LE		5.0.0. 15

Past 1

Column	Data type	Description	Source: master data table	Dissolution of foreign keys	Since version
END_TS	TIMESTAMP(6)	End time (UTC) of the interval; additional derived columns see Timestamp for grouping and sorting	FR_DS_WORKPLACE_QUANTITY_LE		5.2.8
CHANGE_TS	TIMESTAMP(6)	Time (UTC) of the report; additional derived columns see Timestamp for grouping and sorting	FR_DS_WORKPLACE_QUANTITY_LE		5.0.0.21
QUANTITY_TYPE_ID	NUMBER	ID of the quantity type	FR_DS_WORKPLACE_QUANTITY_LE		
QUANTITY_TYPE_REASON_ID	NUMBER	ID of the quantity reason type	FR_DS_WORKPLACE_QUANTITY_LE		
WORKPLACE_STATUS_ID	NUMBER	Workplace status: ID	FR_MD_WORKPLACE_STATUS_DEF		5.7.0
STATUS_CODE	NUMBER	Workplace status: code	FR_MD_WORKPLACE_STATUS_DEF		5.0.0.15
STATUS_COLOR	VAR-CHAR2	Workplace status: color	FR_MD_WORKPLACE_STATUS_DEF		5.0.0.15
STATUS_MNEMONIC	VAR-CHAR2	Workplace status: mnemonic	FR_MD_WORKPLACE_STATUS_DEF		5.0.0.15
STATUS_TEXT	VAR-CHAR2	Workplace status: description	FR_MD_WORKPLACE_STATUS_DEF		5.0.0.15
STATUS_SHORTTEXT	VAR-CHAR2	Workplace status: short description	FR_MD_WORKPLACE_STATUS_DEF		5.0.0.15
WORKPLACE_PHASE_ID	NUMBER	Workplace phase: ID	FR_MD_WORKPLACE_PHASE_DEF		5.7.0
PHASE_CODE	NUMBER	Workplace phase: code	FR_MD_WORKPLACE_PHASE_DEF		5.0.0.15
PHASE_COLOR	VAR-CHAR2	Workplace phase: color	FR_MD_WORKPLACE_PHASE_DEF		5.0.0.15
PHASE_MNEMONIC	VAR-CHAR2	Workplace phase: mnemonic	FR_MD_WORKPLACE_PHASE_DEF		5.0.0.15
PHASE_TEXT	VAR-CHAR2	Workplace phase: description	FR_MD_WORKPLACE_PHASE_DEF		5.0.0.15
PHASE_SHORTTEXT	VAR-CHAR2	Workplace phase: short description	FR_MD_WORKPLACE_PHASE_DEF		5.0.0.15
QTY_TYPE_CODE	NUMBER	Coding of the quantity type	FR_MD_OPERATION_QUANTITY_TYPE		5.0.0.15
QTY_TYPE_COLOR	VAR-CHAR2	Color of the quantity type	FR_MD_OPERATION_QUANTITY_TYPE		5.0.0.15
QTY_TYPE_TEXT	VAR-CHAR2	Description of the quantity type	FR_MD_OPERATION_QUANTITY_TYPE		5.0.0.15
QTY_TYPE_SHORTTEXT	VAR-CHAR2	Short description of the quantity-type	FR_MD_OPERATION_QUANTITY_TYPE		5.0.0.15
QTY_REASON_COLOR	VAR-	Color of the quantity	FR_MD_QUANTITY_REASON		5.0.0.

Part 1

Column	Data type	Description	Source: master data table	Dissolution of foreign keys	Since version
	CHAR2	reason	SON		15
QTY_REASON_MNE MONIC	VAR-CHAR2	Mnemonic of the quantity reason	FR_MD_QUANTITY_REASON		5.0.0.15
QTY_REASON_TEXT	VAR-CHAR2	Description of the quantity reason	FR_MD_QUANTITY_REASON		5.0.0.15
QTY_REASON_SHORT TEXT	VAR-CHAR2	Short description of the quantity reason	FR_MD_QUANTITY_REASON		5.0.0.15
SHIFT_ID	NUMBER	Shift ID	FR_DS_WORKPLACE_QUANTITY	Join via V_MD_SHIFT.SHIFT_ID	5.0.0.15
MFR_VECTOR_ID	NUMBER	ID of the malfunction reason vector	FR_DS_WORKPLACE_QUANTITY	Join via V_MD_MALFUNCTION_REASON_VEC.MFR_VECTOR_ID	5.0.0.15
WORKPLACE_ID	NUMBER	Workplace ID	FR_DS_WORKPLACE_QUANTITY	Join via V_MD_WORKPLACE.WORKPLACE_ID	5.0.0.15
OPERATING_STATUS_ID	NUMBER	Operating status: ID	V_MD_WORKPLACE_STATUS V_MD_MALFUNCTION_REASON_VEC1		5.3.0
OPERATING_STATUS_COLOR	VAR-CHAR2	Operating status: color	V_MD_WORKPLACE_STATUS V_MD_MALFUNCTION_REASON_VEC1		5.3.0
OPERATING_STATUS_MNEMONIC	VAR-CHAR2	Operating status: mnemonic	V_MD_WORKPLACE_STATUS V_MD_MALFUNCTION_REASON_VEC1		5.3.0
OPERATING_STATUS_TEXT	VAR-CHAR2	Operating status: description	V_MD_WORKPLACE_STATUS V_MD_MALFUNCTION_REASON_VEC1		5.3.0
OPERATING_STATUS_SHORT TEXT	VAR-CHAR2	Operating status: short description	V_MD_WORKPLACE_STATUS V_MD_MALFUNCTION_REASON_VEC1		5.3.0

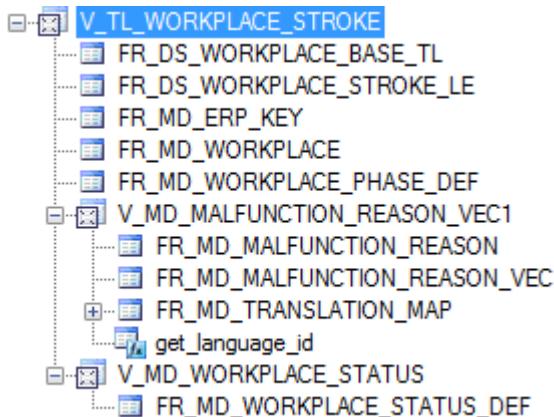
11.3.1.3.4 ER Diagram


11.3.1.4 V_TL_WORKPLACE_STROKE

11.3.1.4.1 Purpose

(Workplace-related view with strokes as in BDE_ERG of V4)

11.3.1.4.2 Dependencies



11.3.1.4.3 Columns

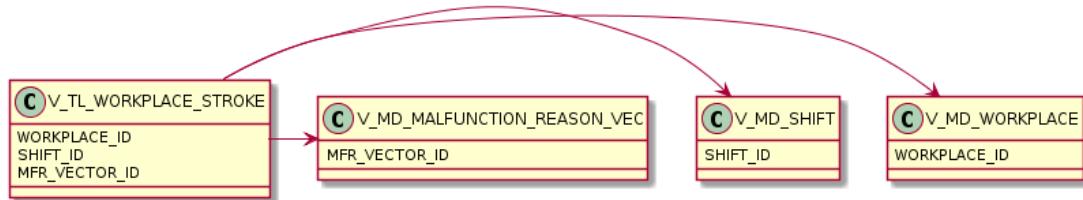
Column	Data type	Description	Source: master data table	Dissolution of foreign keys	Since version
NUMBER_OF_STROKES	NUMBER	Number of strokes	FR_DS_WORKPLACE_STR OKE_LE		5.0.0. 15
START_TS	TIMESTAMP(6)	Start time (UTC) of the interval; additional derived columns see Timestamp for grouping and sorting	FR_DS_WORKPLACE_STR OKE_LE		5.0.0. 15
END_TS	TIMESTAMP(6)	End time (UTC) of the interval; additional derived columns see Timestamp for grouping and sorting	FR_DS_WORKPLACE_STR OKE_LE		5.2.8
CHANGE_TS	TIMESTAMP(6)	Time (UTC) of the report; additional derived columns see Timestamp for grouping and sorting	FR_DS_WORKPLACE_STR OKE_LE		5.0.0. 21
WORKPLACE_STATUS_ID	NUMBER	Workplace status: ID	FR_MD_WORKPLACE_STA TUS_DEF		5.7.0
STATUS_CODE	NUMBER	Workplace status: code	FR_MD_WORKPLACE_STA TUS_DEF		5.0.0. 15
STATUS_COLOR	VARCHAR2	Workplace status: color	FR_MD_WORKPLACE_STA TUS_DEF		5.0.0. 15
STATUS_MNEMONIC	VARCHAR2	Workplace status: mnemonic	FR_MD_WORKPLACE_STA TUS_DEF		5.0.0. 15
STATUS_TEXT	VARCHAR2	Workplace status: description	FR_MD_WORKPLACE_STA TUS_DEF		5.0.0. 15

Part 1

Column	Data type	Description	Source: master data table	Dissolution of foreign keys	Since version
STA-TUS_SHORTTEXT	VARCHAR2	Workplace status: short description	FR_MD_WORKPLACE_STATUSTUS_DEF		5.0.0.15
WORK-PLACE_PHASE_ID	NUMBER	Workplace phase: ID	FR_MD_WORKPLACE_PHASE_DEF		5.7.0
PHASE_CODE	NUMBER	Workplace phase: code	FR_MD_WORKPLACE_PHASE_DEF		5.0.0.15
PHASE_COLOR	VARCHAR2	Workplace phase: color	FR_MD_WORKPLACE_PHASE_DEF		5.0.0.15
PHASE_MNEMONIC	VARCHAR2	Workplace phase: mnemonic	FR_MD_WORKPLACE_PHASE_DEF		5.0.0.15
PHASE_TEXT	VARCHAR2	Workplace phase: description	FR_MD_WORKPLACE_PHASE_DEF		5.0.0.15
PHASE_SHORTTEXT	VARCHAR2	Workplace phase: short description	FR_MD_WORKPLACE_PHASE_DEF		5.0.0.15
WORKPLACE_ID	NUMBER	Workplace ID	FR_DS_WORKPLACE_STATUS_OKE_LE	Join via V_MD_WORKPLACE.WORKPLACE_ID	5.0.0.15
SHIFT_ID	NUMBER	Shift ID	FR_DS_WORKPLACE_STATUS_OKE_LE	Join via V_MD_SHIFT.SHIFT_ID	5.0.0.15
MFR_VECTOR_ID	NUMBER	ID of malfunction reason vector	FR_DS_WORKPLACE_STATUS_OKE_LE	Join via V_MD_MALFUNCTION_REASON_VEC.MFR_VECTOR_ID	5.0.0.15
OPERATING_STATUS_ID	NUMBER	Operating status: ID	V_MD_WORKPLACE_STATUS V_MD_MALFUNCTION_REASON_VEC1		5.3.0
OPERATING_STATUS_COLOR	VARCHAR2	Operating status: color	V_MD_WORKPLACE_STATUS V_MD_MALFUNCTION_REASON_VEC1		5.3.0
OPERATING_STATUS_MNEMONIC	VARCHAR2	Operating status: mnemonic	V_MD_WORKPLACE_STATUS V_MD_MALFUNCTION_REASON_VEC1		5.3.0
OPERATING_STATUS_DESCRIPTION	VARCHAR2	Operating status: description	V_MD_WORKPLACE_STATUS V_MD_MALFUNCTION_REASON_VEC1		5.3.0
OPERATING_STATUS_SHORTTEXT	VARCHAR2	Operating status: short description	V_MD_WORKPLACE_STATUS V_MD_MALFUNCTION_REASON_VEC1		5.3.0

Past 1

11.3.1.4.4 ER Diagram



11.3.2 Operation Timeline Views

View name	Meaning
V_TL_OPERATION_BASE_OP	View provides intervals grouped by operation, status, phase and malfunction reason. Multiple shifts are grouped, if the status within does not change.
V_TL_OPERATION	Quantities and strokes sum with regard to operation, shift and status <ul style="list-style-type: none"> Quantities summarized by quantity type (scrap quantity, yield quantity, rework quantity) and strokes in one line Operation view with quantities as in BDE_LOG .
V_TL_OPERATION_QUANTITY	Operation quantity (uncompressed)
V_TL_OPERATION_QUANTITY_OP_LE	Quantity grouped by operation, phase, status and quantity type.
V_TL_OPERATION_STROKE	Operation strokes (uncompressed)
V_TL_OPERATION_ATTRIB	User defined specific timeline attributes, e.g. stroke factor.

11.3.2.1 V_TL_OPERATION

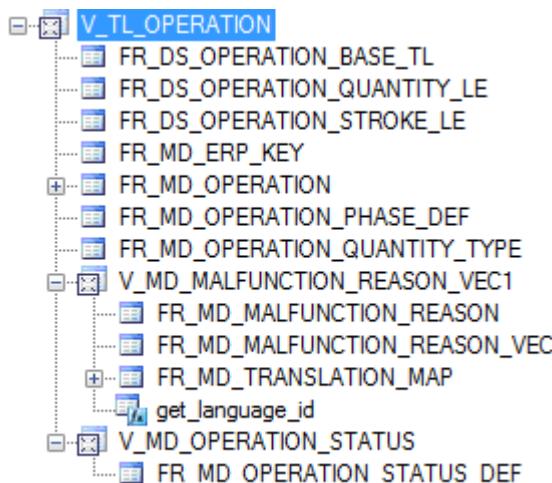
11.3.2.1.1 Purpose

Quantity and strokes sum with regard to operation, shift and status

- Quantities summarized by quantity type (scrap quantity, yield quantity, rework quantity) and strokes in one line

Operation view with quantities as in **BDE_LOG**.

11.3.2.1.2 Dependencies



Past 1

11.3.2.1.3 Columns

Column	Data type	Description	Source: master data table	Dissolution of foreign keys	Since version
BASE_INTERVAL_ID	NUMBER	ID of the base interval	FR_DS_OPERATION_BASE_TL	(can be used for join with V_TL_OPERATION_ATTRIB.BASE_INTERVAL_ID verwendet werden)	5.0.0.15
WORKPLACE_ID	NUMBER	Workplace ID	FR_DS_OPERATION_BASE_TL	Join via V_MD_WORKPLACE.WORKPLACE_ID	5.0.0.15
WORKPLACE_SORT_ORDER	NUMBER	Sort order of workplace	FR_MD_WORKPLACE		5.7.1 SP1
OPERATION_ID	NUMBER	Operation ID	FR_DS_OPERATION_BASE_TL	Join via V_MD_OPERATION.OPERATION_ID	5.0.0.15
SHIFT_ID	NUMBER	Shift ID	FR_DS_OPERATION_BASE_TL	Join via V_MD_SHIFT.SHIFT_ID	5.0.0.15
TICKET_ID	NUMBER	Ticket ID	FR_DS_OPERATION_BASE_TL		5.4.4.x
STATUS_ID	NUMBER	Workplace status: ID	FR_MD_OPERATION_STATUS_DEF		5.7.0
STATUS_COLOR	VAR-CHAR2	Workplace status: color	FR_MD_OPERATION_STATUS_DEF		5.0.0.15
STATUS_MNEMONIC	VAR-CHAR2	Workplace status: mnemonic	FR_MD_OPERATION_STATUS_DEF		5.0.0.15
STATUS_SORT_ORDER	NUMBER	Operation status:sort order	FR_MD_OPERATION_STATUS_DEF		5.7.1 SP1
STATUS_CODE	Number	Workplace status: code	FR_MD_OPERATION_STATUS_DEF		5.0.0.15
STATUS_TEXT	VAR-CHAR2	Workplace status: de-scription	FR_MD_OPERATION_STATUS_DEF		5.0.0.15
STATUS_SHORTTEXT	VAR-CHAR2	Workplace status: short description	FR_MD_OPERATION_STATUS_DEF		5.0.0.15
PHASE_ID	NUMBER	Phase ID	FR_MD_OPERATION_PHASE_DEF		5.4.4.x
PHASE_COLOR	VAR-CHAR2	Workplace phase: color	FR_MD_OPERATION_PHASE_DEF		5.0.0.15
PHASE_CODE	Number	Workplace status: code	FR_MD_OPERATION_STATUS_DEF		5.0.0.15
PHASE_MNEMONIC	VAR-CHAR2	Workplace phase: mnemonic	FR_MD_OPERATION_STATUS_DEF		5.0.0.15
PHASE_SORT_ORDER	NUMBER	Operation phase: sort	FR_MD_OPERATION_PHASE_DEF		5.7.1 SP1

Past 1

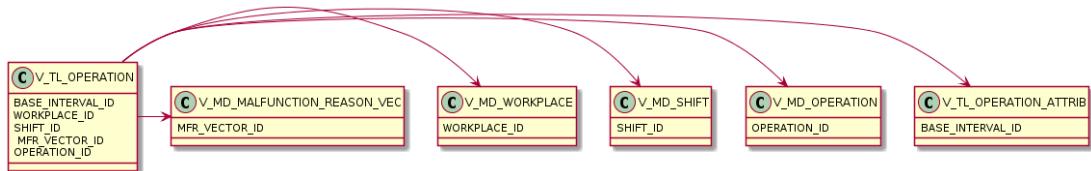
Column	Data type	Description	Source: master data table	Dissolution of foreign keys	Since version
		order			
PHASE_TEXT	VAR-CHAR2	Workplace phase: description	FR_MD_OPERATION_STAT_US_DEF		5.0.0.15
PHASE_SHORTTEXT	VAR-CHAR2	Workplace phase: short description	FR_MD_OPERATION_STAT_US_DEF		5.0.0.15
MFR_VECTOR_ID	NUMBER	Malfunction reason vector	FR_DS_OPERATION_BASE_TL	Join via V_MD_MALFUNCTION_REASON_VEC.MFR_VECTOR_ID	5.0.0.15
START_TS	TIMESTAMP(6)	Start time (UTC) of the interval	FR_DS_OPERATION_BASE_TL		5.0.0.15
QTY	NUMBER	Overall quantity	FR_DS_OPERATION_QUANTITY_LE FR_MD_OPERATION_QUANTITY_TYPE		5.0.0.15
YIELD_QTY	NUMBER	Yield quantity	FR_DS_OPERATION_QUANTITY_LE FR_MD_OPERATION_QUANTITY_TYPE		5.0.0.15
SCRAP_QTY	NUMBER	Scrap quantity	FR_DS_OPERATION_QUANTITY_LE FR_MD_OPERATION_QUANTITY_TYPE		5.0.0.15
REWORK_QTY	NUMBER	Rework quantity	FR_DS_OPERATION_QUANTITY_LE FR_MD_OPERATION_QUANTITY_TYPE		5.0.0.15
NUMBER_OF_STROKES	NUMBER	Strokes	FR_DS_OPERATION_STROKE_LE		5.0.0.15
FROM_LAST_SHIFT	NUMBER	Flag: 1 = workplace status adopted from last shift; 0 otherwise	FR_DS_OPERATION_BASE_TL		5.0.0.15
STATUS_CHANGE_IDENTIFIED	NUMBER	Flag: 1 = interval change was caused by status change (status/phase); 0 otherwise	FR_DS_OPERATION_BASE_TL		5.0.0.15
VERSION_NUMBER	NUMBER	Change version	FR_DS_OPERATION_BASE_TL		5.0.0.15
DURATION	NUMBER	Duration (msec) of the interval	FR_DS_OPERATION_BASE_TL		5.0.0.15

Past 1

Column	Data type	Description	Source: master data table	Dissolution of foreign keys	Since version
START_TS	TIMESTAMP(6)	Start time (UTC) of the interval; additional derived columns see Timestamp for grouping and sorting	FR_DS_OPERATION_BASE_TL		5.0.0.15
END_TS	TIMESTAMP(6)	End time (UTC) of the interval; additional derived columns see Timestamp for grouping and sorting	FR_DS_OPERATION_BASE_TL		5.0.0.15
OPEN_INTERVAL	NUMBER	1 = interval is open interval; 0 otherwise	FR_DS_OPERATION_BASE_TL		5.0.0.15
CUR-RENT_OPEN_INTERVAL	NUMBER	1 = interval is currently open interval; 0 otherwise	FR_DS_OPERATION_BASE_TL		5.0.0.15
ACTIVE_PHASE	NUMBER	1 = phase is active phase; 0 otherwise	FR_DS_OPERATION_BASE_TL		5.0.0.15
OPERATING_STATUS_ID	NUMBER	Operating status: ID	V_MD_WORKPLACE_STATUS V_MD_MALFUNCTION_REASON_VEC1		5.3.0
OPERATING_STATUS_COLOR	VAR-CHAR2	Operating status: color	V_MD_WORKPLACE_STATUS V_MD_MALFUNCTION_REASON_VEC1		5.3.0
OPERATING_STATUS_MNEMONIC	VAR-CHAR2	Operating status: mnemonic	V_MD_WORKPLACE_STATUS V_MD_MALFUNCTION_REASON_VEC1		5.3.0
OPERATING_STATUS_SORT_ORDER	NUMBER	Operating status: sort order	V_MD_OPERATION_STATUS SV_MD_MALFUNCTION_REASON_VEC1		5.7.1 SP1
OPERATING_STATUS_TEXT	VAR-CHAR2	Operating status: description	V_MD_WORKPLACE_STATUS V_MD_MALFUNCTION_REASON_VEC1		5.3.0
OPERATING_STATUS_SHORTTEXT	VAR-CHAR2	Operating status: short description	V_MD_WORKPLACE_STATUS V_MD_MALFUNCTION_REASON_VEC1		5.3.0

Past 1

11.3.2.1.4 ER Diagram

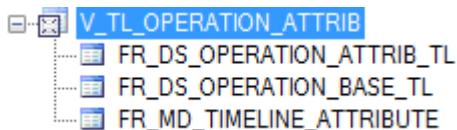


11.3.2.2 V_TL_OPERATION_ATTRIB

11.3.2.2.1 Purpose

User defined specific timeline attribute, e.g. stroke factor.

11.3.2.2.2 Dependencies



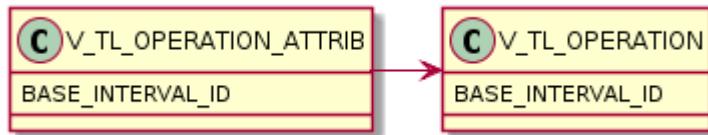
11.3.2.2.3 Columns

Column	Data type	Description	Source: master data table	Dissolution of foreign keys	Since version
BASE_INTERVAL_ID	Number	ID of the base interval	FR_DS_OPERATION_ATTRIB_RIB_TL	Join via V_TL_OPERATION.BASE_INTERVAL_ID	5.0.0.15
DURATION	NUMBER	Duration (in msec) of the intervals	FR_DS_OPERATION_ATTRIB_RIB_TL		5.0.0.15
OCCURRENCE	NUMBER	Always 1			5.0.0.15
CNT_OCCURRENCE	NUMBER	Status is valid cross shift	FR_DS_OPERATION_BASE_TL		5.0.0.15
START_TS	TIMESTAMP(6)	Start time (UTC) of the interval; additional derived columns see Timestamp for grouping and sorting	FR_DS_OPERATION_ATTRIB_RIB_TL		5.0.0.15
END_TS	TIMESTAMP(6)	End time (UTC) of the interval; additional derived columns see Timestamp for grouping and sorting	FR_DS_OPERATION_ATTRIB_RIB_TL		5.0.0.15
CHANGE_TS	TIMESTAMP(6)	Time (UTC) of the report; additional derived columns see Timestamp for grouping and sorting	FR_DS_OPERATION_ATTRIB_RIB_TL		5.0.0.21
ATTRIBUTE_1 ... ATTRIBUTE_10	VARCHAR2	Attribute value (attribute 1..10)	FR_DS_OPERATION_ATTRIB_RIB_TL		5.0.0.15
OPERATION_ID	BIGINT	Operation ID	FR_DS_OPERATION_ATTRIB_RIB_TL		5.7.0
WORKPLACE_ID	BIGINT	Workplace ID	FR_DS_OPERATION_ATTRIB_RIB_TL		5.7.0

Past 1

Column	Data type	Description	Source: master data table	Dissolution of foreign keys	Since version
PLACE_ID			RIB_TL		
DOMAIN_TYPE	VARCHAR2	Domain type of the timeline attribute	FR_DS_OPERATION_ATT RIB_TL		5.0.0.15
MNEMONIC	VARCHAR2	Mnemonic of the timeline attribute	FR_DS_OPERATION_ATT RIB_TL		5.0.0.15

11.3.2.2.4 ER Diagram



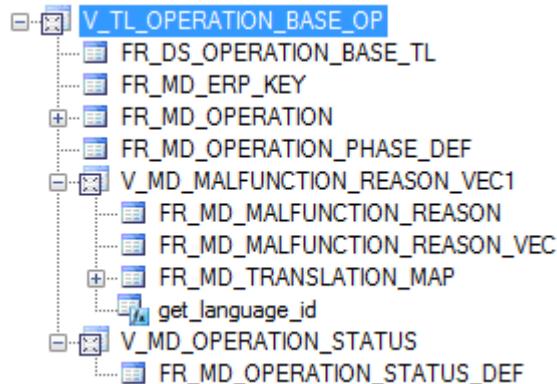
11.3.2.3 V_TL_OPERATION_BASE_OP

11.3.2.3.1 Purpose

(Operation view with duration and status as in BDE_LOG of V4)

View provides intervals grouped by operation, status, phase and malfunction reason. Multiple shifts are grouped, if the status within does not change.

11.3.2.3.2 Dependencies



Past 1

11.3.2.3.3 Columns

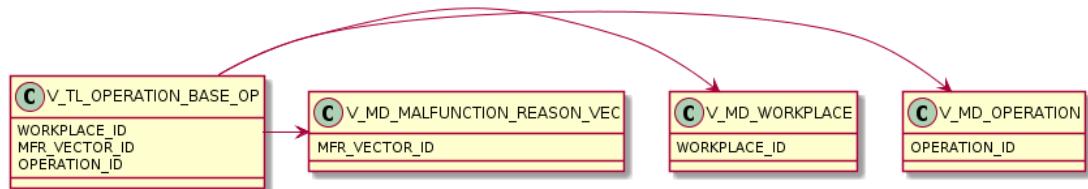
Column	Data type	Description	Source: master data table	Dissolution of foreign keys	Since version
OCCURRENCE	NUMBER	Number of status changes (status/phase)	FR_DS_OPERATION_B ASE_TL		5.0.0 .15
DURATION	NUMBER	Duration of the interval	FR_DS_OPERATION_B ASE_TL		5.0.0 .15
START_TS	TIMESTAMP(6)	Start time of the interval; additional derived columns see Timestamp for grouping and sorting	FR_DS_OPERATION_B ASE_TL		5.0.0 .15
END_TS	TIMESTAMP(6)	End time of the interval; additional derived columns see Timestamp for grouping and sorting	FR_DS_OPERATION_B ASE_TL		5.0.0 .15
OPERATION_STATUS_ID	NUMBER	Operation status: ID	FR_MD_OPERATION_STATUS_DEF		5.7.0
STATUS_CODE	NUMBER	Operation status: code	FR_MD_OPERATION_STATUS_DEF		5.0.0 .15
STATUS_COLOR	VAR-CHAR2	Operation status: color	FR_MD_OPERATION_STATUS_DEF		5.0.0 .15
STATUS_MNEMONIC	VAR-CHAR2	Operation status: mnemonic	FR_MD_OPERATION_STATUS_DEF		5.0.0 .15
STATUS_SORT_ORDER	NUMBER	Operation status: Sort order	FR_MD_OPERATION_STATUS_DEF		5.7.1 SP1
STATUS_TEXT	VAR-CHAR2	Operation status: description	FR_MD_OPERATION_STATUS_DEF		5.0.0 .15
STATUS_SHORTTEXT	VAR-CHAR2	Operation status: short description	FR_MD_OPERATION_STATUS_DEF		5.0.0 .15
OPERATION_PHASE_ID	NUMBER	Operation phase: ID	FR_MD_OPERATION_PHASE_DEF		5.7.0
PHASE_CODE	Number	Operation status: code	FR_MD_OPERATION_PHASE_DEF		5.0.0 .15
PHASE_COLOR	VAR-CHAR2	Operation phase: color	FR_MD_OPERATION_PHASE_DEF		5.0.0 .15
PHASE_MNEMONIC	VAR-CHAR2	Operation phase: mnemonic	FR_MD_OPERATION_PHASE_DEF		5.0.0 .15
PHASE_SORT_ORDER	NUMBER	Operation phase: sort or-	FR_MD_OPERATION_PHASE_DEF		5.7.1 SP1

Part 1

Column	Data type	Description	Source: master data table	Dissolution of foreign keys	Since version
		der			
PHASE_TEXT	VAR-CHAR2	Operation phase: description	FR_MD_OPERATION_P HASE_DEF		5.0.0 .15
STATUS_SORT_ORDER	NUMBER	Operation status: sort order	FR_MD_OPERATION_STATUS_DEF		5.7.1 SP1
PHASE_SHORTTEXT	VAR-CHAR2	Operation phase: short description	FR_MD_OPERATION_P HASE_DEF		5.0.0 .15
WORKPLACE_ID	NUMBER	Workplace ID	FR_DS_OPERATION_B ASE_TL	Join via V_MD_WORKPLACE.WORKPLACE_ID	5.0.0 .15
OPERATION_ID	NUMBER	Operation ID	FR_DS_OPERATION_B ASE_TL	Join via V_MD_OPERATION.OPERATION_ID	5.0.0 .15
MFR_VECTOR_ID	NUMBER	ID of the malfunction reason vector	FR_DS_OPERATION_B ASE_TL	Join via V_MD_MALFUNCTION_REASON_VEC.MFR_VECTOR_ID	5.0.0 .15
OPERATING_STATUS_ID	NUMBER	Operating status: ID	V_MD_WORKPLACE_STATUS V_MD_MALFUNCTION_REASON_VEC1		5.3.0
OPERATING_STATUS_COOLOR	VAR-CHAR2	Operating status: color	V_MD_WORKPLACE_STATUS V_MD_MALFUNCTION_REASON_VEC1		5.3.0
OPERATING_STATUS_MNEMONIC	VAR-CHAR2	Operating status: mnemonic	V_MD_WORKPLACE_STATUS V_MD_MALFUNCTION_REASON_VEC1		5.3.0
OPERATING_STATUS_SORT_ORDER	NUMBER	Operating status: sort order	V_MD_OPERATION_STATUS V_MD_MALFUNCTION_REASON_VEC1		5.7.1 SP1
OPERATING_STATUS_TEXT	VAR-CHAR2	Operating status: description	V_MD_WORKPLACE_STATUS V_MD_MALFUNCTION_REASON_VEC1		5.3.0
OPERATING_STATUS_SHORTEXT	VAR-CHAR2	Operating status: short description	V_MD_WORKPLACE_STATUS V_MD_MALFUNCTION_REASON_VEC1		5.3.0

Past 1

11.3.2.3.4 ER Diagram

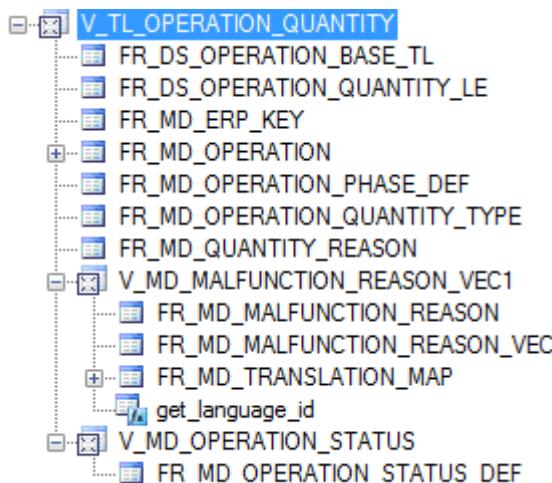


11.3.2.4 V_TL_OPERATION_QUANTITY

11.3.2.4.1 Purpose

Operation quantity (uncompressed)
 (Operation view with quantity as in BDE_LOG of V4)

