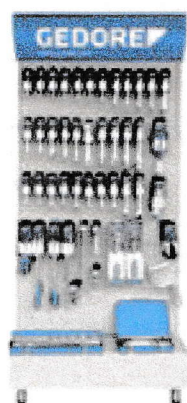




MERCHANDISERS

CONCEPTS

>240



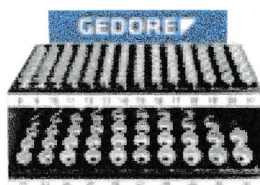
DISPLAY UNITS

>243



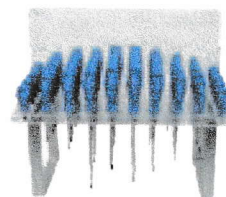
SOCKET DISPLAY BOX

>243



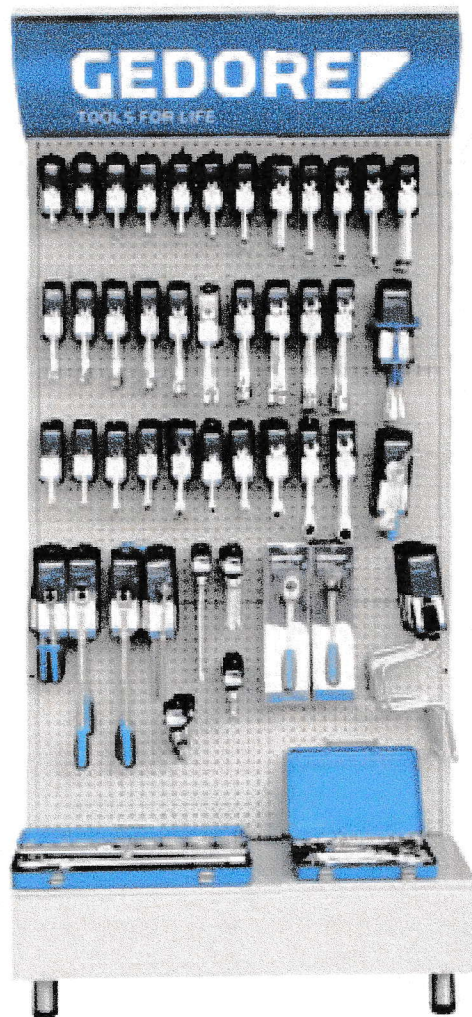
SCREWDRIVER DISPLAY UNIT

>243



CONCEPT OPTION 1

1 STAND MERCHANDISER



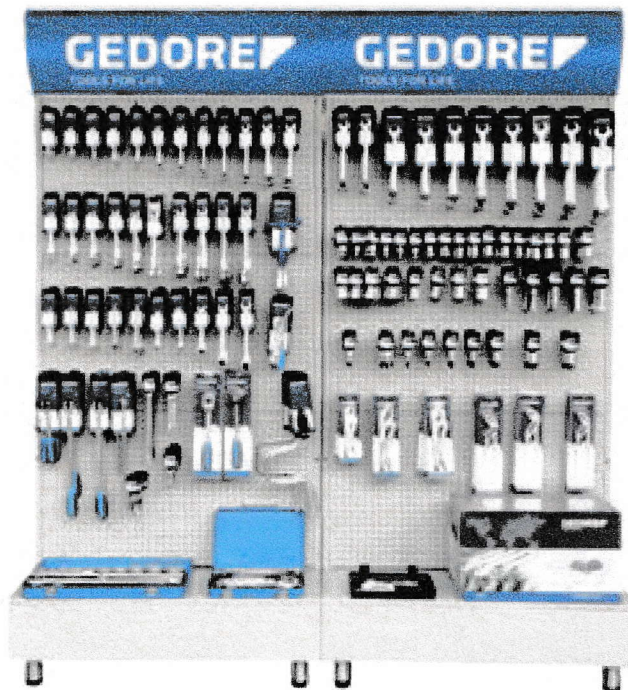
Code	No.	Opening order
1B-6mm	600040C	1
1B-7mm	600059C	1
1B-8mm	600067C	1
1B-9mm	600075C	1
1B-10mm	600083C	1
1B-11mm	600091C	1
1B-12mm	600105C	1
1B-13mm	600113C	1
1B-14mm	600121C	1
1B-15mm	600148C	1
1B-16mm	600156C	1
1B-17mm	600164C	1
1B-18mm	600172C	1
1B-19mm	600180C	1
1B-20mm	600199C	1
1B-21mm	600202C	1
1B-22mm	600210C	1
D19 8mm	613304C	1
D19 9mm	613312C	1
D19 10mm	613320C	1

Code	No.	Opening order
D19 11mm	613339C	1
D19 12mm	613347C	1
D19 13mm	613355C	1
D19 14mm	613363C	1
D19 15mm	613371C	1
D19 16mm	613398C	1
D19 17mm	613401C	1
D19 18mm	613428C	1
D19 19mm	613436C	1
D19 20mm	613444C	1
D19 21mm	613452C	1
D19 22mm	613460C	1
42-88M	012104	1
1985	614335C	1
1987	614343C	1
1990/75mm	614378C	1
1990/125mm	614386C	1
1990/250mm	614394C	1
1993 Z/94	614459C	1
1995	614475C	1

Code	No.	Opening order
1997/375	614491C	1
D19 HMZ	614610	1
36/1	6327320	1
62 / 200mm	636819	1
62 / 250mm	636827	1
137/250mm	640670	1
145 / 250mm	641200	1
225 / 250mm	645036	1
534 10mm	651206C	1
534 11mm	651214C	1
534 12mm	651222C	1
534 13mm	651230C	1
534 14mm	651249C	1
534 15mm	651257C	1
534 16mm	651265C	1
534 17mm	651273C	1
534 18mm	651516C	1
534 19mm	651281C	1
1282-C19-18MZ-PL-6SD	679232	1

CONCEPT OPTION 2

2 STAND MERCHANDISERS



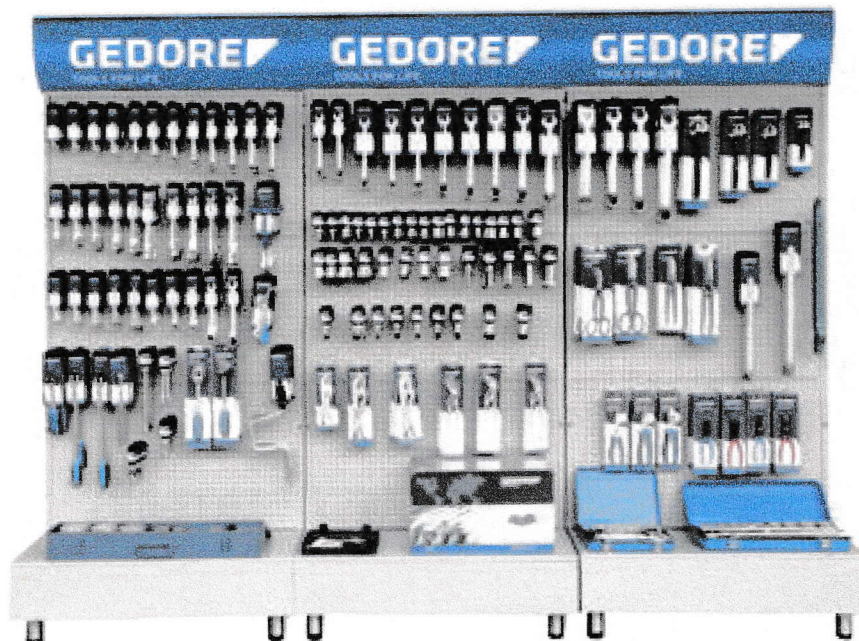
Code	No.	Opening order
1B-6mm	600040C	1
1B-7mm	600059C	1
1B-8mm	600067C	1
1B-9mm	600075C	1
1B-10mm	600083C	1
1B-11mm	600091C	1
1B-12mm	600105C	1
1B-13mm	600113C	1
1B-14mm	600121C	1
1B-15mm	600148C	1
1B-16mm	600156C	1
1B-17mm	600164C	1
1B-18mm	600172C	1
1B-19mm	600180C	1
1B-20mm	600199C	1
1B-21mm	600202C	1
1B-22mm	600210C	1
1B-23mm	600229C	1
1B-24mm	600237C	1
1B/04M	601152	1
1B/17M	601268	1
1B/26M	601276	1
D19 8mm	613304C	1
D19 9mm	613312C	1
D19 10mm	613320C	1
D19 11mm	613339C	1
D19 12mm	613347C	1
D19 13mm	613355C	1
D19 14mm	613363C	1
D19 15mm	613371C	1
D19 16mm	613398C	1
D19 17mm	613401C	1
D19 18mm	613428C	1
D19 19mm	613436C	1
D19 20mm	613444C	1
D19 21mm	613452C	1
D19 22mm	613460C	1
D19 23mm	613479C	1
D19 24mm	613487C	1

