

Factorio Assembly Calculator

Prose: This spreadsheet was created by [col@manator on Reddit](#) (see link below) and updated by [amozmish](#) (Reddit handle) to 5.14. I have checked it as much as I can but please give comments and feedback on the forum post. A big thank you to the original creator for making such a useful tool for us numbers-crunching Factorio players!

Updated for 5.15! Yay!

If you find any problems (security issues), please report it here:

<https://www.factorio.com/viewtopic.php?t=1144&h=14324&p=139039#139039>

http://www.reddit.com/r/factorio/comments/2m9uf/factorio_assembly_calculator/

Welcome to the Factorio Assembly Calculator. This tool will help you make efficient factories in Factorio by telling you how many Machines you need to craft items. To use the calculator, follow these instructions:

1. Near the top of this page, choose File > Make a copy... to copy this spreadsheet into your own Google account. If the option is grayed out, that sign in to Google (top right).
2. You should now be able to make changes to your own copy of the spreadsheet. Click the "Items" tab at the bottom. This is a sheet of all crafting recipes in the game. Click the "Instructions" tab to come back here.
3. In the "Items" sheet, click on an item you want to assemble, such as "Service Pack 2". This will select it.
4. Near the top, choose the menu Factors > Assembly for Selected Item. You will need to give the script permission to run.
5. Fill out the information such as how many you want to make in how much time. Leave it blank for the default.
6. This will take you to a new sheet called "Calculations" and break down all of the requirements to make that item in the given time. This will also tell you how many Machines each one will take.

Try out the other menus. "Stats for Selected Item" will provide ratios between items and their ingredients. "Recipes using Selected Item" will tell you what other items have that item as their ingredient. You can also switch the Machines here and it will update the "Items" list.

You can customize the "Items" list to fit your needs. For example if you have Speed modules on certain items you can adjust the "Speed" value.

Feedback? Please comment on the forum post.