11.3.2.4.2 Dependencies



11.3.2.4.3 Columns

Column	Data type	Description	Source: master data table	Dissolution of foreign keys	Since version
AMOUNT	FLOAT	Menge	FR_DS_OPERATION_QUANTITY_LE		5.0.0.1 5
START_TS	TIMESTAMP(6)	Start time (UTC) of the interval; additional derived columns see Timestamp for grouping and sorting	FR_DS_OPERATION_QUANTITY_LE		5.0.0.1 5
END_TS	TIMESTAMP(6)	End time (UTC) of the interval; additional derived columns see Timestamp for grouping and sorting	FR_DS_OPERATION_QUANTITY_LE		5.2.8
CHANGE_TS	TIMESTAMP(6)	Time (UTC) of the report;	FR_DS_OPERATION_QUANTITY_LE		5.0.0.2 1

Past 1

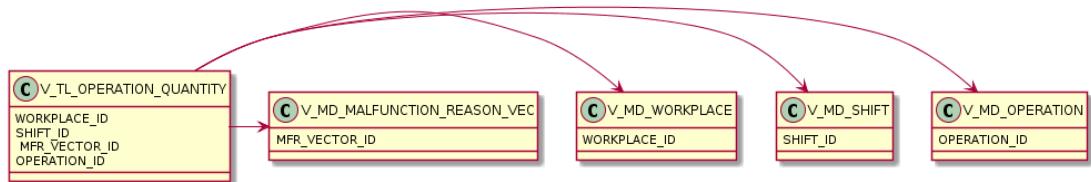
Column	Data type	Description	Source: master data table	Dissolution of foreign keys	Since version
		additional derived columns see Timestamp for grouping and sorting			
STATUS_ID	NUMBER	Operation status: ID	FR_MD_OPERATION_STATUS_DEF		5.4.6-SNAPSHOT
STA-TUS_CODE	NUMBER	Operation status: code	FR_MD_OPERATION_STATUS_DEF		5.0.0.15
STA-TUS_COLOR	VARCHAR2	Operation status: color	FR_MD_OPERATION_STATUS_DEF		5.0.0.15
STA-TUS_MNE MONIC	VARCHAR2	Operation status: mnemonic	FR_MD_OPERATION_STATUS_DEF		5.0.0.15
STA-TUS_SORT_ORDER	NUMBER	Operation status: sort order	FR_MD_OPERATION_STATUS_DEF		5.7.1 SP1
STA-TUS_TEXT	VARCHAR2	Operation status: description	FR_MD_OPERATION_STATUS_DEF		5.0.0.15
STA-TUS_SHORTTEXT	VARCHAR	Operation status: short description	FR_MD_OPERATION_STATUS_DEF		5.0.0.15
PHASE_ID	NUMBER	Phase ID	FR_MD_OPERATION_PHASE_DEF		5.4.4.x
PHASE_CODE	Number	Operation status: code	FR_MD_OPERATION_PHASE_DEF		5.0.0.15
PHASE_COL OR	VARCHAR2	Operation phase: color	FR_MD_OPERATION_PHASE_DEF		5.0.0.15
PHASE_MNEMONIC	VARCHAR2	Operation phase: mnemonic	FR_MD_OPERATION_PHASE_DEF		5.0.0.15
PHASE_SORT_ORDER	NUMBER	Operation phase: sort order	FR_MD_OPERATION_PHASE_DEF		5.7.1 SP1
PHASE_TEXT	VARCHAR2	Operation phase: description	FR_MD_OPERATION_PHASE_DEF		5.0.0.15
PHASE_SHORTTEXT	VARCHAR2	Operation phase: short description	FR_MD_OPERATION_PHASE_DEF		5.0.0.15
QTY_TYPE_CODE	NUMBER	Quantity type: coding	FR_MD_OPERATION_QUANTITY_TYPE		5.0.0.15
QTY_TYPE_COLOR	VARCHAR2	Quantity type: color	FR_MD_OPERATION_QUANTITY_TYPE		5.0.0.15
QTY_TYPE_SORT_ORDER	NUMBER	Quantity type: sort order	FR_MD_OPERATION_QUANTITY_TYPE		5.7.1 SP1
QTY_TYPE_DESCRIPTION	VARCHAR2	Quantity type: description	FR_MD_OPERATION_QUANTITY_TYPE		5.0.0.15
QTY_TYPE_SHORT	VARCHAR2	Quantity type: short	FR_MD_OPERATION_QUANTITY_TYPE		5.0.0.1

Part 1

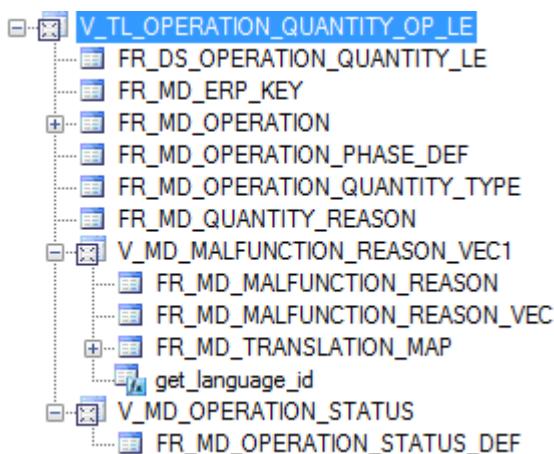
Column	Data type	Description	Source: master data table	Dissolution of foreign keys	Since version
SHORTTEXT		description	TITY_TYPE		5
QTY_REAS_ON_COLOR	VARCHAR2	Reason for the selected quantity type: color	FR_MD_QUANTITY_REASON		5.0.0.15
QTY_REAS_ON_MNEMONIC	VARCHAR	Reason for the selected quantity type: mnemonic	FR_MD_QUANTITY_REASON		5.0.0.15
QTY_REAS_ON_TEXT	VARCHAR2	Reason for the selected quantity type: description	FR_MD_QUANTITY_REASON		5.0.0.15
QTY_REAS_ON_SHORTTEXT	VARCHAR2	Reason for the selected quantity type: short description	FR_MD_QUANTITY_REASON		5.0.0.15
QTY_REAS_O_SORT_ORDER	NUMBER	Reason for the selected quantity type: sort order	FR_MD_QUANTITY_REASON		5.7.1 SP1
WORKPLACE_ID	NUMBER	Workplace ID	FR_DS_OPERATION_QUANTITY_LE	Join via V_MD_WORKPLACE.WORKPLACE_ID	5.0.0.15
WORKPLACE_SORT_ORDER	NUMBER	Sort order of the workplace	FR_MD_WORKPLACE		5.7.1 SP1
SHIFT_ID	NUMBER	Shift ID	FR_DS_OPERATION_QUANTITY_LE	Join via V_MD_SHIFT.SHIFT_ID	5.0.0.15
OPERATION_ID	NUMBER	Operation ID	FR_DS_OPERATION_QUANTITY_LE	Join via V_MD_OPERATION.OPERATION_ID	5.0.0.15
MFR_VECTOR_ID	NUMBER	ID of the malfunction reason vector	FR_DS_OPERATION_QUANTITY_LE	Join via V_MD_MALFUNCTION_REASON_VECTOR.MFR_VECTOR_ID	5.0.0.15
QUANTITY_TYPE_ID	NUMBER	Quantity type ID	FR_DS_OPERATION_QUANTITY_LE		
QUANTITY_TYPE_REASON_ID	NUMBER	Quantity reason ID	FR_DS_OPERATION_QUANTITY_LE		
OPERATING_STATUS_ID	NUMBER	Operating status: ID	V_MD_WORKPLACE_STATUSES V_MD_MALFUNCTION_REASON_VEC1		5.3.0
OPERATING_STATUS_COLOR	VARCHAR2	Operating status: color	V_MD_WORKPLACE_STATUSES V_MD_MALFUNCTION_REASON_VEC1		5.3.0
OPERATING_STATUS_MNEMO	VARCHAR2	Operating status: mnemonic	V_MD_WORKPLACE_STATUSES V_MD_MALFUNCTION_REASON		5.3.0

Part 1

Column	Data type	Description	Source: master data table	Dissolution of foreign keys	Since version
NIC			SON_VEC1		
OPERATING_STATUS_SORT_ORDER	NUMBER	Operating status: sort order	V_MD_OPERATION_STATUS SV_MD_MALFUNCTION_REASON_VEC1		5.7.1 SP1
OPERATING_STATUS_TEXT	VARCHAR2	Operating status: description	V_MD_WORKPLACE_STATUS V_MD_MALFUNCTION_REASON_VEC1		5.3.0
OPERATING_STATUS_SHORTTEXT	VARCHAR2	Operating status: short description	V_MD_WORKPLACE_STATUS V_MD_MALFUNCTION_REASON_VEC1		5.3.0

11.3.2.4.4 ER-diagram

11.3.2.5 V_TL_OPERATION_QUANTITY_OP_LE
11.3.2.5.1 Purpose

Quantity grouped by operation, phase, status and quantity type.

11.3.2.5.2 Dependencies


11.3.2.5.3 Columns

Column	Data type	Description	Source: master data table	Dissolution of foreign keys	Since version
WORKPLACE_ID	NUMBER	Workplace ID	FR_DS_OPERATION_QUANTITY_LE	Join via V_MD_WORKPLACE.WORKPLACE_ID	5.0.0.15
OPERATION_ID	NUMBER	Operation ID	FR_DS_OPERATION_QUANTITY_LE	Join via V_MD_OPERATION.OPERATION_ID	5.0.0.15
MFR_VECTOR_ID	NUMBER	Status reason vector ID	FR_DS_OPERATION_QUANTITY_LE		
OPERATION_STATUS_ID	NUMBER	Operation status: ID	FR_MD_OPERATION_STATUS_DEF		5.7.0
STATUS_CODE	NUMBER	Operation status: code	FR_MD_OPERATION_STATUS_DEF		5.0.0.15
STATUS_COLOR	VARCHAR2	Operation status: color	FR_MD_OPERATION_STATUS_DEF		5.0.0.15
STATUS_MNEMONIC	VARCHAR2	Operation status: mnemonic	FR_MD_OPERATION_STATUS_DEF		5.0.0.15
STATUS_TEXT	VARCHAR2	Operation status: description	FR_MD_OPERATION_STATUS_DEF		5.0.0.15
STATUS_SORT_ORDER	NUMBER	Operation status: sort order	FR_MD_OPERATION_STATUS_DEF		5.7.1 SP1
STATUS_SHORTTEXT	VARCHAR2	Operation status: short description	FR_MD_OPERATION_STATUS_DEF		5.0.0.15
OPERATION_PHASE_ID	NUMBER	Operation phase: ID	FR_MD_OPERATION_PHASE_DEF		5.7.0
PHASE_CODE	Number	Operation status: code	FR_MD_OPERATION_PHASE_DEF		5.0.0.15
PHASE_COLOR	VARCHAR2	Operation phase: color	FR_MD_OPERATION_STATUS_DEF		5.0.0.15
PHASE_MNEMONIC	VARCHAR2	Operation phase: mnemonic	FR_MD_OPERATION_STATUS_DEF		5.0.0.15
PHASE_SORT_ORDER	NUMBER	Operation phase: sort order	FR_MD_OPERATION_PHASE_DEF		5.7.1 SP1
PHASE_TEXT	VARCHAR2	Operation phase: description	FR_MD_OPERATION_STATUS_DEF		5.0.0.15
PHASE_SHORTTEXT	VARCHAR2	Operation phase: short description	FR_MD_OPERATION_STATUS_DEF		5.0.0.15
QTY_TYPE_CODE	NUMBER	Quantity type: coding	FR_MD_OPERATION_QUANTITY_TYPE		5.0.0.15
QTY_TYPE_COLOR	VARCHAR2	Quantity type: color	FR_MD_OPERATION_QUANTITY_TYPE		5.0.0.15
QTY_TYPE_SORT_ORDER	NUMBER	Quantity type: sort order	FR_MD_OPERATION_QUANTITY_TYPE		5.7.1 SP1
QTY_TYPE_TEXT	VARCHAR2	Quantity type: description	FR_MD_OPERATION_QUANTITY_TYPE		5.0.0.15

Past 1

Column	Data type	Description	Source: master data table	Dissolution of foreign keys	Since version
QTY_TYPE_SHORTTEXT	VARCHAR2	Quantity type: short description	FR_MD_OPERATION_QUANTITY_TYPE		5.0.0.15
QTY_REASON_COLOR	VARCHAR2	Reason for the selected quantity type: color	FR_MD_QUANTITY_REASON		5.0.0.15
QTY_REASON_MNEMONIC	VARCHAR	Reason for the selected quantity type: mnemonic	FR_MD_QUANTITY_REASON		5.0.0.15
QTY_REASON_TEXT	VARCHAR2	Reason for the selected quantity type: description	FR_MD_QUANTITY_REASON		5.0.0.15
QTY_REASON_SHORTTEXT	VARCHAR2	Reason for the selected quantity type: short description	FR_MD_QUANTITY_REASON		5.0.0.15
START_TS	TIMESTAMP(6)	Time stamp of the first occurrence; additional derived columns see Timestamp for grouping and sorting	FR_DS_OPERATION_QUANTITY_LE		5.0.0.15
AMOUNT	NUMBER	Summarized quantity	FR_DS_OPERATION_QUANTITY_LE		5.0.0.15
OPERATING_STATUS_ID	NUMBER	Operating status: ID	V_MD_WORKPLACE_STATUS V_MD_MALFUNCTION_REASON_VEC1		5.3.0
OPERATING_STATUS_COLOR	VARCHAR2	Operating status: color	V_MD_WORKPLACE_STATUS V_MD_MALFUNCTION_REASON_VEC1		5.3.0
OPERATING_STATUS_MNEMONIC	VARCHAR2	Operating status: mnemonic	V_MD_WORKPLACE_STATUS V_MD_MALFUNCTION_REASON_VEC1		5.3.0
OPERATING_STATUS_SORT_ORDER	NUMBER	Operating status: sort order	V_MD_OPERATION_STAUTS_V_MD_MALFUNCTION_REASON_VEC1		5.7.1 SP1
OPERATING_STATUS_TEXT	VARCHAR2	Operating status: description	V_MD_WORKPLACE_STATUS V_MD_MALFUNCTION_REASON_VEC1		5.3.0
OPERATING_STATUS_SHORTTEXT	VARCHAR2	Operating status: short description	V_MD_WORKPLACE_STATUS V_MD_MALFUNCTION_REASON_VEC1		5.3.0

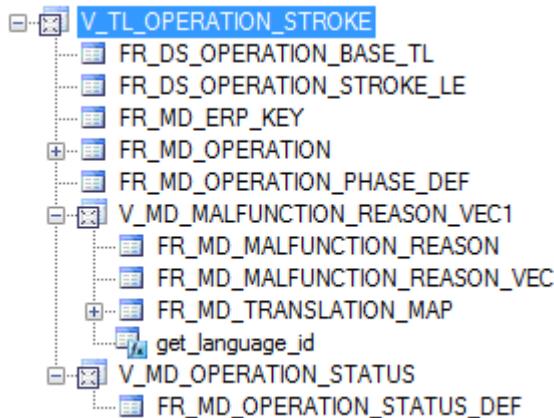
Past 1

11.3.2.6 V_TL_OPERATION_STROKE

11.3.2.6.1 Purpose

Operation strokes (uncompressed)

11.3.2.6.2 Dependencies



11.3.2.6.3 Columns

Column	Data type	Description	Source: master data table	Dissolution of foreign keys	Since version
NUMBER_OF_STROKES	NUMBER	Number of strokes	FR_DS_OPERATION_STROKE_LE		5.0.0 .15
START_TS	TIMESTAMP(6)	Start time (UTC) of the interval; additional derived columns see Timestamp for grouping and sorting	FR_DS_OPERATION_STROKE_LE		5.0.0 .15
END_TS	TIMESTAMP(6)	End time (UTC) of the interval; additional derived columns see Timestamp for grouping and sorting	FR_DS_OPERATION_STROKE_LE		5.2.8
CHANGE_TS	TIMESTAMP(6)	time (UTC) of the report; additional derived columns see Timestamp for grouping and sorting	FR_DS_OPERATION_STROKE_LE		5.0.0 .21
OPERATION_STATUS_ID	NUMBER	Operation status: ID	FR_MD_OPERATION_STATUS_DEF		5.7.0
STATUS_CODE	NUMBER	Operation status: code	FR_MD_OPERATION_STATUS_DEF		5.0.0 .15
STATUS_COLOR	VARCHAR2	Operation status: color	FR_MD_OPERATION_STATUS_DEF		5.0.0 .15
STATUS_MNEMONIC	VARCHAR2	Operation status: mnemonic	FR_MD_OPERATION_STATUS_DEF		5.0.0 .15
STA-	NUMBER	Operation status: sort order	FR_MD_OPERATION_S		5.7.1

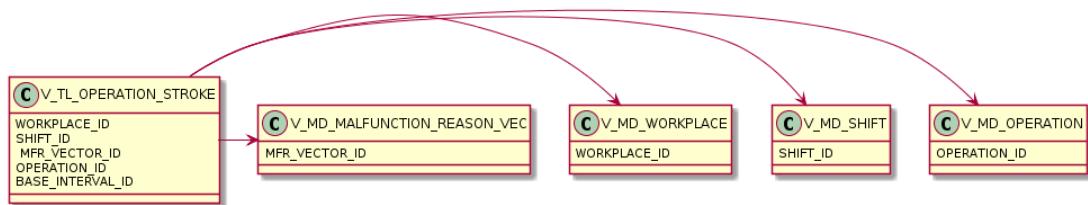
Past 1

Column	Data type	Description	Source: master data table	Dissolution of foreign keys	Since version
TUS_SORT_ORDER			TATUS_DEF		SP1
STATUS_TEXT	VARCHAR2	Operation status: description	FR_MD_OPERATION_STATUS_DEF		5.0.0.15
STATUSTUS_SHORTTEXT	VARCHAR	Operation status: short description	FR_MD_OPERATION_STATUS_DEF		5.0.0.15
OPERATION_PHASE_ID	NUMBER	Operation phase: ID	FR_MD_OPERATION_PHASE_DEF		5.7.0
PHASE_CODE	Number	Operation status: code	FR_MD_OPERATION_PHASE_DEF		5.0.0.15
PHASE_COLOR	VARCHAR2	Operation phase: color	FR_MD_OPERATION_PHASE_DEF		5.0.0.15
PHASE_MNEMONIC	VARCHAR2	Operation phase: mnemonic	FR_MD_OPERATION_PHASE_DEF		5.0.0.15
PHASE_SORT_ORDER	NUMBER	Operation phase: sort order	FR_MD_OPERATION_PHASE_DEF		7.5.1 SP1
PHASE_TEXT	VARCHAR2	Operation phase: description	FR_MD_OPERATION_PHASE_DEF		5.0.0.15
PHASE_SHORTTEXT	VARCHAR2	Operation phase: short description	FR_MD_OPERATION_PHASE_DEF		5.0.0.15
WORKPLACE_ID	NUMBER	Workplace ID	FR_DS_OPERATION_STROKELE	Join via V_MD_WORKPLACE.WORKPLACE_ID	5.0.0.15
SHIFT_ID	NUMBER	Shift ID	FR_DS_OPERATION_STROKELE	Join via V_MD_SHIFT.SHIFT_ID	5.0.0.15
OPERATION_ID	NUMBER	Operation ID	FR_DS_OPERATION_STROKELE	Join via V_MD_OPERATION.OPERATION_ID	5.0.0.15
MFR_VECTOR_ID	NUMBER	ID of the malfunction reason vector	FR_DS_OPERATION_STROKELE	Join via V_MD_MALFUNCTION_REASON_VECTOR.MFR_VECTOR_ID	5.0.0.15
OPERATING_STATUS_ID	NUMBER	Operating status: ID	V_MD_WORKPLACE_STATUS V_MD_MALFUNCTION_REASON_VEC1		5.3.0
OPERATING_STATUS_COLOR	VARCHAR2	Operating status: color	V_MD_WORKPLACE_STATUS V_MD_MALFUNCTION_REASON_VEC1		5.3.0
OPERATING_STATUS_MNEMONIC	VARCHAR2	Operating status: mnemonic	V_MD_WORKPLACE_STATUS V_MD_MALFUNCTION_REASON_VEC1		5.3.0

Past 1

Column	Data type	Description	Source: master data table	Dissolution of foreign keys	Since version
OPERATING_STATUS_SORT_ORDER	NUMBER	Operating status: sort order	V_MD_OPERATION_STATUSV_MD_MALFUNCTION_REASON_VEC1		5.7.1 SP1
OPERATING_STATUS_TEXT	VARCHAR2	Operating status: description	V_MD_WORKPLACE_STATUS V_MD_MALFUNCTION_REASON_VEC1		5.3.0
OPERATING_STATUS_SHORTTEXT	VARCHAR2	Operating status: short description	V_MD_WORKPLACE_STATUS V_MD_MALFUNCTION_REASON_VEC1		5.3.0

11.3.2.6.4 ER Diagram



11.3.3 Status Views

Since master data tables do not contain any current information like

- current status
- current actual quantity
- actual strokes,

status views are provided, to derive the actual information from the timeline tables.

11.3.3.1 Status views of the workplace

View name	Meaning
V_ST_WORKPLACE	Current status of the workplace

11.3.3.2 Status views of the operation

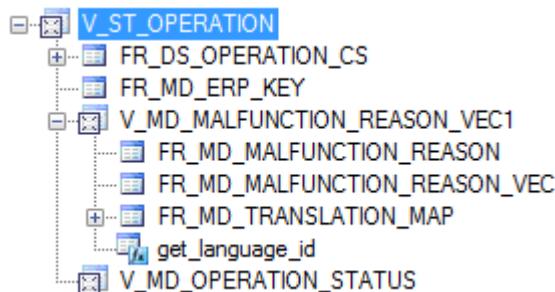
View name	Meaning
V_ST_OPERATION	Current status of the operation

11.3.3.3 V_ST_OPERATION

11.3.3.3.1 Purpose

Current status of the operation
(V4 AUFTR_AFO only status data)

11.3.3.3.2 Dependencies

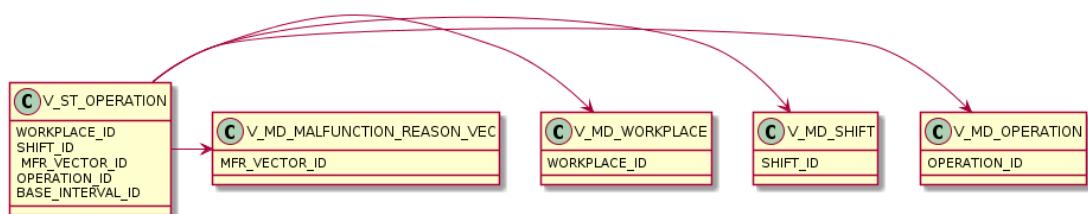


11.3.3.3 Columns

Column	Data type	Description	Source: master data table	Dissolution of foreign keys	Since version
OPERATION_STATUS_ID	NUMBER	Operation status: ID	FR_MD_OPERATION_STATUS_DEF		5.7.0
STATUS_CODE	NUMBER	Operation status: code	FR_MD_OPERATION_STATUS_DEF		5.0.0 .15
STATUS_COLOR	VARCHAR2	Operation status: color	FR_MD_OPERATION_STATUS_DEF		5.0.0 .15
STATUS_MNEMONIC	VARCHAR2	Operation status: mnemonic	FR_MD_OPERATION_STATUS_DEF		5.0.0 .15
STATUS_TEXT	VARCHAR2	Operation status: description	FR_MD_OPERATION_STATUS_DEF		5.0.0 .15
STATUS_SHORTTEXT	VARCHAR	Operation status short description	FR_MD_OPERATION_STATUS_DEF		5.0.0 .15
STATUS_SORT_ORDER	NUMBER	Operation status: sort order	FR_MD_OPERATION_STATUS_DEF		5.7.1 SP1
OPERATION_PHASE_ID	NUMBER	Operation phase: ID	FR_MD_OPERATION_PHASE_DEF		5.7.0
PHASE_CODE	NUMBER	Operation status: code	FR_MD_OPERATION_PHASE_DEF		5.0.0 .15
PHASE_COLOR	VARCHAR2	Operation phase: color	FR_MD_OPERATION_PHASE_DEF		5.0.0 .15
PHASE_MNEMONIC	VARCHAR2	Operation phase: mnemonic	FR_MD_OPERATION_PHASE_DEF		5.0.0 .15
PHASE_TEXT	VARCHAR2	Operation phase: description	FR_MD_OPERATION_PHASE_DEF		5.0.0 .15
PHASE_SHORTTEXT	VARCHAR	Operation phase: short description	FR_MD_OPERATION_PHASE_DEF		5.0.0 .15

Part 1

Column	Data type	Description	Source: master data table	Dissolution of foreign keys	Since version
PHASE_SORT_ORDER	NUMBER	Operation phase: sort order	FR_MD_OPERATION_STATUS_DEF		5.7.1 SP1
OPERATION_ID	NUMBER	Operation ID	FR_DS_OPERATION_CS	Join via V_MD_OPERATION.OPERATION_ID	5.0.0 .15
WORKPLACE_ID	NUMBER	Workplace ID	FR_DS_OPERATION_CS	Join via V_MD_WORKPLACE.WORKPLACE_ID	5.0.0 .15
MFR_VECTOR_ID	NUMBER	ID of malfunction reason vector	FR_DS_OPERATION_CS	Join via V_MD_MALFUNCTION_REASON_VEC.MFR_VECTOR_ID	5.0.0 .15
SHIFT_ID	NUMBER	Shift ID	FR_DS_OPERATION_CS	Join via V_MD_SHIFT.SHIFT_ID	5.0.0 .15
OPERATING_STATUS_ID	NUMBER	Operating status: ID	V_MD_WORKPLACE_STATUS V_MD_MALFUNCTION_REASON_VEC1		5.3.0
OPERATING_STATUS_COLOR	VARCHAR2	Operating status: color	V_MD_WORKPLACE_STATUS V_MD_MALFUNCTION_REASON_VEC1		5.3.0
OPERATING_STATUS_MNEMONIC	VARCHAR2	Operating status: mnemonic	V_MD_WORKPLACE_STATUS V_MD_MALFUNCTION_REASON_VEC1		5.3.0
OPERATING_STATUS_TEXT	VARCHAR2	Operating status: description	V_MD_WORKPLACE_STATUS V_MD_MALFUNCTION_REASON_VEC1		5.3.0
OPERATING_STATUS_SHORTTEXT	VARCHAR2	Operating status: short description	V_MD_WORKPLACE_STATUS V_MD_MALFUNCTION_REASON_VEC1		5.3.0
OPERATING_STATUS_SORT_ORDER	NUMBER	Operating status: sort order	V_MD_WORKPLACE_STATUS V_MD_MALFUNCTION_REASON_VEC1		5.7.1 SP1

11.3.3.3.4 ER Diagram


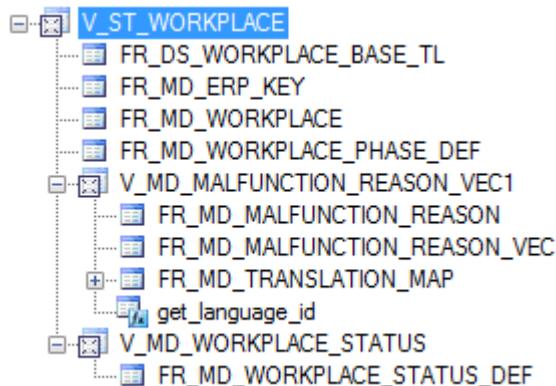
Past 1

11.3.3.4 V_ST_WORKPLACE

11.3.3.4.1 Purpose

Current status of the workplace
see Status views

11.3.3.4.2 Dependencies

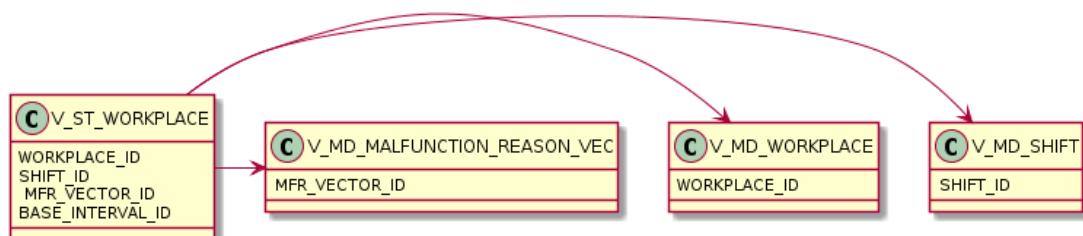


11.3.3.4.3 Columns

Column	Data type	Description	Source: master data table	Dissolution of foreign keys	Since version
WORKPLACE_STATUS_ID	NUMBER	Workplace status: ID	FR_MD_WORKPLACE_STATUS_DEF		5.7.0
STATUS_CODE	NUMBER	Workplace status: code	FR_MD_WORKPLACE_STATUS_DEF		5.0.0 .15
STATUS_COLOR	VARCHAR2	Workplace status: color	FR_MD_WORKPLACE_STATUS_DEF		5.0.0 .15
STATUS_MNEMONIC	VARCHAR2	Workplace status: mnemonic	FR_MD_WORKPLACE_STATUS_DEF		5.0.0 .15
STATUS_TEXT	VARCHAR2	Workplace status: description	FR_MD_WORKPLACE_STATUS_DEF		5.0.0 .15
STATUS_SHORTTEXT	VARCHAR	Workplace status: short description	FR_MD_WORKPLACE_STATUS_DEF		5.0.0 .15
STATUS_SORT_ORDER	NUMBER	Workplace status: sort order	FR_MD_WORKPLACE_STATUS_DEF		5.7.1 SP1
WORKPLACE_PHASE_ID	NUMBER	Workplace phase: ID	FR_MD_WORKPLACE_PHASE_DEF		5.7.0
PHASE_CODE	NUMBER	Workplace phase: code	FR_MD_WORKPLACE_PHASE_DEF		5.0.0 .15
PHASE_COLOR	VARCHAR2	Workplace phase: color	FR_MD_WORKPLACE_PHASE_DEF		5.0.0 .15
PHASE_MNEMONIC	VARCHAR2	Workplace phase: mnemonic	FR_MD_WORKPLACE_PHASE_DEF		5.0.0 .15
PHASE_TEXT	VARCHAR2	Workplace phase: description	FR_MD_WORKPLACE_PHASE_DEF		5.0.0 .15
PHASE_SHORTTEXT	VARCHAR	Workplace phase: short description	FR_MD_WORKPLACE_PHASE_DEF		5.0.0 .15

