

#protectwhatisvaluable



Grain chilling
solutions for
safe grain and
feed storage

Why Grain Technik?

Led by an experienced Indo-German team of refrigeration as well as grain experts, Grain Technik manufactures state-of-the-art grain chillers that have been successfully operating in all types of climates, from tropical zones in South and South-east Asia, to dry and hot conditions in the Middle East to moderate climates in Europe. gT Grain Chillers are designed, manufactured and tested in our modern facilities situated near the Indian capital

of New Delhi. All our units are compliant with international standards and widely available main components to ensure that our product is not only more efficient in operation but also keeps running costs at a minimum. Our goal is to protect what is valuable together with our customers, making sure that no qualitative and quantitative losses occur during grain storage.

gT Chiller - Working principle and connection

gT Grain Chillers can cool all kinds of grain and seeds in open bulk. Our machines are custom-built as per the environmental conditions and customer requirements and are available for a wide range of storage capacities in all kinds of climates. They can be operated independently of the weather conditions and even during rain. Conditioned air enters the silo or warehouse through a duct system at the bottom of the storage unit. As the air moves up through the grain mass, the temperature of the grain

is reduced, eventually reaching the set value. Our machines are plug-and-play. They use the existing aeration fan openings, and usually, modification of the silo or warehouse is not required. The chiller is simply connected either through a flexible hose or an optional fixed duct installation. The use of a Y-piece allows the use of one chiller, even if the silo has multiple aeration openings. In the case of a warehouse without aeration flooring, it is possible to use retractable aeration ducts.



Benefits of grain chilling



Paddy and Rice

- ✓ No discoloration
- ✓ Improved head rice yield
- ✓ Improved cooking properties
- ✓ Minimised dry matter losses
- ✓ Better retention of aroma



Maize

- ✓ Minimised corn cracks
- ✓ Higher starch content
- ✓ Minimised shrinkage
- ✓ Minimised dry matter losses
- ✓ Improved feed pellets
- ✓ Prevention of mould and mycotoxins.



Wheat

- ✓ No discoloration
- ✓ Improved protein retention
- ✓ Minimised dry matter losses
- ✓ Improved baking properties
- ✓ No off-odour development



Pulses

- ✓ No discoloration
- ✓ Slows seed coat darkening
- ✓ Better protein retention



Oilseeds

- ✓ Better oil quality
- ✓ Minimised rancidity
- ✓ No silo baking
- ✓ Minimised self-heating



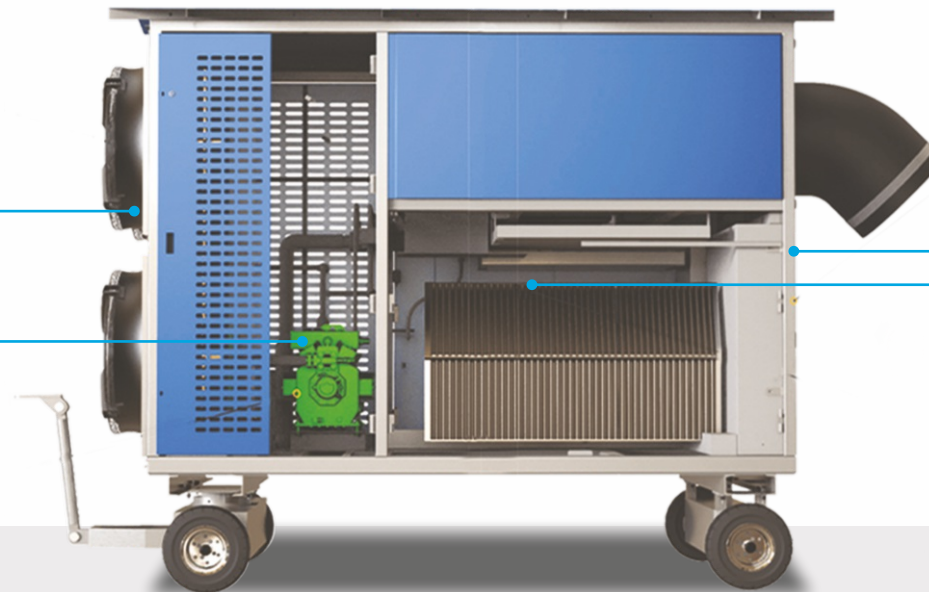
Malting barley

- ✓ No discolouration
- ✓ Maintains seed viability
- ✓ Shorter soaking time
- ✓ No foaming during the brewing process

gT Chiller - Working principle and connection

High-quality fan guarantees the most efficient heat exchange. Louvers on the side panels ensure air flow and restrict water from entering the unit.