Factory Items

Item Name	Qty	Time	Ingredients	Speed x Machine	
Stone	1	2		1 Electric Mining Drill	
Coal	1	2		1 Electric Mining Drill	
Iron Ore	1	2		1 Electric Mining Drill	
Copper Ore	1	2		1 Electric Mining Drill	
Uranium Ore	1	2	1 x Sulfuric Acid	1 Electric Mining Drill	N.B. - Sulfuric Acid is not accurate
Raw Wood	5	1		1 Shear - Tree	
Water	1200	1		1 Offshore Pump	
Crude Oil	2	1		1 Pumpjack 1.0h	
Intermediate Products	Qty	Time	Ingredients	Speed x Machine	
Wood	2	0.5	1 x Raw Wood	0.75 Assembling machine 2	
Iron Plate	1	3.5	1 x Iron Ore	1 Stone Furnace	
Copper Plate	1	3.5	1 x Copper Ore	1 Stone Furnace	
Steel Plate	1	17.5	5 x Iron Plate	1 Stone Furnace	
Iron Stick	2	0.5	1 x Iron Plate	0.75 Assembling machine 2	
Iron Gear Wheel	1	0.5	2 x Iron Plate	0.75 Assembling machine 2	
Electronic Circuit	1	0.5	1 x Iron Plate	0.75 Assembling machine 2	
Advanced Circuit	1	6	2 x Plastic Bar 2 x Electronic Circuit 4 x Copper Cable	0.75 Assembling machine 2	
Processing Unit	1	10	20 x Electronic Circuit 4 x Copper Cable 2 x Sulfuric Acid	0.75 Assembling machine 2	
Engine Unit	1	10	2 x Pipe 1 x Steel Plate 1 x Iron Gear Wheel	0.75 Assembling machine 2	
Electric Engine Unit	1	10	2 x Electronic Circuit 10 x Lubricant	0.75 Assembling machine 2	
Flying Robot Frame	1	20	1 x Steel Plate 3 x Electronic Circuit 2 x Electric Engine Unit 2 x Battery	0.75 Assembling machine 2	
Copper Cable	2	0.5	1 x Copper Plate	0.75 Assembling machine 2	
Science Pack 1	1	5	1 x Copper Plate 1 x Iron Gear Wheel	0.75 Assembling machine 2	
Science Pack 2	1	6	1 x Transport Belt 1 x Inserter	0.75 Assembling machine 2	
Science Pack 3	1	12	1 x Advanced Circuit 1 x Engine Unit 1 x Electric Mining Drill	0.75 Assembling machine 2	
Military Science Pack	2	10	1 x Flying Robots Magazine 1 x Grenade 1 x Gun Turret	0.75 Assembling machine 2	
Production Science Pack	2	14	1 x Electric Engine Unit 1 x Electric Furnace	0.75 Assembling machine 2	
High Tech Science Pack	2	14	1 x Battery 3 x Processing Unit 1 x Speed Module 30 x Copper Cable	0.75 Assembling machine 2	
Heavy Oil	10	5	50 x Water 100 x Crude Oil	1 Advanced Oil processing	
Light Oil	45	5	50 x Water 100 x Crude Oil	1 Advanced Oil processing	
Petroleum Gas	55	5	50 x Water 100 x Crude Oil	1 Advanced Oil processing	
Lubricant	10	1	10 x Heavy Oil	1.25 Chemical plant	
Sulfur	2	1	30 x Water 30 x Petroleum Gas	1.25 Chemical plant	
Sulfuric Acid	50	1	10 x Iron Plate 50 x Water	1.25 Chemical plant	
Plastic Bar	2	1	1 x Coal 20 x Petroleum Gas	1.25 Chemical plant	
Uranium-235	0.007	10	10 x Uranium Ore	0.75 Centrifuge	
Uranium-238	0.993	10	10 x Uranium Ore	0.75 Centrifuge	
Explosives	1	5	1 x Coal 1 x Sulfur 10 x Water	1.25 Chemical plant	
Battery	1	5	1 x Iron Plate 1 x Copper Plate 20 x Sulfuric Acid	1.25 Chemical plant	
Solid Fuel	1	3	10 x Light Oil	1.25 Chemical plant	
Empty Barrel	1	1	1 x Steel Plate	0.75 Assembling machine 2	
Low Density Structure	1	30	10 x Steel Plate 5 x Copper Plate 5 x Plastic Bar	0.75 Assembling machine 2	
Rocket Fuel	1	30	10 x Solid Fuel	0.75 Assembling machine 2	
Nuclear Fuel	1	60	1 x Uranium-235 1 x Rocket Fuel	0.75 Assembling machine 2	
Rocket Control Unit	1	30	1 x Processing Unit 1 x Speed Module	0.75 Assembling machine 2	
Satellite	1	5	100 x Low Density Structure 100 x Steel Plate 100 x Accumulator 5 x Radar 100 x Processing Unit 80 x Rocket Fuel	0.75 Assembling machine 2	
Uranium Fuel Cell	10	10	10 x Iron Plate 1 x Uranium-235 19 x Uranium-238	0.75 Assembling machine 2	
Logistics	Qty	Time	Ingredients	Speed x Machine	
Wooden Chest	1	0.5	4 x Wood	0.75 Assembling machine 2	
Iron Chest	1	0.5	8 x Iron Plate	0.75 Assembling machine 2	
Steel Chest	1	0.5	8 x Steel Plate	0.75 Assembling machine 2	
Storage Tank	1	5	20 x Iron Plate 5 x Steel Plate	0.75 Assembling machine 2	
Transport Belt	2	0.5	1 x Iron Plate 1 x Iron Gear Wheel	0.75 Assembling machine 2	
Fast Transport Belt	1	0.5	1 x Transport Belt 5 x Iron Gear Wheel	0.75 Assembling machine 2	
Express Transport Belt	1	0.5	1 x Fast Transport Belt 10 x Iron Gear Wheel	0.75 Assembling machine 2	
Underground Belt	2	1	5 x Transport Belt 10 x Iron Plate	0.75 Assembling machine 2	
Fast Underground Belt	2	2	2 x Underground Belt 40 x Iron Gear Wheel	0.75 Assembling machine 2	
Express Underground Belt	2	2	2 x Fast Underground Belt 80 x Iron Gear Wheel 40 x Lubricant	0.75 Assembling machine 2	
Splitter	1	1	4 x Transport Belt 5 x Iron Plate	0.75 Assembling machine 2	
Fast Splitter	1	2	1 x Splitter 10 x Iron Gear Wheel 10 x Electronic Circuit	0.75 Assembling machine 2	
Express Splitter	1	2	1 x Fast Splitter 10 x Iron Gear Wheel 10 x Advanced Circuit 80 x Lubricant	0.75 Assembling machine 2	
Burner Inserter	1	0.5	1 x Iron Plate 1 x Iron Gear Wheel	0.75 Assembling machine 2	
Inserter	1	0.5	1 x Iron Plate 1 x Iron Gear Wheel 1 x Electronic Circuit	0.75 Assembling machine 2	
Long Handed Inserter	1	0.5	1 x Inserter 1 x Iron Gear Wheel	0.75 Assembling machine 2	
Fast Inserter	1	0.5	1 x Inserter 2 x Iron Plate 2 x Electronic Circuit	0.75 Assembling machine 2	
Filter Inserter	1	0.5	1 x Fast Inserter 4 x Electronic Circuit	0.75 Assembling machine 2	
Stack Inserter	1	0.5	15 x Iron Gear Wheel 1 x Advanced Circuit	0.75 Assembling machine 2	
Filter Stack Inserter	1	0.5	1 x Fast Inserter 5 x Electronic Circuit	0.75 Assembling machine 2	
Small Electric Pole	2	0.5	2 x Wood 2 x Copper Cable	0.75 Assembling machine 2	
Medium Electric Pole	1	0.5	2 x Copper Plate 2 x Steel Plate	0.75 Assembling machine 2	
Big Electric Pole	1	0.5	4 x Copper Plate 5 x Steel Plate	0.75 Assembling machine 2	
Substation	1	0.5	5 x Copper Plate 10 x Steel Plate 4 x Advanced Circuit	0.75 Assembling machine 2	
Power Switch	1	2	5 x Iron Plate 5 x Copper Cable 2 x Electronic Circuit	0.75 Assembling machine 2	
Pipe	1	0.5	1 x Iron Plate	0.75 Assembling machine 2	
Pipe to Ground	2	0.5	10 x Pipe	0.75 Assembling machine 2	
Pump	1	2	1 x Pipe 1 x Steel Plate 1 x Electric Engine Unit	0.75 Assembling machine 2	
Straight Rail	2	0.5	1 x Iron Plate 1 x Iron Stick	0.75 Assembling machine 2	
Train Stop	1	0.5	10 x Iron Plate 5 x Steel Plate 5 x Electronic Circuit	0.75 Assembling machine 2	
Rail Signal	1	0.5	5 x Iron Plate 1 x Electronic Circuit	0.75 Assembling machine 2	
Rail Chain Signal	1	0.5	5 x Iron Plate 1 x Electronic Circuit	0.75 Assembling machine 2	
Locomotive	1	4	30 x Steel Plate 10 x Electronic Circuit 20 x Engine Unit	0.75 Assembling machine 2	
Cargo Wagon	1	1	10 x Iron Plate 20 x Iron Gear Wheel	0.75 Assembling machine 2	
Fluid Wagon	1	1.5	10 x Iron Plate 10 x Steel Plate 8 x Pipe 1 x Storage Tank	0.75 Assembling machine 2	
Artillery Wagon	1	4	64 x Engine Unit 10 x Iron Gear Wheel 40 x Steel Plate 20 x Advanced Circuit	0.75 Assembling machine 2	
Car	1	2	8 x Engine Unit 5 x Steel Plate	0.75 Assembling machine 2	
Tank	1	5	50 x Steel Plate 10 x Iron Gear Wheel 10 x Advanced Circuit 32 x Engine Unit	0.75 Assembling machine 2	
Logic Robot	1	0.5	2 x Advanced Circuit 1 x Flying Robot Frame	0.75 Assembling machine 2	
Construction	1	0.5	2 x Advanced Circuit 1 x Flying Robot Frame	0.75 Assembling machine 2	
Active Provider Chest	1	0.5	1 x Steel Chest 3 x Circuit	0.75 Assembling machine 2	
Passive Provider Chest	1	0.5	1 x Steel Chest 1 x Advanced Circuit 3 x Circuit	0.75 Assembling machine 2	
Buffer Chest	1	0.5	1 x Steel Chest 1 x Advanced Circuit 3 x Circuit	0.75 Assembling machine 2	
Requester Chest	1	0.5	1 x Steel Chest 1 x Advanced Circuit 3 x Circuit	0.75 Assembling machine 2	
Storage Chest	1	0.5	1 x Steel Chest 1 x Advanced Circuit 3 x Circuit	0.75 Assembling machine 2	