Part 1

Column	Data type	Description	Source: master data table	Dissolution of foreign keys	Since version
PHASE_SORT_ORDER	VARCHAR	Workplace phase: sort order	FR_MD_WORKPLACE_PHASE_DEF		5.7.1 SP1
WORKPLACE_ID	NUMBER	Workplace ID	FR_DS_WORKPLACE_BASE_TL	Join via V_MD_WORKPLACE.E.WORKPLACE_ID	5.0.0 .15
WORKPLACE_SORT_ORDER	NUMBER	Workplace sort order	FR_MD_WORKPLACE		5.7.1 SP1
MFR_VECTOR_ID	NUMBER	ID of malfunction reason vector	FR_DS_WORKPLACE_BASE_TL	Join via V_MD_MALFUNCTION_REASON_VEC.MFR_VECTOR_ID	5.0.0 .15
SHIFT_ID	NUMBER	Shift ID	FR_DS_WORKPLACE_BASE_TL	Join via V_MD_SHIFT.SHIFT_ID	5.0.0 .15
OPERATING_STATUS_ID	NUMBER	Operating status: ID	V_MD_WORKPLACE_STATUS V_MD_MALFUNCTION_REASON_VEC1		5.3.0
OPERATING_STATUS_COLOR	VARCHAR2	Operating status: color	V_MD_WORKPLACE_STATUS V_MD_MALFUNCTION_REASON_VEC1		5.3.0
OPERATING_STATUS_MNEMONIC	VARCHAR2	Operating status: mnemonic	V_MD_WORKPLACE_STATUS V_MD_MALFUNCTION_REASON_VEC1		5.3.0
OPERATING_STATUS_TEXT	VARCHAR2	Operating status: description	V_MD_WORKPLACE_STATUS V_MD_MALFUNCTION_REASON_VEC1		5.3.0
OPERATING_STATUS_SHORTTEXT	VARCHAR2	Operating status: short description	V_MD_WORKPLACE_STATUS V_MD_MALFUNCTION_REASON_VEC1		5.3.0
OPERATING_STATUS_SORT_ORDER	NUMBER	Operating status: sort order	V_MD_WORKPLACE_STATUS V_MD_MALFUNCTION_REASON_VEC1		5.7.1 SP1

11.3.3.4.4 ER Diagram

11.3.4 Personnel Timeline Views

View name	Meaning
V_TL_PERS_WORKPLACE_BASE	Duration of personnel, workplace, shift and status
V_TL_PERS_OPERATION_BASE	Duration of personnel, operation, workplace and status

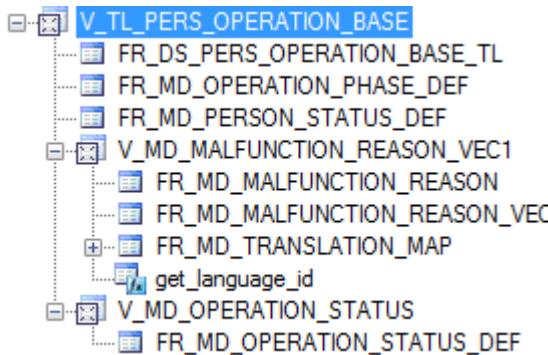
Past 1

11.3.4.1 V_TL_PERS_OPERATION_BASE

11.3.4.1.1 Purpose

Status related to person, operation, workplace, shift and status

11.3.4.1.2 Dependencies



11.3.4.1.3 Columns

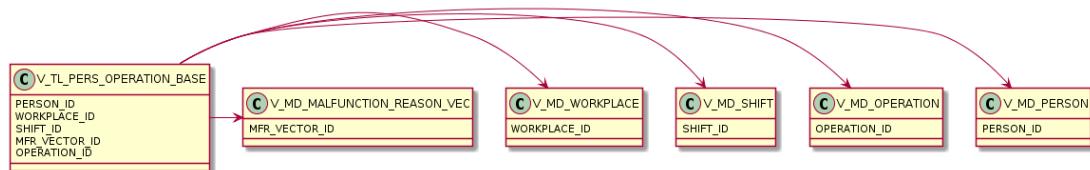
Column	Data type	Description	Source: master data table	Dissolution of foreign keys	Since version
WORKPLACE_ID	NUMBER	Workplace ID	FR_DS_PERS_OPERATION_B ASE_TL	Join via V_MD_WORKPLACE.WOR KPLACE_ID	5.0.0 .15
OPERATION_ID	NUMBER	Operation ID	FR_DS_PERS_OPERATION_B ASE_TL	Join via V_MD_OPERATION.OPER ATION_ID	5.0.0 .15
SHIFT_ID	NUMBER	Shift ID	FR_DS_PERS_OPERATION_B ASE_TL	Join via V_MD_SHIFT.SHIFT_ID	5.0.0 .15
PERSON_ID	NUMBER	Person ID	FR_DS_PERS_OPERATION_B ASE_TL	Join via V_MD_PERSON.PERSON_I D	5.0.0 .15
STATUS_CODE	NUMBER	Person status: coding	FR_MD_PERSON_STATUS_D EF		5.0.0 .15
STATUS_COLOR	VAR-CHAR2	Person status: color	FR_MD_PERSON_STATUS_D EF		5.0.0 .15
STA-TUS_MNEMONIC	VATCHAR2	Person status: mnemonic	FR_MD_PERSON_STATUS_D EF		5.0.0 .15
STATUS_TEXT	VAR-CHAR2	Person status: description	FR_MD_PERSON_STATUS_D EF		5.0.0 .15
STA-TUS_SHORTTEXT	VAR-CHAR2	Person status: short description	FR_MD_PERSON_STATUS_D EF		5.0.0 .15
OP_STATUS_ID	NUMBER	Workplace status: ID	FR_MD_OPERATION_STATU S_DEF		5.7.0
OP_STATUS_CODE	NUMBER	Operation status: coding	FR_MD_OPERATION_STATU S_DEF		5.0.0 .15
OP_STATUS_COL	VAR-	Workplace status:	FR_MD_OPERATION_STATU S_DEF		5.0.0

Past 1

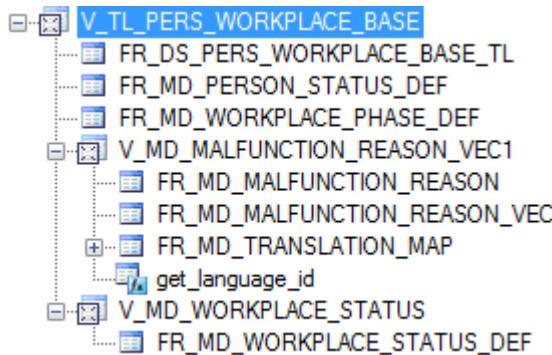
Column	Data type	Description	Source: master data table	Dissolution of foreign keys	Since version
OR	CHAR2	color	S_DEF		.15
OP_STATUS_MNEMONIC	VAR-CHAR2	Workplace status: mnemonic	FR_MD_OPERATION_STATUS_DEF		5.0.0 .15
OP_STATUS_CODE	NUMBER	Workplace status: code	FR_MD_OPERATION_STATUS_DEF		5.0.0 .15
OP_STATUS_TEXT	VAR-CHAR2	Workplace status: description	FR_MD_OPERATION_STATUS_DEF		5.0.0 .15
OP_STATUS_SHORTTEXT	VAR-CHAR2	Workplace status: short description	FR_MD_OPERATION_STATUS_DEF		5.0.0 .15
OP_PHASE_ID	NUMBER	Workplace phase: ID	FR_MD_OPERATION_PHASE_DEF		5.7.0
OP_PHASE_COLOR	VAR-CHAR2	Workplace phase: color	FR_MD_OPERATION_PHASE_DEF		5.0.0 .15
OP_PHASE_CODE	Number	Workplace status: code	FR_MD_OPERATION_PHASE_DEF		5.0.0 .15
OP_PHASE_MNEMONIC	VAR-CHAR2	Workplace phase: mnemonic	FR_MD_OPERATION_PHASE_DEF		5.0.0 .15
OP_PHASE_TEXT	VAR-CHAR2	Workplace phase: description	FR_MD_OPERATION_PHASE_DEF		5.0.0 .15
OP_PHASE_SHORTTEXT	VAR-CHAR2	Workplace phase: short description	FR_MD_OPERATION_PHASE_DEF		5.0.0 .15
MFR_VECTOR_ID	NUMBER	Malfunction reason vector	FR_DS_PERS_OPERATION_B ASE_TL	Join via V_MD_MALFUNCTION_REASON_VEC.MFR_VECTOR_ID	5.0.0 .15
START_TS	TIMESTAMP(6)	Start time (UTC) of the interval	FR_DS_PERS_OPERATION_B ASE_TL		5.0.0 .15
FROM_LAST_SHIFT	NUMBER	Flag: 1 = workplace status adopted from last shift; 0 otherwise	FR_DS_PERS_OPERATION_B ASE_TL		5.0.0 .15
DURATION	NUMBER	Duration (msec) of the interval	FR_DS_PERS_OPERATION_B ASE_TL		5.0.0 .15
CNT_OCCURRENCE	NUMBER	Always 1	FR_DS_PERS_OPERATION_B ASE_TL		5.0.0 .15
START_TS	TIMESTAMP(6)	Start time (UTC) of the interval	FR_DS_PERS_OPERATION_B ASE_TL		5.0.0 .15
END_TS	TIMESTAMP(6)	End time (UTC) of the interval	FR_DS_PERS_OPERATION_B ASE_TL		5.0.0 .15
PERCENT_WEIGHTING	NUMBER	Weighting	FR_DS_PERS_OPERATION_B ASE_TL		5.0.0 .15
OPERATING_STATUS_ID	NUMBER	Operating status: ID	V_MD_WORKPLACE_STATUS V_MD_MALFUNCTION_REASON		5.3.0

Past 1

Column	Data type	Description	Source: master data table	Dissolution of foreign keys	Since version		
			SON_VEC1				
OPERATING_STATUS_CODE	VAR-CHAR2	Operating status: color	V_MD_WORKPLACE_STATUS V_MD_MALFUNCTION_REASON_VEC1		5.3.0		
OPERATING_STATUS_Mnemonic	VAR-CHAR2	Operating status: mnemonic	V_MD_WORKPLACE_STATUS V_MD_MALFUNCTION_REASON_VEC1		5.3.0		
OPERATING_STATUS_TEXT	VAR-CHAR2	Operating status: description	V_MD_WORKPLACE_STATUS V_MD_MALFUNCTION_REASON_VEC1		5.3.0		
OPERATING_STATUS_SHORTTEXT	VAR-CHAR2	Operating status: short description	V_MD_WORKPLACE_STATUS V_MD_MALFUNCTION_REASON_VEC1		5.3.0		

11.3.4.1.4 ER Diagram

11.3.4.2 V_TL_PERS_WORKPLACE_BASE
11.3.4.2.1 Purpose

Status related to person, workplace, shift and status

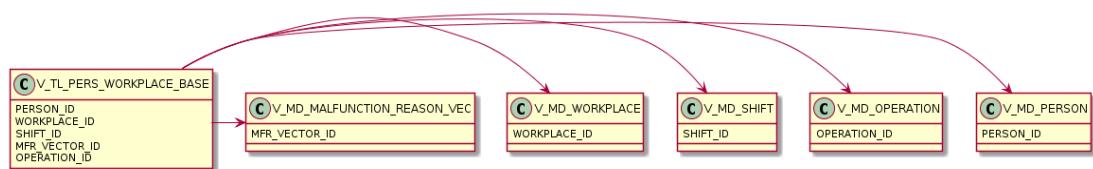
11.3.4.2.2 Dependencies


Past 1
11.3.4.2.3 Columns

Column	Data type	Description	Source: master data table	Dissolution of foreign keys	Since version
WORKPLACE_ID	NUMBER	Workplace ID	FR_DS_PERS_WORKPLACE_B ASE_TL	Join via V_MD_WORKPLACE.WORKPLACE_ID	5.0.0 .15
SHIFT_ID	NUMBER	Shift ID	FR_DS_PERS_WORKPLACE_B ASE_TL	Join via V_MD_SHIFT.SHIFT_ID	5.0.0 .15
PERSON_ID	NUMBER	Person ID	FR_DS_PERS_WORKPLACE_B ASE_TL	Join via V_MD_PERSON.PERSON_ID	5.0.0 .15
STATUS_CODE	NUMBER	Person status: coding	FR_MD_PERSON_STATUS_DEF		5.0.0 .15
STATUS_COLOR	VARCHAR2	Person status: color	FR_MD_PERSON_STATUS_DEF		5.0.0 .15
STA-TUS_MNEMONIC	VARCHAR2	Person status: mnemonic	FR_MD_PERSON_STATUS_DEF		5.0.0 .15
STATUS_TEXT	VARCHAR2	Person status: description	FR_MD_PERSON_STATUS_DEF		5.0.0 .15
STA-TUS_SHORTTEXT	VARCHAR2	Person status: short description	FR_MD_PERSON_STATUS_DEF		5.0.0 .15
WP_STATUS_ID	NUMBER	Workplace status: ID	FR_MD_WORKPLACE_STATUS_DEF		5.7.0
WP_STATUS_CODE	NUMBER	Operation status: coding	FR_MD_WORKPLACE_STATUS_DEF		5.0.0 .15
WP_STATUS_COLOR	VARCHAR2	Workplace status: color	FR_MD_WORKPLACE_STATUS_DEF		5.0.0 .15
WP_STATUS_MNEMONIC	VARCHAR2	Workplace status: mnemonic	FR_MD_WORKPLACE_STATUS_DEF		5.0.0 .15
WP_STATUS_TEXT	VARCHAR2	Workplace status: description	FR_MD_WORKPLACE_STATUS_DEF		5.0.0 .15
WP_STATUS_SHORTTEXT	VARCHAR2	Workplace status: short description	FR_MD_WORKPLACE_STATUS_DEF		5.0.0 .15
WP_PHASE_ID	NUMBER	Workplace phase: ID	FR_MD_WORKPLACE_PHASE_DEF		5.7.0
WP_PHASE_COLOR	VARCHAR2	Workplace phase: color	FR_MD_WORKPLACE_PHASE_DEF		5.0.0 .15
WP_PHASE_CODE	Number	Workplace phase: code	FR_MD_WORKPLACE_PHASE_DEF		5.0.0 .15
WP_PHASE_MNEMONIC	VARCHAR2	Workplace phase: mnemonic	FR_MD_WORKPLACE_PHASE_DEF		
WP_PHASE_TEXT	VARCHAR2	Workplace phase:	FR_MD_WORKPLACE_PHASE_DEF		5.0.0 .15

Past 1

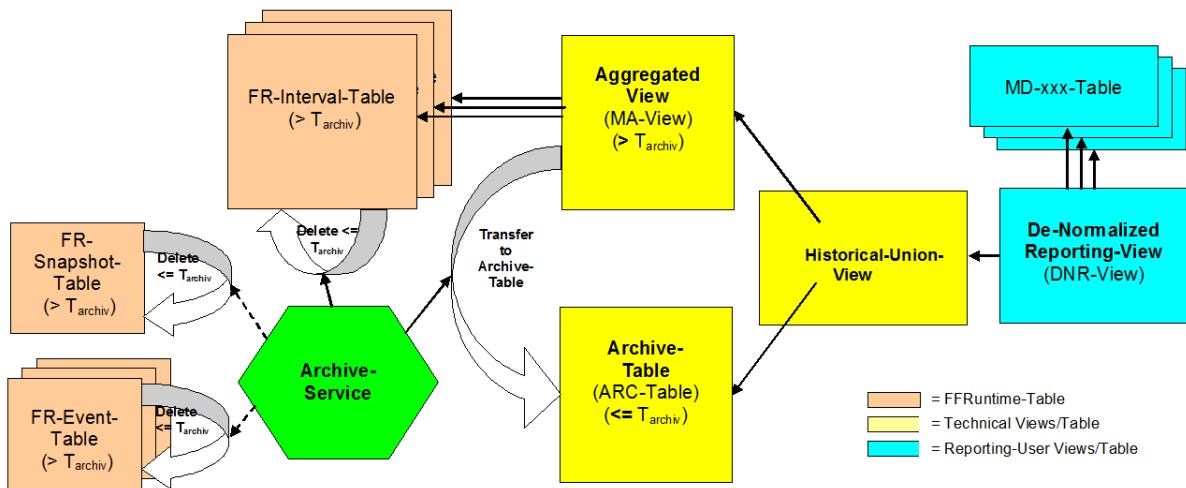
Column	Data type	Description	Source: master data table	Dissolution of foreign keys	Since version
		120escription			
WP_PHASE_SHORTTEXT	VARCHAR2	Workplace phase: short description	FR_MD_WORKPLACE_PHASE_DEF		5.0.0.15
MFR_VECTOR_ID	NUMBER	Malfunction reason vector	FR_DS_PERS_WORKPLACE_BASE_TL	Join via V_MD_MALFUNCTION_REASON_VEC.MFR_VECTOR_ID	5.0.0.15
FROM_LAST_SHIFT	NUMBER	Flag: 1 = workplace status adopted from last shift; 0 otherwise	FR_DS_PERS_WORKPLACE_BASE_TL		5.0.0.15
DURATION	NUMBER	Duration (msec) of the interval	FR_DS_PERS_WORKPLACE_BASE_TL		5.0.0.15
CNT_OCCURRENCE	NUMBER	Always 1	FR_DS_PERS_WORKPLACE_BASE_TL		5.0.0.15
START_TS	TIMESTAMP(6)	Start time (UTC) of the interval	FR_DS_PERS_WORKPLACE_BASE_TL		5.0.0.15
END_TS	TIMESTAMP(6)	End time (UTC) of the interval	FR_DS_PERS_WORKPLACE_BASE_TL		5.0.0.15
OPERATING_STATUS_ID	Number	ID (derived) of the operating state	V_MD_WORKPLACE_STATUS_V_MD_MALFUNCTION_REASON_VEC1		5.4.
OPERATING_STATUS_COLOR	VARCHAR2	Operating status: color	V_MD_WORKPLACE_STATUS_V_MD_MALFUNCTION_REASON_VEC1		5.4.
OPERATING_STATUS_MEMONIC	VARCHAR2	Operating status: mnemonic	V_MD_WORKPLACE_STATUS_V_MD_MALFUNCTION_REASON_VEC1		5.4.
OPERATING_STATUS_TEXT	VARCHAR2	Operating status: 120escription	V_MD_WORKPLACE_STATUS_V_MD_MALFUNCTION_REASON_VEC1		5.4.
OPERATING_STATUS_SHORTTEXT	VARCHAR2	Operating status: short description	V_MD_WORKPLACE_STATUS_V_MD_MALFUNCTION_REASON_VEC1		5.4.

11.3.4.2.4 ER Diagram


12 Past 2

12.1 Mode of Operation of the Compression

12.1.1 Compression



The timeline compression principle is illustrated with the help of the above figure. The FFRuntime uses reports to create entries in the Timeline Tables.

The Timeline Tables are divided in

- interval tables that display the chronological status process and
- event tables that contain the quantity and stroke reports with the temporal reference to the interval tables.

Currently there are timelines for a workplace with quantities and strokes and for the operation with quantities. A new interval is opened and the currently open one is closed when either a status change or a shift event occurs. Therefore the intervals are not only status-related but also clearly shift-related.

The timeline table is then shift-related compressed, via aggregating materialized views (Oracle) or indexed views (SQL server) respectively. It means that the duration of intervals and the quantity or stroke reports respectively, are summarized shift-related and are stored in the tables of the materialized views. But because only those data exist temporally in the materialized views to which also entries in the timeline tables exist, there are archive tables for the historic data, which have the same column structure as the materialized views. Migrated data are kept exclusively in the archive tables.

In order to display a continuous, historic run, the views are used to link the materialized views and the archive tables with each other.

Consequently the views provide the base for the reporting on compressed data.

But because the views are maximally normalized, further views are provided that execute a denormalization of data toward the master data.

12.1.2 Materialized Views, Archive Tables, Views

The materialized views execute a shift-related compression of interval tables and event tables.

Materialized views and archive tables are the merged via the following views.

According to the current timelines there are the following views:

- Workplace shift:

Materialized view / indexed view	Archive table	View	Description
WORKPLACE_BASE_SUM	WORKPLACE_BASE_ARC_SUM	V_SC_WORKPLACE_BASE	Status compression per shift
WORKPLACE_QUANTITY_SUM	WORKPLACE_QUANTITY_ARC_SUM	V_SC_WORKPLACE_QUANTITY	Quantity compression per shift
WORKPLACE_STROKE_SUM	WORKPLACE_STROKE_ARC_SUM	V_SC_WORKPLACE_STROKE	Strokes compression per shift
PERS_WORKPLACE_BASE_SUM	PERS_WORKPLACE_BASE_ARC_SUM	V_SC_PERS_WORKPLACE_BASE	Personnel timeline per shift
WORKPLACE_QUANTITY_SUM	WORKPLACE_QUANTITY_ARC_SUM	V_SC_WORKPLACE_QUANTITY_SUM	Quantity type compression per shift

- Operation shift:

Materialized view / indexed view	Archive table	View	Description
OPERATION_BASE_SUM	OPERATION_BASE_ARC_SUM	V_SC_OPERATION_BASE	Status compression per shift
OPERATION_QUANTITY_SUM	OPERATION_QUANTITY_ARC_SUM	V_SC_OPERATION_QUANTITY	Quantity compression per shift
OPERATION_STROKE_SUM	OPERATION_STROKE_ARC_SUM	V_SC_OPERATION_STROKE	Strokes compression per shift
PERS_OPERATION_BASE_SUM	PERS_OPERATION_BASE_ARC_SUM	V_SC_PERS_OPERATION_BASE	Personnel timeline per shift
OPERATION_QUANTITY_SUM	OPERATION_QUANTITY_ARC_SUM	V_SC_OPERATION_QUANTITY_SUM	Quantity type compression per shift

- Operation:

Materialized view / indexed view	Archive table	View	Description
OPERATION_TS_STARTEND	OPERATION_TS_ARC_STARTEND	V_C_OPERATION_TIMES_TAMPS	Start and end times of the phases of an operation (grouped by phase und operation)

- Personnel:

Materialized view / indexed view	Archive table	View	Description
PERS_WORKPLACE_BASE_SUM	PERS_WORKPLACE_BASE_ARC_SUM	V_SC_PERS_WORKPLACE_BASE	Personnel timeline per workplace and shift
PERS_OPERATION_BASE_SUM	PERS_OPERATION_BASE_ARC_SUM	V_SC_PERS_OPERATION_BASE	Personnel timeline per workplace, operation and

Materialized view / indexed view	Archive table	View	Description
			shift

Therefore materialized view or indexed view respectively, archive table and view always form an interrelated triple, whose column structure has to be inevitably identical

Materialized view or indexed view respectively and archive table have system-technological character and should not be used directly in reports.

12.1.3 Views

Therefore the views provide the bottom level that can be used for the reporting of compressed data. To be able to do without the existing distinction between operation and shift-related from version 4., there is an additional start and end time stamp per compression line. Behind it is the start time stamp of the first event and the end time stamp of the last event of a status within the shift.

12.1.3.1 Workplace Shift

All 3 workplace views (see table) have the following “key” columns in common

- WORKPLACE_ID
- SHIFT_ID
- WORKPLACE_PHASE_ID
- WORKPLACE_STATUS_ID
- MALFUNCTION_REASON_VECTOR_ID

This equates to the compression of durations, quantities and strokes with reference to

- Workplace (WORKPLACE_ID)
- Shift (SHIFT_ID)
- Status (WORKPLACE_PHASE_ID, WORKPLACE_STATUS_ID, MALFUNCTION_REASON_VECTOR_ID)

12.1.3.2 Operation Shift

The 3 views of the operation (see table) have the following „key“ columns in common

- WORKPLACE_ID
- SHIFT_ID
- OPERATION_ID
- OPERATION_PHASE_ID
- OPERATION_STATUS_ID
- MALFUNCTION_REASON_VECTOR_ID

This equates to the compression of durations, quantities and strokes with reference to:

- Workplace (WORKPLACE_ID)
- Shift (SHIFT_ID)
- Operation (OPERATION_ID)
- Status (OPERATION_STATUS_ID, OPERATION_PHASE_ID, MALFUNCTION_REASON_VECTOR_ID)

12.1.3.3 PERSONNEL Shift

The 2 views of the operation (see table) have the following „key“ columns in common

- PERSON_ID
- WORKPLACE_ID
- SHIFT_ID
- OPERATION_PHASE_ID
- OPERATION_STATUS_ID
- MALFUNCTION_REASON_VECTOR_ID

In addition there is the following key column with PERS_OPERATION_BASE_SUM

- OPERATION_ID

This equates to the compression of durations, quantities and strokes with reference to

- Personnel (PERSON_ID)
- Workplace (WORKPLACE_ID)
- Shift (SHIFT_ID)
- Operation (OPERATION_ID) [nur bei PERS_OPERATION_BASE_SUM]
- Status (OPERATION_STATUS_ID, OPERATION_PHASE_ID, MALFUNCTION_REASON_VECTOR_ID)

12.1.3.4 Operation Overall

Pure operation view based on the operation shift view:

View	Key columns	Description
V_C_OPERATION_BASE	OPERATION_ID WORKPLACE_ID	Status compression per operation
V_C_OPERATION_QUANTITY_OP	OPERATION_ID WORKPLACE_ID	Quantity compression per quantity reason and operation
V_C_OPERATION_QUANTITY_OP_SUM	OPERATION_ID WORKPLACE_ID	Quantity compression per quantity type and operation
V_C_OPERATION_TIMESTAMPS	OPERATION_ID	Phase start and end time stamp per operation

12.2 Compression Views

12.2.1 Workplace Grouped by Shift

View	Description
V_SC_WORKPLACE_BASE	Status compression grouped by workplace, shift, status, phase and malfunction reason
V_SC_WORKPLACE_QUANTITY	Quantity compression grouped by workplace, shift, status, phase, malfunction reason and quantity reason
V_SC_WORKPLACE_STROKE	Strokes compression grouped by workplace, shift, status, phase and malfunction reason
V_SC_WORKPLACE_QUANTITY_SUM	Status, quantity types and strokes grouped by workplace, shift, status, phase and malfunction reason
V_SC_PERS_WORKPLACE_BASE	Status grouped by person, workplace, shift, status, phase and malfunction reason

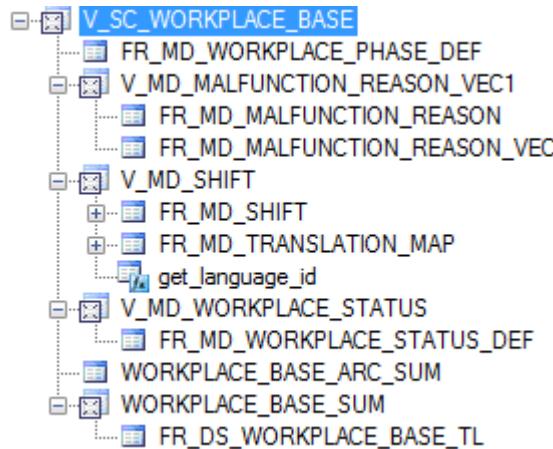
The archived data are also requested in all above listed views.

12.2.1.1 V_SC_WORKPLACE_BASE

12.2.1.1.1 Purpose

Status compression grouped by workplace, shift, status, phase and malfunction reason.

12.2.1.1.2 Dependencies



12.2.1.1.3 Columns

Column	Data type	Description	Source: master data table	Dissolution of foreign keys	Since version
WORKPLACE_ID	NUMBER	Workplace ID	WORKPLACE_BASE_SUM WORKPLACE_BASE_ARC_SUM	Join via V_MD_WORKPLACE.WORKPLACE_ID	5.0.0 .15
WORKPLACE_SORT_ORDER	NUMBER	Workplace sort order	FR_MD_WORKPLACE		5.7.1 SP1
SHIFT_ID	NUMBER	Shift ID	WORKPLACE_BASE_SUM WORKPLACE_BASE_ARC_SUM	Join via V_MD_SHIFT.SHIFT_ID	5.0.0 .15
WORKPLACE_STATUS_ID	NUMBER	Workplace status: ID	FR_MD_WORKPLACE_STATUS_DEF		5.7.0
STATUS_CODE	VAR-CHAR2	Workplace status: coding	FR_MD_WORKPLACE_STATUS_DEF		5.0.0 .15
STATUS_COLOR	VAR-CHAR2	Workplace status: color	FR_MD_WORKPLACE_STATUS_DEF		5.0.0 .15
STATUS_MNEMONIC	VAR-CHAR2	Workplace status: mnemonic	FR_MD_WORKPLACE_STATUS_DEF		5.0.0 .15
STATUS_SORT_ORDER	NUMBER	Workplace status: sort order	FR_MD_WORKPLACE_STATUS_DEF		5.7.1 SP1
STATUS_TEXT	VAR-CHAR2	Workplace status: description	FR_MD_WORKPLACE_STATUS_DEF		5.0.0 .15
STATUS_SHORTTEXT	VAR-	Workplace	FR_MD_WORKPLACE_STATUS_DEF		5.0.0

Past 2

Column	Data type	Description	Source: master data table	Dissolution of foreign keys	Since version
	CHAR2	status: short description	TUS_DEF		.15
WORKPLACE_PHASE_ID	NUMBER	Workplace phase: ID	FR_MD_WORKPLACE_PHASE_DEF		5.7.0
PHASE_CODE	VAR-CHAR2	Workplace phase: coding	FR_MD_WORKPLACE_PHASE_DEF		5.0.0 .15
PHASE_COLOR	VAR-CHAR2	Workplace phase: color	FR_MD_WORKPLACE_PHASE_DEF		5.0.0 .15
PHASE_MNEMONIC	VAR-CHAR2	Workplace phase: mnemonic	FR_MD_WORKPLACE_PHASE_DEF		5.0.0 .15
PHASE_SORT_ORDER	NUMBER	Workplace phase: sort order	FR_MD_WORKPLACE_PHASE_DEF		5.7.1 SP1
PHASE_TEXT	VAR-CHAR2	Workplace phase: description	FR_MD_WORKPLACE_PHASE_DEF		5.0.0 .15
PHASE_SHORTTEXT	VAR-CHAR2	Workplace phase: short description	FR_MD_WORKPLACE_PHASE_DEF		5.0.0 .15
MFR_VECTOR_ID	NUMBER	ID of the malfunction reason vector	WORKPLACE_BASE_SUM WORKPLACE_BASE_ARC_SUM	Join via V_MD_MALFUNCTION_REASON_VEC.MFR_VECTOR_ID	5.0.0 .15
SUM_DURATION	NUMBER	Summarized duration in [msec]	WORKPLACE_BASE_SUM WORKPLACE_BASE_ARC_SUM		5.0.0 .15
CNT_OCCURRENCE	NUMBER	Number of occurrences in shift	WORKPLACE_BASE_SUM WORKPLACE_BASE_ARC_SUM		5.0.0 .15
START_TS	TIMESTAMP(6)	Start timestamp first occurrence in shift; additional derived columns see Timestamp for grouping and sorting	WORKPLACE_BASE_SUM WORKPLACE_BASE_ARC_SUM		5.0.0 .15
END_TS	TIMESTAMP(6)	End timestamp last occurrence in shift; additional derived columns see Timestamp for grouping and sorting	WORKPLACE_BASE_SUM WORKPLACE_BASE_ARC_SUM		5.0.0 .15
FROM_LAST_SHIFT	NUMBER	1 if created	WORKPLACE_BASE_SUM		5.0.0

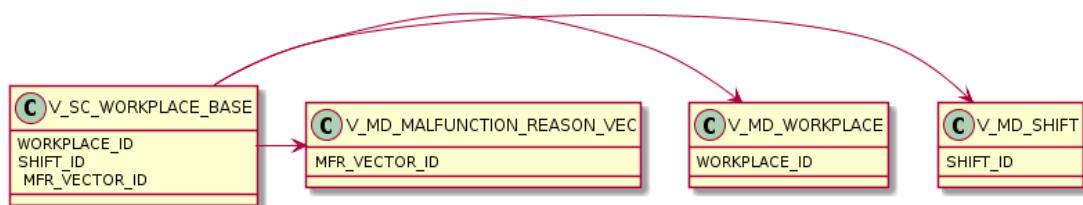
Past 2

Column	Data type	Description	Source: master data table	Dissolution of foreign keys	Since version
		before status before shift change, otherwise 0	WORK- PLACE_BASE_ARC_SUM		.15
ASSOCIATED_DAY_TS	TIMESTAMP(6)	Date time stamp of the day of shift	V_MD_SHIFT		
ASSOCIATED_DAY_TS_YEAR	VAR-CHAR2	Year of the date time stamp of the day of shift for grouping by ...	V_MD_SHIFT		
ASSOCIATED_DAY_TS_QUARTER	VAR-CHAR2	Year/quarter of the date time stamp of the day of shift for grouping by ...	V_MD_SHIFT		
ASSOCIATED_DAY_TS_MONTH	VAR-CHAR2	Year/month of the date time stamp of the day of shift for grouping by ...	V_MD_SHIFT		
ASSOCIATED_DAY_TS_WEEK	VAR-CHAR2	Year/week of the date time stamp of the day of shift for grouping by ...	V_MD_SHIFT		
ASSOCIATED_DAY_TS_ISOWEEK	VAR-CHAR2	Year/ISO week of the date time stamp of the day of shift for grouping by ...	V_MD_SHIFT		
ASSOCIATED_DAY_TS_DATE	VAR-CHAR2	Date of the date time stamp of the day of shift for grouping by ...	V_MD_SHIFT		
ASSOCIATED_DAY_TS_DATETIME	VAR-CHAR2	Date/time of the date time stamp of the day of shift for grouping by ...	V_MD_SHIFT		
OPERATING_STATUS_ID	NUMBER	Operating status: ID	V_MD_WORKPLACE_STATUS V_MD_MALFUNCTION_REASON_VEC1		

Past 2

Column	Data type	Description	Source: master data table	Dissolution of foreign keys	Since version
OPERATING_STATUS_COLOR	VAR-CHAR2	Operating status: color	V_MD_WORKPLACE_STATUS V_MD_MALFUNCTION_REASON_VEC1		
OPERATING_STATUS_MNEMONIC	VAR-CHAR2	Operating status: mnemonic	V_MD_WORKPLACE_STATUS V_MD_MALFUNCTION_REASON_VEC1		
OPERATING_STATUS_SORT_ORDER	NUMBER	Operating status: sort order	V_MD_WORKPLACE_STATUS V_MD_MALFUNCTION_REASON_VEC1		5.7.1 SP1
OPERATING_STATUS_TEXT	VAR-CHAR2	Operating status: description	V_MD_WORKPLACE_STATUS V_MD_MALFUNCTION_REASON_VEC1		
OPERATING_STATUS_SHORTTEXT	VAR-CHAR2	Operating status: short description	V_MD_WORKPLACE_STATUS V_MD_MALFUNCTION_REASON_VEC1		

12.2.1.1.4 ER Diagram



12.2.1.2 V_SC_WORKPLACE_OEE

12.2.1.2.1 Purpose

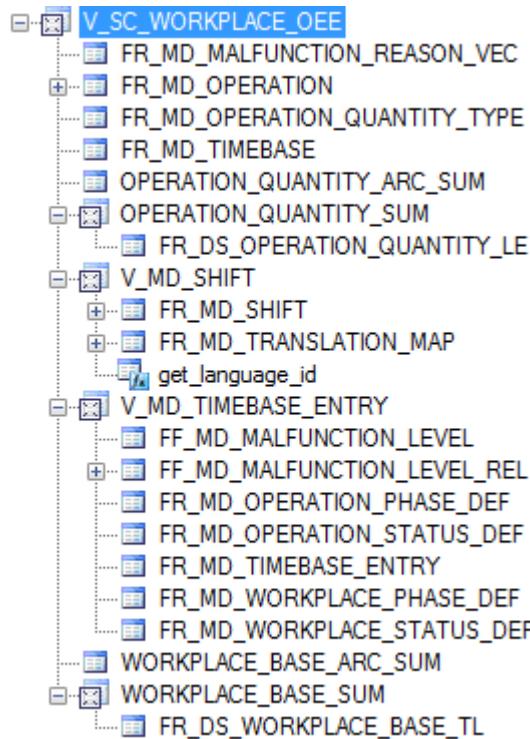
Processing of data for the OEE analysis by workplace and shift.