Code	No.	Opening order
IN19 5mm	615315C	1
IN19 6mm	615323C	1
IN19 7mm	615331C	1
IN19 8mm	615358C	1
IN19 9mm	615366C	1
IN19 10mm	615374C	1
IN19 12mm	615382C	1
IN19 14mm	615390C	1
IN19 17mm	615404C	1
IN19 19mm	615412C	1
42-88M	6349051	1
42KL-9M	6351978	1
43TX-09	6360959	1
1985	614335C	1
1987	614343C	1
1990/75mm	614378C	1
1990/125mm	614386C	1
1990/250mm	614394C	1
1993 U-10T	614262C	1
1993 Z/94	614459C	1
1995	614475C	1
1997/375	614491C	1
1997/450	614556C	1
D19 HMZ	614610	1
D19 TMZ	614831	1
28 PU	622761	1
36/1	6327320	1
38/400mm	633267C	1
62 / 150mm	636800	1
62 / 200mm	636819	1
62 / 250mm	636827	1
62 / 300mm	636835	1
62 / 375mm	636843	1
62 / 450mm	636851C	1
137/250mm	640670	1
145 / 250mm	641200	1
2150-2160 PH-06 ELS	1482320	1
VDE 2160-2170 PH-06	1616048	1

Code	No.	Opening order
2150-6.5	6679510C	1
2150-8.0	6679780C	1
2160 PH1	6683380C	1
2160 PH2	6683460C	1
2160 PH3	6683540C	1
2150 3-150	6680280C	1
2150 4-150	6680360C	1
2150 6.5-200	6680870C	1
2153 5.5	1482432C	1
2161 PH2	1531204C	1
225 / 250mm	645036	1
225 / 300mm	645044	1
534 10mm	651206C	1
534 11mm	651214C	1
534 12mm	651222C	1
534 13mm	651230C	1
534 14mm	651249C	1
534 15mm	651257C	1
534 16mm	651265C	1
534 17mm	651273C	1
534 18mm	651516C	1
534 19mm	651281C	1
1261	660876	1
MV-150mm	6500720	1
106	8725200	1
113	8753680	1
116A	8757670	1
4550 / 20	7601610	1
S8000	6701030	1
8132-200JC	6719670	1
8250-200JC	6707310	1
8316-200JC	6745080	1
S8003JC	6701110	1
8380-250TL	6752100	1
8531/250mm	675792	1
8531/300mm	675806	1
1282-C19-1BMZ-PL-6SD	679232	1

CONCEPT OPTION 3

3 STAND MERCHANDISERS



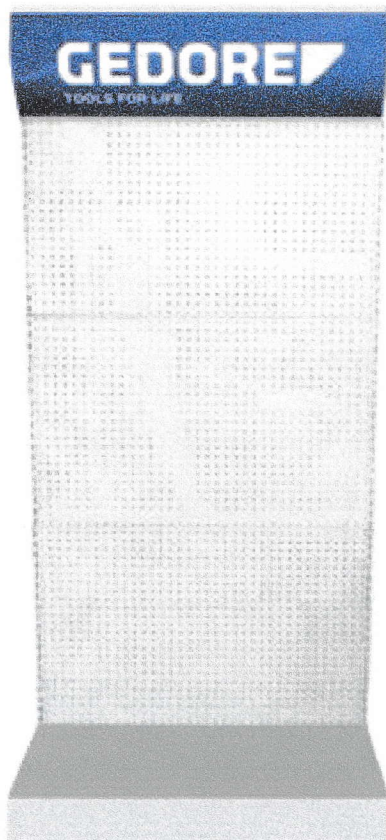
Code	No.	Opening order	Code	No.	Opening order	Code	No.	Opening order	Code	No.	Opening order
1B 6mm	600040C	1	D19 14mm	613363C	1	1985	614335C	1	2150 3-150	6680280C	1
1B 7mm	600059C	1	D19 15mm	613371C	1	1987	614343C	1	2150 4-150	6680360C	1
1B 8mm	600067C	1	D19 16mm	613398C	1	1990 / 75	614378C	1	2150 6.5-200	6680870C	1
1B 9mm	600075C	1	D19 17mm	613401C	1	1990 / 125	614386C	1	2153 5.5	1482432C	1
1B 10mm	600083C	1	D19 18mm	613428C	1	1990 / 250	614394C	1	2161 PH2	1531204C	1
1B 11mm	600091C	1	D19 19mm	613436C	1	1993U-10T	614262C	1	225/250	645036	1
1B 12mm	600105C	1	D19 20mm	613444C	1	1993 Z/94	614459C	1	225/300	645044	1
1B 13mm	600113C	1	D19 21mm	613452C	1	1995	614475C	1	225/350	645052	1
1B 14mm	600121C	1	D19 22mm	613460C	1	1997 / 375	614491C	1	225/450	645060	1
1B 15mm	600148C	1	D19 23mm	613479C	1	1997 / 450	614556C	1	225/600	645079	1
1B 16mm	600156C	1	D19 24mm	613487C	1	D19 HMZ	614610	1	534 10mm	651206C	1
1B 17mm	600164C	1	D19 25mm	613495C	1	D19 TMZ	614831	1	534 11mm	651214C	1
1B 18mm	600172C	1	D19 26mm	613509C	1	SR-D19Z-10	616834	1	534 12mm	651222C	1
1B 19mm	600180C	1	D19 27mm	613517C	1	D32 EMZ	628026	1	534 13mm	651230C	1
1B 20mm	600199C	1	D19 28mm	613525C	1	KD 26R-6	621846	1	534 14mm	651249C	1
1B 21mm	600202C	1	D19 29mm	613533C	1	28 PU	622761	1	534 15mm	651257C	1
1B 22mm	600210C	1	D19 30mm	613541C	1	33 / 65	96660	1	534 16mm	651265C	1
1B 23mm	600229C	1	D19 32mm	613576C	1	36 / 1	6327320	1	534 17mm	651273C	1
1B 24mm	600237C	1	IN19 5mm	615315C	1	38 / 400	633267C	1	534 18mm	651516C	1
1B 25mm	600245C	1	IN19 6mm	615323C	1	38 / 500	633283C	1	534 19mm	651281C	1
1B 26mm	600253C	1	IN19 7mm	615331C	1	62 / 150mm	636800	1	1261	660876	1
1B 27mm	600261C	1	IN19 8mm	615358C	1	62 / 200mm	636819	1	MV 150mm	6500720	1
1B 28mm	600288C	1	IN19 9mm	615366C	1	62 / 250mm	636827	1	106	8725200	1
1B 29mm	600296C	1	IN19 10mm	615374C	1	62 / 300mm	636835	1	113	8753680	1
1B 30mm	600318C	1	IN19 12mm	615382C	1	62 / 375mm	636843C	1	116A	8757670	1
1B 32mm	600326C	1	IN19 14mm	615390C	1	62 / 450mm	636851C	1	4550-20	760161	1
1B / 04M	601152	1	IN19 17mm	615404C	1	137 / 175	6406620	1	S 8000	6701030	1
1B / 17M	601268	1	IN19 19mm	615412C	1	137 / 250	640670	1	8132 - 200 JC	6719670	1
1B / 26M	601276	1	D19L 10mm	015705C	1	145 / 250	6412000	1	8250 - 200 JC	6707310	1
D30 FMZ	623202	1	D19L 12mm	015706C	1	2150-2160 PH-06 ELS	1482320	1	8316 - 200 JC	6745080	1
D19 8mm	613304C	1	D19L 13mm	015701C	1	VDE 2160-2170 PH-06	1616048	1	S 8003 JC	6701110	1
D19 9mm	613312C	1	D19L 17mm	015703C	1	2150-6.5	6679510C	1	8380 - 250 TL	6752100	1
D19 10mm	613320C	1	D19L 19mm	015704C	1	2150-8.0	6679780C	1	8531 / 250	675792	1
D19 11mm	613339C	1	42 88M	6349051	1	2160 PH1	6683380C	1	8531 / 300	675806	1
D19 12mm	613347C	1	42KL-9M	6351978	1	2160 PH2	6683460C	1	1282-C19-18MZ-PL6SD T/ASS	679232	1
D19 13mm	613355C	1	43TX-09	6360959	1	2160 PH3	6683540C	1	1282-C19-18MZ-10SD T/ASS	679135	1
									1282-FM-C19-18MZ-2PL T/ASS	679415	1