Factorio Assembling Calculations

Calculation results will be printed here.

Time to make: 2 seconds

1 x Electric Mining Drill (hard) (1.33 x Assembling machine 2)

20 x Iron Plate (35 x Stone Furnace)

20 x Iron Ore (20 x Electric Mining Drill)

10 x Iron Gear Wheel (hard) (3.33 x Assembling machine 2)

40 x Iron Plate (70 x Stone Furnace)

40 x Iron Ore (40 x Electric Mining Drill)

5 x Electronic Circuit (hard) (1.67 x Assembling machine 2)

10 x Iron Plate (17.5 x Stone Furnace)

10 x Iron Ore (10 x Electric Mining Drill)

50 x Copper Cable (8.33 x Assembling machine 2)

25 x Copper Plate (43.75 x Stone Furnace)

25 x Copper Ore (25 x Electric Mining Drill)

Total:

1 x Electric Mining Drill (hard) (1.33 x Assembling machine 2)

70 x Iron Plate (122.5 x Stone Furnace)

70 x Iron Ore (70 x Electric Mining Drill)

10 x Iron Gear Wheel (hard) (3.33 x Assembling machine 2)

5 x Electronic Circuit (hard) (1.67 x Assembling machine 2)

50 x Copper Cable (8.33 x Assembling machine 2)

25 x Copper Plate (43.75 x Stone Furnace)

25 x Copper Ore (25 x Electric Mining Drill)