A highly reliable combination of a semi-hermetic compressor with automatic capacity regulation and heavy-duty heat exchangers using environment-friendly refrigerants.



Completely sealed electrical cabinet with user-friendly Siemens PLC console programmed to handle 11 different types of grains with multiple modes of operation.

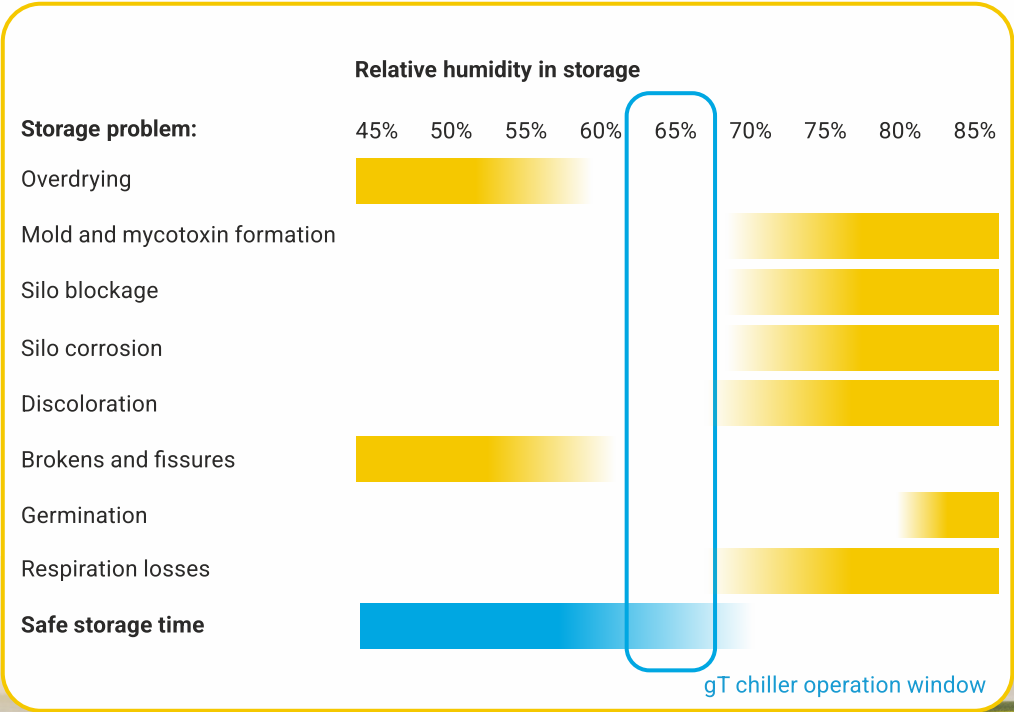
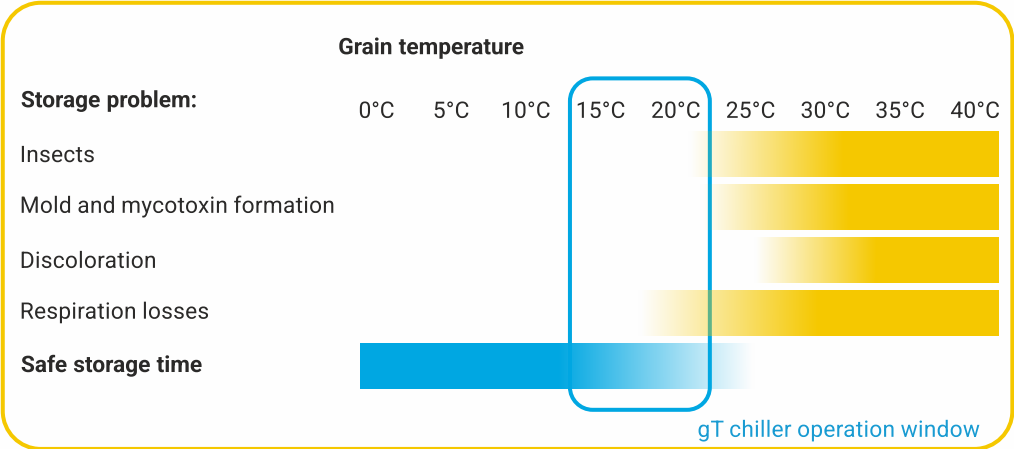
High-performance, speed-controlled blower. The fan speed is adjusted automatically through a variable frequency drive for optimised air flow.