THE PICTURES SHOWN ON THIS PAGE IS FOR ILLUSTRATION PURPOSES ONLY. ACTUAL PRODUCTS MAY VARY DEPENDING ON CUSTOMERS REQUIREMENTS.

10002

MERCHANDISER DISPLAY UNIT

- › Ideal for displaying GEDORE tools.



Code	No. / Sizes	kg
580940	Gedore Merchandiser	52.0

1282-C19-1BMZ-PL-6SD TOOL ASSORTMENT

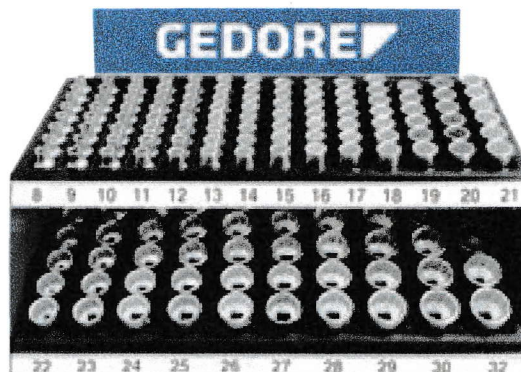
›120



VB 19E

SOCKET DISPLAY BOX

- › Sturdy structure.
- › Ideal for displaying GEDORE sockets.
- › L=530 x W=320 x H=260mm.

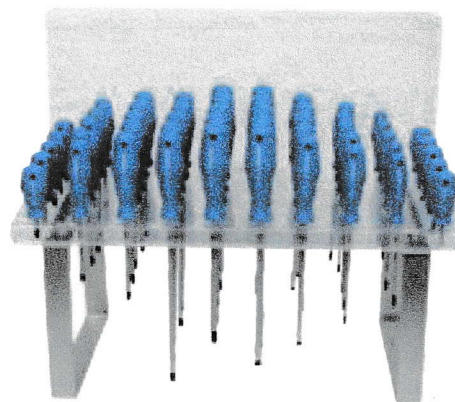


Code	No. / Sizes	kg
515248	VB 19 E Display Box - Empty	3.8
662845	VB 19 E Display Box with C19 Sockets	20.56
662846	VB 19 E Display Box with D19 Sockets	21.02

SCREWDRIVER

DISPLAY UNIT

- › Clear perspex, embossed with GEDORE logo. Metal legs.
- › Ideal for displaying GEDORE screwdrivers.
- › L=500 x W=255 x H=420mm.



Code	No. / Sizes	kg
662844	MDS 50S Merchandiser & Screwdrivers	6.0
2150 4	2150 4-150	
2150 5.5	2160 PH1	
2150 6.5	2160 PH2	
2150 8	2161 PH2	
2150 3-150	2153 5.5	

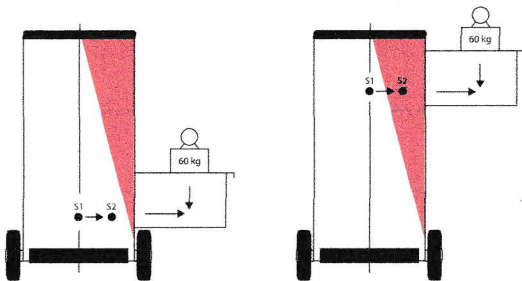
WE TAKE YOUR HEALTH SERIOUSLY.

To ensure that you use our tools safely, please make yourself familiar with the following information.*

Why should heavy tools be stored in the bottom drawer?

- › Always store the heaviest tools in the bottom (heavy duty) drawer.
- › When the bottom drawer is opened, the centre of gravity is relocated to a safe range.
- › Storing heavy tools in the upper drawers relocates the centre of gravity upwards.
- › When the drawer is opened, the centre of gravity is relocated to a critical range.
- › This makes the tool trolley very susceptible to lateral forces. If the trolley is exposed to lateral forces such as impact, it can overturn.
- › Always observe the load capacity for each drawer to ensure that you always stay in the safe range.

- › S 1 = tool trolley centre of gravity when the drawer is closed
- › S 2 = tool trolley centre of gravity when the drawer is opened
- › Red = critical range-danger of overturning



General

- › Always wear safety goggles for tasks involving chips or the possibility of parts splintering.
- › Only use the hand tools for their intended purpose.
- › Never modify or tamper with tools. Exceptions: Professional regrinding of chisels, scrapers, cutting tools as well as hammer edges.
- › Never work with damaged tools. Damaged tools must be replaced immediately.
- › Handles must be free of oil and grease.
- › Depending on the task, protect your hands by wearing work gloves.
- › Work on live circuits may only be performed by qualified personnel using suitable VDE tools.
- › Choose a safe surface to ensure stability. Wear safety shoes.
- › Wear the specified ear protection when working in noisy environments.

* Furthermore, the relevant safety guidelines of various institutions apply, e.g. the guidelines of the trade associations, employers' instructions and the statutory specifications of the respective country.



Tool trolley

- › Read the operating instructions.
- › Open only one drawer at a time, when more than one drawer is open it increases the chance of the trolley tipping over.
- › Always keep the heaviest tools in the lower (heavy) drawer. Storage in the top drawers increases the chance of the trolley tipping over.
- › Take note of the permissible load capacity of each drawer and the total carrying capacity of the trolley.
- › Never store pointed or sharp items loosely in the tool chest. Scribers can be made safe by sticking them in a cork.
- › Only move the trolley when all the drawers are closed and locked.
- › When the trolley is stationary always set the safety brake on the swivel castors to avoid movement.



