



WHITE PAPER – TRIMIT

BOTTLENECK BC13

This document contains information about the TRIMIT Bottleneck functionality in TRIMIT for Business Central BC13.

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INTRODUCTION

A TRIMIT Work Center can be defined as a **TRIMIT Bottleneck** with a limited capacity, which makes it possible to warn the salespeople that there is a problem in the production if they select a given Shipment Date on the Sales Line. It is important to emphasize that the Bottleneck does not prevent to sell the Item on a given date.

If a TRIMIT Work Center is not defined as a **TRIMIT Bottleneck** there will be unlimited capacity, and no warnings will be given if you overdraw the available capacity.

Generally, there are two methods for Bottleneck reservation/check:

Via Bill of Materials (BOM):

- Reservation via Sales Orders (Related Orders)
- Reservation via Production Orders (Inventory Orders)

The system looks for Bottlenecks in the BOM (Operations) and reserves the capacity at the generation of the Sales Line and Production Order, depending on the Replenishment Policy of the Master/Item.

Via Capacity Table:

- Fixed Reservation per Item

The system looks for Bottleneck in a table when the Item is attached to a Sales Line.

Up to 10 Bottlenecks and reservation quantities can be linked to a specific Master/Item.

This method is **ONLY** reserving Capacity when Items are attached to a Sales Line, and never via the Production Header.

The functionality described is the functionality in **TRIMIT for Business Central BC13**.

The pictures in this White Paper are based on the demo database for **TRIMIT Business Central W1 BC13** (based on Microsoft Dynamics 365 Business Central) in the demo company **CRONUS TRIMIT W1 Ltd.** (based on CRONUS International Ltd. of Microsoft Dynamics 365 Business Central).

COMPONENTS

TRIMIT Bottleneck contains the following objects:

The tables	<i>6036427 Call Bottleneck</i> <i>6036672 Bottleneck Setup</i>
The pages	<i>6036685 Bottleneck Reservations</i> <i>6036686 Bottleneck Reservations Matrix</i>
The codeunits	<i>6036940 Bottleneck Capacity Handling</i>

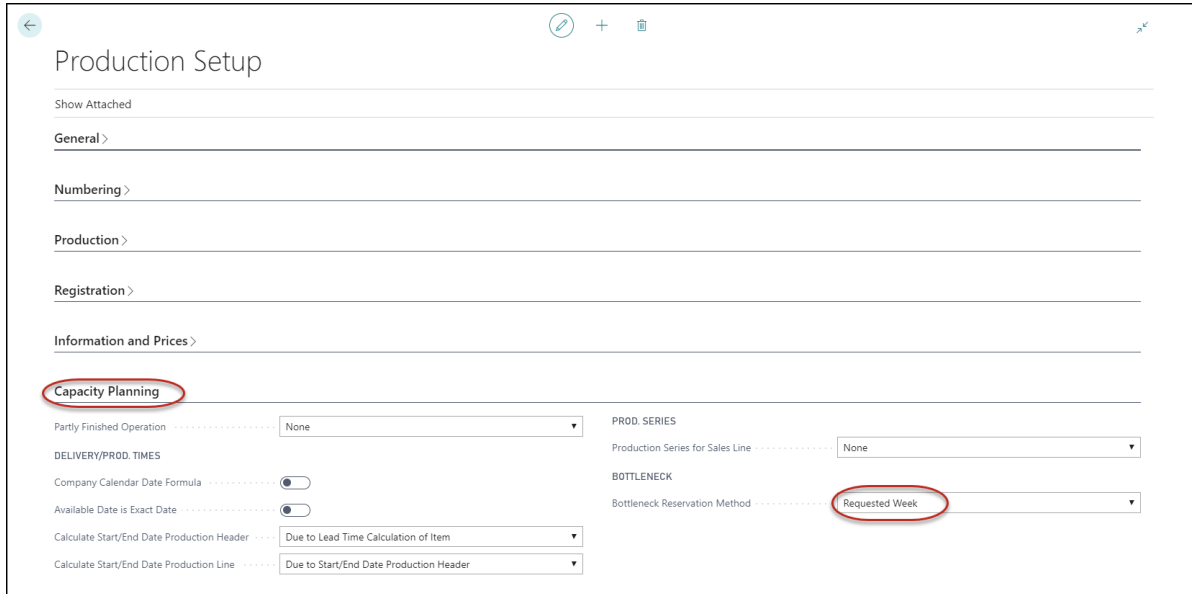
Many other objects are involved because of the use of e.g. Work Center but they will not be listed here.
The above-mentioned objects are however directly related to **TRIMIT Bottleneck**.

SETUPS

This section describes where to find the setup parameters for the Bottleneck Reservation. As general, the Bottleneck is setup on the individual Masters and in the TRIMIT Work Centers. Items without Master cannot reserve time in a Bottleneck Work Center.

PRODUCTION SETUP

The Production Setup is found via **Tell me Production Setup**.



Production Setup

Show Attached

General >

Numbering >

Production >

Registration >

Information and Prices >

Capacity Planning

Partly Finished Operation None

DELIVERY/PROD. TIMES

Company Calendar Date Formula ☐

Available Date is Exact Date ☐

Calculate Start/End Date Production Header Due to Lead Time Calculation of Item

Calculate Start/End Date Production Line Due to Start/End Date Production Header

PROD. SERIES

Production Series for Sales Line None

BOTTLENECK

Bottleneck Reservation Method Requested Week

BOTTLENECK RESERVATION METHOD

When you create or modify a Sales Header or a Production Order, you can make the program check the Capacity by use of the **TRIMIT Bottleneck Management**.

This parameter determines how the check will be carried out.

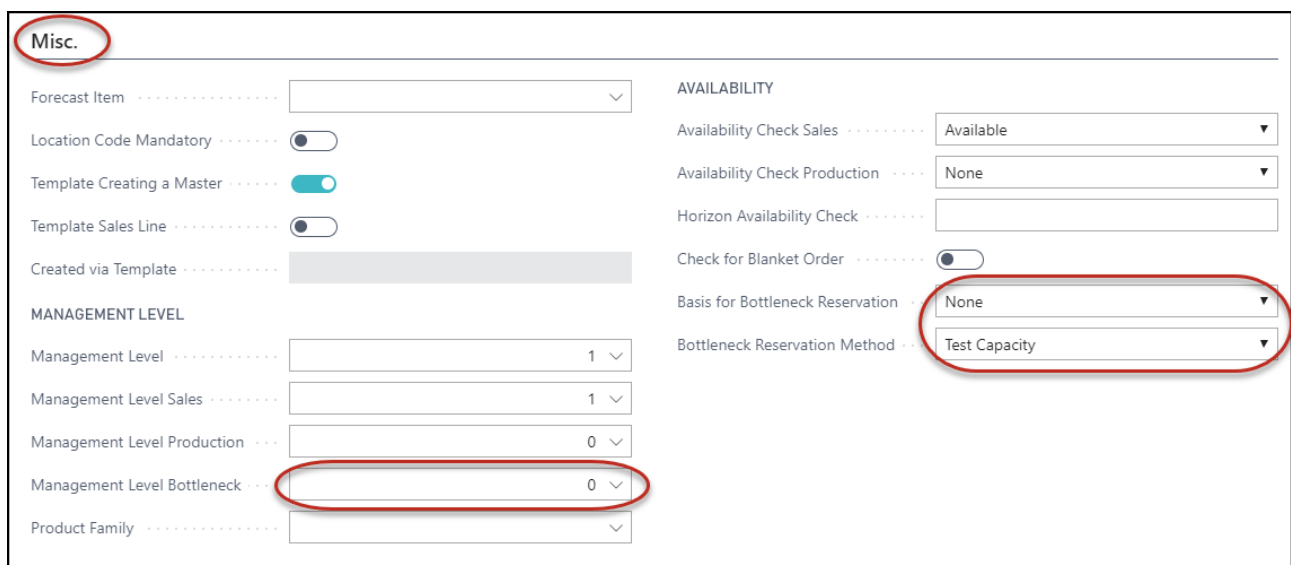
You can choose between the following six options:

Option	Description	Period	Dates Used	Calendar Creation
The Week before Requested Date	The program will search backwards from the Requested Date to find available Capacity in the week before the week including the Requested Date.	1 Week (7D)	Sales Line : Shipment Date Production Header : Available Date	Work Center Bottleneck Table on Dates
Requested Week	The program will search in the week of the Requested Date to find available Capacity.	1 Week (7D)	Sales Line : Shipment Date Production Header : Available Date	Work Center Bottleneck Table on Dates
Requested Date	The program will search for available Capacity at the Requested Date.	1 Day(1D)	Sales Line : Shipment Date Production Header : Available Date	Work Center Bottleneck Table on Dates
Production Series	You can attach capacity to a Production Series. In this situation, the program will search for available capacity attached to the relevant Production Series. With the parameter set to this value, you must assign a Production Series to the Sales Line or the Production Order.	Defined by Production Series	Assigned Production Series on Sales Line/Production Header	Work Center Bottleneck Table with Production Series assigned

Option	Description	Period	Dates Used	Calendar Creation
Production Series Dates	The program will search for available capacity in the period between Start Date and End Date of the Production Series. With the parameter set to this value, you must assign a Production Series to the Sales Line or the Production Order.	Defined by Production Series	Assigned Production Series on Sales Line/Production Header	Work Center Bottleneck Table on Dates
Calculated Date	Before checking for available capacity, the Start- and End Dates have to be calculated. <i>This Option is not valid, and cannot be used!</i>			

MASTER

The Master can be found via **Tell me Master**.



BASIS FOR BOTTLENECK RESERVATION

This field determines whether to reserve Capacity at one or more Bottlenecks and how to calculate the Capacity in connection with this.

You can choose between the following three options:

None	No capacity will be reserved at any of the Bottlenecks.
Bottleneck Capacity Table	Capacity will be calculated and reserved at the relevant Bottlenecks based on the Bottleneck Setup.
Bottlenecks in BOM	Capacity will be calculated and reserved at the relevant Bottlenecks based on the information in the BOM related to the item. Capacity will be reserved for every TRIMIT Work Center in the BOM where the field Bottleneck is set to Yes .

BOTTLENECK RESERVATION METHOD

This field is related to the TRIMIT Bottleneck Capacity Planning.

You can choose between the following two options:

Test Capacity	TRIMIT Bottleneck Capacity Planning will check whether the available capacity is adequate to deliver the requested quantity on the requested date. If not, the program will display a Warning.
Find Production Series	TRIMIT Bottleneck Capacity Planning will try to find a Production Series with enough capacity available to deliver the requested quantity on the requested date.

NOTE

The Method *Find Production series* can only be used on a **Master/Item** with the fields on the FastTab **Planning Replenishment Policy (TRIMIT) = Order** and

Create Related Order Instantly = Yes

It's also a demand that the **Production Setup** parameter on the FastTab **Capacity Planning**

Calculate Start/End Date Production Header = Due to Start/End Dates of Production Series

MANAGEMENT LEVEL BOTTLENECK

This field is only used in connection with the **Basis for Bottleneck Reservation** *Bottlenecks in BOM*.

The Level decides "Breakdown to Level". In this case, the Bottlenecks have to be found on the BOM Component Lines on Items that have **Management Level** higher than 4 (which means on the levels 1, 2 and 3).

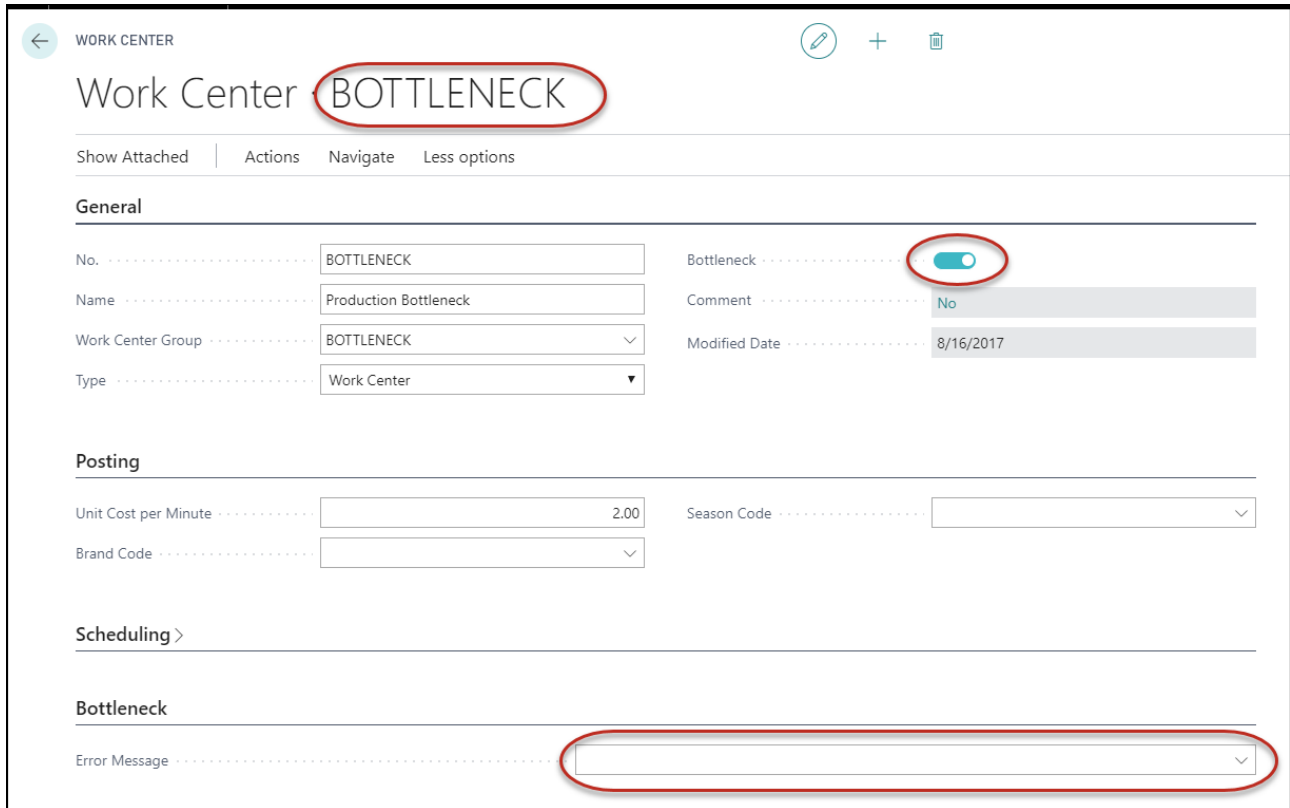
The higher the Level the quicker your Bottleneck Reservation is performed as the BOM generation is stopped when it meets the **Management Level Bottleneck**.

