

DETERMINE GLYCOL CHILLER SIZE

SIZE BY BTU LOAD, NOT LENGTH OF RUN

Select the right glycol chiller for a draft beer system by calculating its total BTU (British Thermal Unit) load. A chiller's BTU rating is how much heat it can pull out of the system as it circulates glycol. Every system puts a different BTU load on the chiller keeping it cold, based on faucet count, trunk line length and tube size. If that load runs the compressor too hard to hold the glycol bath temperature, the compressor wears out faster and the beer runs warm. Sizing the chiller correctly from the start avoids both an overworked compressor and paying for cooling capacity you will never use.

BTU FORMULA

Calculate using 100 BTU per faucet, plus your trunk line's BTU per foot (see the tables on page 2), plus a base load for the system itself. Add these together, then multiply by a safety factor to get the total BTU per hour the chiller must produce.

$$\text{Required BTU/hr} = [(\text{Faucets} \times 100) + (\text{Trunk Length} \times \text{BTU/ft}) + \text{Base Load}] \times \text{Safety Factor}$$

EXAMPLE

3/8" trunk line, part TRT(TF)1461, 4 faucets, 50 ft run, 500 BTU/hr base load, 1.25x safety factor, 36°F dispense

FAUCETS		BTUs / FAUCET		FAUCET LOAD (A)
4	×	100	=	400
TRUNK LENGTH (FT)		BTU / FT		TRUNK LOAD (B)
50	×	11.2	=	560
BASE LOAD (C)				
500				
SUBTOTAL (A+B+C)		SAFETY FACTOR		TOTAL BTU/HR REQUIRED
1,460	×	1.25	=	1,825

Round up to the next chiller size at or above 1,825 BTU/hr.

YOUR SYSTEM

Fill in your own faucet count, trunk length and BTU/ft from the tables on page 2.

FAUCETS		BTUs / FAUCET		FAUCET LOAD (A)
	×		=	
TRUNK LENGTH (FT)		BTU / FT		TRUNK LOAD (B)
	×		=	
BASE LOAD (C)				
SUBTOTAL (A+B+C)		SAFETY FACTOR		TOTAL BTU/HR REQUIRED
	×		=	

Match your total to a BrewChill Pro glycol chiller at or above it.

RECOMMENDED TRUNK LINE FOR YOUR RUN LENGTH

Use this as a general starting point before you calculate. Trunk line size should scale with how far the beer travels from chiller to tower. Longer runs and warmer install spaces lose more heat along the way, which is why the exact BTU/ft from the tables on page 2 gives a more accurate result than length alone.

SYSTEM RUN LENGTH	RECOMMENDED TRUNK LINE
Up to 50 ft	1/4" trunk line
Up to 125 ft	5/16" trunk line
Up to 750 ft	3/8" trunk line

Page 2 lists every UBC Group Canada trunk line by tube size with its exact BTU/ft, at both common dispense temperatures, to use in the formula above.

UBC GROUP CANADA TRUNK LINE REFERENCE

BTU/ft figures below are sourced from UBC Group manufacturer spec sheets, the same data used by the online BTU calculator at beer-co.ca, shared across jacket types at a matching tube size and line count.

1/4" TRUNK LINE

5 SKUs available from UBC Group Canada · Lines = product + glycol

PART NO.	TYPE	LINES	BTU/FT @36°F	BTU/FT @44°F
TRT(TF)1671	Duoflex Flavourlock	2 + 2	6.89	5.9
TRT(TF)1672	Duoflex Flavourlock	4 + 2	7.4	6.3
TRT(TF)1438	Taped Jacket	8 + 2	8.5	7.3
TRT(TF)1491	Taped Jacket	12 + 4	9.7	8.3
TRT(TF)1634	Taped Jacket	16 + 4	10.9 *	9.3 *

5/16" TRUNK LINE

10 SKUs available from UBC Group Canada · Lines = product + glycol

PART NO.	TYPE	LINES	BTU/FT @36°F	BTU/FT @44°F
TRT(TF)1441	Taped Jacket	4 + 2	7.92	6.8
TRT(TF)1333	Duoflex Flavourlock	4 + 2	7.92	6.8
TRT(TF)1442	Taped Jacket	6 + 2	8.56	7.3
TRT(TF)1443	Taped Jacket	8 + 2	9.08	7.7
TRT(TF)1222	Duoflex Flavourlock	8 + 2	9.08	7.7
TRT(TF)1444	Taped Jacket	10 + 4	9.72	8.3
TRT(TF)1489	Taped Jacket	12 + 4	10.2	8.7
TRT(TF)1224	Duoflex Flavourlock	12 + 4	10.2	8.7
TRT(TF)1820	Taped Jacket	16 + 4	11.67	10.0
TRT(TF)1232	Duoflex Flavourlock	16 + 4	11.67	10.0

3/8" TRUNK LINE

8 SKUs available from UBC Group Canada · Lines = product + glycol

PART NO.	TYPE	LINES	BTU/FT @36°F	BTU/FT @44°F
TRT(TF)1446	Taped Jacket	4 + 2	9.0	7.7
TRT(TF)1447	Taped Jacket	6 + 2	9.4	8.0
TRT(TF)1448	Taped Jacket	8 + 2	9.7	8.3
TRT(TF)1228	Duoflex Flavourlock	8 + 2	9.7	8.3
TRT(TF)1449	Taped Jacket	10 + 4	10.2	8.7
TRT(TF)1461	Taped Jacket	12 + 4	11.2	9.5
TRT(TF)1230	Duoflex Flavourlock	12 + 4	11.2	9.5
TRT(TF)1819	Taped Jacket	16 + 4	12.1	10.3

* BTU/ft estimated by extrapolation from surrounding line-count data for this SKU; not yet confirmed against a manufacturer spec sheet. Confirm with UBC Group before finalizing a borderline order.

Prefer to skip the math? The same formula and full trunk line catalog are built into the BTU calculator at beer-co.ca, enter your system details and it returns your exact BTU/hr instantly.