Tool chests

- › Do not climb or step onto the tool chest.
- › Never store pointed or sharp items loosely in the tool chest. Scribers can be made safe by sticking them in a cork.
- › To avoid injury keep your back straight when attempting to lift the tool chest.



Spanners

- › Only use spanner sizes and profiles which fit the bolt or nut head.
- › Do not use spanners as levers or as striking tools.
- › Select the spanner in accordance with the screwed connection. This particularly applies to screwed connections with high torques.
- › Never extend the tool lever arm except when the tools are designed especially for this purpose, e.g. single ended ring spanners.
- › Never hit a spanner with a hammer except when the tools have an area designed especially for this purpose, e.g. slogging spanners.
- › Always apply the spanner at a right angle to the bolt axis.
- › Always pull the spanner towards you. Never push the spanner away from you. If for any reason you can only press the spanner away from you, use your open hand to prevent injuring your knuckles.
- › Ring spanners transmit the forces more consistently. Ring spanners are therefore more suitable for large torques.
- › Apply open ended spanners in such a way that the angle of the jaw is facing in the direction of rotation.
- › If a torque is required for the screwed connection, use a torque wrench.
- › Never work with damaged spanners or attempt to repair them, rather replace them.



Screwdrivers

- › Choose the screwdriver which is suitable for the respective bolt head profile.
- › Place the workpiece on a ledge or clamp it. This helps to avoid injuries incurred by sliding blades.
- › Avoid cuts by directing the requisite pressure for releasing or tightening the bolt head away from your body.
- › Wear protective gloves when working with screwdrivers.
- › If the screwdriver is too long, do not under any circumstances shorten the blade or handle. Choose a shorter screwdriver.
- › Do not use the screwdriver as a caulking or crushing tool.
- › Light hammer impact may only be applied for loosening screws using suitable screwdrivers with striking cap or continuous blade.
- › If the bolt fails to loosen, use the GEDORE impact driver set No. K 1900-013 to release the bolt without destroying it.
- › Insulated and tested screwdrivers must be used when working on electrical systems.

VDE tools

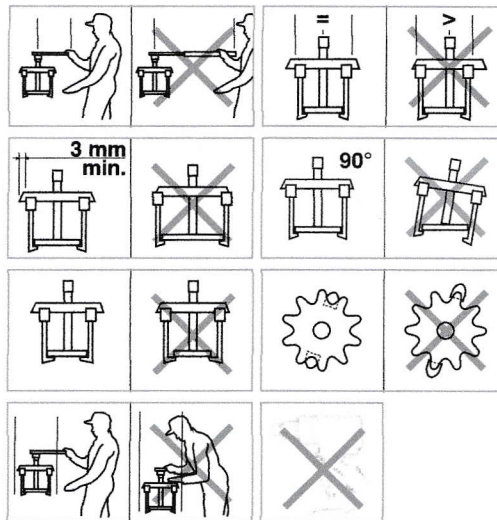
- › Work on electrically live equipment may only be carried out by trained electricians.
- › Only tools and safety equipment marked with the double triangle or bell 1000V symbol may be used.
- › Before commencing any work, check the insulation for damage.
- › Damaged tools must not be used.
- › The regulations of the employers' liability insurance associations and power supply companies must be complied with.
- › GEDORE VDE tools are approved for work on live circuits at voltages up to 1000V AC and 1500V DC.
- › Tools must not be combined unless they are designed to be securely joined together.

Ratchets, tools and sockets

- › Ratchets are suitable for quick loosening and tightening.
- › Avoid jerky movements with the ratchet, e.g. caused by hammer impact.
- › The square drive and the tool and socket square drive must be of the same size.
- › Select the drive size in accordance with the screwed connection. This particularly applies to screwed connections with high torques.
- › Ensure that the ball engages properly in the ball catch.
- › Always pull the spanner towards you. Never push the spanner away from you. If for any reason you can only press the spanner away from you, use your open hand to prevent injuring your knuckles.
- › Only use suitable sockets and connections for the impact driver. Use a safety pin and ring to secure the connection between the socket, extension and machine.
- › When using reducers, the smaller drive's torque always applies.
- › Do not use ratchets as levers or as striking tools.

Pullers

- › Read the operating instructions.
- › Use only original spare parts and accessories for your GEDORE puller. Never use worn, modified or defective spare parts or accessories.
- › Wear goggles and protective clothing when working. For added safety, use the GEDORE safety cover 5.10.
- › Before pulling, ensure that the legs are in contact with the part to be pulled and are firmly tightened so that the spindle operates centrally along the axis of the puller.
- › Attention! When using a puller, forces of up to several tons are generated. Take care to ensure that the puller is correctly positioned and is vertical to the component being pulled.
- › Do not use electric or pneumatic power or percussion drivers.



Pipe bending systems

- › Read the operating instructions.
- › Never use defective or worn pipe bending systems.
- › Replace defective or worn parts with original parts.
- › Use suitable systems and tools for bending.
- › Wear safety goggles, safety shoes and protective clothing.
- › Ensure stability of the pipe bending system during the bending process.

Cutting tools

- › Always set cutting tools down on a clearly visible place. Handles should always point towards you.
- › Sharpen your cutting tools regularly. Blunt cutting tools represent a greater risk of injury than sharp ones. Blunt cutting tools require more force to be applied.
- › Store cutting tools separately. This protects the blades and your fingers.
- › Set shears down with their tips closed. This protects the blades and your fingers.

Safety notes for striking tools

Chisels

- › Wear safety glasses and safety gloves.
- › Before starting work, check that the chisel blade is sharp and the striking end is burr-free. The blades must be properly wet-sharpened.
- › Select the appropriate type and size of chisel for the work to be carried out.
- › Hold the chisel with a firm grip.
- › When working, keep your eyes on the chisel tip.
- › Wherever possible, use a chisel with hand guard.
- › Never use chisels on workpieces harder than 40 HRC.
- › Set safety guards in place to prevent splinters and chips posing a hazard for other people.

Centre punches, drifts and mortise chisels

- › These tools are subject to the same safety rules as chisels.

Torque tools

- › Read the operating instructions.
- › Only use correctly calibrated torque wrenches.
- › Treat torque wrenches as measuring equipment. Store torque wrenches carefully.
- › Only use torque wrenches within the permissible torque range.
- › Stop tightening the bolt immediately once you feel and hear the click signal.
- › Apply the torque wrench at a right angle to the screwed connection.
- › Only use original end fittings or accessories which fit the respective torque wrench.
- › Where possible, do not use any reducers.
- › Never loosen bolts using a torque wrench.
- › Never use the torque wrench as a hammer.
- › Slacken the torque wrench after completing work.
- › Never use defective or worn accessory parts. Replace defective or worn parts with original parts.
- › Only use one hand on the handle of the torque wrench; two-handed operation is only possible using DREMOMETER A - F.



Torque multipliers

- › Read the operating instructions.
- › Wear safety goggles, safety shoes and protective clothing.
- › Always inspect the torque multiplier for damage before use.
- › Never use electric, pneumatic or battery operated torque multipliers or impact wrenches.
- › Never exceed the specified maximum input torque.
- › Always use impact sockets in accordance with DIN 3129 or ISO 2725-2 and ISO 1174.
- › Always securely connect the reaction arm to the support bolt.
- › Never extend the impact socket or connector between bolt and torque multiplier.
- › Never use a universal or cardan joint.
- › Never hit the torque multiplier with a hammer.
- › Do not drop the torque multiplier.
- › Never use the torque multiplier if it has been dropped, used to strike other objects, or if anything has fallen on it.
- › Always keep hands and fingers away from the reaction arm.
- › Always select an anchor point (wall, another bolt) sufficient to withstand torque reaction forces. Reaction torque equals output torque.
- › Never allow the gearbox to touch a wall or other object.
- › Never modify the reaction arm without consulting with the manufacturer.