You can decide yourself how the Levels should be called, but the following is very common:

Group ...	Description
1	Finished Goods Level
2	Components Level 1
3	Components Level 2
4	Raw Materials Level

WORK CENTER

The TRIMIT Work Center is found via **Tell me Work Center List**.



The screenshot shows the 'Work Center' form for 'BOTTLENECK'. The form is divided into sections: General, Posting, and Scheduling. In the General section, the 'No.' field is 'BOTTLENECK', 'Name' is 'Production Bottleneck', 'Work Center Group' is 'BOTTLENECK', and 'Type' is 'Work Center'. The 'Bottleneck' toggle switch is turned on. The 'Comment' field is 'No' and the 'Modified Date' is '8/16/2017'. In the Posting section, 'Unit Cost per Minute' is '2.00' and 'Season Code' is empty. In the Scheduling section, the 'Error Message' field is empty. Red circles highlight the 'BOTTLENECK' title, the 'Bottleneck' toggle switch, and the 'Error Message' field.

BOTTLENECK

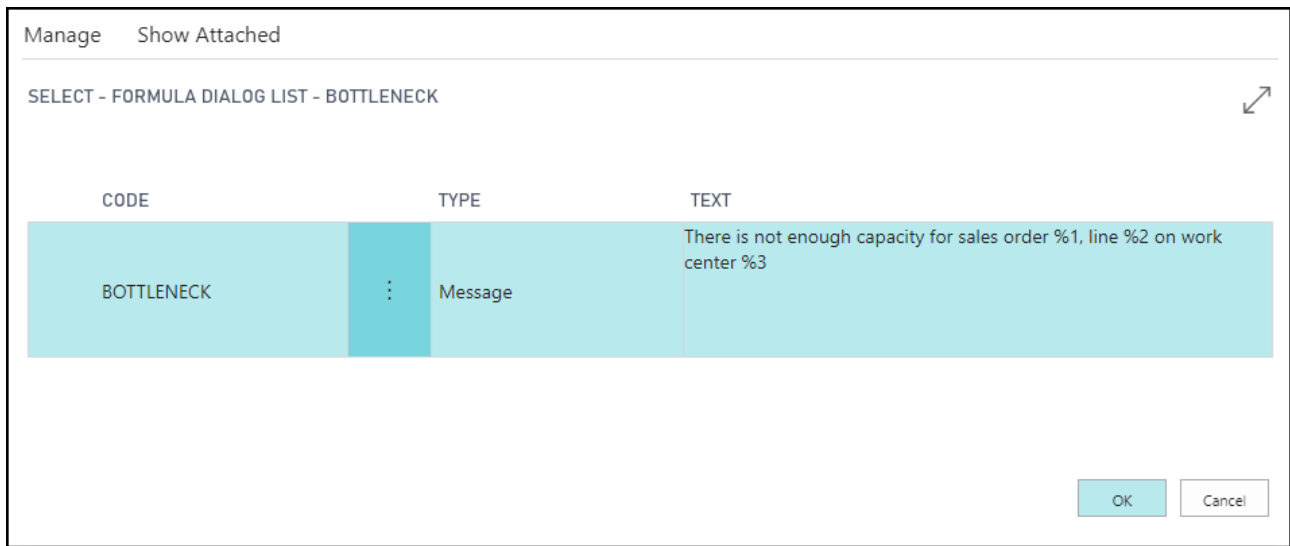
All operations that are connected to the Work Center are reserving capacity in the Bottlenecks if

Bottleneck = Yes.

ERROR MESSAGE

You can select a specific Dialog Message that should appear if there is shortage of capacity and you would not be able to fulfill the required Shipment Date.

You can setup the message you want to see yourself.



The screenshot shows the 'SELECT - FORMULA DIALOG LIST - BOTTLENECK' dialog box. It has a table with three columns: CODE, TYPE, and TEXT. The table contains one row with CODE 'BOTTLENECK', TYPE 'Message', and TEXT 'There is not enough capacity for sales order %1, line %2 on work center %3'. There are 'OK' and 'Cancel' buttons at the bottom right. Red circles highlight the 'BOTTLENECK' code and the 'Message' type.

CODE	TYPE	TEXT
BOTTLENECK	Message	There is not enough capacity for sales order %1, line %2 on work center %3

In the **Text** of the message you can use – based on the conditions under which the problem came up – up to five related variables:

- %1 Sales Order
- %2 Sales Line
- %3 Work Center
- %4 Available Capacity / VarDim Type / empty
- %5 Max. Quantity that can be delivered/ VarDim Value / empty

CALENDAR SETUP

No matter the chosen **Basis for Bottleneck Reservation** in the Master Card, a Calendar with capacity has to be connected to each Work Center that has been set as **Bottleneck**

To generate a Calendar for the Bottleneck with capacity it is necessary to setup the **Day Profile** that the Calendar should be based on, before creating the Calendar.

DAY PROFILES

The Day Profile can be created as a Global Work Center Profile or a Profile directly connected to a specific Work Center. Besides these two options, a Day Profile for differences can be created to handle deviations on specific Dates. These differences can also be set either Globally for all Work Centers or for a specific Work Center.

NOTE

Day Profiles can also be set for specific Employee Groups or Globally for Datacapture (this will be elaborated in the **White Paper – TRIMIT Datacapture** but in the context of **Bottlenecks** they need to be set per Work Center or Globally for all Work Centers.

STANDARD

Make it possible to set the standard capacity per weekday, and it can be **Global** or connected to a specific **Work Center**.

The search direction at calendar creation is Work Center -> Global.