Attention!

Currently uses exclusively operation tables.

Past 2

12.2.1.2.2 Dependencies



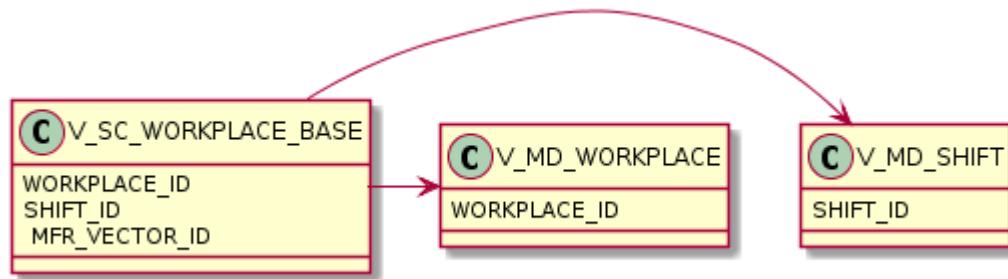
12.2.1.2.3 Columns

Column	Data type	Description	Source: master data table	Dissolution of foreign keys
WORKPLACE_ID	NUMBER	Workplace ID	OPERATION_QUANTITY_SUM OPERATION_QUANTITY_ARC_SUM	Join via V_MD_WORKPLACE.WORKPLACE_ID
SHIFT_ID	NUMBER	Shift ID	OPERATION_QUANTITY_SUM OPERATION_QUANTITY_ARC_SUM	Join via V_MD_SHIFT.SHIFT_ID
NONWORKING_SHIFT_TYPE	NUMBER	1 if not a planned shift, if planned shift = 1	V_MD_SHIFT	
ASSOCIATED_DAY_TS	TIMESTAMP(6)	Date time stamp of the day of shift	V_MD_SHIFT	
ASSOCIATED_DAY_TS_YEAR	VARCHAR2	Year of the date time stamp of the day of shift for grouping by ...	V_MD_SHIFT	
ASSOCIATED_DAY_TS_QUARTER	VARCHAR2	Year/quarter of the date time stamp of the day of shift for grouping by ...	V_MD_SHIFT	

Past 2

Column	Data type	Description	Source: master data table	Dissolution of foreign keys
ASSOCIATED_DAY_TS_MONTH	VARCHAR2	Year/month of the date time stamp of the day of shift for grouping by ...	V_MD_SHIFT	
ASSOCIATED_DAY_TS_WEEK	VARCHAR2	Year/week of the date time stamp of the day of shift for grouping by ...	V_MD_SHIFT	
ASSOCIATED_DAY_TS_ISOWEEK	VARCHAR2	Year/ISO week of the date time stamp of the day of shift for grouping by ...	V_MD_SHIFT	
ASSOCIATED_DAY_TS_DATE	VARCHAR2	Datum of the date time stamp of the day of shift for grouping by ...	V_MD_SHIFT	
ASSOCIATED_DAY_TS_DATETIME	VARCHAR2	Date/time of the date time stamp of the day of shift for grouping by ...	V_MD_SHIFT	
QUANTITY	NUMBER	Overall quantity	OPERATION_QUANTITY_SUM OPERATION_QUANTITY_ARC_SUM	
GOOD_PARTS	NUMBER	Yield quantity	OPERATION_QUANTITY_SUM OPERATION_QUANTITY_ARC_SUM	
CALC_OPERATING_TIME_OP	NUMBER	te * Overall quantity	OPERATION_QUANTITY_SUM OPERATION_QUANTITY_ARC_SUM	
OPERATION_TIME	NUMBER	Production times	OPERATION_BASE_SUM OPERATION_BASE_ARC_SUM	
PLANNED_PRODUCTON_TIME	NUMBER	Times of time base with mnemonic="OEE"	OPERATION_BASE_SUM OPERATION_BASE_ARC_SUM	

12.2.1.2.4 ER Diagram

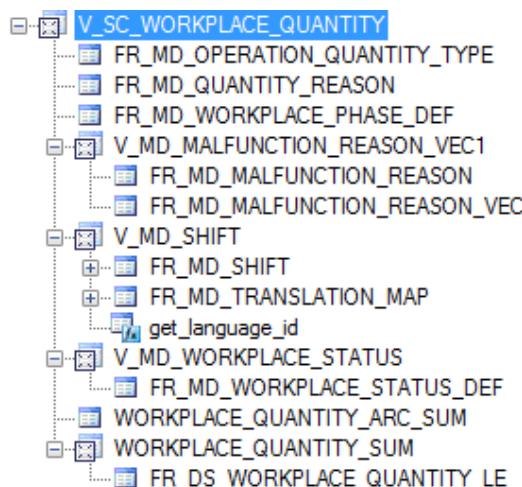


12.2.1.3 V_SC_WORKPLACE_QUANTITY

12.2.1.3.1 Purpose

Quantity compression grouped by workplace, shift, status, phase, malfunction reason and quantity reason.

12.2.1.3.2 Dependencies



Past 2

12.2.1.3.3 Columns

Column	Data type	Description	Source: master data table	Dissolution of foreign keys	Since version
WORKPLACE_ID	NUMBER	Workplace ID	WORK-PLACE_QUANTITY_SUM WORK-PLACE_QUANTITY_ARC_SUM	Join via V_MD_WORKPLACE.WORKPLACE_ID	5.0.0 .15
WORK-PLACE_SORT_ORDER	NUMBER	Workplace sort order	FR_MD_WORKPLACE		5.7.1 SP1
SHIFT_ID	NUMBER	Shift ID	WORK-PLACE_QUANTITY_SUM WORK-PLACE_QUANTITY_ARC_SUM	Join via V_MD_SHIFT.SHIFT_ID	5.0.0 .15
NONWORKING_SHIFT_TYPE	NUMBER	Flag: shift is a nonworking shift	V_MD_SHIFT		
QUANTITY_TYPE_ID	NUMBER	Quantity type ID	WORK-PLACE_QUANTITY_SUM WORK-PLACE_QUANTITY_ARC_SUM		
QUANTITY_TYPE_REASON_ID	NUMBER	Quantity type reason ID	WORK-PLACE_QUANTITY_SUM WORK-PLACE_QUANTITY_ARC_SUM		
WORKPLACE_STATUS_ID	NUMBER	Workplace status: ID	FR_MD_WORKPLACE_STATUS_DEF		5.7.0
STATUS_CODE	VARCHAR2	Workplace status: coding	FR_MD_WORKPLACE_STATUS_DEF		5.0.0 .15
STATUS_COLOR	VARCHAR2	Workplace status: color	FR_MD_WORKPLACE_STATUS_DEF		5.0.0 .15
STATUS_MNEMONIC	VARCHAR2	Workplace status: mnemonic	FR_MD_WORKPLACE_STATUS_DEF		5.0.0 .15
STATUS_SORT_ORDER	NUMBER	Workplace status: sort order	FR_MD_WORKPLACE_STATUS_DEF		5.7.1 SP1
STATUS_TEXT	VARCHAR2	Workplace status: description	FR_MD_WORKPLACE_STATUS_DEF		5.0.0 .15
STATUS_SHORTTEXT	VARCHAR2	Workplace status: short description	FR_MD_WORKPLACE_STATUS_DEF		5.0.0 .15
WORKPLACE_PHASE_ID	NUMBER	Workplace phase: ID	FR_MD_WORKPLACE_PHASE_DEF		5.7.0
PHASE_CODE	VARCHAR2	Workplace phase: coding	FR_MD_WORKPLACE_PHASE_DEF		5.0.0 .15

Past 2

Column	Data type	Description	Source: master data table	Dissolution of foreign keys	Since version
PHASE_COLOR	VARCHAR2	Workplace phase: color	FR_MD_WORKPLACE_PHASE_DEF		5.0.0 .15
PHASE_MNEMONIC	VARCHAR2	Workplace phase: mnemonic	FR_MD_WORKPLACE_PHASE_DEF		5.0.0 .15
PHASE_SORT_ORDER	NUMBER	Workplace phase: sort order	FR_MD_WORKPLACE_PHASE_DEF		5.7.1 SP1
PHASE_TEXT	VARCHAR2	Workplace phase: description	FR_MD_WORKPLACE_PHASE_DEF		5.0.0 .15
PHASE_SHORTTEXT	VARCHAR2	Workplace phase: short description	FR_MD_WORKPLACE_PHASE_DEF		5.0.0 .15
MFR_VECTOR_ID	NUMBER	ID of the malfunction reason vector	WORK-PLACE_QUANTITY_SUM WORK-PLACE_QUANTITY_ARC_SUM	Join via V_MD_MALFUNCTION_REASON_VEC.MFR_VECTOR_ID	5.0.0 .15
QTY_TYPE_CODE	NUMBER	Coding of the quantity type	FR_MD_OPERATION_QUANTITY_TYPE		5.0.0 .15
QTY_TYPE_COLOR	VARCHAR2	Color of the quantity-type	FR_MD_OPERATION_QUANTITY_TYPE		5.0.0 .15
QTY_TYPE_SORT_ORDER	NUMBER	Quantity type: sort order	FR_MD_OPERATION_QUANTITY_TYPE		5.7.1 SP1
QTY_TYPE_TEXT	VARCHAR2	Description of the quantity-type	FR_MD_OPERATION_QUANTITY_TYPE		5.0.0 .15
QTY_TYPE_SHORTTEXT	VARCHAR2	Short description of the quantity-type	FR_MD_OPERATION_QUANTITY_TYPE		5.0.0 .15
QTY_TYPE_SORT_ORDER	NUMBER	Sort order of the quantity type	FR_MD_OPERATION_QUANTITY_TYPE		5.7.1 SP1
QTY_REASON_COLOR	VARCHAR2	Color of the quantity reason	FR_MD_QUANTITY_REASON		5.0.0 .15
QTY_REASON_Mnemonic	VARCHAR2	Mnemonic of the quantity reason	FR_MD_QUANTITY_REASON		5.0.0 .15
QTY_REASON_TEXT	VARCHAR2	Description of the quantity reason	FR_MD_QUANTITY_REASON		5.0.0 .15
QTY_REASON_SHORTTEXT	VARCHAR2	Short description of the quantity reason	FR_MD_QUANTITY_REASON		5.0.0 .15
QTY_REASON_SORT_ORDER	NUMBER	Sort order of the quantity reason	FR_MD_QUANTITY_REASON		5.7.1 SP1
START_TS	TIMESTAMP(6)	Time stamp of the first occurrence; additional derived columns see Timestamp for grouping and sorting	WORK-PLACE_QUANTITY_SUM WORK-PLACE_QUANTITY_ARC_SUM		5.0.0 .15

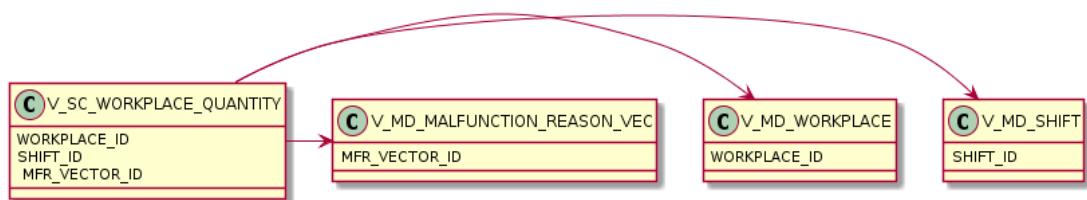
Past 2

Column	Data type	Description	Source: master data table	Dissolution of foreign keys	Since version
SUM_AMOUNT	FLOAT	Summarized quantity	WORK-PLACE_QUANTITY_SUM WORK-PLACE_QUANTITY_ARC_SUM		5.0.0 .15
ASSOCIATED_DAY_TS	TIMESTAMP(6)	Date time stamp of the day of the shift	V_MD_SHIFT		
ASSOCIATED_DAY_TS_YEAR	VARCHAR2	Year of the date time stamp of the day of shift for grouping by ...	V_MD_SHIFT		
ASSOCIATED_DAY_TS_QUARTER	VARCHAR2	Year/quarter of the date time stamp of the day of shift for grouping by ...	V_MD_SHIFT		
ASSOCIATED_DAY_TS_MONTH	VARCHAR2	Year/month of the date time stamp of the day of shift for grouping by ...	V_MD_SHIFT		
ASSOCIATED_DAY_TS_WEEK	VARCHAR2	Year/week of the date time stamp of the day of shift for grouping by ...	V_MD_SHIFT		
ASSOCIATED_DAY_TS_ISO_WEEK	VARCHAR2	Year/ISO week of the date time stamp of the day of shift for grouping by ...	V_MD_SHIFT		
ASSOCIATED_DAY_TS_DATE	VARCHAR2	Date of the date time stamp of the day of shift for grouping by ...	V_MD_SHIFT		
ASSOCIATED_DAY_TS_DATETIME	VARCHAR2	Date/time of the date time stamp of the day of shift for grouping by ...	V_MD_SHIFT		
OPERATING_STATUS_ID	NUMBER	Operating status: ID	V_MD_WORKPLACE_STATUSES, V_MD_MALFUNCTION_REASON_VEC1		
OPERATING_STATUS_COLOR	VARCHAR2	Operating status: color	V_MD_WORKPLACE_STATUSES, V_MD_MALFUNCTION_REASON_VEC1		
OPERAT-	VARCHAR2	Operating status:	V_MD_WORKPLACE_STATU		

Past 2

Column	Data type	Description	Source: master data table	Dissolution of foreign keys	Since version
ING_STATUS_MNEMONIC		mnemonic	S, V_MD_MALFUNCTION_REASON_VEC1		
OPERATING_STATUS_SORT_ORDER	NUMBER	Operating status: sort order	V_MD_WORKPLACE_STATUSES V_MD_MALFUNCTION_REASON_VEC1		5.7.1 SP1
OPERATING_STATUS_TEXT	VARCHAR2	Operating status: description	V_MD_WORKPLACE_STATUSES V_MD_MALFUNCTION_REASON_VEC1		
OPERATING_STATUS_SHORTTEXT	VARCHAR2	Operating status: short description	V_MD_WORKPLACE_STATUSES V_MD_MALFUNCTION_REASON_VEC1		

12.2.1.3.4 ER Diagram

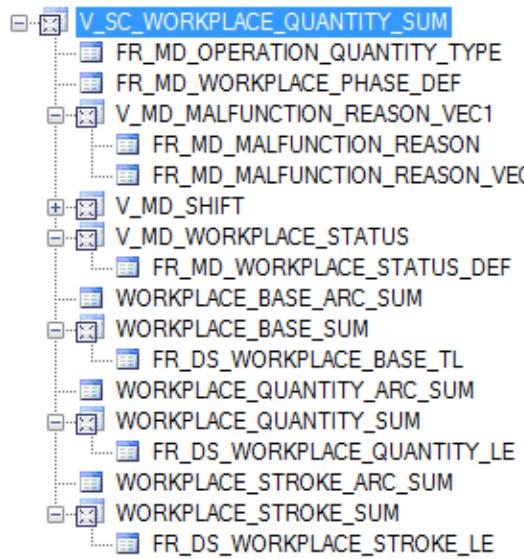


12.2.1.4 V_SC_WORKPLACE_QUANTITY_SUM

12.2.1.4.1 Purpose

Status, quantity types, strokes grouped by workplace, shift, status, phase and malfunction reason.

12.2.1.4.2 Dependencies



12.2.1.4.3 Columns

Column	Data type	Description	Source: master data table	Dissolution of foreign keys	Since version
WORKPLACE_ID	NUMBER	Workplace ID	WORKPLACE_BASE_SUM WORKPLACE_BASE_ARC_SUM	Join via V_MD_WORKPLACE.WORKPLACE_ID	5.0.0.15
WORKPLACE_SORT_ORDER	NUMBER	Sort order of the workplace	FR_MD_WORKPLACE		5.7.1 SP1
SHIFT_ID	NUMBER	Shift ID	WORKPLACE_BASE_SUM WORKPLACE_BASE_ARC_SUM	Join via V_MD_SHIFT.SHIFT_ID	5.0.0.15
NONWORKING_SHIFT_TYPE	NUMBER	Flag: shift is a nonworking shift	V_MD_SHIFT		
WORKPLACE_STATUS_ID	NUMBER	Workplace status: ID	FR_MD_WORKPLACE_STATUS_DEF		5.7.0
STATUS_CODE	NUMBER	Workplace status: code	FR_MD_WORKPLACE_STATUS_DEF		5.0.0.15
STATUS_COLOR	VARCHAR2	Workplace status: color	FR_MD_WORKPLACE_STATUS_DEF		5.0.0.15
STATUS_MNEMONIC	VARCHAR2	Workplace status: mnemonic	FR_MD_WORKPLACE_STATUS_DEF		5.0.0.15
STATUS_SORT_ORDER	NUMBER	Workplace status: sort order	FR_MD_WORKPLACE_STATUS_DEF		5.7.1 SP1
STATUS_TEXT	VARCHAR2	Workplace status: description	FR_MD_WORKPLACE_STATUS_DEF		5.0.0.15
WORKPLACE_PHASE_ID	NUMBER	Workplace phase: ID	FR_MD_WORKPLACE_PHASE_DEF		5.7.0

Past 2

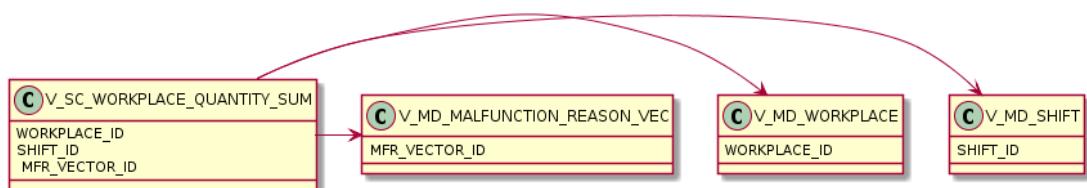
Column	Data type	Description	Source: master data table	Dissolution of foreign keys	Since version
D					
PHASE_CODE	VARCHAR2	Workplace phase: coding	FR_MD_WORKPLACE_PHASE_DEF		5.0.0.15
PHASE_COLOR	VARCHAR2	Workplace phase: color	FR_MD_WORKPLACE_PHASE_DEF		5.0.0.15
PHASE_MNEMONIC	VARCHAR2	Workplace phase: mnemonic	FR_MD_WORKPLACE_PHASE_DEF		5.0.0.15
PHASE_SORT_ORDER	NUMBER	Workplace phase: sort order	FR_MD_WORKPLACE_PHASE_DEF		5.7.1 SP1
PHASE_TEXT	VARCHAR2	Workplace phase: description	FR_MD_WORKPLACE_PHASE_DEF		5.0.0.15
MFR_VECTOR_ID	NUMBER	ID of the malfunction reason vector	WORKPLACE_BASE_SUM WORKPLACE_BASE_ARC_SUM	Join via V_MD_MALFUNCTION_REASON_VEC.MFR_VECTOR_ID	5.0.0.15
START_TS	TIMESTAMP P(6)	Time stamp of the first occurrence; additional derived columns see Timestamp for grouping and sorting	WORKPLACE_BASE_SUM WORKPLACE_BASE_ARC_SUM		5.0.0.15
END_TS	TIMESTAMP P(6)	End time stamp of the last occurrence in shift; additional derived columns see Timestamp for grouping and sorting	WORKPLACE_BASE_SUM WORKPLACE_BASE_ARC_SUM		5.0.0.15
QTY	NUMBER	Overall quantity	WORKPLACE_QUANTITY_SUM WORKPLACE_QUANTITY_ARC_SUM		5.0.0.15
YIELD_QTY	NUMBER	Yield quantity	WORKPLACE_QUANTITY_SUM WORKPLACE_QUANTITY_ARC_SUM		5.0.0.15
SCRAP_QTY	NUMBER	Scrap quantity	WORKPLACE_QUANTITY_SUM WORK-		5.0.0.15

Past 2

Column	Data type	Description	Source: master data table	Dissolution of foreign keys	Since version
			PLACE_QUANTITY_ARC_SUM		
REWORK_QTY	NUMBER	Rework quantity	WORK- PLACE_QUANTITY_SUM WORK- PLACE_QUANTITY_ARC_SUM		5.0.0.15
NUM-BER_OF_STROKES	NUMBER	Strokes	WORKPLACE_STROKE_SUM WORK- PLACE_STROKE_ARC_SUM		5.0.0.15
SUM_DURATION	NUMBER	Summarized duration in [msec]	WORKPLACE_BASE_SUM WORK- PLACE_BASE_ARC_SUM		5.0.0.15
CNT_OCCURRENCE	NUMBER	Number of occurrences in shift	WORKPLACE_BASE_SUM WORK- PLACE_BASE_ARC_SUM		5.0.0.15
FROM_LAST_SHIFT	NUMBER	1 if created before status before shift change, otherwise 0	WORKPLACE_BASE_SUM WORK- PLACE_BASE_ARC_SUM		5.0.0.15
ASSOCIATED_DAY_TS	TIMESTAMP(6)	Date time stamp of the day of shift	V_MD_SHIFT		
ASSOCIATED_DAY_TS_YEAR	VARCHAR2	Year of the date time stamp of the day of shift for grouping by ...	V_MD_SHIFT		
ASSOCIATED_DAY_TS_QUARTER	VARCHAR2	Year/quarter of the date time stamp of the day of shift for grouping by ...	V_MD_SHIFT		
ASSOCIATED_DAY_TS_MONTH	VARCHAR2	Year/month of the date time stamp of the day of shift for grouping by ...	V_MD_SHIFT		
ASSOCIATED_DAY_TS_WEEK	VARCHAR2	Year/week of the date time stamp of the day of shift for grouping by ...	V_MD_SHIFT		
ASSOCIATED_DAY_TS_ISO_WEEK	VARCHAR2	Year/ISO week of the date time stamp of the day of shift for	V_MD_SHIFT		

Part 2

Column	Data type	Description	Source: master data table	Dissolution of foreign keys	Since version
		grouping by ...			
ASSOCIATED_DAY_TS_DATE	VARCHAR2	Date of the date time stamp of the day of shift for grouping by ...	V_MD_SHIFT		
ASSOCIATED_DAY_TS_DATETIME	VARCHAR2	Date/time of the date time stamp of the day of shift for grouping by ...	V_MD_SHIFT		
OPERATING_STATUS_ID	NUMBER	Operating status: ID	V_MD_WORKPLACE_STATUSES V_MD_MALFUNCTION_REASON_VEC1		
OPERATING_STATUS_COLOR	VARCHAR2	Operating status: color	V_MD_WORKPLACE_STATUSES V_MD_MALFUNCTION_REASON_VEC1		
OPERATING_STATUS_MNEMONIC	VARCHAR2	Operating status: mnemonic	V_MD_WORKPLACE_STATUSES V_MD_MALFUNCTION_REASON_VEC1		
OPERATING_STATUS_SORT_ORDER	NUMBER	Operating status: sort order	V_MD_WORKPLACE_STATUSES V_MD_MALFUNCTION_REASON_VEC1		5.7.1 SP1
OPERATING_STATUS_TEXT	VARCHAR2	Operating status: description	V_MD_WORKPLACE_STATUSES V_MD_MALFUNCTION_REASON_VEC1		
OPERATING_STATUS_SHORTTEXT	VARCHAR2	Operating status: short description	V_MD_WORKPLACE_STATUSES V_MD_MALFUNCTION_REASON_VEC1		

12.2.1.4.4 ER Diagram


Past 2

12.2.1.4.5 Examples

The following query selects the status, phase and exact malfunction reason in addition to quantity and strokes

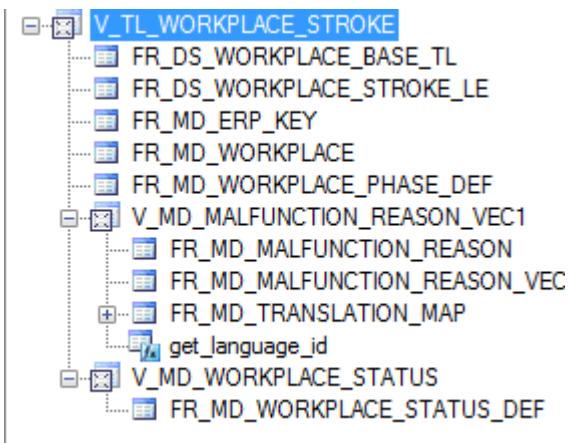
```
select workplace_id, shift_id, start_ts, end_ts, yield_qty, scrap_qty, re-
work_qty, number_of_strokes, sum_duration, status_text, phase_text,
mfr.mfr1_text, mfr.mfr2_text, mfr.mfr3_text, mfr.mfr4_text, mfr.mfr5_text,
mfr.mfr6_text, mfr.mfr7_text
from V_SC_WORKPLACE_QUANTITY_SUM s
left outer join V_MD_MALFUNCTION_REASON_VEC mfr on mfr.MFR_VECTOR_ID =
s.MFR_VECTOR_ID
order by workplace_id, shift_id, start_ts;
```

12.2.1.5 V_SC_WORKPLACE_STROKE

12.2.1.5.1 Purpose

Strokes compression grouped by workplace, shift, status, phase and malfunction reason.