Hammers

- › Always wear safety glasses and safety gloves.
- › Use the hammer only for its intended purpose.
- › Never misuse the hammer as a lever.
- › Before starting work, check that the hammer head is securely attached to the shaft.
- › Select the appropriate size hammer for the work to be carried out.
- › Never hit two hammers together.
- › Never use steel hammers on workpieces harder than 46HRC. Use suitable plastic-faced hammers for this. If in doubt, rather use a suitable plastic-faced hammer.
- › Avoid bouncing blows.
- › Use only the work faces of the hammer. Blows with the side face damage the non-hardened hammer eye. This can loosen the grip of the shaft in the hammer head.
- › If a burr forms on the peen or face of the hammer head, this must be immediately removed. Failure to do this can pose the risk of splintering when the hammer is in use.
- › Grip the hammer shaft as far away from the hammer head as possible. This improves the impact effect and avoids vibrations.
- › Do not store hammers with wooden shafts in warm, dry environments. Wood is a natural product. Dry, warm storage conditions can cause the shaft to lose moisture and shrink, so that the hammer shaft is no longer a tight fit in the hammer head.
- › Do not store the wooden shaft in too damp conditions! Too much moisture causes the wooden shaft to swell up and damages the wooden fibres. This can result in the wooden shaft snapping behind the eye area.



Safety notes

- › For engines with ignition coils integrated in the spark plug connector (coil-on-plug), use only spark plug sockets with retainer springs. (No. 50 - 59).
- › Do not use magnetic spark plug spanners on coil-on-plug spark plugs.
- › This can result in control unit faults.



Work gloves

- › Read the operating instructions.
- › Ensure that your work gloves are suitable for the respective task to be performed.
- › Examine your work gloves for damage before use. Damaged work gloves must be replaced.
- › Only work using work gloves which fit your hands perfectly.
- › Store your work gloves in a clean and dry place.



Safety goggles

- › Read the operating instructions.
- › Ensure that your safety goggles are suitable for the respective task to be performed.
- › Examine your safety goggles for damage before use. Damaged safety goggles must be replaced.
- › Store safety goggles in dry areas. Use the black plastic bag provided for this purpose. This will help you to avoid scratches on the lenses.
- › Clean the lenses regularly under running water, not when dry.
- › Do not wear safety goggles on top of standard spectacles. Mechanical effects can be transferred which may be dangerous.



Ear protection

- › Read the operating instructions.
- › Ensure that your ear protection is suitable for the respective task to be performed.
- › Examine your ear protection for damage before use. Ear protection displaying damage must be replaced.
- › Wear ear protection for the entire duration of your stay in noisy areas.
- › Store your ear protection in a clean and dry place.
- › Avoid impact against the earpieces. Otherwise, this can lead to a noise level which is harmful for your ears.



Pliers

- › Wear protective goggles when working with pliers. Ejected bits of wire and circlips not positioned correctly in the tip of the pliers pose a risk to your eyes.
- › Check on the jaws for wear and tear. Worn jaws result in slipping and thus in accidents.
- › The joint of the pliers is not to have any noticeable play. Exceptions are the sliding joints.
- › When cutting wire, choose pliers that match the wire diameter and wire hardness.
- › Never use pliers as hammers.
- › Only insulated and tested pliers are to be used when working on electrical equipment.
- › Grip wrenches are only for briefly fixing workpieces.



TIGHTENING / TEST TORQUE

Suggested bolt tightening torque in Nm (Newton metres)							Wrench/spanner test torques in accordance with DIN ISO 1711-1 (minimum guaranteed values) Nm							
These torque levels are guideline values for metric standard threads in accordance with DIN ISO 261 and head sizes in accordance with DIN EN ISO 4762, DIN EN ISO 4032, DIN EN ISO 4014, and DIN 931-2, 6912, 7984 und 7990. These produce a 90% utilisation of the bolt yield strength. The calculations are based on a friction coefficient of 0.14 (new bolt) without any after treatment, (non-lubricated). Please note: in extreme cases, e.g. for bolts lubricated with MOS2 compound and with cadmium plated connecting elements on both sides, the tightening torque should be reduced by around 20 %.								No. 2, 2A, 2B No. 1B, 308, 7	No. 4	No. 6, No. 1B, 7, 400	No. 25	No. 26 R No. 626	No. 35 A No. 35 B No. 3112	No. 894 No. 895
							mm							
	Tightening values for quality grade as per DIN 267													
	4.6	5.6	6.9	8.8	10.9	12.9								
M 2	0,123	0,162	0,314	0,373	0,520	0,628	4			1,90				
M 2,2	0,196	0,265	0,510	0,598	0,843	1,010	4,5*			2,64				
M 2,5	0,284	0,373	0,726	0,863	1,206	1,451	5	11,5		3,55				
M 3	0,441	0,588	1,128	1,344	1,883	2,256	5,5	14,4		4,64		14,4		2,32
M 3,5	0,677	0,902	1,736	2,060	2,893	3,481	6*	17,6	7,4	5,92		17,6		2,96
M 4	1,000	1,344	2,599	3,040	4,315	5,148	7	25,2	11,4	9,12		25,2		4,56
M 5	1,916	2,648	5,099	6,031	8,483	10,200	8	34,5	16,6	13,3		34,5	34,5	6,65
M 6	3,432	4,511	8,728	10,300	14,710	17,652	9*	45,4	23	18,4		45,4	45,4	9,20
M 7	5,590	7,453	14,220	17,162	24,517	28,439	10	58,1	31	24,8	58,1	58,1	58,1	12,4
M 8	8,238	10,787	21,575	25,497	35,304	42,168	11	72,7	40,4	32,3	72,7	72,7	72,7	16,1
M 10	16,67	21,575	42,168	50,014	70,608	85,317	12*	89,1	51,5	41,2	89,1	89,1	89,1	20,6
M 12	28,44	38,246	73,550	87,279	122,60	147,10	13	107	64,5	51,6	107	107	107	25,8
M 14	45,11	60,801	116,70	138,30	194,20	235,40	14*	128	79,4	63,5	128	128	128	31,7
M 16	69,63	93,163	178,5	210,80	299,10	357,90	15	150	96,2	77,0	150	150	150	38,5
M 18	95,12	127,50	245,20	289,3	411,90	490,30	16	175	115	92,3	175	175	175	46,1
M 20	135,3	180,45	384,10	411,90	578,60	696,30	17*	201	134	107	201	201	201	53,5
M 22	182,4	245,16	470,70	559,00	784,50	941,40	18	230	160	128	230	230	230	64,0
M 24	230,5	308,91	598,20	711,00	1000	1196	19*	261	186	149	261	261	261	74,5
M 27	343,2	460,90	887,50	1049	1481	1775	20*	294	215	172	294	294	294	86,0
M 30	465,8	622,72	1206	1422	2010	2403	21	330	247	198	330	330	330	99,0
M 33	632,5	848,30	1628	1932	2716	3266	22*	368	281	225	368	368	368	112
M 36	814,0	1089	2099	2481	3491	4197	23*	408	319	255	408	408	408	127
M 39	1059	1412	2716	3226	4531	5443	24	451	359	287	451	451	451	143
M 42	1304	1746	3364	3991	5609	6727	25*	496	402	322	496	496	496	161
M 45	1638	2177	4207	4992	7012	8414	26*	544	449	359	544	544	544	179
M 48	1981	2638	5080	6021	8473	10150	27	594	499	399	594	594	594	199
M 52	2540	3393	6541	7747	10885	13092	28*	647	552	442	647	647	647	221
M 56	3168	4227	8149	9650	13582	16279	30	760	670	536	760	760	760	268
M 60	3932	5247	10101	11964	16867	20202	32*	884	804	643	884	884	884	321
M 64	4737	6306	12160	14416	20300	24320	34	1019	951	761	1019	1019	1019	381
							36	1165	1117	894	1165	1165	1165	447
							41	1579	1442	1154	1579	1579	1579	577
							46	2067	1816	1453	2067	2067	2067	726
							50	2512	2145	1716	2512	2512	2512	858
							55	3140		2077	3140	3140	3140	1038
							60	3849		2471	3849		3849	1235
							65	4021		2900	4021		4021	1422
							70	4658		3364	4658		4658	1618
							75	5394		3862			5394	1765
							80	6178		4394			6178	1912
							85	6963					6963	2059
							90	7845					7845	-
							95	8336					8336	-