The **Global** Day Profile for Work Centers can be set via **Tell me Global Day Profiles** if you select **Day Profile Filter Standard**: I.e.:

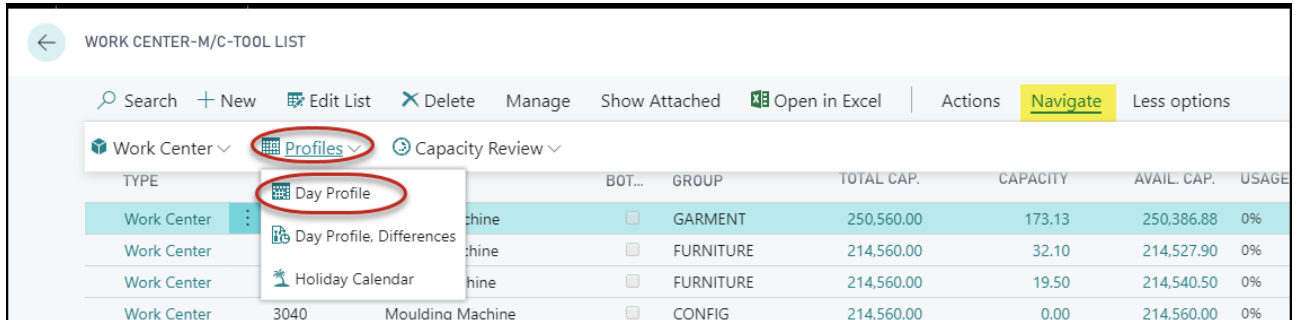
General

Day Profile Filter

Standard

WEEKDAY	START WORKING DAY	END WORKING DAY	HOURS TOTAL	CAPACITY TOTAL	START PAUSE 1	END PAUSE 1	START PAUSE 2	END PAUSE 2	START PAUSE 3	END PAUSE 3	START PAUSE 4	END PAUSE 4	START PAUSE 5	END PAUSE 5	EARLIEST ACCESS
Monday	8:00:00 AM	4:00:00 PM	7	420.00	10:00:00 AM	10:15:00 AM	12:00:00 PM	12:30:00 PM	2:45:00 PM	3:00:00 PM					7:00:00 AM
Tuesday	8:00:00 AM	4:00:00 PM	7	420.00	10:00:00 AM	10:15:00 AM	12:00:00 PM	12:30:00 PM	2:45:00 PM	3:00:00 PM					7:00:00 AM
Wednesday	8:00:00 AM	4:00:00 PM	7	420.00	10:00:00 AM	10:15:00 AM	12:00:00 PM	12:30:00 PM	2:45:00 PM	3:00:00 PM					7:00:00 AM
Thursday	8:00:00 AM	4:00:00 PM	7	420.00	10:00:00 AM	10:15:00 AM	12:00:00 PM	12:30:00 PM	2:45:00 PM	3:00:00 PM					7:00:00 AM
Friday	8:00:00 AM	3:00:00 PM	6.25	375.00	10:00:00 AM	10:15:00 AM	12:00:00 PM	12:30:00 PM							7:00:00 AM
Saturday			0	0.00											
Sunday			0	0.00											

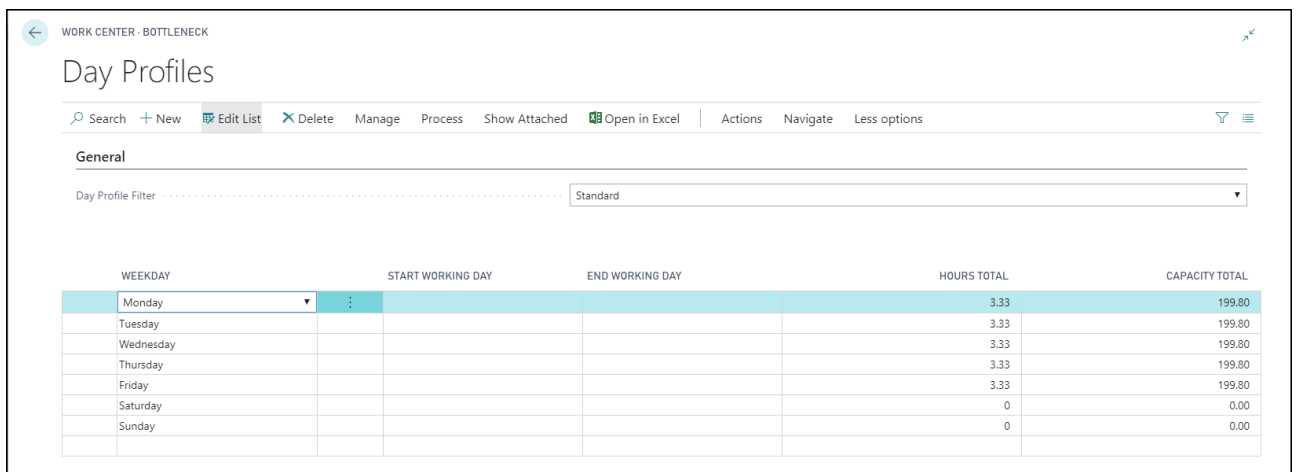
The Work Center specific Day Profile can be set via **Tell me Work Center List** via **Navigate, Profiles, Day Profile**



TYPE	BOT...	GROUP	TOTAL CAP.	CAPACITY	AVAIL. CAP.	USAGE
Work Center	chine	GARMENT	250,560.00	173.13	250,386.88	0%
Work Center	chine	FURNITURE	214,560.00	32.10	214,527.90	0%
Work Center	chine	FURNITURE	214,560.00	19.50	214,540.50	0%
Work Center	3040 Moulding Machine	CONFIG	214,560.00	0.00	214,560.00	0%

In addition, select **Day Profile Filter Standard**:

I.e. for the Work Center **BOTTLENECK**



WEEKDAY	START WORKING DAY	END WORKING DAY	HOURS TOTAL	CAPACITY TOTAL
Monday			3.33	199.80
Tuesday			3.33	199.80
Wednesday			3.33	199.80
Thursday			3.33	199.80
Friday			3.33	199.80
Saturday			0	0.00
Sunday			0	0.00

As you can see, you can set the Day Profiles simply by entering the **Hours Total** and the system will calculate the **Capacity Total** minutes, or you can enter Start/End times for work and breaks and the system calculate the **Hours Total** and the **Capacity Total** based on the entered times.

DIFFERENCES

Handles deviations on individual Dates and can be Global or Connected to specific Work Centers.

The search direction at calendar creation is Work Center -> Global.

The Global Variance Day Profile for Work Centers can be set via **Tell me Global Day Profiles** if you filter on the **Relation Global Work Centers** and select **Day Profile Filter Different**. I.e.:

DAY PROFILES

Search + New Edit List Delete Manage Process Show Attached Open in Excel Actions Navigate Less options

General

Day Profile Filter: Different

DATE	WEEKDAY	START WORKING DAY	END WORKING DAY	HOURS TOTAL	CAPACITY TOTAL	START PAUSE 1	END PAUSE 1	START PAUSE 2	END PAUSE 2	START PAUSE 3	END PAUSE 3	START PAUSE 4	END PAUSE 4	START PAUSE 5	END PAUSE 5
12/25/2018	Tuesday			0	0.00										
12/26/2018	Wednesday			0	0.00										
1/1/2019	Tuesday			0	0.00										
4/19/2019	Friday			0	0.00										
4/22/2019	Monday			0	0.00										
5/6/2019	Monday			0	0.00										
5/27/2019	Monday			0	0.00										
8/26/2019	Monday			0	0.00										
12/25/2019	Wednesday			0	0.00										
12/26/2019	Thursday			0	0.00										
1/1/2020	Wednesday			0	0.00										
4/13/2020	Monday			0	0.00										
4/20/2020	Monday			0	0.00										
5/4/2020	Monday			0	0.00										
5/25/2020	Monday			0	0.00										
8/31/2020	Monday			0	0.00										
12/25/2020	Friday			0	0.00										

The Work Center specific Variance Day Profile can be set via **Tell me Work Center List** and the click **Navigate**, click **Day Profile, Differences**:

WORK CENTER-M/C-TOOL LIST

Search + New Edit List Delete Manage Show Attached Open in Excel Actions **Navigate** Less options

Work Center Profiles Capacity Review

TYPE	BOT...	GROUP	TOTAL CAP.	CAPACITY	AVAIL. CAP.	USAG
Work Center	Machine	GARMENT	250,560.00	173.13	250,386.88	0%
Work Center	Machine	FURNITURE	214,560.00	32.10	214,527.90	0%
Work Center	Machine	FURNITURE	214,560.00	19.50	214,540.50	0%

Day Profile Day Profile, Differences Holiday Calendar

I.e. for the Work Center **BOTTLENECK**

WORK CENTER **BOTTLENECK**

Day Profiles Variance

Search + New Edit List Delete Manage Process Show Attached Open in Excel Actions Navigate Less options

General

Day Profile Filter: Different

DATE	WEEKDAY	START WORKING DAY	END WORKING DAY	HOURS TOTAL	CAPACITY TOTAL	START PAUSE 1	END PAUSE 1	START PAUSE 2	END PAUSE 2	START PAUSE 3	END PAUSE 3	START PAUSE 4	END PAUSE 4	START PAUSE 5	END PAUSE 5
7/6/2020	Monday	7:00:00 AM	3:00:00 PM	7	420.00	9:00:00 AM	9:15:00 AM	11:30:00 AM	12:00:00 PM	1:30:00 PM	1:45:00 PM				
7/7/2020	Tuesday	7:00:00 AM	3:00:00 PM	7	420.00	9:00:00 AM	9:15:00 AM	11:30:00 AM	12:00:00 PM	1:30:00 PM	1:45:00 PM				
7/8/2020	Wednesday	7:00:00 AM	3:00:00 PM	7	420.00	9:00:00 AM	9:15:00 AM	11:30:00 AM	12:00:00 PM	1:30:00 PM	1:45:00 PM				

HOLIDAY CALENDAR

The **Holiday Calendar** is generated via the **Work Center** via **Navigate, Profiles, Holiday Calendar**.

← WORK CENTER-M/C-TOOL LIST

Search + New Edit List Delete Manage Show Attached Open in Excel Actions **Navigate** Less options

Work Center ▾ **Profiles** ▾ Capacity Review ▾

TYPE	BOT...	GROUP	TOTAL CAP.	CAPACITY	AVAIL. CAP.	USAG
Work Center	chine	GARMENT	250,560.00	173.13	250,386.88	0%
Work Center	chine	FURNITURE	214,560.00	32.10	214,527.90	0%
Work Center	chine	FURNITURE	214,560.00	19.50	214,540.50	0%

Day Profile
Day Profile, Differences
Holiday Calendar

When generating the **Capacity Calendar**, the capacity on the dates in the **Holiday Calendar** is set to 0 (zero).

← CAPACITY CALENDAR

Search + New Edit List Delete Show Attached Open in Excel

DATE	DAY	PRODUCTION SERIES	RELATED ORDER NO.	AVAILABLE HOURS	CAPACITY	POSI...
1/1/2018	Monday			0.00	0	
4/1/2018	Sunday			0.00	0	
4/2/2018	Monday			0.00	0	
5/10/2018	Thursday			0.00	0	
5/20/2018	Sunday			0.00	0	
5/21/2018	Monday			0.00	0	
12/25/2018	Tuesday			0.00	0	
12/26/2018	Wednesday			0.00	0	

CAPACITY CALENDAR

The **Capacity Calendar** is generated via the Work Center via **Actions, Create Capacity**

Search + New Edit List Delete Manage Show Attached Open in Excel **Actions** Navigate Less options

Create Capacity

EDIT - CREATE CAPACITY

Dates

Starting Date 1/1/2020

Ending Date 12/31/2020

Assignment Bottleneck

SERIES ALLOCATION

Assign Production Series ☐

Prod. Series

Work Center TRIMIT

Show results:

Where: Type ▾ is: Work Center ▾

And: No. ▾ is: BOTTLENECK

Schedule... OK Cancel

Enter a **Starting Date** and **Ending Date** for the dates for which you want to generate the Calendar.

ASSIGNMENT

If you choose **Assignment Bottleneck**, it will only generate the Capacity Calendar for Work Centers with the field **Bottleneck** set to *Yes*.

If you choose **Assignment Capacity**, it will only generate the Capacity Calendar for Work Centers with the field **Bottleneck** set to *No*.

ASSIGN PRODUCTION SERIES

If **Assign Production Series** = *Yes* Production Series are assigned to the Capacity Calendar records according to the setting in the selected next field **Prod. Series**.

PROD. SERIES

If **Assign Production Series** is set to *Yes* and the **Prod. Series** is filled this **Production Series** will be connect in all the Capacity Calendar records that will be created.

If **Assign Production Series** is set to *Yes* and the **Prod. Series** is not filled, a search is performed and the first Productions Series that match the Starting/Ending Date is attached.

BOTTLENECK USAGE

As mentioned in the introduction of this White Paper:

One of the methods for Bottleneck reservation/check

Via Capacity Table:

- Fixed Reservation per Item

The system looks for Bottlenecks in a table when the Item is attached to a Sales Line.

Up to 10 Bottlenecks and reservation quantities can be linked to a specific Master/Item.

This method is **ONLY** reserving Capacity when Items are attached to a Sales Line, and never via the Production Header.

To use this method:

- **Basis for Bottleneck Reservation** on **Master/Item** is *Bottleneck Capacity Table*
- **Replenishment Policy** is *Order*
- **Bottleneck Usage** has to be filled for the **Master/Item**

The **Bottleneck Usage** is found via **Tell me Bottleneck Usage**.

BOTTLENECK USAGE

GENERAL

Type Filter

Item/Master No. Filter

Manage

RELATION	RELATION NO.	RESERVATI... PER	FORMULA	BOTTLENE... 1	BOTTLENECK RESERVATI... 1	BOTTLENE... 2	BOTTLENECK RESERVATI... 2	BOTTLENE... 3	BOTTLENECK RESERVATI... 3	BOTTLENE... 4	BOTTLENECK RESERVATI... 4	BOTTLENE... 5	BOTTLENECK RESERVATI... 5	BOTTLENE... 6
Master	3110	1		BOTTLENECK	2.00		0.00		0.00		0.00		0.00	

DESCRIPTION OF THE FIELDS:

RELATION

Option: *Master No. or Item*

RELATION NO.

The *Master No.* or *Item No.* for which the reservation should be valid

RESERVATION PER

Here you set if the Bottleneck reservation is per 1 unit or for instance 10 units. At calculation of the total reservation quantity the Sales Line Quantity is divided with this **Reservation per**.

FORMULA

Here you can attach a Formula that calculates what to put in the **Bottleneck Reservation 1...10**, depending on values in the VarDim Order or settings on the **Item**.

BOTTLENECK1...BOTTLENECK10:

Here you choose the actual Bottlenecks per **Master/Item**

BOTTLENECK RESERVATION 1...BOTTLENECK RESERVATION 10:

Here you set the Quantity that has to be reserved (in minutes), in the Bottleneck Capacity Calendar per **Reservation per**.