12.2.1.5.2 Dependencies



12.2.1.5.3 Columns

Column	Data type	Description	Source: master data table	Dissolution of foreign keys	Since version
WORKPLACE_ID	NUMBER	Workplace ID	WORKPLACE_STROKE_SUM WORKPLACE_STROKE_ARC_SUM	Join via V_MD_WORKPLACE.WORKPLACE_ID	5.0.0 .15
WORKPLACE_SORT_ORDER	NUMBER	Sort order of the workplace	FR_MD_WORKPLACE		5.7.1 SP1
SHIFT_ID	NUMBER	Shift ID	WORKPLACE_STROKE_SUM WORKPLACE_STROKE_ARC_SUM	Join via V_MD_SHIFT.SHIFT_ID	5.0.0 .15
NONWORKING_SHIFT_TYPE	NUMBER	Flag: shift is a nonworking shift	V_MD_SHIFT		
WORKPLACE_STATUS_ID	NUMBER	Workplace status: ID	FR_MD_WORKPLACE_STATUS_DEF		5.7.0
STATUS_CODE	VAR-CHAR2	Workplace status: coding	FR_MD_WORKPLACE_STATUS_DEF		5.0.0 .15
STATUS_COLOR	VAR-CHAR2	Workplace status: color	FR_MD_WORKPLACE_STATUS_DEF		5.0.0 .15
STATUSTUS_MNEMONIC	VAR-CHAR2	Workplace status: mnemonic	FR_MD_WORKPLACE_STATUS_DEF		5.0.0 .15
STATUSTUS_SORT_ORDER	NUMBER	Workplace status: sort order	FR_MD_WORKPLACE_STATUS_DEF		5.7.1 SP1

Past 2

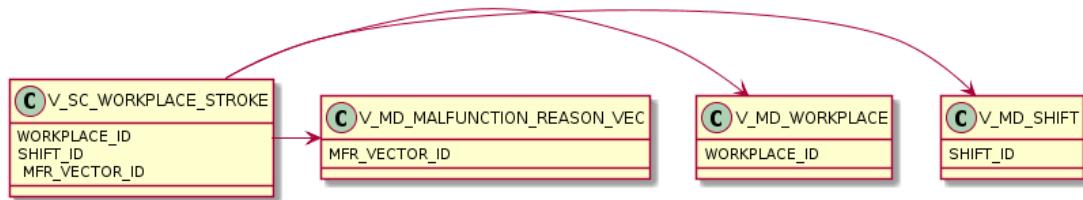
Column	Data type	Description	Source: master data table	Dissolution of foreign keys	Since version
STATUS_TEXT	VAR-CHAR2	Workplace status: description	FR_MD_WORKPLACE_STATUS_DEF		5.0.0 .15
STA-TUS_SHORTTEXT	VAR-CHAR2	Workplace status: short description	FR_MD_WORKPLACE_STATUS_DEF		5.0.0 .15
WORK-PLACE_PHASE_ID	NUMBER	Workplace phase: ID	FR_MD_WORKPLACE_PHASE_DEF		5.7.0
PHASE_CODE	VAR-CHAR2	Workplace phase: coding	FR_MD_WORKPLACE_PHASE_DEF		5.0.0 .15
PHASE_COLOR	VAR-CHAR2	Workplace phase: color	FR_MD_WORKPLACE_PHASE_DEF		5.0.0 .15
PHASE_MNEMO	VAR-NIC	Workplace phase: mnemonic	FR_MD_WORKPLACE_PHASE_DEF		5.0.0 .15
PHASE_SORT_ORDER	NUMBER	Workplace phase: sort order	FR_MD_WORKPLACE_PHASE_DEF		5.7.1 SP1
PHASE_TEXT	VAR-CHAR2	Workplace phase: description	FR_MD_WORKPLACE_PHASE_DEF		5.0.0 .15
PHASE_SHORTTEXT	VAR-CHAR2	Workplace phase: short description	FR_MD_WORKPLACE_PHASE_DEF		5.0.0 .15
MFR_VECTOR_ID	NUMBER	ID of the malfunction reason vector	WORKPLACE_STROKE_SUM WORK-PLACE_STROKE_ARC_SUM	Join via V_MD_MALFUNCTION_REASON_VEC.MFR_VECTOR_ID	5.0.0 .15
NUMBER_OF_STROKES	NUMBER	Strokes	WORKPLACE_STROKE_SUM WORK-PLACE_STROKE_ARC_SUM		5.0.0 .15
START_TS	TIMESTAMP(6)	Time stamp of the first occurrence; additional derived columns see Timestamp for grouping and sorting	V_MD_SHIFT		5.0.0 .15
ASSOCIATED_DAY_TS	TIMESTAMP(6)	Date time stamp of the day of shift	V_MD_SHIFT		
ASSOCIATED_DAY_TS_YEAR	VAR-CHAR2	Year of the date time stamp of the day of shift for grouping by ...	V_MD_SHIFT		
ASSOCIATED_DAY_TS_QUARTER	VAR-CHAR2	Year/quarter of the date time stamp of the day of shift for grouping by ...	V_MD_SHIFT		
ASSOCIATED_DAY_TS_MONTH	VAR-CHAR2	Year/month of the date time stamp of the day of shift for group-	V_MD_SHIFT		

Past 2

Column	Data type	Description	Source: master data table	Dissolution of foreign keys	Since version
		ing by ...			
ASSOCIATED_DAY_TS_WEEK	VAR-CHAR2	Year/week of the date time stamp of the day of shift for grouping by ...	V_MD_SHIFT		
ASSOCIATED_DAY_TS_ISO_WEEK	VAR-CHAR2	Year/ISO week of the date time stamp of the day of shift for grouping by ...	V_MD_SHIFT		
ASSOCIATED_DAY_TS_DATE	VAR-CHAR2	Date of the date time stamp of the day of shift for grouping by ...	V_MD_SHIFT		
ASSOCIATED_DAY_TS_DATETIME	VAR-CHAR2	Date/time of the date time stamp of the day of shift for grouping by ...	V_MD_SHIFT		
OPERATING_STATUS_ID	NUMBER	Operating status: ID	V_MD_WORKPLACE_STATUSES V_MD_MALFUNCTION_REASON_VEC1		
OPERATING_STATUS_COLOR	VAR-CHAR2	Operating status: color	V_MD_WORKPLACE_STATUSES V_MD_MALFUNCTION_REASON_VEC1		
OPERATING_STATUS_MNEMONIC	VAR-CHAR2	Operating status: mnemonic	V_MD_WORKPLACE_STATUSES V_MD_MALFUNCTION_REASON_VEC1		
OPERATING_STATUS_SORT_ORDER	NUMBER	Operating status: sort order	V_MD_WORKPLACE_STATUSES V_MD_MALFUNCTION_REASON_VEC1		5.7.1 SP1
OPERATING_STATUS_TEXT	VAR-CHAR2	Operating status: description	V_MD_WORKPLACE_STATUSES V_MD_MALFUNCTION_REASON_VEC1		
OPERATING_STATUS_SHORTTEXT	VAR-CHAR2	Operating status: short description	V_MD_WORKPLACE_STATUSES V_MD_MALFUNCTION_REASON_VEC1		

Past 2

12.2.1.5.4 ER Diagram



12.2.2 Operation Grouped by Shift

View	Description
V_SC_OPERATION_BASE	Status compression grouped by operation, shift, status, phase, malfunction reason
V_SC_OPERATION_QUANTITY	Quantity compression grouped by operation, shift, status, phase, malfunction reason, quantity reason
V_SC_OPERATION_STROKE	Strokes compression grouped by operation, shift, status, phase, malfunction reason
V_SC_OPERATION_QUANTITY_SUM	Status, quantity types and strokes grouped by operation, shift, status, phase, malfunction reason
V_SC_PERS_OPERATION_BASE	Status grouped by person, operation, shift, status, phase, malfunction reason

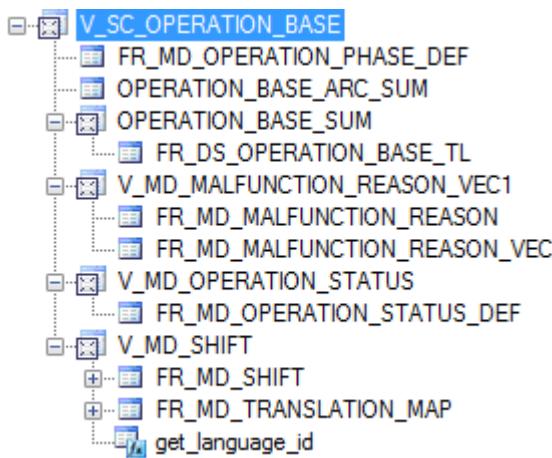
The archived data are also requested in all above listed views.

12.2.2.1 V_SC_OPERATION_BASE

12.2.2.1.1 Purpose

Status compression grouped by operation, shift, status, phase and malfunction reason.

12.2.2.1.2 Dependencies



Past 2
12.2.2.1.3 Columns

Column	Data type	Description	Source: master data table	Dissolution of foreign keys	Since version
WORKPLACE_ID	NUMBER	Workplace ID	OPERATION_BASE_SUM OPERATION_BASE_ARC_SUM	Join via V_MD_WORKPLACE.WORKPLACE_ID	5.0.0 .15
WORKPLACE_SORT_ORDER	NUMBER	Sort order of the workplace	FR_MD_WORKPLACE		5.7.1 SP1
OPERATION_ID	NUMBER	Operation ID	OPERATION_BASE_SUM OPERATION_BASE_ARC_SUM	Join via V_MD_OPERATION.OPERATION_ID	5.0.0 .15
SHIFT_ID	NUMBER	Shift ID	OPERATION_BASE_SUM OPERATION_BASE_ARC_SUM	Join via V_MD_SHIFT.SHIFT_ID	5.0.0 .15
NONWORKING_SHIFT_TYPE	NUMBER	Flag: shift is a nonworking shift	V_MD_SHIFT		
OPERATION_STATUS_ID	NUMBER	Operation status: ID	FR_MD_OPERATION_STATUSES_DEF		5.7.0
STATUS_CODE	NUMBER	Operation status: coding	FR_MD_OPERATION_STATUSES_DEF		5.0.0 .15
STATUS_COLOR	VAR-CHAR2	Operation status: color	FR_MD_OPERATION_STATUSES_DEF		5.0.0 .15
STATUS_MNEMONIC	VAR-CHAR2	Operation status: mnemonic	FR_MD_OPERATION_STATUSES_DEF		5.0.0 .15
STATUS_TEXT	VAR-CHAR2	Operation status: description	FR_MD_OPERATION_STATUSES_DEF		5.0.0 .15
STATUS_SHORTTEXT	VAR-CHAR2	Operation status: short description	FR_MD_OPERATION_STATUSES_DEF		5.0.0 .15
STATUS_SORT_ORDER	NUMBER	Operation status: sort order	FR_MD_OPERATION_STATUSES_DEF		5.7.1 SP1
OPERATION_PHASE_ID	NUMBER	Operation phase: ID	FR_MD_OPERATION_PHASE_DEF		5.7.0
PHASE_CODE	NUMBER	Operation phase: coding	FR_MD_OPERATION_PHASE_DEF		5.0.0 .15
PHASE_COLOR	VAR-CHAR2	Operation phase: color	FR_MD_OPERATION_PHASE_DEF		5.0.0 .15
PHASE_MNEMONIC	VAR-CHAR2	Operation phase: mnemonic	FR_MD_OPERATION_PHASE_DEF		5.0.0 .15
PHASE_SORT_ORDER	NUMBER	Operation	FR_MD_OPERATION_PHASE		5.7.1

Past 2

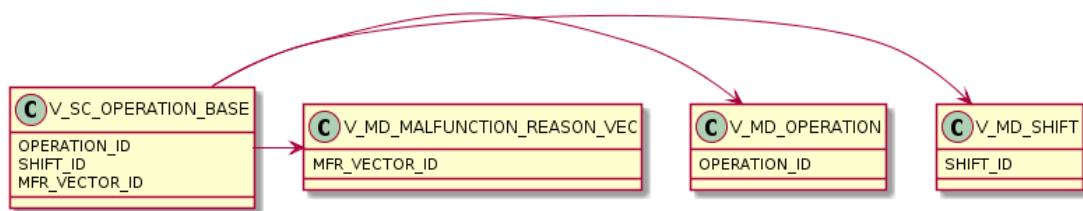
Column	Data type	Description	Source: master data table	Dissolution of foreign keys	Since version
		phase: sort order	_DEF		SP1
PHASE_TEXT	VAR-CHAR2	Operation phase: description	FR_MD_OPERATION_PHASE_DEF		5.0.0.15
PHASE_SHORTTEXT	VAR-CHAR2	Operation phase: short description	FR_MD_OPERATION_PHASE_DEF		5.0.0.15
MFR_VECTOR_ID	NUMBER	ID of the malfunction reason vector	OPERATION_BASE_SUM OPERATION_BASE_ARC_SUM	Join via V_MD_MALFUNCTION_REASON_VEC.MFR_VECTOR_ID	5.0.0.15
START_TS	TIMESTAMP(6)	Start-time stamp of the first occurrence in shift; additional derived columns see Timestamp for grouping and sorting	OPERATION_BASE_SUM OPERATION_BASE_ARC_SUM		5.0.0.15
END_TS	TIMESTAMP(6)	End time stamp of the last occurrence in shift; additional derived columns see Timestamp for grouping and sorting	OPERATION_BASE_SUM OPERATION_BASE_ARC_SUM		5.0.0.15
SUM_DURATION	NUMBER	Summarized duration in [msec]	OPERATION_BASE_SUM OPERATION_BASE_ARC_SUM		5.0.0.15
CNT_OCCURRENCE	NUMBER	Number of occurrences in shift	OPERATION_BASE_SUM OPERATION_BASE_ARC_SUM		5.0.0.15
FROM_LAST_SHIFT	NUMBER	1 if created before status before shift change, otherwise 0	OPERATION_BASE_SUM OPERATION_BASE_ARC_SUM		5.0.0.15
ASSOCIATED_DAY_TS	TIMESTA	Date time	V_MD_SHIFT		

Past 2

Column	Data type	Description	Source: master data table	Dissolution of foreign keys	Since version
	MP(6)	stamp of the day of shift			
ASSOCIATED_DAY_TS_YEAR	VAR-CHAR2	Year of the date time stamp of the day of shift for grouping by ...	V_MD_SHIFT		
ASSOCIATED_DAY_TS_QUARTER	VAR-CHAR2	Year/quarter of the date time stamp of the day of shift for grouping by ...	V_MD_SHIFT		
ASSOCIATED_DAY_TS_MONTH	VAR-CHAR2	Year/month of the date time stamp of the day of shift for grouping by ...	V_MD_SHIFT		
ASSOCIATED_DAY_TS_WEEK	VAR-CHAR2	Year/week of the date time stamp of the day of shift for grouping by ...	V_MD_SHIFT		
ASSOCIATED_DAY_TS_DATETIME	VAR-CHAR2	Year/ISO week of the date time stamp of the day of shift for grouping by ...	V_MD_SHIFT		
ASSOCIATED_DAY_TS_DATE	VAR-CHAR2	Date of the date time stamp of the day of shift for grouping by ...	V_MD_SHIFT		
ASSOCIATED_DAY_TS_DATETIME	VAR-CHAR2	Date/time of the date time stamp	V_MD_SHIFT		

Part 2

Column	Data type	Description	Source: master data table	Dissolution of foreign keys	Since version
		of the day of shift for grouping by ...			
OPERATING_STATUS_ID	NUMBER	Operating status: ID	V_MD_WORKPLACE_STATUSES V_MD_MALFUNCTION_REASON_VEC1		
OPERATING_STATUS_COLOR	VAR-CHAR2	Operating status: color	V_MD_WORKPLACE_STATUSES V_MD_MALFUNCTION_REASON_VEC1		
OPERATING_STATUS_MNEMONIC	VAR-CHAR2	Operating status: mnemonic	V_MD_WORKPLACE_STATUSES V_MD_MALFUNCTION_REASON_VEC1		
OPERATING_STATUS_SORT_ORDER	NUMBER	Operating status: sort order	V_MD_OPERATION_STATUS V_MD_MALFUNCTION_REASON_VEC1		5.7.1 SP1
OPERATING_STATUS_TEXT	VAR-CHAR2	Operating status: description	V_MD_WORKPLACE_STATUSES V_MD_MALFUNCTION_REASON_VEC1		
OPERATING_STATUS_SHORTTEXT	VAR-CHAR2	Operating status: short description	V_MD_WORKPLACE_STATUSES V_MD_MALFUNCTION_REASON_VEC1		

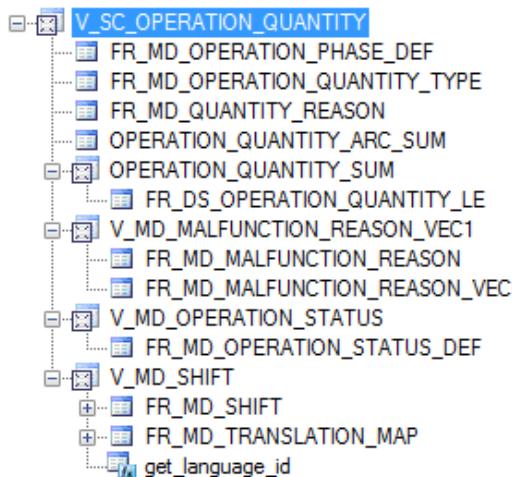
12.2.2.1.4 ER Diagram


12.2.2.2 V_SC_OPERATION_QUANTITY

12.2.2.2.1 Purpose

Quantity compression grouped by operation, shift, status, phase, malfunction reason, quantity reason.

12.2.2.2.2 Dependencies



12.2.2.2.3 Columns

Column	Data type	Description	Source: master data table	Dissolution of foreign keys	Since version
WORKPLACE_ID	NUMBER	Workplace ID	OPERATION_QUANTITY_SUM OPERATION_QUANTITY_ARC_SUM	Join via V_MD_WORKPLACE.WORKPLACE_ID	5.0.0 .15
WORKPLACE_SORT_ORDER	NUMBER	Sort order of the workplace	FR_MD_WORKPLACE		5.7.1 SP1
SHIFT_ID	NUMBER	Shift ID	OPERATION_QUANTITY_SUM OPERATION_QUANTITY_ARC_SUM	Join via V_MD_SHIFT.SHIFT_ID	5.0.0 .15
NONWORKING_SHIFT_TYPE	NUMBER	Flag: shift is a nonworking shift	V_MD_SHIFT		
QUANTITY_TYPE_ID	NUMBER	Quantity type ID	OPERATION_QUANTITY_SUM OPERATION_QUANTITY_ARC_SUM		
QUANTITY_TYPE_REASON_ID	NUMBER	Quantity type reason ID	OPERATION_QUANTITY_SUM OPERATION_QUANTITY_ARC_SUM		
OPERATION_ID	NUMBER	Operation ID	OPERATION_QUANTITY_SUM OPERATION_QUANTITY_ARC_SUM	Join via V_MD_OPERATION.OPERATION_ID	5.0.0 .15
OPERATION_STATUS_ID	NUMBER	Operation status ID	FR_MD_OPERATION_STATUS_DEF		5.7.0

Past 2

Column	Data type	Description	Source: master data table	Dissolution of foreign keys	Since version
TION_STATUS_ID		status: ID	DEF		
STATUS_CODE	NUMBER	Operation status: coding	FR_MD_OPERATION_STATUS_DEF		5.0.0 .15
STATUS_COLOR	VAR-CHAR2	Operation status: color	FR_MD_OPERATION_STATUS_DEF		5.0.0 .15
STA-TUS_MNEMONIC	VAR-CHAR2	Operation status: mnemonic	FR_MD_OPERATION_STATUS_DEF		5.0.0 .15
STA-TUS_SORT_ORDER	NUMBER	Operation status: sort order	FR_MD_OPERATION_STATUS_DEF		5.7.1 SP1
STATUS_TEXT	VAR-CHAR2	Operation status: description	FR_MD_OPERATION_STATUS_DEF		5.0.0 .15
STATUS_SHORTTEXT	VAR-CHAR2	Operation status: short description	FR_MD_OPERATION_STATUS_DEF		5.0.0 .15
OPERA-TION_PHASE_ID	NUMBER	Operation phase: ID	FR_MD_OPERATION_PHASE_DEF		5.7.0
PHASE_CODE	NUMBER	Operation phase: coding	FR_MD_OPERATION_PHASE_DEF		5.0.0 .15
PHASE_COLOR	VAR-CHAR2	Operation phase: color	FR_MD_OPERATION_PHASE_DEF		5.0.0 .15
PHASE_MNEMONIC	VAR-CHAR2	Operation phase: mnemonic	FR_MD_OPERATION_PHASE_DEF		5.0.0 .15
PHASE_SORT_ORDE-R	NUMBER	Operation phase: sort order	FR_MD_OPERATION_PHASE_DEF		5.7.1 SP1
PHASE_TEXT	VAR-CHAR2	Operation phase: description	FR_MD_OPERATION_PHASE_DEF		5.0.0 .15
PHASE_SHORTTEXT	VAR-CHAR2	Operation phase: short description	FR_MD_OPERATION_PHASE_DEF		5.0.0 .15
MFR_VECTOR_ID	NUMBER	Malfunction reason vector ID	OPERATION_QUANTITY_SUM OPERA-TION_QUANTITY_ARC_SUM	Join via V_MD_MALFUNCTION_R-EA- SON_VEC.MFR_VECTOR_I-D	5.0.0 .15
QTY_TYPE_CODE	NUMBER	Quantity type: coding	FR_MD_OPERATION_QUANTIT-Y_TYPE		5.0.0 .15
QTY_TYPE_COLOR	VAR-CHAR2	Color des quantity-type	FR_MD_OPERATION_QUANTIT-Y_TYPE		5.0.0 .15

Past 2

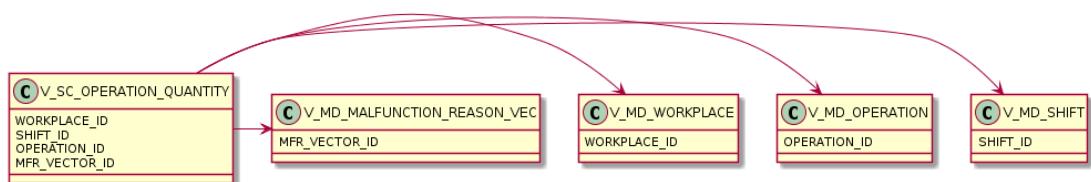
Column	Data type	Description	Source: master data table	Dissolution of foreign keys	Since version
QTY_TYPE_SORT_ORDER	NUMBER	Quantity type: sort order	FR_MD_OPERATION_QUANTITY_TYPE		5.7.1 SP1
QTY_TYPE_TEXT	VAR-CHAR2	Description of the quantity-type	FR_MD_OPERATION_QUANTITY_TYPE		5.0.0 .15
QTY_TYPE_SHORTTEXT	VAR-CHAR2	Short description of the quantity-type	FR_MD_OPERATION_QUANTITY_TYPE		5.0.0 .15
QTY_REASON_COLOR	VAR-CHAR2	Reason for the selected quantity type: color	FR_MD_QUANTITY_REASON		5.0.0 .15
QTY_REASON_MNEMONIC	VARCHAR	Reason for the selected quantity type: mnemonic	FR_MD_QUANTITY_REASON		5.0.0 .15
QTY_REASON_SORT_ORDER	NUMBER	Reason for the selected quantity type: sort order	FR_MD_QUANTITY_REASON		5.7.1 SP1
QTY_REASON_TEXT	VAR-CHAR2	Reason for the selected quantity type: text	FR_MD_QUANTITY_REASON		5.0.0 .15
QTY_REASON_SHORTTEXT	VAR-CHAR2	Reason for the selected quantity type: short-text	FR_MD_QUANTITY_REASON		5.0.0 .15
START_TS	TIMESTAMP(6)	Start time stamp of the first occurrence in shift; additional derived columns see Timestamp for grouping and sorting	OPERATION_QUANTITY_SUM OPERATION_QUANTITY_ARC_SUM		5.0.0 .15
SUM_AMOUNT	FLOAT	Summarized quantity	OPERATION_QUANTITY_SUM OPERATION_QUANTITY_ARC_SUM		5.0.0 .15

Past 2

Column	Data type	Description	Source: master data table	Dissolution of foreign keys	Since version
ASSOCIATED_DAY_TS	TIMESTAMP(6)	Date time stamp of the shift day	V_MD_SHIFT		
ASSOCIATED_DAY_TS_YEAR	VAR-CHAR2	Year of the date time stamp of the day of shift for grouping by ...	V_MD_SHIFT		
ASSOCIATED_DAY_TS_QUARTER	VAR-CHAR2	Year/quarter of the date time stamp of the day of shift for grouping by ...	V_MD_SHIFT		
ASSOCIATED_DAY_TS_MONTH	VAR-CHAR2	Year/month of the date time stamp of the day of shift for grouping by ...	V_MD_SHIFT		
ASSOCIATED_DAY_TS_WEEK	VAR-CHAR2	Year/week of the date time stamp of the day of shift for grouping by ...	V_MD_SHIFT		
ASSOCIATED_DAY_TS_ISOWEEK	VAR-CHAR2	Year/ISO week of the date time stamp of the day of shift for grouping by ...	V_MD_SHIFT		
ASSOCIATED_DAY_TS_DATE	VAR-CHAR2	Date of the date time stamp of the day of shift for grouping by ...	V_MD_SHIFT		
ASSOCIATED_DAY_TS_DATETIME	VAR-CHAR2	Date/time of the date time stamp	V_MD_SHIFT		

Past 2

Column	Data type	Description	Source: master data table	Dissolution of foreign keys	Since version
		of the day of shift for grouping by ...			
OPERATING_STATUS_ID	NUMBER	Operating status: ID	V_MD_WORKPLACE_STATUS V_MD_MALFUNCTION_REASON_VEC1		
OPERATING_STATUS_COLOUR	VAR-CHAR2	Operating status: color	V_MD_WORKPLACE_STATUS V_MD_MALFUNCTION_REASON_VEC1		
OPERATING_STATUS_MNEMONIC	VAR-CHAR2	Operating status: mnemonic	V_MD_WORKPLACE_STATUS V_MD_MALFUNCTION_REASON_VEC1		
OPERATING_STATUS_SORT_ORDER	NUMBER	Operating status: sort order	V_MD_OPERATION_STATUS_V MD_MALFUNCTION_REASON_VEC1		5.7.1 SP1
OPERATING_STATUS_TEXT	VAR-CHAR2	Operating status: description	V_MD_WORKPLACE_STATUS V_MD_MALFUNCTION_REASON_VEC1		
OPERATING_STATUS_SHORTTEXT	VAR-CHAR2	Operating status: short description	V_MD_WORKPLACE_STATUS V_MD_MALFUNCTION_REASON_VEC1		

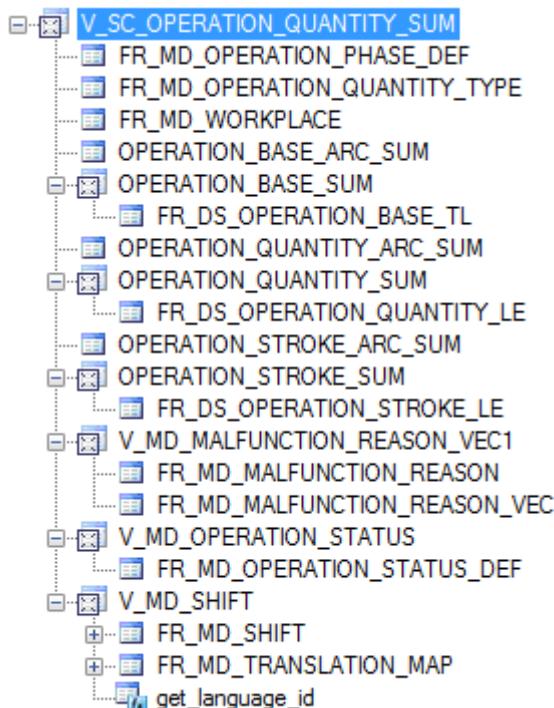
12.2.2.2.4 ER Diagram


12.2.2.3 V_SC_OPERATION_QUANTITY_SUM

12.2.2.3.1 Purpose

Status, quantity types and strokes grouped by operation, shift, status, phase, malfunction reason.

12.2.2.3.2 Dependencies



12.2.2.3.3 Columns

Column	Data type	Description	Source: master data table	Dissolution of foreign keys	Since version
WORKPLACE_ID	NUMBER	Workplace ID	OPERATION_BASE_SUM OPERATION_BASE_ARC_SUM	Join via V_MD_WORKPLACE.WORKPLACE_ID	5.0.0 .15
WORKPLACE_SORT_ORDER	NUMBER	Sort order of the workplace	FR_MD_WORKPLACE		5.7.1 SP1
OPERATION_ID	NUMBER	Operation ID	OPERATION_BASE_SUM OPERATION_BASE_ARC_SUM	Join via V_MD_OPERATION.OPERATION_ID	5.0.0 .15
SHIFT_ID	NUMBER	Shift ID	OPERATION_BASE_SUM OPERATION_BASE_ARC_SUM	Join via V_MD_SHIFT.SHIFT_ID	5.0.0 .15
NONWORKING_SHIFT_TYPE	NUMBER	Flag: shift is a nonworking shift	V_MD_SHIFT		

Past 2

Column	Data type	Description	Source: master data table	Dissolution of foreign keys	Since version
OPERATION_STATUS_ID	NUMBER	Operation status: ID	FR_MD_OPERATION_STATUS_DEF		5.7.0
STATUS_CODE	NUMBER	Operation status: code	FR_MD_OPERATION_STATUS_DEF		5.0.0 .15
STATUS_COLOR	VARCHAR2	Operation status: color	FR_MD_OPERATION_STATUS_DEF		5.0.0 .15
STATUS_MNEMONIC	VARCHAR2	Operation status: mnemonic	FR_MD_OPERATION_STATUS_DEF		5.0.0 .15
STATUS_SORT_ORDER	NUMBER	Operation status: sort order	FR_MD_OPERATION_STATUS_DEF		5.7.1 SP1
STATUS_TEXT	VARCHAR2	Operation status: de-scription	FR_MD_OPERATION_STATUS_DEF		5.0.0 .15
OPERATION_PHASE_ID	Number	Operation phase: ID	FR_MD_OPERATION_PHASE_DEF		5.7.0
PHASE_CODE	Number	Operation phase: code	FR_MD_OPERATION_PHASE_DEF		5.0.0 .15
PHASE_COLOR	VARCHAR2	Operation phase: color	FR_MD_OPERATION_PHASE_DEF		5.0.0 .15
PHASE_MNEMONIC	VARCHAR2	Operation phase: mnemonic	FR_MD_OPERATION_PHASE_DEF		5.0.0 .15
PHASE_SORT_ORDER	NUMBER	Operation phase: sort order	FR_MD_OPERATION_PHASE_DEF		5.7.1 SP1
PHASE_TEXT	VARCHAR2	Operation phase: de-scription	FR_MD_OPERATION_PHASE_DEF		5.0.0 .15
MFR_VECTOR_ID	NUMBER	ID of the malfunction reason vector	OPERATION_BASE_SUM OPERATION_BASE_ARC_SUM	Join via V_MD_MALFUNCTION_REASON_VEC.MFR_VECTOR_ID	5.0.0 .15
START_TS	TIMESTAMP(6)	Start-time stamp of the first occurrence; additional derived columns see Timestamp for grouping and sorting	OPERATION_BASE_SUM OPERATION_BASE_ARC_SUM		5.0.0 .15
END_TS	TIMESTAMP(6)	End time stamp of the last occurrence in	OPERATION_BASE_SUM OPERATION_BASE_ARC_SUM		5.0.0 .15

Past 2

Column	Data type	Description	Source: master data table	Dissolution of foreign keys	Since version
		shift; additional derived columns see Timestamp for grouping and sorting			
QTY	NUMBER	Overall quantity	OPERATION_QUANTITY_SUM OPERATION_QUANTITY_ARC_SUM		5.0.0 .15
YIELD_QTY	NUMBER	Yield quantity	OPERATION_QUANTITY_SUM OPERATION_QUANTITY_ARC_SUM		5.0.0 .15
SCRAP_QTY	NUMBER	Scrap quantity	OPERATION_QUANTITY_SUM OPERATION_QUANTITY_ARC_SUM		5.0.0 .15
REWORK_QTY	NUMBER	Rework quantity	OPERATION_QUANTITY_SUM OPERATION_QUANTITY_ARC_SUM		5.0.0 .15
NUMBER_OF_STROKES	NUMBER	Sum of strokes	OPERATION_STROKE_SUM OPERATION_STROKE_ARC_SUM		5.0.0 .15
SUM_DURATION	NUMBER	Summarized duration in [msec]	OPERATION_BASE_SUM OPERATION_BASE_ARC_SUM		5.0.0 .15
CNT_OCCURRENCE	NUMBER	Number of occurrences in shift	OPERATION_BASE_SUM OPERATION_BASE_ARC_SUM		5.0.0 .15
FROM_LAST_SHIFT	NUMBER	1 if created before status before shift change, otherwise 0	OPERATION_BASE_SUM OPERATION_BASE_ARC_SUM		5.0.0 .15
ASSOCIATED_DAY_TS	TIMESTAMP(6)	Date time stamp of the day of shift	V_MD_SHIFT		
ASSOCIATED_DAY_TS_YEAR	VARCHAR2	Year of the date time stamp of the day of shift for grouping by ...	V_MD_SHIFT		
ASSOCIATED_DAY_TS_QUA	VARCHAR2	Year/quarter of the date	V_MD_SHIFT		

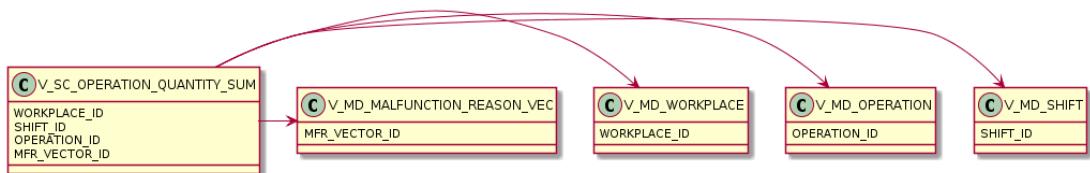
Past 2

Column	Data type	Description	Source: master data table	Dissolution of foreign keys	Since version
RTER		time stamp of the day of shift for grouping by ...			
ASSOCIATED_DAY_TS_MONTH	VARCHAR2	Year/month of the date time stamp of the day of shift for grouping by ...	V_MD_SHIFT		
ASSOCIATED_DAY_TS_WEEK	VARCHAR2	Year/week of the date time stamp of the day of shift for grouping by ...	V_MD_SHIFT		
ASSOCIATED_DAY_TS_ISOWEEK	VARCHAR2	Year/ISO week of the date time stamp of the day of shift for grouping by ...	V_MD_SHIFT		
ASSOCIATED_DAY_TS_DATE	VARCHAR2	Date of the date time stamp of the day of shift for grouping by ...	V_MD_SHIFT		
ASSOCIATED_DAY_TS_DATETIME	VARCHAR2	Date/time of the date time stamp of the day of shift for grouping by ...	V_MD_SHIFT		
OPERATING_STATUS_ID	NUMBER	Operating status: ID	V_MD_WORKPLACE_STATUSES V_MD_MALFUNCTION_REASON_VEC1		
OPERATING_STATUS_COLOR	VARCHAR2	Operating status: color	V_MD_WORKPLACE_STATUSES V_MD_MALFUNCTION_REASON_VEC1		
OPERATING_STATUS_MNEMONIC	VARCHAR2	Operating status: mnemonic	V_MD_WORKPLACE_STATUSES V_MD_MALFUNCTION_REASON_VEC1		

Past 2

Column	Data type	Description	Source: master data table	Dissolution of foreign keys	Since version
OPERATING_STATUS_SORT_ORDER	NUMBER	Operating status: sort order	V_MD_OPERATION_STATUS SV_MD_MALFUNCTION_REASON_VEC1		5.7.1 SP1
OPERATING_STATUS_TEXT	VARCHAR2	Operating status: description	V_MD_WORKPLACE_STATUS V_MD_MALFUNCTION_REASON_VEC1		
OPERATING_STATUS_SHORTTEXT	VARCHAR2	Operating status: short description	V_MD_WORKPLACE_STATUS V_MD_MALFUNCTION_REASON_VEC1		

12.2.2.3.4 ER Diagram



12.2.2.3.5 Examples

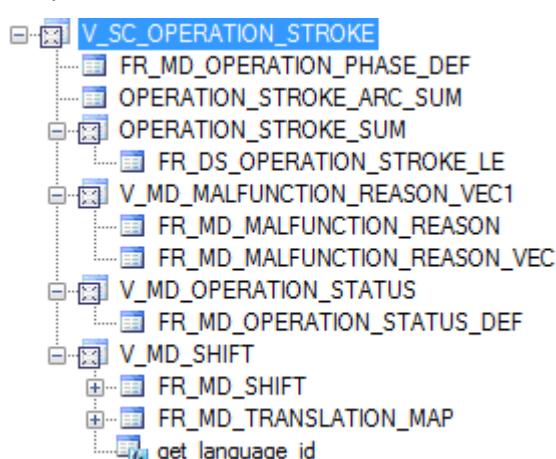
The following query selects the status, phase and exact malfunction reason in addition to quantity and strokes

12.2.2.4 V_SC_OPERATION_STROKE

12.2.2.4.1 Purpose

Strokes compression grouped by operation, shift, status, phase, malfunction reason.