* These sizes are not included in DIN ISO 272

Note: In reference to the spanner test torque as per DIN ISO 1711-1 column, we explicitly point out that these are minimum guarantee values.

Bolts from M39 in quality grades 4.6, 5.6, 6.9, 8.8, 10.9 and 12.9 are not standardised.

TIGHTENING / TEST TORQUE

Wrench/spanner test torques in accordance with DIN ISO 1711-1 (minimum guaranteed values) Nm						Test torques for tightening tools for hexagon socket head screws									
		With internal square as per DIN 3120					DIN EN ISO 4762		No. 42T, DT42 No. 42, 42EL	No. IN 34	With hexagon head as per DIN 7422				
		6,3	10	12,5	20	25					6,3	10	12,5	20	25
		No. 20 No. D 20	No. 30 No. D 30	No. 19 No. D 19	No. 32 No. D 32	No. D 21					No. IN 20	No. IN30	No. IN 19	No. IN 32	No. IN 21
															
		1/4"	3/8"	1/2"	3/4"	1"					1/4"	3/8"	1/2"	3/4"	1"
M 2	4	10,4					1,5	0,82							
M 2,2	4,5*	12,6					2	1,9							
M 2,5	5	15,1													
M 3	5,5	17,8					2,5	3,8							
M 3,5	6*	20,6 23,2													
M 4	7	26,8 33,2					3	6,6	6,6	6,6					
M 5	8	33,6	45,5	94,1			4	16	16	16	16	16			
	9*	41,1	59,9	119,2											
M 6	10	49,1	76,7	147			5	30	30	30	30	30			
M 7	11	57,8	96	178											
	12*	67,0	118	212											
M 8	13	68,6	141	249			6	52	52	52	52	52			
	14*	68,6	169	288			7	80		78	78				
M 10	15		198	331			8	120	120	120	120	120			
	16		225	377											
	17*		225	425			9	165				165			
M 12	18		225	477			10	220	220		220	220			
	19*		225	531											
	20*		225	569			12	370	370			370			
M 14	21		225	569											
	22*		225	569		569									
	23*			569		569									
M 16	24			569		569	14	590	590			590	590		
	25*			569		583									
	26*			569		624									
M 18	27			569		665									
	28*			569		707									
M 20	30			569		795	17	980	980			1000	1000	1000	
M 22	32*			569		888									
	34			569		984									
M 24	36				1084	1677	19	1360	1360			1400	1400	1400	
M 27	41				1353	1910									
M 30	46				1569	2143	22	2110				2100	2100		
M 33	50				1569	2329	24	2750					2700		
M 36	55				1569	2562	27	3910							
M 39	60				1569	2795	30	4000							
M 42	65					2795	32	4000							
M 45	70					2795									
M 48	75					2795	36	4000							
M 52	80					2795									
M 56	85														
M 60	90														
M 64	95														

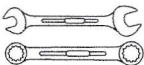
The matching test torques are derived from the theoretical load capability of the connecting square drive.

Note: Hand tightening sockets are unsuited to use with impact drivers. Inappropriate use poses an accident risk.

HEAD WIDTHS AND THREAD DIAMETERS

Nominal size DIN ISO 272 normal (large) mm	Thread diameter Ø		Nominal size	Nominal size		Thread diameter Ø		Nominal size	
	Metric as per DIN ISO 272	Metric for high- tensile bolted structural joints as per EN 14399-4	mm	Inch	mm	mm	BS 916, 1083	Inch	mm
3,2 (-) 4 (-)	1,6 2								
5 (-) 5,5 (-)	2,5 3		5/32 3/16	0,1562 0,1875	3,97 4,76	8 BA 7 BA 6 BA		0,152 0,172 0,193	3,86 4,37 4,90
7 (-) 8 (-)	4 5		7/32 1/4	0,2187 0,2500	5,56 6,35	5 BA 4 BA 1/16 W		0,220 0,248 0,256	5,59 6,30 6,90
10 (-) 11 (-)	6 7		9/32 5/16	0,2812 0,3125	7,14 7,94	3 BA 3/32 W 2 BA		0,282 0,297 0,324	7,16 7,54 8,23
13 (-) 16 (-)	8 10		11/32 3/8 13/32	0,3438 0,3750 0,4062	8,73 9,52 10,32	1/8 W 1 BA 0 BA	(3/16) (7/32)	0,340 0,365 0,413	8,64 9,27 10,49
18 (21) 21 (24) 22	12 14		7/16 1/2	0,4375 0,5000	11,11 12,70	3/16 W 1/4 W	1/4 5/16	0,445 0,525	11,30 13,34
24 (27) 27 (30)	16 18	16	9/16 19/32 5/8	0,5625 0,5938 0,6250	14,29 15,08 15,88	5/16 W	3/8	0,600	15,24
30 (34) 32 34 (36)	20 22	20	11/16 3/4	0,6875 0,7500	17,46 19,05	3/8 W	7/16	0,710	18,03
36 (41) 41 (46)	24 27	22 24	25/32 13/16 7/8	0,7812 0,8125 0,8750	19,84 20,64 22,22	7/16 W	1/2	0,820	20,83
46 (50) 50 (55)	30 33	27 30	15/16 1.	0,9375 1,0000	23,81 25,40	1/2 W	9/16	0,920	23,37
55 (60) 60 (65)	36 39	36	1.1/16	1,0625	26,99	9/16 W 5/8 W	5/8 (11/16)	1,010 1,100	25,65 27,94
65 70	42 45		1.1/8 1.3/16 1.1/4	1,1250 1,1875 1,2500	28,58 30,16 31,75	11/16 W	3/4	1,200	30,48
75 80	48 52		1.5/16 1.3/8 1.7/16	1,3125 1,3750 1,4375	33,34 34,92 36,51	3/4 W 13/16 W	7/8 (15/16)	1,300 1,390	33,02 35,31
85 90	56 60		1.1/2 1.5/8 1.11/16	1,5000 1,6250 1,6875	38,10 41,28 42,86	7/8 W 1. W	1. 1.1/8	1,480 1,670	37,59 42,42
95 100	64 68		1.3/4 1.13/16 1.7/8	1,7500 1,8125 1,8750	44,45 46,04 47,62	1.1/8 W	1.1/4	1,860	47,24
105 110	72 76		2. 2.1/16 2.3/16	2,0000 2,0625 2,1875	50,80 52,39 55,56	1.1/4 W	1.3/8	2,050	52,07
115 120	80 85		2.1/4 2.3/8 2.7/16	2,2500 2,3750 2,4375	57,15 60,32 61,91	1.3/8 W 1.1/2 W	1.1/2 1.5/8	2,220 2,410	56,39 61,21
130	90		2.9/16 2.5/8 2.3/4	2,5625 2,3750 2,7500	65,09 66,68 69,85	1.5/8 W 1.3/4 W	1.3/4 2.	2,580 2,760	65,53 70,10
135	95		2.13/16 2.15/16 3	2,8125 2,9375 3,0000	71,44 74,61 76,20	(1.7/8W)			76,70
145	100		3.1/8 3.3/8 3.1/2	3,1250 3,3750 3,5000	79,38 85,72 88,90		2.1/4 2.1/2	3,150 3,550	80,01 90,17
150	105		3.3/4 3.7/8	3,7500 3,8750	95,25 98,42		2.3/4	3,890	98,81
155	110		4.1/8 4.1/4 4.1/2	4,1250 4,2500 4,5000	104,78 107,95 114,30		3. 3.1/4	4,180 4,530	106,17 115,06
165	115		4.5/8 4.7/8 5.	4,6250 4,8750 5,0000	117,48 123,82 127,00		3.1/2	4,850	123,19
170	120		5.1/4 5.3/8 5.5/8	5,2500 5,3750 5,6250	133,35 136,52 142,88		3.3/4 4.	5,180 5,550	131,57 140,97
180	125		5.3/4 6. 6.1/8	5,7500 6,0000 6,1250	146,05 152,40 155,58		4.1/2	6,380	162,05
185	130								
200	140								
210	150								