PROCESS

After you have setup the specific parameters in the **Production Setup**, the fields in the **Masters**, the 'Bottleneck' **Work Centers** and created the capacities by using the **Day Profiles**, **Holiday Calendar** and **Capacity Calendar**, you can make use of limited capacity, and can get warnings if you want to sell more before a specific date for which you don't have capacity left.

EXAMPLE BILL OF MATERIALS METHOD

Production Setup parameter **Bottleneck Reservation Method** = *Requested Date*

In **Master 2010**, we have set:

2010 · Jeans with Color/Waist/Length

New Process Report Show Attached Actions Navigate Report Less options

Misc.

Forecast Item
Location Code Mandatory
Template Creating a Master
Template Sales Line
Created via Template
MANAGEMENT LEVEL
Management Level
Management Level Sales
Management Level Production
Management Level Bottleneck
Product Family

AVAILABILITY
Availability Check Sales
Availability Check Production
Horizon Availability Check
Check for Blanket Order
Basis for Bottleneck Reservation
Bottleneck Reservation Method

1
0
0
2

Bottlenecks in BOM
Test Capacity

BOM Component Lines

Search + New Edit List Delete Process Show Attached Open in Excel Actions Navigate Less options

TYPE	GROUP FILTER	NO.	DESCRIPTION	QUANTITY PER	UNIT OF MEASURE CODE	SEARCH EXPRESSI...	QU... PER IN SE...	FORMULA	WORK CENTER	INF... ITEM
Item	FABRICS	2900	Fabric 100% Cotton	0	M	COLOR_1,JNS...	✓	2010_10000		
Operation	CUTTING	300010	Cut	10	MIN				3010	
Item	FABRICS	2930	Button 0.5" Polyamide	5	PCS	COLOR_1		2010_30000		
Item	THREAD	2940	Thread 100% Cotton	3	M	COLOR_1,JNS...	✓	2010_40000		
Operation	SEWING	300080	Sew	25	MIN				3080	

Therefore, we are using the **Bottlenecks in BOM** method.

Operation 300010 is situated on Work Center 3010 and therefore we set Work Center 3010 to be a **Bottleneck**.

This also means that we need to create the capacity for the Bottleneck.

Work Center · 3010

Show Attached | Actions | Navigate | Less options

General

No.	3010	Bottleneck	☒
Name	Cutting Machine	Comment	No
Work Center Group	GARMENT	Modified Date	8/16/2017
Type	Work Center		

And via Actions, **Create Capacity**

EDIT - CREATE CAPACITY

Dates

Starting Date 1/1/2020

Ending Date 12/31/2020

Assignment Bottleneck

SERIES ALLOCATION

Assign Production Series ☐

Prod. Series

Work Center TRIMIT

Show results:

Where: Type is: Work Center

And: No. is: 3010

Schedule... OK Cancel

Then we can see the capacity:

CAPACITY CALENDAR

Search + New Edit List Delete Show Attached Open in Excel

Views

Filter list by:

Relation Bottleneck

Type Work Center

Work Center 3010

Date 01/20/2020..01/31/20

+ Filter...

DATE	DAY	PRODUCTION SERIES	RELATED ORDER NO.	AVAILABLE HOURS	CAPACITY	POSITIVE
1/20/2020	Monday			8.00	480	✓
1/21/2020	Tuesday			8.00	480	✓
1/22/2020	Wednesday			8.00	480	✓
1/23/2020	Thursday			8.00	480	✓
1/24/2020	Friday			8.00	480	✓
1/25/2020	Saturday			0.00	0	✓
1/26/2020	Sunday			0.00	0	✓
1/27/2020	Monday			8.00	480	✓
1/28/2020	Tuesday			8.00	480	✓
1/29/2020	Wednesday			8.00	480	✓
1/30/2020	Thursday			8.00	480	✓
1/31/2020	Friday			8.00	480	✓

Now we enter a Sales Order with **Shipment Date** = 23-01-20 and a Sales Line with **Quantity** = 20

0100003 · The Fashion Store UK

× This customer has an overdue balance. Show details

Process Posting Request Approval Show Attached Actions Navigate Less options

General > 1/23/2020 1/23/2020 1/23/2020

Lines Manage More options

EX... MA...	TYPE	NO.	DESCRIPTION	DESCRIPTION 2	LOCATION CODE	QUANTITY	RESERVED QUANTITY	UNIT OF MEASURE CODE	UNIT PRICE EXCL. VAT	LINE DISCOUNT %	LINE AMOUNT EXCL. VAT	AMO INCLUD
☒	Matrix	2010	Jeans with Color/Waist/Le...			20		PCS	39.00		780.00	97:
☐	Item	2010012630	Jeans with Color/Waist/Leng...	White.Waist 26".Lenght 30"		20		PCS	39.00		780.00	97

Invoice Details > GBP PAYNOW

Shipping and Billing Show more

Ship-to Alternate Shipping Address Bill-to Default (Customer)

Code LONDON Location Code

Name The Fashion Store UK - London Shipment Date 1/23/2020

The Capacity on **Work Center 3010** would now look like:

EDIT -- BOTTLENECK CAPACITY BY PE...   

Bottleneck Capacity by Periods for 3010

Show Attached

Options

View by Day

View as Net Change

PERIOD START	PERIOD NAME	TOTAL CAPACITY	RESERVED CAPACITY	AVAILABLE CAPACITY
1/20/2020	Monday	480.00	0.00	480.00
1/21/2020	Tuesday	480.00	0.00	480.00
1/22/2020	Wednesday	480.00	0.00	480.00
1/23/2020	Thursday	480.00	200.00	280.00
1/24/2020	Friday	480.00	0.00	480.00
1/25/2020	Saturday	0.00	0.00	0.00
1/26/2020	Sunday	0.00	0.00	0.00
1/27/2020	Monday	480.00	0.00	480.00
1/28/2020	Tuesday	480.00	0.00	480.00
1/29/2020	Wednesday	480.00	0.00	480.00
1/30/2020	Thursday	480.00	0.00	480.00
1/31/2020	Friday	480.00	0.00	480.00

If you now would enter a new Sales Line with quantity 50, you would get a message because there was only 280 minutes available after the first Sales Line for this specific **Shipment Date 23-01-20**:

Search

New

Edit List

Process

Show Attached

Open in Excel

Actions

Navigate

Less options

EDIT - - SALES ORDER 0100003 - NO. 2010 - JEANS WITH COLOR/WAIST/LENGTH -

Sales Order 0100003 line 10414 cannot be shipped as it will result in overbooking on bottleneck 3010 with 220 units. A maximum of 28 can be shipped.

VARIANT 1	VARIANT DESCRIPTION	LINE QUANTITY	30" (39.00)	32" (39.00)	34" (39.00)
01	White, Waist 26"	70	20	50	
01	White, Waist 27"				
01	White, Waist 28"				
01	White, Waist 29"				
01	White, Waist 30"				
01	White, Waist 31"				

The field Error Message of the Work Center can influence this message.

The message regarding this 'overbooking' during the Sales Order entry will only appear if the **Replenishment Policy** is set to *Order*.

If the **Replenishment Policy** is set to *Inventory*, the message can appear if you manually enter a **Production Order** with **Document Type Order**.