12.2.2.4.2 Dependencies



Past 2
12.2.2.4.3 Columns

Column	Data type	Description	Source: master data table	Dissolution of foreign keys	Since version
WORKPLACE_ID	NUMBER	Workplace ID	OPERATION_STROKE_SUM OPERATION_STROKE_ARC_SUM	Join via V_MD_WORKPLACE.WORKPLACE_ID	5.0.0 .15
WORKPLACE_SORT_ORDER	NUMBER	Sort order of the workplace	FR_MD_WORKPLACE		5.7.1 SP1
SHIFT_ID	NUMBER	Shift ID	OPERATION_STROKE_SUM OPERATION_STROKE_ARC_SUM	Join via V_MD_SHIFT.SHIFT_ID	5.0.0 .15
NONWORKING_SHIFT_TYPE	NUMBER	Flag: shift is a nonworking shift	V_MD_SHIFT		
OPERATION_ID	NUMBER	Operation ID	OPERATION_STROKE_SUM OPERATION_STROKE_ARC_SUM	Join via V_MD_OPERATION.OPERATION_ID	5.0.0 .15
OPERATION_STATUS_ID	NUMBER	Operation status: ID	FR_MD_OPERATION_STATUS_DEF		5.7.0
STATUS_CODE	NUMBER	Operation status: coding	FR_MD_OPERATION_STATUS_DEF		5.0.0 .15
STATUS_COLOR	VARCHAR2	Operation status: color	FR_MD_OPERATION_STATUS_DEF		5.0.0 .15
STATUS_MNEMONIC	VARCHAR2	Operation status: mnemonic	FR_MD_OPERATION_STATUS_DEF		5.0.0 .15
STATUS_SORT_ORDER	NUMBER	Operation status: sort order	FR_MD_OPERATION_STATUS_DEF		5.7.1 SP1
STATUS_TEXT	VARCHAR2	Operation status: description	FR_MD_OPERATION_STATUS_DEF		5.0.0 .15
STATUS_SHORTTEXT	VARCHAR2	Operation status: short description	FR_MD_OPERATION_STATUS_DEF		5.0.0 .15
OPERATION_PHASE_ID	NUMBER	Operation phase: ID	FR_MD_OPERATION_PHASE_DEF		5.7.0
PHASE_CODE	NUMBER	Operation phase: coding	FR_MD_OPERATION_PHASE_DEF		5.0.0 .15
PHASE_COLOR	VARCHAR2	Operation phase: color	FR_MD_OPERATION_PHASE_DEF		5.0.0 .15
PHASE_MNEMONIC	VARCHAR2	Operation	FR_MD_OPERATION_PHASE_DEF		5.0.0

Past 2

Column	Data type	Description	Source: master data table	Dissolution of foreign keys	Since version
C		phase: mnemonic	E_DEF		.15
PHASE_SORT_ORDER	NUMBER	Operation phase: sort order	FR_MD_OPERATION_PHASE_DEF		5.7.1 SP1
PHASE_TEXT	VARCHAR2	Operation phase: description	FR_MD_OPERATION_PHASE_DEF		5.0.0 .15
PHASE_SHORTTEXT	VARCHAR2	Operation phase: short description	FR_MD_OPERATION_PHASE_DEF		5.0.0 .15
MFR_VECTOR_ID	NUMBER	ID of the malfunction reason vector	OPERATION_STROKE_SUM OPERATION_STROKE_ARC_SUM	Join via V_MD_MALFUNCTION_REASON_VEC.MFR_VECTOR_ID	5.0.0 .15
START_TS	TIMESTAMP(6)	Time stamp of the first occurrence; additional derived columns see Timestamp for grouping and sorting	OPERATION_STROKE_SUM OPERATION_STROKE_ARC_SUM		5.0.0 .15
NUMBER_OF_STROKES	NUMBER	Summarized strokes	OPERATION_STROKE_SUM OPERATION_STROKE_ARC_SUM		5.0.0 .15
ASSOCIATED_DAY_TS	TIMESTAMP(6)	Date time stamp of the day of shift	V_MD_SHIFT		
ASSOCIATED_DAY_TS_YEAR	VARCHAR2	Year of the date time stamp of the day of shift for grouping by ...	V_MD_SHIFT		
ASSOCIATED_DAY_TS_QUARTER	VARCHAR2	Year/quarter of the date time stamp of the day of shift for grouping by ...	V_MD_SHIFT		

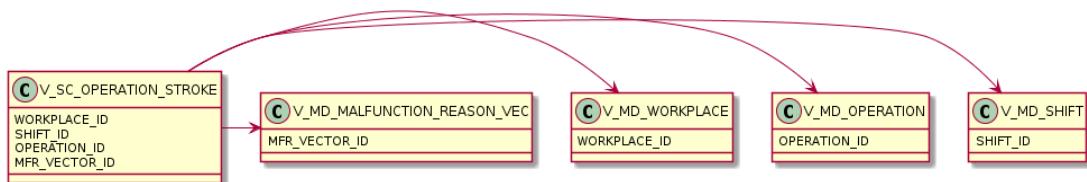
Past 2

Column	Data type	Description	Source: master data table	Dissolution of foreign keys	Since version
ASSOCIATED_DAY_TS_MONTH	VARCHAR2	Year/month of the date time stamp of the day of shift for grouping by ...	V_MD_SHIFT		
ASSOCIATED_DAY_TS_WEEK	VARCHAR2	Year/week of the date time stamp of the day of shift for grouping by ...	V_MD_SHIFT		
ASSOCIATED_DAY_TS_ISOWEEK	VARCHAR2	Year/ISO week of the date time stamp of the day of shift for grouping by ...	V_MD_SHIFT		
ASSOCIATED_DAY_TS_DATE	VARCHAR2	Date of the date time stamp of the day of shift for grouping by ...	V_MD_SHIFT		
ASSOCIATED_DAY_TS_DATETIME	VARCHAR2	Date/time of the date time stamp of the day of shift for grouping by ...	V_MD_SHIFT		
OPERATING_STATUS_ID	NUMBER	Operating status: ID	V_MD_WORKPLACE_STATUS V_MD_MALFUNCTION_REASON_VEC1		
OPERATING_STATUS_COLOR	VARCHAR2	Operating status: color	V_MD_WORKPLACE_STATUS V_MD_MALFUNCTION_REASON_VEC1		
OPERATING_STATUS_MNEMONIC	VARCHAR2	Operating status: mnemonic	V_MD_WORKPLACE_STATUS V_MD_MALFUNCTION_REASON_VEC1		
OPERAT-	NUMBER	Operating	V_MD_OPERATION_STATUS		5.7.1

Past 2

Column	Data type	Description	Source: master data table	Dissolution of foreign keys	Since version
ING_STAUS_SORT_ORDER		status: sort order	SV_MD_MALFUNCTION_REASON_VEC1		SP1
OPERATING_STATUS_TEXT	VARCHAR2	Operating status: description	V_MD_WORKPLACE_STATUS V_MD_MALFUNCTION_REASON_VEC1		
OPERATING_STATUS_SHORTTEXT	VARCHAR2	Operating status: short description	V_MD_WORKPLACE_STATUS V_MD_MALFUNCTION_REASON_VEC1		

12.2.2.4.4 ER Diagram



12.2.3 Operation

View	Description
V_C_OPERATION_TIMESTAMPS	Start and end times of the phases of an operation (grouped by phase and operation). It is used to determine the minimal start time, the maximal end time and the duration of the single phases of an operation.
V_C_OPERATION_STATUS_DURATION	Duration of a phase/status per operation (grouped by operation, status, phase)
V_C_OPERATION_QUANTITY_OP	Quantity grouped by operation, status, phase, malfunction reason and quantity reason
V_C_OPERATION_QUANTITY_OP_SUM	Yield quantity, scrap quantity and rework quantity grouped by operation, status, phase and malfunction reason

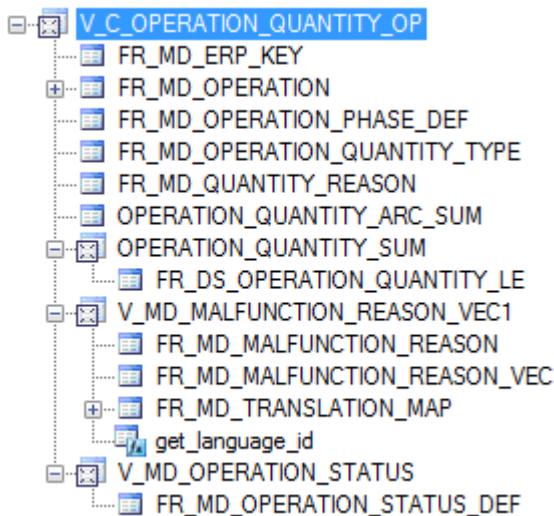
The archived data are also requested in all above listed views.

12.2.3.1 V_C_OPERATION_QUANTITY_OP

12.2.3.1.1 Purpose

Quantity grouped by operation, status, phase, malfunction reason and quantity reason.

12.2.3.1.2 Dependencies



12.2.3.1.3 Columns

Column	Data type	Description	Source: master data table	Dissolution of foreign keys	Since version
WORKPLACE_ID	NUMBER	Workplace ID	OPERATION_QUANTITY_SUM OPERATION_QUANTITY_ARC_SUM	Join via V_MD_WORKPLACE.WORKPLACE_ID	5.0.0 .15
MFR_VECTOR_ID	NUMBER	ID of the malfunction reason vector	OPERATION_QUANTITY_SUM OPERATION_QUANTITY_ARC_SUM	Join via V_MD_MALFUNCTION_REASON_VEC.MFR_VECTOR_ID	5.0.0 .15
OPERATION_ID	NUMBER	Operation ID	OPERATION_QUANTITY_SUM OPERATION_QUANTITY_ARC_SUM	Join via V_MD_OPERATION.OPERATION_ID	5.0.0 .15
OPERATION_STATUS_ID	NUMBER	Operation status: ID	FR_MD_OPERATION_STATUS_DEF		5.7.0
STATUS_CODE	NUMBER	Operation status: code	FR_MD_OPERATION_STATUS_DEF		5.0.0 .15
STATUS_COLOR	VARCHAR2	Operation status: color	FR_MD_OPERATION_STATUS_DEF		5.0.0 .15
STATUS_MNEMONIC	VARCHAR2	Operation status: mnemonic	FR_MD_OPERATION_STATUS_DEF		5.0.0 .15

Past 2

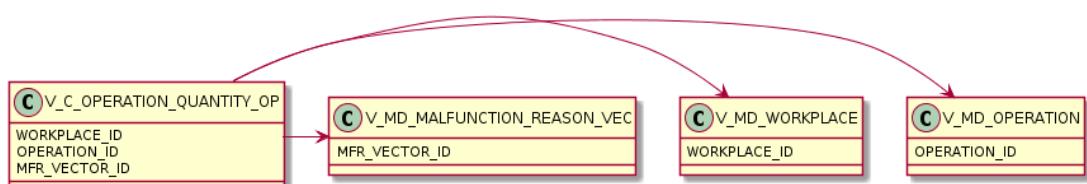
Column	Data type	Description	Source: master data table	Dissolution of foreign keys	Since version
STATUS_TEXT	VARCHAR2	Operation status: description	FR_MD_OPERATION_STATUS_DEF		5.0.0 .15
STATUS_SHORTTEXT	VARCHAR2	Operation status: short description	FR_MD_OPERATION_STATUS_DEF		5.0.0 .15
OPERATION_PHASE_ID	NUMBER	Operation phase: ID	FR_MD_OPERATION_PHASE_DEF		5.7.0
PHASE_CODE	NUMBER	Operation phase: code	FR_MD_OPERATION_PHASE_DEF		5.0.0 .15
PHASE_COLOR	VARCHAR2	Operation phase: color	FR_MD_OPERATION_PHASE_DEF		5.0.0 .15
PHASE_MNEMONIC	VARCHAR2	Operation phase: mnemonic	FR_MD_OPERATION_PHASE_DEF		5.0.0 .15
PHASE_TEXT	VARCHAR2	Operation phase: description	FR_MD_OPERATION_PHASE_DEF		5.0.0 .15
PHASE_SHORTTEXT	VARCHAR2	Operation phase: short description	FR_MD_OPERATION_PHASE_DEF		5.0.0 .15
QUANTITY_TYPE_ID	NUMBER	Quantity type ID	OPERATION_QUANTITY_SUM OPERATION_QUANTITY_ARC_SUM		
QUANTITY_TYPE_REASON_ID	NUMBER	Quantity type reason ID	OPERATION_QUANTITY_SUM OPERATION_QUANTITY_ARC_SUM		
QTY_TYPE_CODE	NUMBER	Quantity type: coding	FR_MD_OPERATION_QUANTITY_TYPE		5.0.0 .15
QTY_TYPE_COLOR	VARCHAR2	Quantity type: color	FR_MD_OPERATION_QUANTITY_TYPE		5.0.0 .15
QTY_TYPE_TEXT	VARCHAR2	Quantity type: description	FR_MD_OPERATION_QUANTITY_TYPE		5.0.0 .15
QTY_TYPE_SHORTTEXT	VARCHAR2	Quantity type: short description	FR_MD_OPERATION_QUANTITY_TYPE		5.0.0 .15
QTY_REASON_COLOR	VARCHAR2	Reason for the selected quantity type: color	FR_MD_QUANTITY_REASON		5.0.0 .15
QTY_REASON_MNEMONIC	VARCHAR	Reason for the selected quantity type: mnemonic	FR_MD_QUANTITY_REASON		5.0.0 .15
QTY_REASON_TEXT	VARCHAR2	Reason for the selected quantity type: text	FR_MD_QUANTITY_REASON		5.0.0 .15

Past 2

Column	Data type	Description	Source: master data table	Dissolution of foreign keys	Since version
		Quantity type: description			
QTY_REASON_SHORTTEXT	VARCHAR2	Reason for the selected quantity type: short description	FR_MD_QUANTITY_REASON		5.0.0 .15
AMOUNT	NUMBER	Summarized quantity	OPERATION_QUANTITY_SUM OPERATION_QUANTITY_ARC_SUM		5.0.0 .15
START_TS	TIMESTAMP(6)	Time stamp of the first occurrence; additional derived columns see Timestamp for grouping and sorting	OPERATION_QUANTITY_SUM OPERATION_QUANTITY_ARC_SUM		5.0.0 .15
START_TS_YEAR	VARCHAR2	Year of the START_TS time stamp of the day of shift for grouping nach ...			
START_TS_ISOYEAR	VARCHAR2	ISO year of the START_TS -time stamp of the day of shift for grouping nach ...			
START_TS_MONTH	VARCHAR2	Year/month of the START_TS -time stamp of the day of shift for grouping nach ...			
START_TS_WEEK	VARCHAR2	Year/week of the START_TS -time stamp of the day of shift for grouping nach ...			
START_TS_ISOWEEK	VARCHAR2	Year/ISO week of			

Past 2

Column	Data type	Description	Source: master data table	Dissolution of foreign keys	Since version
		the START_TS -time stamp of the day of shift for grouping nach ...			
START_TS_DATE	VARCHAR2	Date of the START_TS -time stamp of the day of shift for grouping nach ...			
START_TS_DATE TIME	VARCHAR2	Date/time of the START_TS -time stamp of the day of shift for grouping nach ...			
OPERATING_STATUS_ID	NUMBER	Operating status: ID	V_MD_WORKPLACE_STATUSES V_MD_MALFUNCTION_REASON_VEC1		
OPERATING_STATUS_COLOR	VARCHAR2	Operating status: color	V_MD_WORKPLACE_STATUSES V_MD_MALFUNCTION_REASON_VEC1		
OPERATING_STATUS_MNEMONIC	VARCHAR2	Operating status: mnemonic	V_MD_WORKPLACE_STATUSES V_MD_MALFUNCTION_REASON_VEC1		
OPERATING_STATUS_TEXT	VARCHAR2	Operating status: description	V_MD_WORKPLACE_STATUSES V_MD_MALFUNCTION_REASON_VEC1		
OPERATING_STATUS_SHORTTEXT	VARCHAR2	Operating status: short description	V_MD_WORKPLACE_STATUSES V_MD_MALFUNCTION_REASON_VEC1		

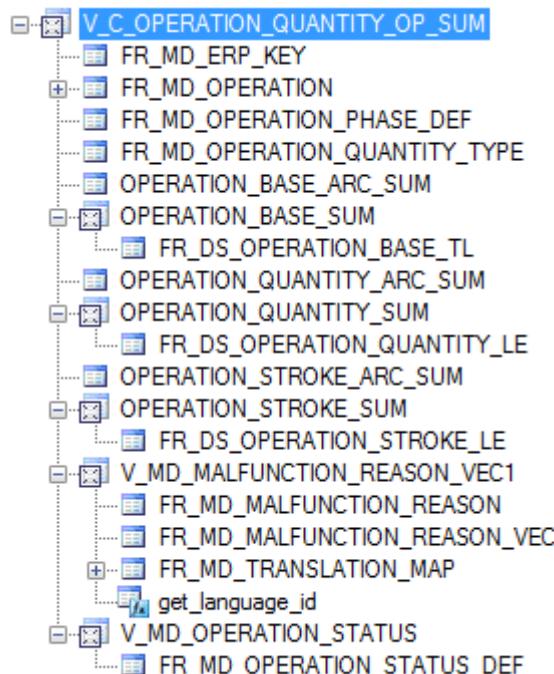
12.2.3.1.4 ER Diagram


12.2.3.2 V_C_OPERATION_QUANTITY_OP_SUM

12.2.3.2.1 Purpose

Quantity grouped by operation, status, phase, malfunction reason and quantity reason.

12.2.3.2.2 Dependencies



12.2.3.2.3 Columns

Column	Data type	Description	Source: master data table	Dissolution of foreign keys	Since version
WORKPLACE_ID	NUMBER	Workplace ID	OPERATION_QUANTITY_SUM OPERATION_QUANTITY_ARC_SUM	Join via V_MD_WORKPLACE.WORKPLACE_ID	5.0.0 .15
MFR_VECTOR_ID	NUMBER	ID of the malfunction reason vector	OPERATION_QUANTITY_SUM OPERATION_QUANTITY_ARC_SUM	Join via V_MD_MALFUNCTION_REASON_VEC.MFR_VECTOR_ID	5.0.0 .15
OPERATION_ID	NUMBER	Operation ID	OPERATION_QUANTITY_SUM OPERATION_QUANTITY_ARC_SUM	Join via V_MD_OPERATION.OPERATION_ID	5.0.0 .15
YIELD_QTY	FLOAT	Yield quantity	OPERATION_QUANTITY_SUM		5.0.0 .15

Past 2

Column	Data type	Description	Source: master data table	Dissolution of foreign keys	Since version
			OPERATION_QUANTITY_ARC_SUM		
SCRAP_QTY	FLOAT	Scrap quantity	OPERATION_QUANTITY_SUM OPERATION_QUANTITY_ARC_SUM		5.0.0 .15
REWORK_QTY	FLOAT	Rework quantity	OPERATION_QUANTITY_SUM OPERATION_QUANTITY_ARC_SUM		5.0.0 .15
SUM_DURATION	NUMBER	Duration	OPERATION_QUANTITY_SUM OPERATION_QUANTITY_ARC_SUM		5.0.0 .15
CNT_OCCURRENCE	NUMBER	Number	OPERATION_QUANTITY_SUM OPERATION_QUANTITY_ARC_SUM		5.0.0 .15
FROM_LAST_SHIFT	NUMBER	1 if created before status before shift change, otherwise 0	OPERATION_QUANTITY_SUM OPERATION_QUANTITY_ARC_SUM		
NUMBER_OF_STROKES	NUMBER	Number of strokes	OPERATION_QUANTITY_SUM OPERATION_QUANTITY_ARC_SUM		
OPERATION_STATUS_ID	NUMBER	Operation status: ID	FR_MD_OPERATION_STATUS_DEF		5.7.0
STATUS_CODE	NUMBER	Operation status: code	FR_MD_OPERATION_STATUS_DEF		5.0.0 .15
STATUS_COLOR	VAR-CHAR2	Operation status: color	FR_MD_OPERATION_STATUS_DEF		5.0.0 .15
STATUS_MNEMONIC	VAR-CHAR2	Operation status: mnemonic	FR_MD_OPERATION_STATUS_DEF		5.0.0 .15
STATUS_TEXT	VAR-CHAR2	Operation status:	FR_MD_OPERATION_STATUS_DEF		5.0.0 .15

Past 2

Column	Data type	Description	Source: master data table	Dissolution of foreign keys	Since version
		description			
STATUS_SHORTTEXT	VAR-CHAR2	Operation status: short description	FR_MD_OPERATION_STATUS_DEF		5.0.0 .15
OPERATION_PHASE_ID	NUMBER	Operation phase: ID	FR_MD_OPERATION_PHASE_DEF		5.7.0
PHASE_CODE	Number	Operation status: code	FR_MD_OPERATION_PHASE_DEF		5.0.0 .15
PHASE_COLOR	VAR-CHAR2	Operation phase: color	FR_MD_OPERATION_PHASE_DEF		5.0.0 .15
PHASE_MNEMONIC	VAR-CHAR2	Operation phase: mnemonic	FR_MD_OPERATION_PHASE_DEF		5.0.0 .15
PHASE_TEXT	VAR-CHAR2	Operation phase: description	FR_MD_OPERATION_PHASE_DEF		5.0.0 .15
PHASE_SHORTTEXT	VAR-CHAR2	Operation phase: short description	FR_MD_OPERATION_PHASE_DEF		5.0.0 .15
END_TS	TIMESTAMP(6)	End timestamp of the intervals; additional derived columns see Timestamp for grouping and sorting	OPERATION_QUANTITY_SUM OPERATION_QUANTITY_ARE_SUM		5.0.0 .15
END_TS_YEAR	VAR-CHAR2	Year of the END_TS-time stamp of the day of shift for grouping by ...			
END_TS_ISOYEAR	VAR-CHAR2	ISO year of the END_TS-time stamp of the day of shift for grouping			

Past 2

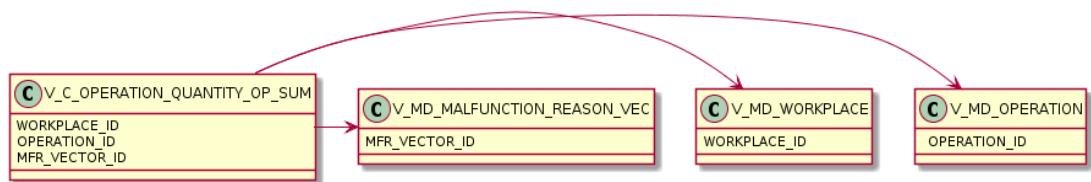
Column	Data type	Description	Source: master data table	Dissolution of foreign keys	Since version
		by ...			
END_TS_MONTH	VAR-CHAR2	Year/month of the END_TS-time stamp of the day of shift for grouping by ...			
END_TS_WEEK	VAR-CHAR2	Year/week of the END_TS-time stamp of the day of shift for grouping by ...			
END_TS_ISOWEEK	VAR-CHAR2	Year/ISO week of the END_TS-time stamp of the day of shift for grouping by ...			
END_TS_DATE	VAR-CHAR2	Date of the END_TS-time stamp of the day of shift for grouping by ...			
END_TS_DATETIME	VAR-CHAR2	Date/time of the END_TS-time stamp of the day of shift for grouping by ...			
START_TS	TIMESTAMP(6)	Time stamp of the first occurrence; additional derived columns see Timestamp for group-	OPERATION_QUANTITY_SUM OPERATION_QUANTITY_ARC_SUM		5.0.0 .15

Past 2

Column	Data type	Description	Source: master data table	Dissolution of foreign keys	Since version
		ing and sorting			
START_TS_YEAR	VAR-CHAR2	Year of the START_TS-time stamp of the day of shift for grouping by ...			
START_TS_ISOYEAR	VAR-CHAR2	ISO year of the START_TS-time stamp of the day of shift for grouping by ...			
START_TS_MONTH	VAR-CHAR2	Year/month of the START_TS-time stamp of the day of shift for grouping by ...			
START_TS_WEEK	VAR-CHAR2	Year/week of the START_TS-time stamp of the day of shift for grouping by ...			
START_TS_ISOWEEK	VAR-CHAR2	Year/ISO week of the START_TS-time stamp of the day of shift for grouping by ...			
START_TS_DATE	VAR-CHAR2	Date of the START_TS-time stamp of the day of			

Part 2

Column	Data type	Description	Source: master data table	Dissolution of foreign keys	Since version
		shift for grouping by ...			
START_TS_DATETIME	VAR-CHAR2	Date/time of the START_TS-time stamp of the day of shift for grouping by ...			
OPERATING_STATUS_ID	NUMBER	Operating status: ID	V_MD_WORKPLACE_STATUS V_MD_MALFUNCTION_REASON_VEC1		
OPERATING_STATUS_COLOR	VAR-CHAR2	Operating status: color	V_MD_WORKPLACE_STATUS V_MD_MALFUNCTION_REASON_VEC1		
OPERATING_STATUS_MNEMONIC	VAR-CHAR2	Operating status: mnemonic	V_MD_WORKPLACE_STATUS V_MD_MALFUNCTION_REASON_VEC1		
OPERATING_STATUS_TEXT	VAR-CHAR2	Operating status: description	V_MD_WORKPLACE_STATUS V_MD_MALFUNCTION_REASON_VEC1		
OPERATING_STATUS_SHORTTEXT	VAR-CHAR2	Operating status: short description	V_MD_WORKPLACE_STATUS V_MD_MALFUNCTION_REASON_VEC1		

12.2.3.2.4 ER Diagram


12.2.3.3 V_C_OPERATION_STATUS_DURATION

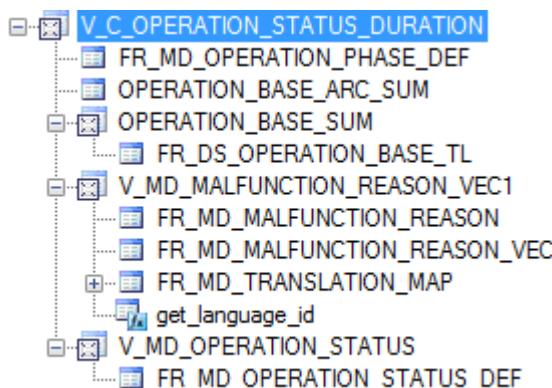
12.2.3.3.1 Purpose

Duration of a phase/status per operation (grouped by operation, status, phase)

Based on V_SC_OPERATION_BASE.

View like APL_REP_AFO (order, durations and status)

12.2.3.3.2 Dependencies



12.2.3.3.3 Columns

Column	Data type	Description	Source: master data table	Dissolution of foreign keys	Since version
WORKPLACE_ID	NUMBER	Workplace ID	OPERATION_BASE_SUM OPERATION_BASE_ARC_SUM	Join via V_MD_WORKPLACE.WORKPLACE_ID	5.0.0 .15
OPERATION_ID	NUMBER	Operation ID	OPERATION_BASE_SUM OPERATION_BASE_ARC_SUM	Join via V_MD_OPERATION.OPERATION_ID	5.0.0 .15
OPERATION_STATUS_ID	NUMBER	Operation status: ID	FR_MD_OPERATION_STATUS_DEF		5.7.0
STATUS_CODE	NUMBER	Operation status: code	FR_MD_OPERATION_STATUS_DEF		5.0.0 .15
STATUS_COLOR	VAR-CHAR2	Operation status: color	FR_MD_OPERATION_STATUS_DEF		5.0.0 .15
STATUS_MNEMONIC	VAR-CHAR2	Operation status: mnemonic	FR_MD_OPERATION_STATUS_DEF		5.0.0 .15
STATUS_TEXT	VAR-CHAR2	Operation status: description	FR_MD_OPERATION_STATUS_DEF		5.0.0 .15
STATUS_SHORTTEXT	VAR-CHAR2	Operation status: short description	FR_MD_OPERATION_STATUS_DEF		5.0.0 .15
OPERATION_PHASE_ID	NUMBER	Operation phase: ID	FR_MD_OPERATION_PHASE_DEF		5.7.0

Past 2

Column	Data type	Description	Source: master data table	Dissolution of foreign keys	Since version
PHASE_CODE	Number	Operation status: code	FR_MD_OPERATION_PHASE_DEF		5.0.0 .15
PHASE_COLOR	VAR-CHAR2	Operation phase: color	FR_MD_OPERATION_PHASE_DEF		5.0.0 .15
PHASE_MNEMONIC	VAR-CHAR2	Operation phase: mnemonic	FR_MD_OPERATION_PHASE_DEF		5.0.0 .15
PHASE_TEXT	VAR-CHAR2	Operation phase: description	FR_MD_OPERATION_PHASE_DEF		5.0.0 .15
PHASE_SHORTTEXT	VAR-CHAR2	Operation phase: short description	FR_MD_OPERATION_PHASE_DEF		5.0.0 .15
MFR_VECTOR_ID	NUMBER	ID of the malfunction reason vector	OPERATION_BASE_SUM OPERATION_BASE_ARC_SUM	Join via V_MD_MALFUNCTION_REASON_VEC.MFR_VECTOR_ID	5.0.0 .15
DURATION	NUMBER	Summarized duration in [msec]	OPERATION_BASE_SUM OPERATION_BASE_ARC_SUM		5.0.0 .15
OCCURRENCE	NUMBER	Number of shifts	OPERATION_BASE_SUM OPERATION_BASE_ARC_SUM		5.0.0 .15
END_TS	TIMESTAMP(6)	End timestamp of the intervals; additional derived columns see Timestamp for grouping and sorting	OPERATION_BASE_SUM OPERATION_BASE_ARC_SUM		5.0.0 .15
END_TS_YEAR	VAR-CHAR2	Year of the END_TS-time stamp of the day of shift for grouping by ...			
END_TS_ISOYEAR	VAR-CHAR2	ISO-Year of the END_TS-time stamp of the day of shift for grouping by ...			