Storage-related issues and how to tackle them

Although up to ten percent of grain is lost during storage, hardly any grain storage facility can accurately predict the sheer extent of the losses they are facing, because they are very difficult to monitor and determine. Virtually all storage-related issues however depend on the grain temperature as well as the relative humidity in storage, which also determine the moisture content of the product stored. Grain can even be stored indefinitely if the moisture content and the temperature of the product are low enough! The following graphics show how all these problems can be prevented using a gT Grain Chiller. The gT Grain Chiller not only lowers the temperature of the grain stored, but also supplies air of a specific relative humidity to prevent any kind of qualitative or quantitative losses even during extended periods.

Energy efficiency

In most cases, a storage temperature range of 15°C to 22°C is advisable to reap the benefits of safe storage while being extremely energy efficient. Grain is a very good insulator, so it is not necessary to continuously run the gT Grain Chiller during storage. After an initial chilling cycle, which typically takes five to ten days (our team will select the best machine based on your requirements), the product won't need to be re-chilled for two to three months in tropical conditions and generally no re-chilling is required in colder climates even if the storage facility is not insulated. Depending on the use, it is possible to use one gT Chiller for several silos! Using a gT Chiller is thus cheaper than the use of aeration fans and the fumigation costs required at higher storage temperatures combined, all while significantly increasing the profitability of the storage plant through better product quality and minimised product losses. If fresh grain is received, the energy efficiency can even be improved by storing the grain at a slightly higher moisture, while bringing down the drying costs at the same time, a clear win-win.



Maintenance and service

gT Grain Chillers are built to last and have been effortlessly running at our customer sites for many years. Similar to a refrigerator, gT Chillers are robust and typically don't need regular maintenance except for a dust filter, which is easy and quick to clean and replace. Since all our main components are sourced from high-end European suppliers, spare parts are available globally within a short time, minimising the risk of downtime.

Advantages of grain chilling

Improved grain quality:

- ✂ Maintains harvest freshness
- ✂ No discolouration of grains
- ✂ Eliminates dry substance losses
- ✂ Maintains high germinability
- ✂ No risk of fungus and resulting mycotoxin contamination
- ✂ Reduces the need for fumigation and other chemical treatments
- ✂ Improves quality parameters like head rice yield and baking properties

Ease of operation:

- ✂ Weather-independent operation
- ✂ Plug-and-play unit
- ✂ High safety standards
- ✂ Possibility to store grain at higher moisture climates
- ✂ No risk of hotspots and no grain recirculation required



Looking for the ideal grain chiller
for hot and humid climates?



Search no longer and
have a look at our T-Series!