It will however not appear if you create the Production Orders by using the MRP Calculation or via the Production Collecting Orders:

PRODUCTION ORDER

PI000007

Prod. Order PI000007 line 0 cannot be shipped as it will result in overbooking on bottleneck 3010 with 220 units. A maximum of 48 can be shipped.

Process

Show Attached

Actions

Navigate

Report

Less options

General

No.

PI000007

Availability Date

1/21/2019

Document Type

Order

Requested Delivery Date

1/21/2019

Item No.

2010012630

Production Series

Item Description

Jeans with Color/Waist/Length

Start Week

4

Item Description 2

White Waist 26", Length 30"

Start Date

1/21/2019

Description

End Date

1/21/2019

Description 2

Quantity to Produce

70

Description 3

Status

New

Description 4

Outstanding Quantity (Base)

70

Description 5

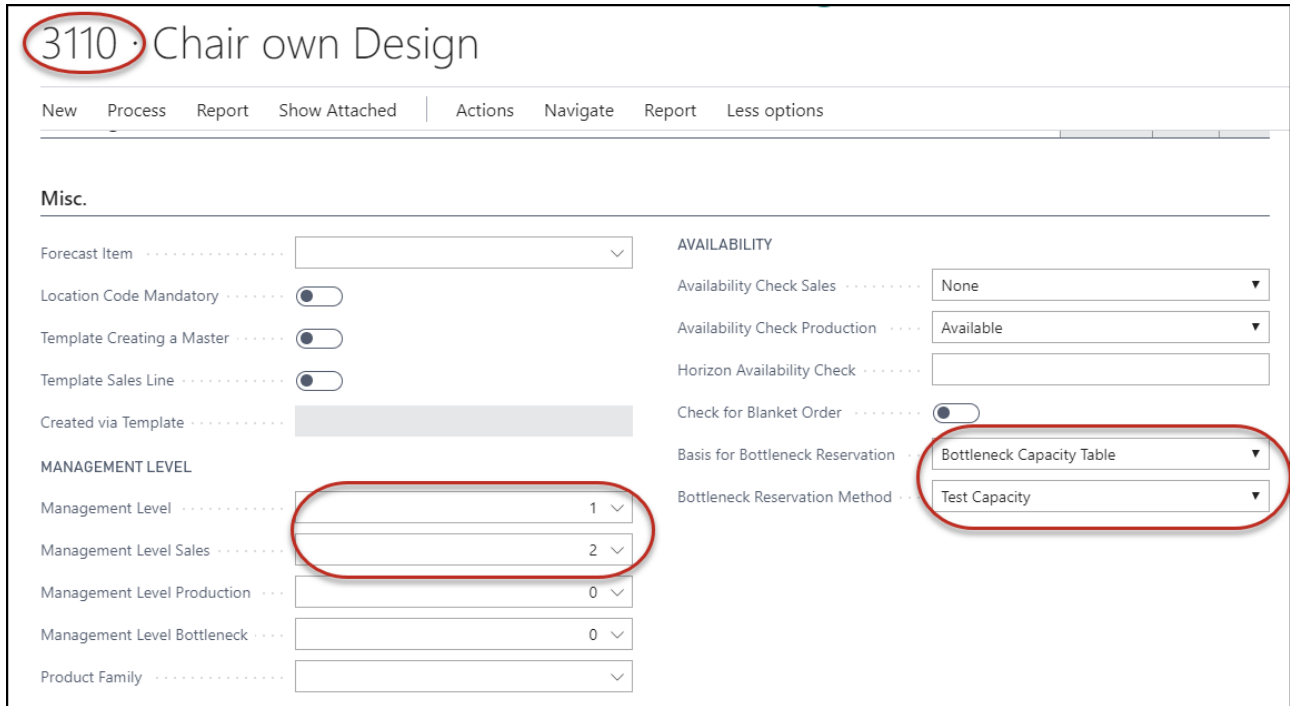
Quantity Reported Finished

0

EXAMPLE CAPACITY TABLE METHOD

Production Setup parameter **Bottleneck Reservation Method** = *Requested Week*

In **Master 3110**, we have set:



3110 · Chair own Design

New Process Report Show Attached Actions Navigate Report Less options

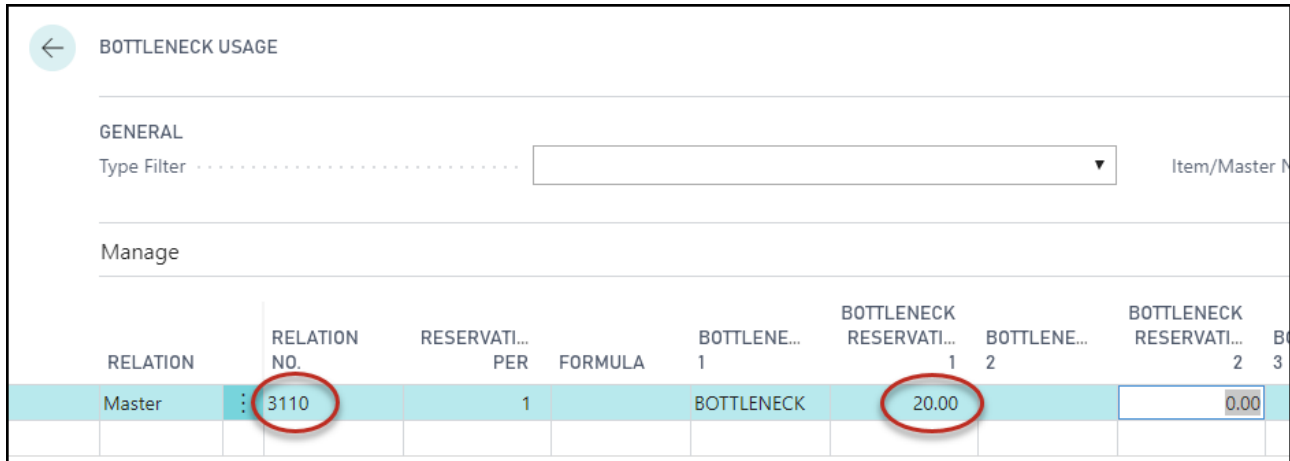
Misc.

Forecast Item
Location Code Mandatory
Template Creating a Master
Template Sales Line
Created via Template
MANAGEMENT LEVEL
Management Level 1
Management Level Sales 2
Management Level Production 0
Management Level Bottleneck 0
Product Family
AVAILABILITY
Availability Check Sales None
Availability Check Production Available
Horizon Availability Check
Check for Blanket Order
Basis for Bottleneck Reservation Bottleneck Capacity Table
Bottleneck Reservation Method Test Capacity

Therefore, we are using the **Capacity Table** method.

Any Master that will have **Basis for Bottleneck Reservation** set to *Bottleneck Capacity Table* must also have **Replenishment Policy** set to *Order*; otherwise, it cannot be used.

Bottleneck Usage or Master **3110** is changed:



← BOTTLENECK USAGE

GENERAL
Type Filter Item/Master N

Manage

RELATION	RELATION NO.	RESERVATI... PER	FORMULA	BOTTLENE... 1	BOTTLENECK RESERVATI... 1	BOTTLENE... 2	BOTTLENECK RESERVATI... 2	BOTTLENECK RESERVATI... 3
Master	3110	1	BOTTLENECK	20.00			0.00	

You need 20 minutes per piece of the Work Center *Bottleneck*.