Past 2

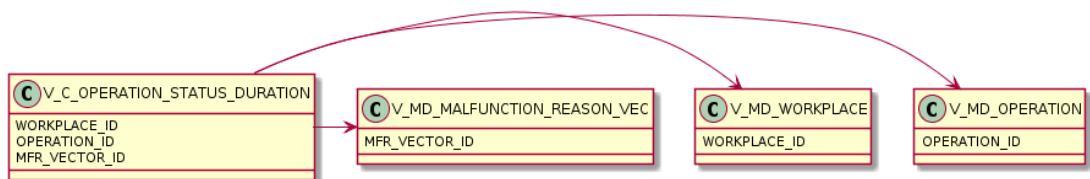
Column	Data type	Description	Source: master data table	Dissolution of foreign keys	Since version
END_TS_MONTH	VAR-CHAR2	Year/month of the END_TS-time stamp of the day of shift for grouping by ...			
END_TS_WEEK	VAR-CHAR2	Year/week of the END_TS-time stamp of the day of shift for grouping by ...			
END_TS_ISOWEEK	VAR-CHAR2	Year/ISO week of the END_TS-time stamp of the day of shift for grouping by ...			
END_TS_DATE	VAR-CHAR2	Date of the END_TS-time stamp of the day of shift for grouping by ...			
END_TS_DATETIME	VAR-CHAR2	Date/time of the END_TS-time stamp of the day of shift for grouping by ...			
START_TS	TIMESTAMP(6)	Time stamp of the first occurrence; additional derived columns see Timestamp for grouping and sorting	OPERATION_BASE_SUM OPERATION_BASE_ARC_SUM		5.0.0 .15

Past 2

Column	Data type	Description	Source: master data table	Dissolution of foreign keys	Since version
START_TS_YEAR	VAR-CHAR2	Year of the START_TS-time stamp of the day of shift for grouping by ...			
START_TS_ISOYEAR	VAR-CHAR2	ISO-Year of the START_TS-time stamp of the day of shift for grouping by ...			
START_TS_MONTH	VAR-CHAR2	Year/month of the START_TS-time stamp of the day of shift for grouping by ...			
START_TS_WEEK	VAR-CHAR2	Year/week of the START_TS-time stamp of the day of shift for grouping by ...			
START_TS_ISOWEEK	VAR-CHAR2	Year/ISO week of the START_TS-time stamp of the day of shift for grouping by ...			
START_TS_DATE	VAR-CHAR2	Date of the START_TS-time stamp of the day of shift for grouping by			

Past 2

Column	Data type	Description	Source: master data table	Dissolution of foreign keys	Since version
		...			
START_TS_DATETIME	VARCHAR2	Date/time of the START_TS-time stamp of the day of shift for grouping by ...			
OPERATING_STATUS_ID	NUMBER	Operating status: ID	V_MD_WORKPLACE_STATUS V_MD_MALFUNCTION_REASON_VEC1		
OPERATING_STATUS_COLOR	VARCHAR2	Operating status: color	V_MD_WORKPLACE_STATUS V_MD_MALFUNCTION_REASON_VEC1		
OPERATING_STATUS_MNEMONIC	VARCHAR2	Operating status: mnemonic	V_MD_WORKPLACE_STATUS V_MD_MALFUNCTION_REASON_VEC1		
OPERATING_STATUS_TEXT	VARCHAR2	Operating status: description	V_MD_WORKPLACE_STATUS V_MD_MALFUNCTION_REASON_VEC1		
OPERATING_STATUS_SHORTTEXT	VARCHAR2	Operating status: short description	V_MD_WORKPLACE_STATUS V_MD_MALFUNCTION_REASON_VEC1		

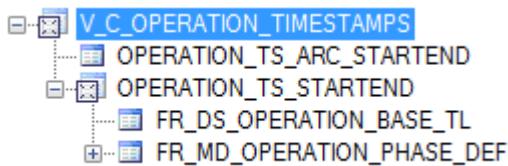
12.2.3.3.4 ER Diagram


12.2.3.4 V_C_OPERATION_TIMESTAMPS

12.2.3.4.1 Purpose

Start and end times of the phases of an operation (grouped by operation).
 It is used to determine the minimal start time and the maximal end time of the single phases of the operation.
 The view is directed toward the currently defined phase constants.
Attention!
The view has to be expanded with new phase constants.

12.2.3.4.2 Dependencies



12.2.3.4.3 Columns

Column	Data type	Description	Source: master data table	Dissolution of foreign keys	Since version
OPERATION_ID	NUMBER	Operation ID	OPERATION_TS_STARTEND OPERATION_TS_ARC_STARTEND	Join via V_MD_OPERATION.OPERATION_ID	5.0.0. 15
SETUP_START_TS	TIMESTAMP (6)	Start of setup	OPERATION_TS_STARTEND OPERATION_TS_ARC_STARTEND		5.0.0. 15
SETUP_END_TS	TIMESTAMP (6)	End of setup	OPERATION_TS_STARTEND OPERATION_TS_ARC_STARTEND		5.0.0. 15
PRODUCTION_START_TS	TIMESTAMP (6)	Start of production	OPERATION_TS_STARTEND OPERATION_TS_ARC_STARTEND		5.0.0. 15
PRODUCTION_END_TS	TIMESTAMP (6)	End of production	OPERATION_TS_STARTEND OPERATION_TS_ARC_STARTEND		5.0.0. 15
TRAINING_START_TS	TIMESTAMP (6)	Start of training	OPERATION_TS_STARTEND OPERATION_TS_ARC_STARTEND		5.0.0. 15
TRAINING_END_TS	TIMESTAMP (6)	End of training	OPERATION_TS_STARTEND OPERATION_TS_ARC_STARTEND		5.0.0. 15
TOTAL_START_TS	TIMESTAMP (6)	Start overall	OPERATION_TS_STARTEND OPERATION_TS_ARC_STARTEND		5.0.0. 15
TOTAL_END_TS	TIMESTAMP (6)	End overall	OPERATION_TS_STARTEND OPERATION_TS_ARC_STARTEND		5.0.0. 15

12.2.3.4.4 ER Diagram



12.2.4 Personnel Grouped by Shift

View	Description
V_SC_PERS_WORKPLACE_BASE	Duration of a phase/status per PERSONNEL (grouped by workplaces, status and phase)
V_SC_PERS_OPERATION_BASE	Duration of a phase/status per PERSONNEL (grouped by operation, workplaces, status and phase)

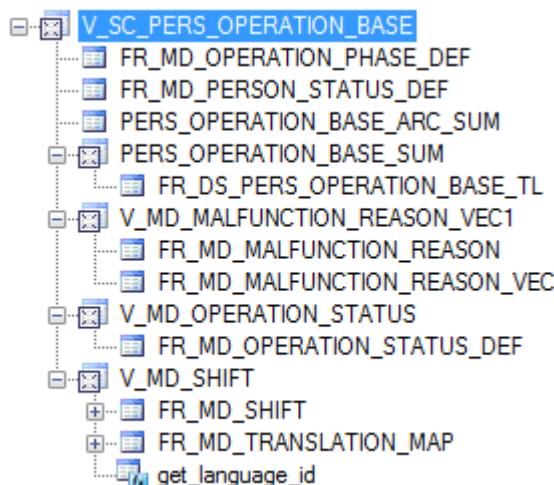
The archived data are also requested in all above listed views.

12.2.4.1 V_SC_PERS_OPERATION_BASE

12.2.4.1.1 Purpose

Status compression grouped by person, operation, shift, person status, operation status, operation phase, malfunction reason.

12.2.4.1.2 Dependencies



Past 2
12.2.4.1.3 Columns

Column	Data type	Description	Source: master data table	Dissolution of foreign keys	Since version
WORKPLACE_ID	NUMBER	Workplace ID	PERS_OPERATION_BAS E_SUM PERS_OPERATION_BAS E_ARC_SUM	Join via V_MD_WORKPLACE.WORKPLACE_ID	5.0.0 .15
SHIFT_ID	NUMBER	Shift ID	PERS_OPERATION_BAS E_SUM PERS_OPERATION_BAS E_ARC_SUM	Join via V_MD_SHIFT.SHIFT_ID	5.0.0 .15
NONWORKING_SHIFT_TYPE	NUMBER	Flag: shift is a nonworking shift	V_MD_SHIFT		
OPERATION_ID	NUMBER	Operation ID	PERS_OPERATION_BAS E_SUM PERS_OPERATION_BAS E_ARC_SUM	Join via V_MD_OPERATION.OPERATION_ID	5.0.0 .15
PERSON_ID	NUMBER	Person ID	PERS_OPERATION_BAS E_SUM PERS_OPERATION_BAS E_ARC_SUM	Join via V_MD_PERSON.PERSON_ID	5.0.0 .15
STATUS_CODE	NUMBER	Person status: coding	FR_MD_PERSON_STATUS_DEF		5.0.0 .15
STATUS_COLOR	VAR-CHAR2	Person status: color	FR_MD_PERSON_STATUS_DEF		5.0.0 .15
STA-TUS_MNEMONIC	VATCHAR2	Person status: mnemonic	FR_MD_PERSON_STATUS_DEF		5.0.0 .15
STA-TUS_SORT_ORDER	NUMBER	Person status: sort order	FR_MD_PERSON_STATUS_DEF		5.7.1 SP1
STATUS_TEXT	VAR-CHAR2	Person status: description	FR_MD_PERSON_STATUS_DEF		5.0.0 .15
STATUS_SHORTTEXT	VAR-CHAR2	Person status: short description	FR_MD_PERSON_STATUS_DEF		5.0.0 .15
OPERA-TION_STATUS_ID	NUMBER	Operation status: ID	FR_MD_OPERATION_STATUS_DEF		5.7.0
OP_STATUS_CODE	NUMBER	Operation status: coding	FR_MD_OPERATION_STATUS_DEF		5.0.0 .15
OP_STATUS_COLOR	VAR-CHAR2	Operation status: color	FR_MD_OPERATION_STATUS_DEF		5.0.0 .15
OP_STATUS_MNEMONIC	VAR-CHAR2	Operation status: mnemonic	FR_MD_OPERATION_STATUS_DEF		5.0.0 .15
OP_STATUS_SORT_ORDER	NUMBER	Operation status: sort order	FR_MD_OPERATION_STATUS_DEF		5.7.1 SP1
OP_STATUS_TEXT	VAR-	Operation	FR_MD_OPERATION_STATUS		5.0.0

Past 2

Column	Data type	Description	Source: master data table	Dissolution of foreign keys	Since version
	CHAR2	status: description	ATUS_DEF		.15
OP_STATUS_SHORT_TEXT	VAR-CHAR2	Operation status: short description	FR_MD_OPERATION_STATUS_DEF		5.0.0 .15
OPERATION_PHASE_ID	NUMBER	Operation phase: ID	FR_MD_OPERATION_PHASE_DEF		5.7.0
OP_PHASE_CODE	NUMBER	Operation phase: coding	FR_MD_OPERATION_PHASE_DEF		5.0.0 .15
OP_PHASE_COLOR	VAR-CHAR2	Operation phase: color	FR_MD_OPERATION_PHASE_DEF		5.0.0 .15
OP_PHASE_MNEMONIC	VAR-CHAR2	Operation phase: mnemonic	FR_MD_OPERATION_PHASE_DEF		5.0.0 .15
OP_PHASE_SORT_ORDER	NUMBER	Operation phase: sort order	FR_MD_OPERATION_PHASE_DEF		5.7.1 SP1
OP_PHASE_TEXT	VAR-CHAR2	Operation phase: description	FR_MD_OPERATION_PHASE_DEF		5.0.0 .15
OP_PHASE_SHORTTEXT	VAR-CHAR2	Operation phase: short description	FR_MD_OPERATION_PHASE_DEF		5.0.0 .15
MFR_VECTOR_ID	NUMBER	ID of the malfunction reason vector	PERS_OPERATION_BASE_SUM PERS_OPERATION_BASE_ARC_SUM	Join via V_MD_MALFUNCTION_REASON_VEC.MFR_VECTOR_ID	5.0.0 .15
SUM_DURATION	NUMBER	Summarized duration in [msec]	PERS_OPERATION_BASE_SUM PERS_OPERATION_BASE_ARC_SUM		5.0.0 .15
CNT_OCCURRENCE	NUMBER	Number of occurrences in shift	PERS_OPERATION_BASE_SUM PERS_OPERATION_BASE_ARC_SUM		5.0.0 .15
START_TS	TIMESTAMP(6)	Start time stamp of the first occurrence in shift	PERS_OPERATION_BASE_SUM PERS_OPERATION_BASE_ARC_SUM		5.0.0 .15
END_TS	TIMESTAMP(6)	End time stamp of the last occurrence in shift	PERS_OPERATION_BASE_SUM PERS_OPERATION_BASE_ARC_SUM		5.0.0 .15
FROM_LAST_SHIFT	NUMBER	1 if created before status before shift change, otherwise 0	PERS_OPERATION_BASE_SUM PERS_OPERATION_BASE_ARC_SUM		5.0.0 .15

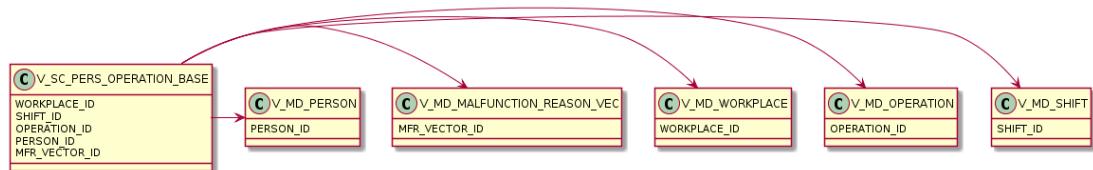
Past 2

Column	Data type	Description	Source: master data table	Dissolution of foreign keys	Since version
ASSOCIATED_DAY_TS	TIMESTAMP(6)	Date time stamp of the day of shift	V_MD_SHIFT		
ASSOCIATED_DAY_TS_YEAR	VAR-CHAR2	Year of the date time stamp of the day of shift for grouping by ...	V_MD_SHIFT		
ASSOCIATED_DAY_TS_QUARTER	VAR-CHAR2	Year/quarter of the date time stamp of the day of shift for grouping by ...	V_MD_SHIFT		
ASSOCIATED_DAY_TS_MONTH	VAR-CHAR2	Year/month of the date time stamp of the day of shift for grouping by ...	V_MD_SHIFT		
ASSOCIATED_DAY_TS_WEEK	VAR-CHAR2	Year/week of the date time stamp of the day of shift for grouping by ...	V_MD_SHIFT		
ASSOCIATED_DAY_TS_ISOWEEK	VAR-CHAR2	Year/ISO week of the date time stamp of the day of shift for grouping by ...	V_MD_SHIFT		
ASSOCIATED_DAY_TS_DATE	VAR-CHAR2	Date of the date time stamp of the day of shift for grouping by ...	V_MD_SHIFT		
ASSOCIATED_DAY_TS_DATETIME	VAR-CHAR2	Date/time of the date time stamp of the day of shift for grouping by ...	V_MD_SHIFT		
OPERATING_STATUS_ID	NUMBER	Operating status: ID	V_MD_WORKPLACE_STATUS V_MD_MALFUNCTION_REASON_VEC1		
OPERATING_STATUS_COLOR	VAR-CHAR2	Operating status: color	V_MD_WORKPLACE_STATUS V_MD_MALFUNCTION_REASON_VEC1		

Past 2

Column	Data type	Description	Source: master data table	Dissolution of foreign keys	Since version
OPERATING_STATUS_MNEMONIC	VAR-CHAR2	Operating status: mnemonic	V_MD_WORKPLACE_STATUS V_MD_MALFUNCTION_REASON_VEC1		
OPERATING_STATUS_SORT_ORDER	NUMBER	Operating status: sort order	V_MD_OPERATION_STATUS V_MD_MALFUNCTION_REASON_VEC1		5.75.1 SP1
OPERATING_STATUS_TEXT	VAR-CHAR2	Operating status: description	V_MD_WORKPLACE_STATUS V_MD_MALFUNCTION_REASON_VEC1		
OPERATING_STATUS_SHORTTEXT	VAR-CHAR2	Operating status: short description	V_MD_WORKPLACE_STATUS V_MD_MALFUNCTION_REASON_VEC1		

12.2.4.1.4 ER Diagram

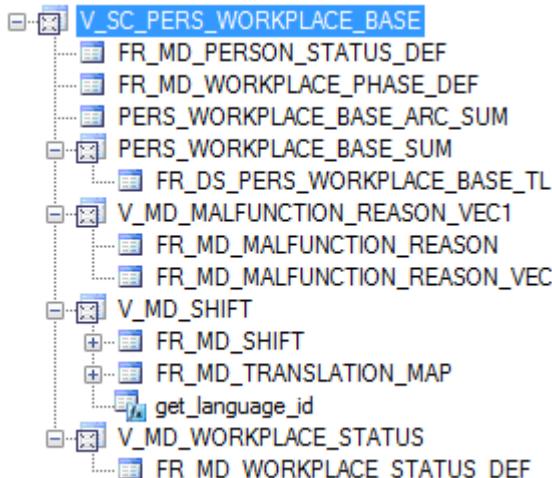


12.2.4.2 V_SC_PERS_WORKPLACE_BASE

12.2.4.2.1 Purpose

Status compression grouped by person, operation, shift, person status, operation status, operation phase, malfunction reason.

12.2.4.2.2 Dependencies



Past 2
12.2.4.2.3 Columns

Column	Data type	Description	Source: master data table	Dissolution of foreign keys	Since version
WORKPLACE_ID	NUMBER	Workplace ID	PERS_WORKPLACE_BASE_SUM PERS_WORKPLACE_BASE_ARC_SUM	Join via V_MD_WORKPLACE.WORKPLACE_ID	
SHIFT_ID	NUMBER	Shift ID	PERS_WORKPLACE_BASE_SUM PERS_WORKPLACE_BASE_ARC_SUM	Join via V_MD_SHIFT.SHIFT_ID	
NONWORKING_SHIFT_TYPE	NUMBER	Flag: shift is a nonworking shift	V_MD_SHIFT		
PERSON_ID	NUMBER	Person ID	PERS_WORKPLACE_BASE_SUM PERS_WORKPLACE_BASE_ARC_SUM	Join via V_MD_PERSON.PERSON_ID	
STATUS_CODE	NUMBER	Person status: coding	FR_MD_PERSON_STATUS_DEF		
STATUS_COLOR	VAR-CHAR2	Person status: color	FR_MD_PERSON_STATUS_DEF		
STATUS_MNEMONIC	VATCHA R2	Person status: mnemonic	FR_MD_PERSON_STATUS_DEF		
STATUS_TEXT	VAR-CHAR2	Person status: description	FR_MD_PERSON_STATUS_DEF		
STATUS_SHORTTEXT	VAR-CHAR2	Person status: short description	FR_MD_PERSON_STATUS_DEF		
WP_STATUS_ID	NUMBER	Workplace status: ID	FR_MD_WORKPLACE_STATUS_DEF		5.7.0
WP_STATUS_CODE	NUMBER	Workplace status: coding	FR_MD_WORKPLACE_STATUS_DEF		
WP_STATUS_COLOR	VAR-CHAR2	Workplace status: color	FR_MD_WORKPLACE_STATUS_DEF		
WP_STATUS_MNEMONIC	VAR-CHAR2	Workplace status: mnemonic	FR_MD_WORKPLACE_STATUS_DEF		
WP_STATUS_TEXT	VAR-CHAR2	Workplace status: description	FR_MD_WORKPLACE_STATUS_DEF		
WP_STATUS_SHORTTEXT	VAR-CHAR2	Workplace status: short description	FR_MD_WORKPLACE_STATUS_DEF		
WP_PHASE_ID	NUMBER	Workplace phase: ID	FR_MD_WORKPLACE_PHASE_DEF		5.7.0
WP_PHASE_CODE	NUMBER	Workplace phase: coding	FR_MD_WORKPLACE_PHASE_DEF		
WP_PHASE_COLOR	VAR-CHAR2	Workplace phase: color	FR_MD_WORKPLACE_PHASE_DEF		
WP_PHASE_MNEMONIC	VAR-	Workplace	FR_MD_WORKPLACE_PHASE_DEF		

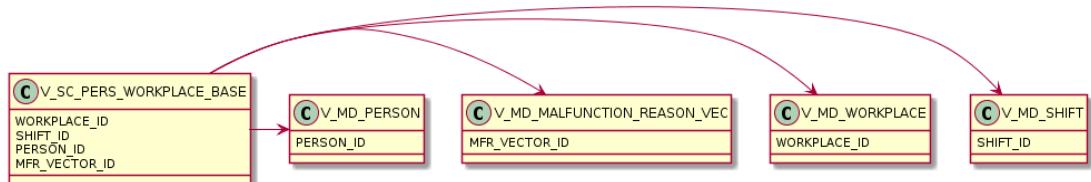
Past 2

Column	Data type	Description	Source: master data table	Dissolution of foreign keys	Since version
ONIC	CHAR2	phase: mnemonic	ASE_DEF		
WP_PHASE_TEXT	VAR-CHAR2	Workplace phase: description	FR_MD_WORKPLACE_PH ASE_DEF		
WP_PHASE_SHORTTEXT	VAR-CHAR2	Workplace phase: short description	FR_MD_WORKPLACE_PH ASE_DEF		
MFR_VECTOR_ID	NUMBER	ID of the malfunction reason vector	PERS_WORKPLACE_BASE_SUM PERS_WORKPLACE_BASE_ARC_SUM	Join via V_MD_MALFUNCTION_REASON_VEC.MFR_VECTOR_ID	
SUM_DURATION	NUMBER	Summarized duration in [msec]	PERS_WORKPLACE_BASE_SUM PERS_WORKPLACE_BASE_ARC_SUM		
CNT_OCCURRENCE	NUMBER	Number of occurrences in shift	PERS_WORKPLACE_BASE_SUM PERS_WORKPLACE_BASE_ARC_SUM		
START_TS	TIMESTAMP(6)	Start time stamp of the first occurrence in shift	PERS_WORKPLACE_BASE_SUM PERS_WORKPLACE_BASE_ARC_SUM		
END_TS	TIMESTAMP(6)	End time stamp of the last occurrence in shift	PERS_WORKPLACE_BASE_SUM PERS_WORKPLACE_BASE_ARC_SUM		
FROM_LAST_SHIFT	NUMBER	1 if created before status before shift change, otherwise 0	PERS_WORKPLACE_BASE_SUM PERS_WORKPLACE_BASE_ARC_SUM		
ASSOCIATED_DAY_TS	TIMESTAMP(6)	Date time stamp of the day of shift	V_MD_SHIFT		
ASSOCIATED_DAY_TS_YEAR	VAR-CHAR2	Year of the date time stamp of the day of shift for grouping by ...	V_MD_SHIFT		
ASSOCIATED_DAY_TS_QUARTER	VAR-CHAR2	Year/quarter of the date time stamp of the day of shift for grouping by ...	V_MD_SHIFT		
ASSOCIATED_DAY_TS_MONTH	VAR-CHAR2	Year/month of the date time	V_MD_SHIFT		

Past 2

Column	Data type	Description	Source: master data table	Dissolution of foreign keys	Since version
H		stamp of the day of shift for grouping by ...			
ASSOCIATED_DAY_TS_WEEK	VAR-CHAR2	Year/week of the date time stamp of the day of shift for grouping by ...	V_MD_SHIFT		
ASSOCIATED_DAY_TS_ISOWEEK	VAR-CHAR2	Year/ISO week of the date time stamp of the day of shift for grouping by ...	V_MD_SHIFT		
ASSOCIATED_DAY_TS_DATE	VAR-CHAR2	Date of the date time stamp of the day of shift for grouping by ...	V_MD_SHIFT		
ASSOCIATED_DAY_TS_DATETIME	VAR-CHAR2	Date/time of the date time stamp of the day of shift for grouping by ...	V_MD_SHIFT		
OPERATING_STATUS_ID	NUMBER	Operating status: ID	V_MD_WORKPLACE_STATUS V_MD_MALFUNCTION_REASON_VEC1		
OPERATING_STATUS_COLOR	VAR-CHAR2	Operating status: color	V_MD_WORKPLACE_STATUS V_MD_MALFUNCTION_REASON_VEC1		
OPERATING_STATUS_MNEMONIC	VAR-CHAR2	Operating status: mnemonic	V_MD_WORKPLACE_STATUS V_MD_MALFUNCTION_REASON_VEC1		
OPERATING_STATUS_TEXT	VAR-CHAR2	Operating status: description	V_MD_WORKPLACE_STATUS V_MD_MALFUNCTION_REASON_VEC1		
OPERATING_STATUS_SHORTTEXT	VAR-CHAR2	Operating status: short description	V_MD_WORKPLACE_STATUS V_MD_MALFUNCTION_REASON_VEC1		

12.2.4.2.4 ER Diagram



12.2.5 Materialized Views & Archive Tables

Materialized Views	Related archive table	Data
WORKPLACE_BASE_SUM	WORKPLACE_BASE_ARC_SUM	Status compression by workplace
WORKPLACE_QUANTITY_SUM	WORKPLACE_QUANTITY_ARC_SUM	Quantity compression by workplace
WORKPLACE_STROKE_SUM	WORKPLACE_STROKE_ARC_SUM	Stroke reports by workplace
OPERATION_BASE_SUM	OPERATION_BASE_ARC_SUM	Status compression by operation
OPERATION_QUANTITY_SUM	OPERATION_QUANTITY_ARC_SUM	Quantity compression by operation
OPERATION_STROKE_SUM	OPERATION_STROKE_ARC_SUM	Stroke compression by operation
OPERATION_TS_STARTEND	OPERATION_TS_ARC_START_END	Start and end time stamp of the operation
PERS_WORKPLACE_BASE_SUM	PERS_WORKPLACE_BASE_ARC_SUM	Status compression by person and workplace
PERS_OPERATION_BASE_SUM	PERS_OPERATION_BASE_ARC_SUM	Status compression by person and operation

12.2.5.1 OPERATION_BASE_ARC_SUM

Archive table for operating state duration and frequency compressed by shift, operation, workplace, operating state

Column	Data type	Description	Dissolution of foreign keys
ID	NUMBER	Technical primary key	
OPERATION_ID	NUMBER	Operation ID	Join via FR_MD_OPERATION
WORKPLACE_ID	NUMBER	Workplace ID	Join via FR_MD_WORKPLACE
OPERATION_STATUS_ID	NUMBER	Operation status ID	Join via FR_MD_OPERATION_STATUS_DEF.ID
OPERATION_PHASE_ID	NUMBER	Operation phase ID	Join via FR_MD_OPERATION_PHASE_DEF.ID
MALFUNC-TION_REASON_VECTOR_ID	NUMBER	ID of the malfunction reason vector	Join via FR_MD_MALFUNCTION_REASON_VEC.ID
SHIFT_ID	NUMBER	ID of the related shift	Join via FR_MD_SHIFT.ID
FROM_LAST_SHIFT	NUMBER	Flag: 1 = workplace status adopted from last shift; 0 otherwise	
SUM_DURATION	NUMBER	Sum of duration(msec) of the OSt in shift	
START_TS	TIMESTAMP(6)	Minimal start time (UTC) of the OSt in	

Past 2

Column	Data type	Description	Dissolution of foreign keys
		shift	
END_TS	TIMESTAMP(6))	Maximal end time (UTC) of the OSt in shift	
CHANGE_TS	TIMESTAMP(6))	Minimal change time (UTC) of the OSt in shift	
CNT_OCCURRENCE	NUMBER	Number of occurrences of the OSt in shift	

12.2.5.2 OPERATION_BASE_SUM

Materialized view of operating state duration and frequency compressed by shift, operation, workplace, operating state

Column	Data type	Description	Dissolution of foreign keys
ID	NUMBER	Technical primary key	
OPERATION_ID	NUMBER	Operation ID	Join via FR_MD_OPERATION
WORKPLACE_ID	NUMBER	Workplace ID	Join via FR_MD_WORKPLACE
OPERATION_STATUS_ID	NUMBER	Operation status ID	Join via FR_MD_OPERATION_STATUS_DEF.ID
OPERATION_PHASE_ID	NUMBER	Operation phase ID	Join via FR_MD_OPERATION_PHASE_DEF.ID
MALFUNCTION_REASON_VECTOR_ID	NUMBER	ID of the malfunction reason vector	Join via FR_MD_MALFUNCTION_REASON_VECTOR.ID
SHIFT_ID	NUMBER	ID of the related shift	Join via FR_MD_SHIFT.ID
FROM_LAST_SHIFT	NUMBER	Flag: 1 = workplace-status adopted from last shift; 0 otherwise	
SUM_DURATION	NUMBER	Sum of duration(msc) of the OSt in shift	
START_TS	TIMESTAMP(6)	Minimal start time (UTC) of the OSt in shift	
END_TS	TIMESTAMP(6)	Maximal end time (UTC) of the OSt in shift	
CHANGE_TS	TIMESTAMP(6)	Minimal change time (UTC) of the OSt in shift	
CNT_OCCURRENCE	NUMBER	Number of occurrences of the OSt in shift	

12.2.5.3 OPERATION_QUANTITY_ARC_SUM

Archive table for quantity compressed by shift, operation, workplace, operating state and quantity reason

Column	Data type	Description	Dissolution of foreign keys
ID	NUMBER	Technical primary key	
OPERATION_ID	NUMBER	Operation ID	Join via FR_MD_OPERATION
WORKPLACE_ID	NUMBER	Workplace ID	Join via FR_MD_WORKPLACE
OPERATION_STATUS_ID	NUMBER	Operation status ID	Join via FR_MD_OPERATION_STATUS_DEF.ID
OPERATION_PHASE_ID	NUMBER	Operation phase ID	Join via FR_MD_OPERATION_PHASE_DEF.ID
MALFUNC-TION_REASON_VECTOR_ID	NUMBER	ID of the malfunction reason vector	Join via FR_MD_MALFUNCTION_REASON_VECTOR.ID
SHIFT_ID	NUMBER	ID of the related shift	Join via FR_MD_SHIFT.ID
QUANTITY_TYPE_ID	NUMBER	ID of the quantity-type	Join via FR_MD_OPERATION_QUANTITY_TYPE.ID
QUANTITY_TYPE_REASON_ID	NUMBER	ID of the quantity reason	Join via FR_MD_OPERATION_QUANTITY_TYPE.ID
SUM_AMOUNT	FLOAT	Sum of the quantity per OSt	
START_TS	TIMESTAMP(6)	Minimal start time (UTC) of the OSt in shift	
CHANGE_TS	TIMESTAMP(6)	Minimal change time (UTC) of the OSt in shift	

12.2.5.4 OPERATION_QUANTITY_SUM

Materialized View of quantity compressed by shift, operation, workplace, operating state and quantity reason

Column	Data type	Description	Dissolution of foreign keys
ID	NUMBER	Technical primary key	
OPERATION_ID	NUMBER	Operation ID	Join via FR_MD_OPERATION
WORKPLACE_ID	NUMBER	Workplace ID	Join via FR_MD_WORKPLACE
OPERATION_STATUS_ID	NUMBER	Operation status ID	Join via FR_MD_OPERATION_STATUS_DEF.ID
OPERATION_PHASE_ID	NUMBER	Operation phase ID	Join via FR_MD_OPERATION_PHASE_DEF.ID
MALFUNC-TION_REASON_VECTOR_ID	NUMBER	ID of the malfunction reason vector	Join via FR_MD_MALFUNCTION_REASON_VECTOR.ID
SHIFT_ID	NUMBER	ID of the related shift	Join via FR_MD_SHIFT.ID
QUANTITY_TYPE_ID	NUMBER	ID of the quantity type	Join via FR_MD_OPERATION_QUANTITY_TYPE.ID
QUANTITY_TYPE_REASON_ID	NUMBER	ID of the quantity reason	Join via FR_MD_OPERATION_QUANTITY_TYPE.ID

Past 2

Column	Data type	Description	Dissolution of foreign keys
			E.ID
SUM_AMOUNT	FLOAT	Sum of quantity per OST	
START_TS	TIMESTAMP(6)	Minimal start time (UTC) of the OST in shift	
CHANGE_TS	TIMESTAMP(6)	Minimal change time (UTC) of the OST in shift	

12.2.5.5 OPERATION_STROKE_ARC_SUM

Archive table for strokes compressed by shift, workplace, operating state and quantity reason

Column	Data type	Description	Dissolution of foreign keys
ID	NUMBER	Technical primary key	
OPERATION_ID	NUMBER	Operation ID	Join via FR_MD_OPERATION
WORKPLACE_ID	NUMBER	Workplace ID	Join via FR_MD_WORKPLACE
OPERATION_STATUS_ID	NUMBER	Operation status ID	Join via FR_MD_OPERATION_STATUS_DEF.ID
OPERATION_PHASE_ID	NUMBER	Operation phase ID	Join via FR_MD_OPERATION_PHASE_DEF.ID
MALFUNC-TION_REASON_VECTOR_ID	NUMBER	ID of the malfunction reason vector	Join via FR_MD_MALFUNCTION_REASON_VEC.ID
SHIFT_ID	NUMBER	ID of the related shift	Join via FR_MD_SHIFT.ID
NUMBER_OF_STROKES	NUMBER	Sum of the strokes per OST	
START_TS	TIMESTAMP(6)	Minimal start time (UTC) of the OST in shift	
CHANGE_TS	TIMESTAMP(6)	Minimal change time (UTC) of the OST in shift	

12.2.5.6 OPERATION_STROKE_SUM

Materialized view of strokes compressed by shift, workplace, operating state and quantity reason

Column	Data type	Description	Dissolution of foreign keys
ID	NUMBER	Technical primary key	
OPERATION_ID	NUMBER	Operation ID	Join via FR_MD_OPERATION
WORKPLACE_ID	NUMBER	Workplace ID	Join via FR_MD_WORKPLACE
OPERATION_STATUS_ID	NUMBER	Operation status ID	Join via FR_MD_OPERATION_STATUS_DEF.ID
OPERATION_PHASE_ID	NUMBER	Operation phase ID	Join via FR_MD_OPERATION_PHASE_DEF.ID
MALFUNC-TION_REASON_VECTOR_ID	NUMBER	ID of the malfunction reason vector	Join via FR_MD_MALFUNCTION_REASON_VEC.ID
SHIFT_ID	NUMBER	ID of the related shift	Join via FR_MD_SHIFT.ID
NUMBER_OF_STROKES	NUMBER	Sum of strokes per OST	
START_TS	TIMESTAMP(6)	Minimal start time (UTC) of the OST in shift	

Past 2

Column	Data type	Description	Dissolution of foreign keys
CHANGE_TS	TIMESTAMP(6)	Minimal change time (UTC) of the OSt in shift	

12.2.5.7 OPERATION_TS_ARC_STARTEND

Archive table for start end time stamp per operation.