SPANNER SIZES TOLERANCE FOR BOLTS AND SOCKET WRENCHES

Nominal size/s in mm	Tolerance class 1 as per ISO 691 dimensions		Tolerance class 2 ¹ as per ISO 691 dimensions	
 mm				
	min.	max.	min.	max.
2 ≤ s < 3	+ 0,02	+ 0,08	+ 0,02	+ 0,12
3 ≤ s < 4	+ 0,02	+ 0,10	+ 0,02	+ 0,14
4 ≤ s < 6	+ 0,02	+ 0,12	+ 0,02	+ 0,16
3 ≤ s < 10	+ 0,03	+ 0,15	+ 0,03	+ 0,19
10 ≤ s < 12	+ 0,04	+ 0,19	+ 0,04	+ 0,24
12 ≤ s < 14	+ 0,04	+ 0,24	+ 0,04	+ 0,30
14 ≤ s < 17	+ 0,05	+ 0,27	+ 0,05	+ 0,35
17 ≤ s < 19	+ 0,05	+ 0,30	+ 0,05	+ 0,40
19 ≤ s < 26	+ 0,06	+ 0,36	+ 0,06	+ 0,46
26 ≤ s < 33	+ 0,08	+ 0,48	+ 0,08	+ 0,58
33 ≤ s < 55	+ 0,10	+ 0,60	+ 0,10	+ 0,70
55 ≤ s < 75	+ 0,12	+ 0,72	+ 0,12	+ 0,92
75 ≤ s < 105	+ 0,15	+ 0,85	+ 0,15	+ 1,15
105 ≤ s < 150	+ 0,20	+ 1,00	+ 0,20	+ 1,40
150 ≤ s < 210	+ 0,25	+ 1,22	-	-

This tolerance class applies only to ring spanners or socket wrenches that have not been manufactured by material removal.

Spanner sizes in accordance with this international standard must be marked with:

- Spanner head size.
- Reference to the international standard, i.e. ISO 691.
- Nominal sizes in millimetres.
- Tolerance class 1 or 2.

Conversion tables Inch to decimal-inches and mm

in.	dec.in.	mm.
0	0	0
1/64	0.015625	0,3969
1/32	0.03125	0,7938
3/64	0.046875	1,1906
1/16	0.0625	1,5875
5/64	0.078125	1,9844
3/32	0.09375	2,3812
7/64	0.109375	2,7781
1/8	0.125	3,1750
9/64	0.140625	3,5719
5/32	0.15625	3,9688
11/64	0.171875	4,3656
3/16	0.1875	4,7625
13/64	0.203125	5,1594
7/32	0.21875	5,5562
15/64	0.234375	5,9531
1/4	0.25	6,3500
17/64	0.265625	6,7469
9/32	0.28125	7,1438
19/64	0.296875	7,5406
5/16	0.3125	7,9375
21/64	0.328125	8,3344
11/32	0.34375	8,7312
23/64	0.359375	9,1281
3/8	0.375	9,5250
25/64	0.390625	9,9219
13/32	0.40625	10,3188
27/64	0.421875	10,7156
7/16	0.4375	11,1125
29/64	0.453125	11,5094
15/32	0.46875	11,9062
31/64	0.484375	12,3031

in.	dec.in.	mm.
1/2	0.5	12,7000
33/64	0.515625	13,0969
17/32	0.53125	13,4938
35/64	0.546875	13,8906
9/16	0.5625	14,2875
37/64	0.578125	14,6844
19/32	0.59375	15,0812
39/64	0.609375	15,4781
5/8	0.625	15,8750
41/64	0.640625	16,2719
21/32	0.65625	16,6688
43/64	0.671875	17,0656
11/16	0.6875	17,4625
45/64	0.703125	17,8594
23/32	0.71875	18,2562
47/64	0.734375	18,6531
3/4	0.75	19,0500
49/64	0.765625	19,4469
25/32	0.78125	19,8438
51/64	0.796875	20,2406
13/16	0.8125	20,6375
53/64	0.828125	21,0344
27/32	0.84375	21,4312
55/64	0.859375	21,8281
7/8	0.875	22,2250
57/64	0.890625	22,6219
29/32	0.90625	23,0188
59/64	0.921875	23,4156
15/16	0.9375	23,8125
61/64	0.953125	24,2094
31/32	0.96875	24,6062
63/64	0.984375	25,0031
1	1	25,4000

TORQUE CONVERSION TABLES

Units to be	Torque conversion factors								Corresponding unit
	= mNm	= cNm	= Nm	= ozf-in	= lbf-in	= lbf-ft	= gf-cm	= f-cm (kp-cm)	= kgf-m (kp-m)
1 mN-m	1	0,1	0,001	0,142	0,009	0,0007	10,2	0,01	0,0001
1 cN-m	10	1	0,01	1,416	0,088	0,007	102	0,102	0,001
1 N-m	1000	100	1	141,6	8,851	0,738	10197	10,2	0,102
1 ozf-in	7,062	0,706	0,007	1	0,0625	0,005	72	0,072	0,0007
1 lbf-in	113	11,3	0,113	16	1	0,083	1152,1	1,152	0,0115
1 lbf-ft	1356	135,6	1,356	192	12	1	13826	13,83	0,138
1 gf-cm	0,098	0,01	0,0001	0,014	0,0009	0,00007	1	0,001	0,00001
1 kgf-cm (kp-cm)	98,07	9,807	0,098	13,89	0,868	0,072	1000	1	0,01
1 kgf-m (kp-m)	9807	980,7	9,807	1389	86,8	7,233	100000	100	1

Application

Conversion formula:

Units to be converted x factor
= corresponding unit

Example:

Conversion of 5lbf-ft in cNm

Solution:

5 x 135,6 = 678cNm

Conversion from m in kgf-m (kp-m)