T
SERIES



Technical Data

T-Series

MODELS

Cooling capacity (kW)

Cooling performance (t/d)

Ambient temperature (°C)

Evaporating temperature (°C)

Condensing temperature (°C)

Three phase supply

Max. supply air flow (m³/h)

Avg. input power (kW)

Max. current (A)

Chilled air interface (mm)

Dim. with wheelbase (LxWxH, mm)



gT-60T

25

55-120

30

10

40

400 V / 50 Hz

4500 @ 500 Pa

10

28

Ø 300

2300x1200x1800



gT-200T

105

220-370

30

10

40

400 V / 50 Hz

12500 @ 1 kPa

35

92

Ø 400

2980x1635x2500



gT-300T

160

310-520

30

10

40

400 V / 50 Hz

18000 @ 1 kPa

51

120

Ø 400

3400x1835x2780



gT-450T

220

460-750

30

10

40

400 V / 50 Hz

25000 @ 1 kPa

72

176

Ø 600

3500x2315x2810



gT-650T

320

650-1100

30

10

40

400 V / 50 Hz

26000 @ 1 kPa

95

300

Ø 600

4500x2315x2900



gT-1000T

470

900-1500

30

10

40

400 V / 50 Hz

52000 @ 1 kPa

140

470

Ø 800

6000x2315x2900

Wanting to improve your storage conditions
in moderate climates?



Our E-Series
is the best fit for you!






E SERIES

Technical Data

E-Series

MODELS

								
	gT-40EP	gT-80EP	gT-140E	gT-180E	gT-240E	gT-320E	gT-500E	gT-700E
Cooling capacity (kW)	10	20	32	43	63	82	125	175
Cooling performance (t/d)	30-60	55-120	140-220	170-280	220-390	310-520	460-750	500-1200
Ambient temperature (°C)	20	20	20	20	20	20	20	20
Evaporating temperature (°C)	0	0	0	0	0	0	0	0
Condensing temperature (°C)	30	30	30	30	30	30	30	30
Three phase supply	400 V / 50 Hz	400 V / 50 Hz	400 V / 50 Hz	400 V / 50 Hz	400 V / 50 Hz	400 V / 50 Hz	400 V / 50 Hz	400 V / 50 Hz
Max. supply airflow (m ³ /h)	2500 @ 500 Pa	4500 @ 500 Pa	7700 @ 1 kPa	10500 @ 1 kPa	12500 @ 1 kPa	18000 @ 1 kPa	25000 @ 1 kPa	26000 @ 1 kPa
Avg. input power (kW)	4.2	9	16	19	28	34	65	71
Max. current (A)	16	32	63	63	96	120	203	285
Chilled air interface (mm)	Ø 300	Ø 300	Ø 400	Ø 400	Ø 400	Ø 400	Ø 600	Ø 600
Dim. with wheelbase (LxWxH, mm)	2100x1000x1900	2300x1200x1800	2980x1635x2350	2980x1635x2500	2980x16350x2650	3400x1835x2780	3500x2315x2850	4500x2315x2900

In need of a grain chilling solution
that is able to cool down your products
even in very hot and dry ambient conditions?

Check out our HT-Series!



grainTECHNIK
each grain matters



HT SERIES

Technical Data

HT-Series

MODELS

Cooling capacity (kW)

Cooling performance (t/d)

Ambient temperature (°C)

Evaporating temperature (°C)

Condensing temperature (°C)

Three phase supply

Max. supply air flow (m³/h)

Avg. input power (kW)

Max. current (A)

Chilled air interface (mm)

Dim. with wheelbase (LxWxH, mm)



gT-200HT

85

150-250

30

10

40

400 V / 50 Hz

12500 @ 1 kPa

44

95

Ø 400

2980x1635x2650



gT-300HT

120

230-390

30

10

40

400 V / 50 Hz

18000 @ 1 kPa

52

125

Ø 400

3400x1835x2780



gT-450HT

165

340-560

30

10

40

400 V / 50 Hz

25000 @ 1 kPa

75

215

Ø 600

3500x2315x2850



gT-650HT

320

650-1100

30

10

40

400 V / 50 Hz

26000 @ 1 kPa

105

300

Ø 600

4500x2315x2900



gT-1000HT

470

900-1500

30

10

40

400 V / 50 Hz

52000 @ 1 kPa

140

470

Ø 800

6000x2315x2900



Head Office & Manufacturing Plant

Grain Technik Pvt. Ltd.

C-2, Sector 145, Noida, Uttar Pradesh 201 306, INDIA

Mob.: +91 99711 13763 | info@graintechnik.com

www.graintechnik.com