Work Center Bottleneck has a total capacity of 999 minutes in the Week from 10-02-20 until 16-02-20 (**Bottleneck Reservation Method** in the Production Setup = *Requested Week*)

Lines		Manage			
PERIOD START ↑ ▼	PERIOD NAME	TOTAL CAPACITY	RESERVED CAPACITY	AVAILABLE CAPACITY	
2/9/2020	⋮ Sunday	0.00	0.00	0.00	
2/10/2020	Monday	199.80	0.00	199.80	
2/11/2020	Tuesday	199.80	0.00	199.80	
2/12/2020	⋮ Wednesday	199.80	0.00	199.80	
2/13/2020	Thursday	199.80	0.00	199.80	
2/14/2020	Friday	199.80	0.00	199.80	
2/15/2020	Saturday	0.00	0.00	0.00	
2/16/2020	Sunday	0.00	0.00	0.00	
2/17/2020	Monday	199.80	0.00	199.80	

If you now would enter a Sales Order with a **Shipment Date 13-02-20** for 3110 for 15 pieces:

SALES ORDER

0100004 · The Fa

×

This customer has an overdue balance.

Process

Posting

Request Approval

General >

Lines

Manage

More options

EX...

MA...

TYPE

NO.

⋮

Item

Actions

Navigate

EDIT - VARDIM ORDERS

↗

VARDIM TYPE	DESCRIPTION	VALUE	NAME	SEARCH UNIT PRICE/COST ADJUSTME...	ADJUSTMENT AMOUNT SALES
CHAIR	Chair Specifications			No	0.00
CT	Chair Type	01	Classic	No	0.00
WT	Wood Type	01	Oak	Yes	0.00
ST	Surface Treatment	00	Natural	No	0.00
SEAT	Seat Specifications			No	0.00
SC	Seat Cover	00	Wood	Yes	0.00
SCO	⋮ Seat Color	00	Natural	No	0.00

Close

Invoice Details >

GSP

PAYNOW

Shipping and Billing

Show more

Ship-to

Alternate Shipping Address

Bill-to

Default (Customer)

Code

LONDON

Location Code

Name

The Fashion Store UK - London

Shipment Date

2/13/2020

You will get a messages regarding the **Unit Cost** and regarding **Availability** – which is only related to Materials.

However, you will not get a message regarding the **Bottleneck**.

If you now look in the Capacity of the Work Center *Bottleneck*, you can see:

Lines	Manage				
PERIOD START	PERIOD NAME	TOTAL CAPACITY	RESERVED CAPACITY	AVAILABLE CAPACITY	
2/9/2020	Sunday	0.00	0.00	0.00	
2/10/2020	Monday	199.80	300.00	-100.20	
2/11/2020	Tuesday	199.80	0.00	199.80	
2/12/2020	Wednesday	199.80	0.00	199.80	
2/13/2020	Thursday	199.80	0.00	199.80	
2/14/2020	Friday	199.80	0.00	199.80	
2/15/2020	Saturday	0.00	0.00	0.00	

Although the **Avail. Cap.** of 10-02-20 is negative; you do not get a message, because the total **Avail. Cap.** in this week is still positive.

The **Reserved Capacity** (15 pieces * 20) is reserved on 10-02-20.

This is the Monday of the week of the **Shipment Date** of the Sales Order.

If you now would enter a Sales Line for the same Item 3110 – regardless the VarDim Order - with 40 pieces you would get a message based on the **Error Message** field of the Work Center:



There is not enough capacity for sales order 0100004, line 20000 on work center BOTTLENECK

OK

Alternatively, you would get the default message if the **Error Message** field of the Work Center were empty:

0100004 · The Fashion Store UK

Notifications: 2 Sales Order 0100004 line 20000 cannot be shipped as it will result in overbooking on bottleneck BOTTLENECK with 101 units. A maximum of 34.95 can be shipped. 1 customer has an overdue balance.

Process Posting Request Approval Show Attached Actions Navigate Less options

General > 1/24/2019 1/24/2019 2/13/2020

Lines Manage More options

EX. MA.	TYPE	NO.	DESCRIPTION	DESCRIPTION 2	LOCATION CODE	QUANTITY	RESERVED QUANTITY	UNIT OF MEASURE CODE	UNIT PRICE EXCL. VAT	LINE DISCOUNT %	LINE AMOUNT EXCL. VAT	AMO INCL
	Item	3110	Chair own Design			15	-	PCS	48.75		731.25	91
	Item	3110	Chair own Design			40	-	PCS	48.75		1.950.00	2.43

Because the total **Reserved Capacity** exceeds the total **Avail. Cap.** of this specific Week from 10-02-20 until 16-02-20:

Lines	Manage				
PERIOD START ↑ ▼	PERIOD NAME	TOTAL CAPACITY	RESERVED CAPACITY	AVAILABLE CAPACITY	
2/9/2020	Sunday	0.00	0.00	0.00	
2/10/2020	Monday	199.80	1,100.00	-900.20	
2/11/2020	Tuesday	199.80	0.00	199.80	
2/12/2020	Wednesday	199.80	0.00	199.80	
2/13/2020	Thursday	199.80	0.00	199.80	
2/14/2020	Friday	199.80	0.00	199.80	
2/15/2020	Saturday	0.00	0.00	0.00	
2/16/2020	Sunday	0.00	0.00	0.00	
2/17/2020	Monday	199.80	0.00	199.80	

The **Basis for Bottleneck Reservation** set to *Bottleneck Capacity Table* will also work for a Master with a Matrix. I.e. is we set this field in the Master *2010 Jeans with Color/Waist/Length* to *Bottleneck Capacity Table* and enter a **Bottleneck Usage** for it:

RELATION	RELATION NO. ↑	RESERVATI... PER	FORMULA	BOTTLENE... 1	BOTTLENECK RESERVATI... 1	BOTTLENE... 2	BOTTLEN RESERV
Master	2010	1		BOTTLENECK	10.00	▼	
Master	3110	1		BOTTLENECK	20.00		

This can result in the following message when entering a quantity in a cell of the Matrix:

Search	New	Edit List	Process	Show Attached	Open in Excel	Actions	Navigate	Less options
EDIT - - SALES ORDER 0100003 - NO. 2010 - JEANS WITH COLOR/WAIST/LENGTH -								
× Sales Order 0100003 line 10379 cannot be shipped as it will result in overbooking on bottleneck BOTTLENECK with 1 units. A maximum of 9.9 can be shipped.								
VARIANT 1	VARIANT DESCRIPTION	LINE QUANTITY	30" (39.00)	32" (39.00)				
01	White, Waist 26"		10					
01	White, Waist 27"							
01	White, Waist 28"							
01	White, Waist 29"							
01	White, Waist 30"							
01	White, Waist 31"							

NOTE

Keep in mind that for every cell in the Matrix, the Temporary Bill of Material needs to be created to determine if there is sufficient capacity in the Bottleneck. Therefore, this might slow down the response of the system.