Column	Data type	Description	Dissolution of foreign keys
ID	NUMBER	Technical primary key	
OPERATION_ID	NUMBER	Operation ID	Join via FR_MD_OPERATION
SETUP_START_TS	TIMESTAMP(6)	Minimal start time (UTC) of setup	
SETUP_END_TS	TIMESTAMP(6)	Maximal end time (UTC) of setup	
PRODUCTION_START_TS	TIMESTAMP(6)	Maximal start time (UTC) of production	
PRODUCTION_END_TS	TIMESTAMP(6)	Maximal end time (UTC) of production	
TRAINING_START_TS	TIMESTAMP(6)	Maximal start time (UTC) of training	
TRAINING_END_TS	TIMESTAMP(6)	Maximal end time (UTC) of training	
TOTAL_START_TS	TIMESTAMP(6)	Maximal start time (UTC) overall	
TOTAL_END_TS	TIMESTAMP(6)	Maximal end time (UTC) overall	
CHANGE_TS	TIMESTAMP(6)	Change time stamp(UTC)	

12.2.5.8 OPERATION_TS_STARTEND

Materialized view of start end time stamp per operation

Column	Data type	Description	Dissolution of foreign keys
ID	NUMBER	Technical primary key	
OPERATION_ID	NUMBER	Operation ID	Join via FR_MD_OPERATION
SETUP_START_TS	TIMESTAMP(6)	Minimal start time (UTC) of setup	
SETUP_END_TS	TIMESTAMP(6)	Maximal end time (UTC) of setup	
PRODUCTION_START_TS	TIMESTAMP(6)	Maximal start time (UTC) of production	
PRODUCTION_END_TS	TIMESTAMP(6)	Maximal end time (UTC) of production	
TRAINING_START_TS	TIMESTAMP(6)	Maximal start time (UTC) of training	
TRAINING_END_TS	TIMESTAMP(6)	Maximal end time (UTC) of training	
TOTAL_START_TS	TIMESTAMP(6)	Maximal start time (UTC) overall	
TOTAL_END_TS	TIMESTAMP(6)	Maximal end time (UTC) overall	
CHANGE_TS	TIMESTAMP(6)	Change time stamp(UTC)	

12.2.5.9 PERS_OPERATION_BASE_ARC_SUM

Archive table for operating state duration and frequency compressed by shift, person, operation, workplace, operating state

Column	Data type	Description	Dissolution of foreign keys
ID	NUMBER	Technical primary key	
PERSON_ID	NUMBER	Person ID	Join via FR_MD_PERSON
OPERATION_ID	NUMBER	Operation ID	Join via FR_MD_OPERATION
WORKPLACE_ID	NUMBER	Workplace ID	Join via FR_MD_WORKPLACE
OPERATION_STATUS_ID	NUMBER	Operation status ID	Join via FR_MD_OPERATION_STATUS_DEF.ID
OPERATION_PHASE_ID	NUMBER	Operation phase ID	Join via FR_MD_OPERATION_PHASE_DEF.ID
MALFUNC-TION_REASON_VECTOR_ID	NUMBER	ID of the malfunction reason vector	Join via FR_MD_MALFUNCTION_REASON_VEC.ID
PERSON_STATUS_ID	NUMBER	ID of the personnel-status	Join via FR_MD_PERSON_STATUS_DEF.ID
SHIFT_ID	NUMBER	ID of the related shift	Join via FR_MD_SHIFT.ID
FROM_LAST_SHIFT	NUMBER	Flag: 1 = workplace-status adopted from last shift; 0 otherwise	
SUM_DURATION	NUMBER	Sum of duration (msec) of the OSt in shift	
START_TS	TIMESTAMP(6)	Minimal start time (UTC) of the OSt in shift	
END_TS	TIMESTAMP(6)	Maximal end time (UTC) of the OSt in shift	
CNT_OCCURRENCE	NUMBER	Number of occurrences of the OSt in shift	
CHANGE_TS	TIMESTAMP(6)	Change time stamp(UTC)	

12.2.5.10 PERS_OPERATION_BASE_SUM

Materialized View of operating state duration and frequency compressed by shift, person, operation, workplace, operating state

Column	Data type	Description	Dissolution of foreign keys
ID	NUMBER	Technical primary key	
PERSON_ID	NUMBER	Person ID	Join via FR_MD_PERSON
OPERATION_ID	NUMBER	Operation ID	Join via FR_MD_OPERATION
WORKPLACE_ID	NUMBER	Workplace ID	Join via FR_MD_WORKPLACE
OPERATION_STATUS_ID	NUMBER	Operation status ID	Join via FR_MD_OPERATION_STATUS_DEF.ID
OPERATION_PHASE_ID	NUMBER	Operation phase ID	Join via FR_MD_OPERATION_PHASE_DEF.ID
MALFUNC-TION_REASON_VECTOR_ID	NUMBER	ID of the malfunction reason vector	Join via FR_MD_MALFUNCTION_REASON_VEC.ID

Past 2

Column	Data type	Description	Dissolution of foreign keys
PERSON_STATUS_ID	NUMBER	ID of the personnel status	Join via FR_MD_PERSON_STATUS_DEF.ID
SHIFT_ID	NUMBER	ID of the related shift	Join via FR_MD_SHIFT.ID
FROM_LAST_SHIFT	NUMBER	Flag: 1 = workplace status adopted from last shift; 0 otherwise	
SUM_DURATION	NUMBER	Sum of the duration (msec) of the OSt in shift	
START_TS	TIMESTAMP(6)	Minimal start time (UTC) of the OSt in shift	
END_TS	TIMESTAMP(6)	Maximal end time (UTC) of the OSt in shift	
CNT_OCCURRENCE	NUMBER	Number of occurrences of the OSt in shift	
PERCENT_WEIGHTING	FLOAT	Distribution factor (if person is logged in on more than one operation)	
CHANGE_TS	TIMESTAMP(6)	Change time stamp(UTC)	

12.2.5.11 PERS_WORKPLACE_BASE_ARC_SUM

Archive table for operating state duration and frequency compressed by shift, person, workplace, operating state

Column	Data type	Description	Dissolution of foreign keys
ID	NUMBER	Technical primary key	
PERSON_ID	NUMBER	Person ID	Join via FR_MD_PERSON
WORKPLACE_ID	NUMBER	Workplace ID	Join via FR_MD_WORKPLACE
WORKPLACE_STATUS_ID	NUMBER	ID of the workplace status	Join via FR_MD_WORKPLACE_STATUS_DEF.ID
WORKPLACE_PHASE_ID	NUMBER	ID of the workplace phase	Join via FR_MD_WORKPLACE_PHASE_DEF.ID
MALFUNC-TION_REASON_VECTOR_ID	NUMBER	ID of the malfunction reason vector	Join via FR_MD_MALFUNCTION_REASON_VEC.ID
PERSON_STATUS_ID	NUMBER	ID of the personnel status	Join via FR_MD_PERSON_STATUS_DEF.ID
SHIFT_ID	NUMBER	ID of the related shift	Join via FR_MD_SHIFT.ID
FROM_LAST_SHIFT	NUMBER	Flag: 1 = workplace-status adopted from last shift; 0 otherwise	
SUM_DURATION	NUMBER	Sum of the duration (msec) of the OSt in shift	
START_TS	TIMESTAMP(6)	Minimal start time (UTC) of the OSt in shift	
END_TS	TIMESTAMP(6)	Maximal end time (UTC) of the OSt in shift	
CNT_OCCURRENCE	NUMBER	Number of occurrences of the OSt in shift	

Past 2

Column	Data type	Description	Dissolution of foreign keys
CHANGE_TS	TIMESTAM P(6)	Minimal change time (UTC) of the OSt in shift	

12.2.5.12 PERS_WORKPLACE_BASE_SUM

Materialized view of operating state duration and frequency compressed by shift, person, workplace, operating state

Column	Data type	Description	Dissolution of foreign keys
ID	NUMBER	Technical primary key	
PERSON_ID	NUMBER	Person ID	Join via FR_MD_PERSON
WORKPLACE_ID	NUMBER	Workplace ID	Join via FR_MD_WORKPLACE
WORKPLACE_STATUS_ID	NUMBER	ID of the workplace status	Join via FR_MD_WORKPLACE_STATUS_DEF.ID
WORKPLACE_PHASE_ID	NUMBER	ID of the workplace phase	Join via FR_MD_WORKPLACE_PHASE_DEF.ID
MALFUNC-TION_REASON_VECTOR_ID	NUMBER	ID of the malfunction reason vector	Join via FR_MD_MALFUNCTION_REASON_VEC.ID
PERSON_STATUS_ID	NUMBER	ID of the personnel status	Join via FR_MD_PERSON_STATUS_DEF.ID
SHIFT_ID	NUMBER	ID of the related shift	Join via FR_MD_SHIFT.ID
FROM_LAST_SHIFT	NUMBER	Flag: 1 = workplace-status adopted from last shift; 0 otherwise	
SUM_DURATION	NUMBER	Sum of the duration (msec) of the OSt in shift	
START_TS	TIMESTAMP(6)	Minimal start time (UTC) of the OSt in shift	
END_TS	TIMESTAMP(6)	Maximal end time (UTC) of the OSt in shift	
CNT_OCCURRENCE	NUMBER	Number of occurrences of the OSt in shift	
CHANGE_TS	TIMESTAMP(6)	Minimal change time (UTC) of the OSt in shift	

12.2.5.13 WORKPLACE_BASE_ARC_SUM

Archive table for operating state duration and frequency compressed by shift, workplace, operating state

Column	Data type	Description	Dissolution of foreign keys
ID	NUMBER	Technical primary key	
WORKPLACE_ID	NUMBER	Workplace ID	Join via FR_MD_WORKPLACE
WORKPLACE_STATUS_ID	NUMBER	ID of the workplace status	Join via FR_MD_WORKPLACE_STATUS_DEF.ID
WORKPLACE_PHASE_ID	NUMBER	ID of the workplace phase	Join via FR_MD_WORKPLACE_PHASE_DEF.ID
MALFUNC-TION_REASON_VECTOR_ID	NUMBER	ID of the malfunction reason vector	Join via FR_MD_MALFUNCTION_REASON_VEC.ID
SHIFT_ID	NUMBER	ID of the related shift	Join via FR_MD_SHIFT.ID
FROM_LAST_SHIFT	NUMBER	Flag: 1 = workplace-status adopted from last shift; 0 otherwise	
SUM_DURATION	NUMBER	Sum of the duration (msec) of the OSt in shift	
START_TS	TIMESTAMP(6)	Minimal start time (UTC) of the OSt in shift	
END_TS	TIMESTAMP(6)	Maximal end time (UTC) of the OSt in shift	
CHANGE_TS	TIMESTAMP(6)	Minimal change time (UTC) of the OSt in shift	
CNT_OCCURRENCE	NUMBER	Number of occurrences of the OSt in shift	

12.2.5.14 WORKPLACE_BASE_SUM

Materialized view of operating state duration and frequency compressed by shift, workplace and operating state

Column	Data type	Description	Dissolution of foreign keys
ID	NUMBER	Technical primary key	
WORKPLACE_ID	NUMBER	Workplace ID	Join via FR_MD_WORKPLACE
WORKPLACE_STATUS_ID	NUMBER	ID of the workplace status	Join via FR_MD_WORKPLACE_STATUS_DEF.ID
WORKPLACE_PHASE_ID	NUMBER	ID of the workplace phase	Join via FR_MD_WORKPLACE_PHASE_DEF.ID
MALFUNC-TION_REASON_VECTOR_ID	NUMBER	ID of the malfunction reason vector	Join via FR_MD_MALFUNCTION_REASON_VEC.ID
SHIFT_ID	NUMBER	ID of the related shift	Join via FR_MD_SHIFT.ID
FROM_LAST_SHIFT	NUMBER	Flag: 1 = workplace-status adopted from last shift; 0	

Past 2

Column	Data type	Description	Dissolution of foreign keys
		otherwise	
SUM_DURATION	NUMBER	Sum of the duration (msec) of the OSt in shift	
START_TS	TIMESTAMP(6)	Minimal start time (UTC) of the OSt in shift	
END_TS	TIMESTAMP(6)	Maximal end time (UTC) of the OSt in shift	
CHANGE_TS	TIMESTAMP(6)	Minimal change time (UTC) of the OSt in shift	
CNT_OCCURRENCE	NUMBER	Number of occurrences of the OSt in shift	

12.2.5.15 WORKPLACE_QUANTITY_ARC_SUM

Archive table for quantity compressed by shift, workplace, operating state and quantity reason

Column	Data type	Description	Dissolution of foreign keys
ID	NUMBER	Technical primary key	
WORKPLACE_ID	NUMBER	Workplace ID	Join via FR_MD_WORKPLACE
WORKPLACE_STATUS_ID	NUMBER	ID of the workplace status	Join via FR_MD_WORKPLACE_STATUS_DEF.ID
WORKPLACE_PHASE_ID	NUMBER	ID of the workplace phase	Join via FR_MD_WORKPLACE_PHASE_DEF.ID
MALFUNC-TION_REASON_VECTOR_ID	NUMBER	ID of the malfunction reason vector	Join via FR_MD_MALFUNCTION_REASON_VECTOR.ID
SHIFT_ID	NUMBER	ID of the related shift	Join via FR_MD_SHIFT.ID
QUANTITY_TYPE_ID	NUMBER	ID of the quantity type	Join via FR_MD_OPERATION_QUANTITY_TYPE.ID
QUANTI-TY_TYPE_REASON_ID	NUMBER	ID of the quantity reason	Join via FR_MD_OPERATION_QUANTITY_TYPE.ID
SUM_AMOUNT	FLOAT	Sum of the quantity per OSt	
START_TS	TIMESTAM P(6)	Minimal start time (UTC) of the OSt in shift	
CHANGE_TS	TIMESTAM P(6)	Minimal change time (UTC) of the OSt in shift	

12.2.5.16 WORKPLACE_QUANTITY_SUM

Materialized view of quantity compressed by shift, workplace, operating state und quantity reason

Column	Data type	Description	Dissolution of foreign keys
ID	NUMBER	Technical primary key	
WORKPLACE_ID	NUMBER	Workplace ID	Join via FR_MD_WORKPLACE
WORKPLACE_STATUS_ID	NUMBER	ID of the workplace status	Join via FR_MD_WORKPLACE_STATUS_DEF.ID
WORKPLACE_PHASE_ID	NUMBER	ID of the workplace phase	Join via FR_MD_WORKPLACE_PHASE_DEF.ID
MALFUNC-TION_REASON_VECTOR_ID	NUMBER	ID of the malfunction reason vector	Join via FR_MD_MALFUNCTION_REASON_VEC.ID
SHIFT_ID	NUMBER	ID of the related shift	Join via FR_MD_SHIFT.ID
QUANTITY_TYPE_ID	NUMBER	ID of the quantity type	Join via FR_MD_OPERATION_QUANTITY_TYPE.ID
QUANTI-TY_TYPE_REASON_ID	NUMBER	ID of the quantity reason	Join via FR_MD_OPERATION_QUANTITY_TYPE.ID
SUM_AMOUNT	FLOAT	Sum of the quantity per OST	
START_TS	TIMESTAMP(6)	Minimal start time (UTC) of the OST in shift	
CHANGE_TS	TIMESTAMP(6)	Minimal change time (UTC) of the OST in shift	

12.2.5.17 WORKPLACE_STROKE_ARC_SUM

Archive table for strokes compressed by shift, workplace, operating state and quantity reason

Column	Data type	Description	Dissolution of foreign keys
ID	NUMBER	Technical primary key	
WORKPLACE_ID	NUMBER	Workplace ID	Join via FR_MD_WORKPLACE
WORKPLACE_STATUS_ID	NUMBER	ID of the workplace status	Join via FR_MD_WORKPLACE_STATUS_DEF.ID
WORKPLACE_PHASE_ID	NUMBER	ID of the workplace phase	Join via FR_MD_WORKPLACE_PHASE_DEF.ID
MALFUNC-TION_REASON_VECTOR_ID	NUMBER	ID of the malfunction reason vector	Join via FR_MD_MALFUNCTION_REASON_VEC.ID
SHIFT_ID	NUMBER	ID of the related shift	Join via FR_MD_SHIFT.ID
NUMBER_OF_STROKES	NUMBER	Sum of strokes per OST	
START_TS	TIMESTAMP(6)	Minimal start time (UTC) of the OST in shift	
CHANGE_TS	TIMESTAMP(6)	Minimal change time (UTC) of the OST in shift	

12.2.5.18 WORKPLACE_STROKE_SUM

Materialized view of strokes compressed by shift, workplace, operating state and quantity reason

Column	Data type	Description	Dissolution of foreign keys
ID	NUMBER	Technical primary key	
WORKPLACE_ID	NUMBER	Workplace ID	Join via FR_MD_WORKPLACE
WORKPLACE_STATUS_ID	NUMBER	ID of the workplace status	Join via FR_MD_WORKPLACE_STATUS_DEF.ID
WORKPLACE_PHASE_ID	NUMBER	ID of the workplace phase	Join via FR_MD_WORKPLACE_PHASE_DEF.ID
MALFUNC-TION_REASON_VECTOR_ID	NUMBER	ID of the malfunction reason vector	Join via FR_MD_MALFUNCTION_REASON_VEC.ID
SHIFT_ID	NUMBER	ID of the related shift	Join via FR_MD_SHIFT.ID
NUMBER_OF_STROKES	NUMBER	Sum of strokes per OST	
START_TS	TIMESTAMP(6)	Minimal start time (UTC) of the OST in shift	
CHANGE_TS	TIMESTAMP(6)	Minimal change time (UTC) of the OST in shift	

13 SQL Examples and Tips

13.1 Filter Toward Time Base

```
...
(case (select count(*)
from v_operation_timebase TB
WHERE
TB.TIME_BASE_MNEMONIC = 'BNZ' AND
TB.PHASE_CODE = B.OPERATION_PHASE_CODE AND
TB.STATUS_CODE = B.OPERATION_STATUS_CODE and
(TB.MFR_CODE IS NULL OR MFR_CODE = M.REASON_CODE_1)) when 0 then null else
B.SUM_DURATION/1000 end) as BNZ_ZEIT, ...
```

see also [V_MD_MALFUNCTION_REASON_VEC](#)

13.2 Filter Quantity Type

```
...
sum(case when x.quantity_type_id = (select id from qqr-
pwo.fr_md_operation_quantity_type where code = 1) and x.sum_amount is not null
then x.sum_amount else 0 end) as yield_qty,
sum(case when x.quantity_type_id = (select id from qqr-
pwo.fr_md_operation_quantity_type where code = 2) and x.sum_amount is not null
then x.sum_amount else 0 end) as scrap_qty,
sum(x.sum_amount/(case when y.default_stroke_factor < 1 then 1 else
y.default_stroke_factor end)) as hub,
...
...
```

13.3 Filtering of Time and Complete Timeline

It is not advised to execute a later filtering by time with SQL reports:

```
OPERATION_VIEW
OPERATION_BASE_UNION_VIEW
    FR_MD_SHIFT (Zeitfilter)
OPERATION_QUANTITY_UNION_VIEW
    FR_MD_SHIFT (Zeitfilter)
```

SQL Examples and Tips

Instead, an earlier filtering should be executed to achieve a complete timeline:

```
FR_MD_SHIFT (Zeitfilter)
OPERATION_VIEW
OPERATION_BASE_UNION_VIEW
OPERATION_QUANTITY_UNION_VIEW
```

14 Default Reports

Report	Report type	Used reports	Drilldown	Data source	Views & tables	Description
Runtime course	Timeline dia-gram		Runtime protocol	Runtime course (workplace)	V_TL_WORKPLACE V_MD_MALFUNCTION_REASON_VEC FR_MD_WORKPLACE FO_TA_TICKET	Shows the temporal continuous course of operating states of the selected workplaces over the selected time span as Gantt chart.
Runtime proto-col (workplace)	Multireport • Table • Table	Runtime protocol sum Runtime protocol		Runtime protocol sum (workplace) Runtime protocol (workplace)	V_TL_WORKPLACE V_MD_MALFUNCTION_REASON_VEC FR_MD_WORKPLACE FO_TA_TICKET	Shows the time-discrete course and the sum of the der operating state intervals for the selected workplace over the selected time span in tabular form.
Runtime proto-col + machine malfunction code	Table			Runtime protocol + machine mal-function code	V_TL_WORKPLACE V_MD_MALFUNCTION_REASON_VEC FR_MD_WORKPLACE FO_TA_TICKET	Shows the time-discrete course and the sum of the der operating state intervals with 2nd status reason (malfunction code) for the selected workplace over the selected time span in tabular form. It is intended for workplaces with malfunction code mapping.
Quantity status diagram (work-place)	Platform chart			Platform chart (workplace)	FR_DS_WORKPLACE_QUANTITY_LE FR_DS_WORKPLACE_BASE_TL FR_DS_OPERATION_CS FR_MD_OPERATION_PHASE_DEF V_MD_MALFUNCTION_REASON_VEC1 V_MD_WORKPLACE_STATUS FR_MD_OPERATION FR_MD_MATERIAL_TEB	Shows the quantity course (integral) of a workplace over the selected time span. The actual quantity, shaped as envelope, is displayed as integral value (temporal summing of the reported quantities). To achieve a visually appealing envelope, quantity supporting points are interpolated between the individual quantity reports (Platform chart diagram display)

Default Reports

Report	Report type	Used reports	Drilldown	Data source	Views & tables	Description
						<p>types and basics of the time per unit calculation). The time base for the interpolation is directly defined in the data source for the phase = production.</p> <p>The areas under the envelope are color-coded according to the operating state. A target curve, derived from the time per unit, is shown in addition. The time base of the target curve can be chosen via a filter.</p>
Shift book	Table with iterator (shifts)	Shift quantities Shift operating state sum Shift operation (online)		Shift quantities (online) Shift operating state (online) Shift operation (online)	V_TL_WORKPLACE_QUANTITY V_TL_WORKPLACE V_TL_OPERATION V_TL_OPERATION_QUANTITY V_TL_OPERATION_STROKE V_MD_WORKPLACE V_MD_OPERATION	<p>The shift book is an iterative report. For the selected workplace are shown per shift</p> <ul style="list-style-type: none"> • reported quantity differentiated by quantity type as well as their sum • the overall duration of the individual operating states • parameters like quantity, duration and times per unit per operation.
Operating status report (workplace)	Multi report • bar chart • pivot table	Operating status report diagram (%) + Operating status report (workplace)	Runtime course Runtime protocol (workplace)	Operating status report (workplace)	V_SC_WORKPLACE_BASE FR_MD_WORKPLACE	Shows the sum of the durations of operating states per selected workplace during the selected time span. The percentage distribution per workplace is shown in addition.
Operating status course (workplace)	Multi report • bar chart • pivot table	Operating status report diagram (%) + Operating status report (workplace)	Runtime course	Operating status report (workplace)	V_SC_WORKPLACE_BASE	Shows the sum of the durations of operating states of all selected workplaces per time unit over the selected time span. The percent-

Default Reports

Report	Report type	Used reports	Drilldown	Data source	Views & tables	Description
						age distribution per time unit is shown in addition. The displayed time unit is defined by the selected tab title of the time filter.
Quantity report (workplace)	Pivot table			Quantity report (workplace)	V_SC_WORKPLACE_QUANTITY V_FR_MD_WORKPLACE	Shows the sum of the quantities of quantity reasons per selected workplace over the selected time span. The percentage distribution per workplace is shown in addition.
Quantity course (workplace)	Pivot table			Quantity course (workplace)	V_SC_WORKPLACE_QUANTITY	Shows the sum of the quantity of the quantity reasons of all selected workplaces per time unit over the selected time span. The percentage distribution per time unit is shown in addition. The displayed time unit is defined by the selected tab title of the time filter.
OEE report (workplace)	Bar chart			OEE report (workplace)	V_SC_WORKPLACE_OEE V_MD_WORKPLACE	Shows the OEE parameters <ul style="list-style-type: none"> • availability • efficiency level • quality • OEE as percentage bar per workplace over the selected time span.
OEE course (workplaces)	Bar chart			OEE course (workplace)	V_SC_WORKPLACE_OEE	Shows the OEE parameters <ul style="list-style-type: none"> • availability • efficiency level • quality • OEE as percentage bar for all workplaces per time unit over the se-

Default Reports

Report	Report type	Used reports	Drilldown	Data source	Views & tables	Description
						lected time span.
Hit list operating state (workplace)	Table			Hit list operating state (workplace)	V_SC_WORKPLACE_BASE V_MD_WORKPLACE	<p>Shows the</p> <ul style="list-style-type: none"> • Sum of the duration • percentage distribution of the duration • number of frequency • percentage distribution of the frequency <p>per workplace over the selected time span.</p>
Cost center overview	Table with iterator (workplace)	Kostenstellenübersicht (APL)		Cost center overview	V_SC_OPERATION_QUANTITY_SUM	<p>The parameters</p> <ul style="list-style-type: none"> • yield • scrap quantity • rework quantity • overall quantity • actual machine time • target machine time • actual personnel time • target personnel time • production time • downtime times • break time <p>are shown per workplace over the selected time span.</p>
Operation overview	Table			Operation overview	V_SC_OPERATION_QUANTITY_SUM V_SC_PERS_OPERATION_BASE	Parameters of all operations that are logged-in on the selected workplaces and that overlap the selected time span are displayed.
Personnel activities	Table			Personnel activities	V_TL_PERS_OPERATION_BASE FR_MD_PERSON FR_MD_OPERATION	<p>The individual operational activities</p> <ul style="list-style-type: none"> • start and end time stamp

Default Reports

Report	Report type	Used reports	Drilldown	Data source	Views & tables	Description
					FR_MD_WORKPLACE V_MD_SHIFT	<ul style="list-style-type: none"> • and distributed (weighted) duration per person are displayed for the selected workplaces over the selected time span.
Personnel workplace protocol	Table			Personnel workplace protocol	V_TL_PERS_OPERATION_BASE FR_MD_PERSON FR_MD_OPERATION FR_MD_WORKPLACE	<p>Shows the time-discrete course for the selected workplace over the selected time span in tabular form.</p> <ul style="list-style-type: none"> • person • operation • start and end time stamp • distributed (weighted) duration.
Customer report						
Cycle time analysis	Table			Cycle time analysis	V_SC_OPERATION_QUANTITY_SUM FR_MD_OPERATION V_MD_OPERATION V_MD_WORKPLACE V_MD_TIMEBASE_ENTRY FR_MD_TIMEBASE	<p>The parameter</p> <ul style="list-style-type: none"> • yield • target time per unit • cycle time with regard to the pure production time • cycle time with regard to the overall runtime <p>are shown for all operations on the selected workplaces and the specified time span.</p>
Machine reports	Table			Workplace reports	FR_EVT_MACHINE_STATUS FR_EVT_MACHINE_STROKE FR_EVT_OPERATION_PHASE FR_EVT_OPERATION_QTY FR_EVT_PERS_OPERATION_STATUS FR_EVT_PERS_WPL_STATUS FR_EVT_SHIFT_STATUS	Shows the captured events of a workplace in chronological order.

Default Reports

Report	Report type	Used reports	Drilldown	Data source	Views & tables	Description
					FR_MD_MACHINE V_MD_MACHINE_STATUS V_MD_MALFUNCTION_REASON_VEC V_MD_OPERATION_PHASE V_MD_QUANTITY_REASON V_MD_PERSON_STATUS FR_MD_PERSON V_MD_SHIFT V_MD_SHIFT_STATUS	
Personnel auto. log-off				Personnel auto. log-off	FR_EVT_PERS_OPERATION_STATUS FR_MD_PERSON FR_MD_WORKPLACE FR_MD_OPERATION FR_MD_PERSON_STATUS_DEF	Shows the automatic (time controlled) personnel log-offs.

History of Changes

15 History of Changes

List of all changes between versions 5.8.1 and 5.9

Chapter	Table	Change	Date
11.2.4	FR_DS_OPERATION_CS	Row added: UN-BOOKED_QTY_COUNT_SHIFT (FLOAT)	2019-06-13
11.2.14	FR_DS_OP_MACHINE_QUANTITY_LOG	Table added	2019-06-13
11.2.15	FR_DS_WP_MACHINE_QUANTITY_LOG	Table added	2019-06-13