N-m	0	1	2	3	4	5	6	7	8	9
0	0,00	0,10	0,20	0,31	0,41	0,51	0,61	0,71	0,82	0,92
10	1,02	1,12	1,22	1,33	1,43	1,53	1,63	1,73	1,84	1,94
20	2,04	2,14	2,24	2,35	2,45	2,55	2,65	2,75	2,86	2,96
30	3,06	3,16	3,26	3,37	3,47	3,57	3,67	3,77	3,87	3,98
40	4,08	4,18	4,28	4,38	4,49	4,59	4,69	4,79	4,89	5,00
50	5,10	5,20	5,30	5,40	5,51	5,61	5,71	5,81	5,91	6,02
60	6,12	6,22	6,32	6,42	6,53	6,63	6,73	6,83	6,93	7,04
70	7,14	7,24	7,34	7,44	7,55	7,65	7,75	7,85	7,95	8,06
80	8,16	8,26	8,36	8,46	8,57	8,67	8,77	8,87	8,97	9,08
90	9,18	9,28	9,38	9,48	9,59	9,69	9,79	9,89	9,99	10,10
100	10,20	10,30	10,40	10,50	10,60	10,71	10,81	10,91	11,01	11,11

1N-m = 0,102 kgf-m

Conversion from kgf-m (kp-m) in Nm

kgf-m(kp-m)	0	1	2	3	4	5	6	7	8	9
0	0,00	9,81	19,61	29,42	39,23	49,03	58,84	68,65	78,45	88,26
10	98,07	107,87	117,68	127,49	137,29	147,10	156,91	166,71	176,52	186,33
20	196,13	205,94	215,75	225,55	235,36	245,17	254,97	264,78	274,59	284,39
30	294,20	304,01	313,81	323,62	333,43	343,23	353,04	362,85	372,65	382,46
40	392,27	402,07	411,88	421,69	431,49	441,30	451,11	460,91	470,72	480,53
50	490,33	500,14	509,95	519,75	529,56	539,37	549,17	558,98	568,79	578,59
60	588,40	598,21	608,01	617,82	627,63	637,43	647,24	657,05	666,85	676,66
70	686,47	696,27	706,08	715,89	725,69	735,50	745,31	755,11	764,92	774,73
80	784,53	794,34	804,15	813,95	823,76	833,57	843,37	853,18	862,99	872,79
90	882,60	892,41	902,21	912,02	921,83	931,63	941,44	951,25	961,05	970,86
100	980,67	990,47	1000,28	1010,08	1019,89	1029,70	1039,50	1049,31	1059,12	1068,92

1 kgf-m (kp-m) = 9,807 N-m

Conversion from N-m in lbf-ft

N-m	0	1	2	3	4	5	6	7	8	9
0	0,00	0,74	1,48	2,21	2,95	3,69	4,43	5,16	5,90	6,64
10	7,38	8,11	8,85	9,59	10,33	11,06	11,80	12,54	13,28	14,01
20	14,75	15,49	16,23	16,96	17,70	18,44	19,18	19,91	20,65	21,39
30	22,13	22,86	23,60	24,34	25,08	25,81	26,55	27,29	28,03	28,76
40	29,50	30,24	30,98	31,72	32,45	33,19	33,93	34,67	35,40	36,14
50	36,88	37,62	38,35	39,09	39,83	40,57	41,30	42,04	42,78	43,52
60	44,25	44,99	45,73	46,47	47,20	47,94	48,68	49,42	50,15	50,89
70	51,63	52,37	53,10	53,84	54,58	55,32	56,05	56,79	57,53	58,27
80	59,00	59,74	60,48	61,22	61,96	62,69	63,43	64,17	64,91	65,64
90	66,38	67,12	67,86	68,59	69,33	70,07	70,81	71,54	72,28	73,02
100	73,76	74,49	75,23	75,97	76,71	77,44	78,18	78,92	79,66	80,39

1N-m=0,7376 lbf-ft

Conversion from lbf-ft in N-m

lbf-ft	0	1	2	3	4	5	6	7	8	9
0	0,00	1,36	2,71	4,07	5,42	6,78	8,13	9,49	10,85	12,20
10	13,56	14,91	16,27	17,63	18,98	20,34	21,69	23,05	24,40	25,76
20	27,12	28,47	29,83	31,18	32,54	33,90	35,25	36,61	37,96	39,32
30	40,67	42,03	43,39	44,74	46,10	47,45	48,81	50,16	51,52	52,88
40	54,23	55,59	56,94	58,30	59,66	61,01	62,37	63,72	65,08	66,43
50	67,79	69,15	70,50	71,86	73,21	74,57	75,93	77,28	78,64	79,99
60	81,35	82,70	84,06	85,42	86,77	88,13	89,48	90,84	92,20	93,55
70	94,91	96,26	97,62	98,97	100,33	101,69	103,04	104,40	105,75	107,11
80	108,46	109,82	111,18	112,53	113,89	115,24	116,60	117,96	119,31	120,67
90	122,02	123,38	124,73	126,09	127,45	128,80	130,16	131,51	132,87	134,23
100	135,58	136,94	138,29	139,65	141,00	142,36	143,72	145,07	146,43	147,78

1 lbf-ft = 1,356 N-m

Conversion from Nm in lbf-in

N-m	0	1	2	3	4	5	6	7	8	9
0	0,00	8,85	17,70	26,55	35,40	44,25	53,10	61,96	70,81	79,66
10	88,51	97,36	106,21	115,06	123,91	132,76	141,61	150,46	159,31	168,16
20	177,02	185,87	194,72	203,57	212,42	221,27	230,12	238,97	247,82	256,67
30	265,52	274,37	283,22	292,08	300,93	309,78	318,63	327,48	336,33	345,18
40	354,03	362,88	371,73	380,58	389,43	398,28	407,14	415,99	424,84	433,69
50	442,54	451,39	460,24	469,09	477,94	486,79	495,64	504,49	513,34	522,20
60	531,05	539,90	548,75	557,60	566,45	575,30	584,15	593,00	601,85	610,70
70	619,55	628,40	637,26	646,11	654,96	663,81	672,66	681,51	690,36	699,21
80	708,06	716,91	725,76	734,61	743,46	752,32	761,17	770,02	778,87	787,72
90	796,57	805,42	814,27	823,12	831,97	840,82	849,67	858,52	867,38	876,23
100	885,08	893,93	902,78	911,63	920,48	929,33	938,18	947,03	955,88	964,73

1 N-m = 8,851 lbf-in

Conversion from lbf-in in Nm

lbf-in	0	1	2	3	4	5	6	7	8	9
0	0,00	0,11	0,23	0,34	0,45	0,56	0,68	0,79	0,90	1,02
10	1,13	1,24	1,36	1,47	1,58	1,69	1,81	1,92	2,03	2,15
20	2,26	2,37	2,49	2,60	2,71	2,82	2,94	3,05	3,16	3,28
30	3,39	3,50	3,62	3,73	3,84	3,95	4,07	4,18	4,29	4,41
40	4,52	4,63	4,75	4,86	4,97	5,08	5,20	5,31	5,42	5,54
50	5,65	5,76	5,87	5,99	6,10	6,21	6,33	6,44	6,55	6,67
60	6,78	6,89	7,00	7,12	7,23	7,34	7,46	7,57	7,68	7,80
70	7,91	8,02	8,13	8,25	8,36	8,47	8,59	8,70	8,81	8,93
80	9,04	9,15	9,26	9,38	9,49	9,60	9,72	9,83	9,94	10,06
90	10,17	10,28	10,39	10,51	10,62	10,73	10,85	10,96	11,07	11,19
100	11,30	11,41	11,52	11,64	11,75	11,86	11,98	12,09	12,20	12,31

1 lbf-in = 0,113 N-m