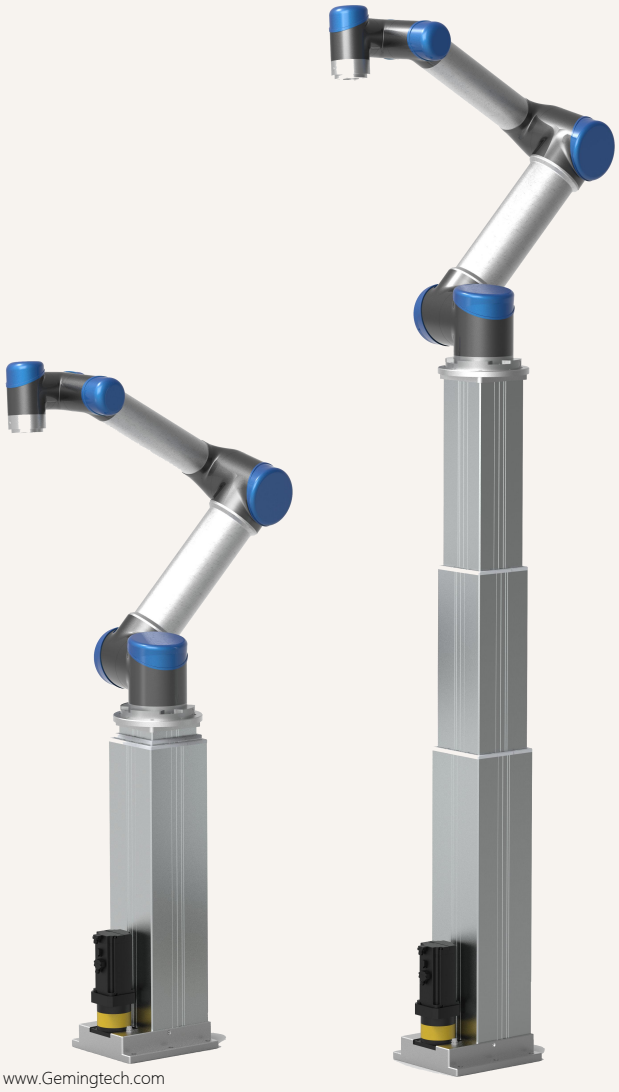


# Robot seventh axis any collaborative robot

Fully automated solutions become the new standard in packaging handling. Standard collaborative robots do not have such a large vertical working range. With the help of GeMinG's lifting system, the base of the robot can be raised or lowered so that it is in the best working position. Stacking on pallets starts from floor height, and the stacking height can reach 3 M. The GeMinG lifting system improves the work efficiency of packaging stacking. The GeMinG lifting system ensures accuracy and reliability, thereby maximizing work efficiency. Speed and efficiency. GeMinG provides an effective solution for vertical lift adjustment in a smart way. We design for different applications to truly realize Industry 4.0, providing your robots with a greater operating range.

# Palletizing Solutions

Fully automated palletizing solutions are becoming the new standard in packaging stations. The main challenge for packaging system manufacturers is how to design multi-axis systems in a simple and economical way. Palletizing of cartons is a typical application that benefits from additional linear axes. Pallet stacking can start from the ground and extend to a height of more than two meters; therefore, standard collaborative robots will be limited in their ability to work under such a large height range. The seventh axis of the GeMinG chrome transmission robot provides an efficient and intelligent solution for vertical height adjustment.

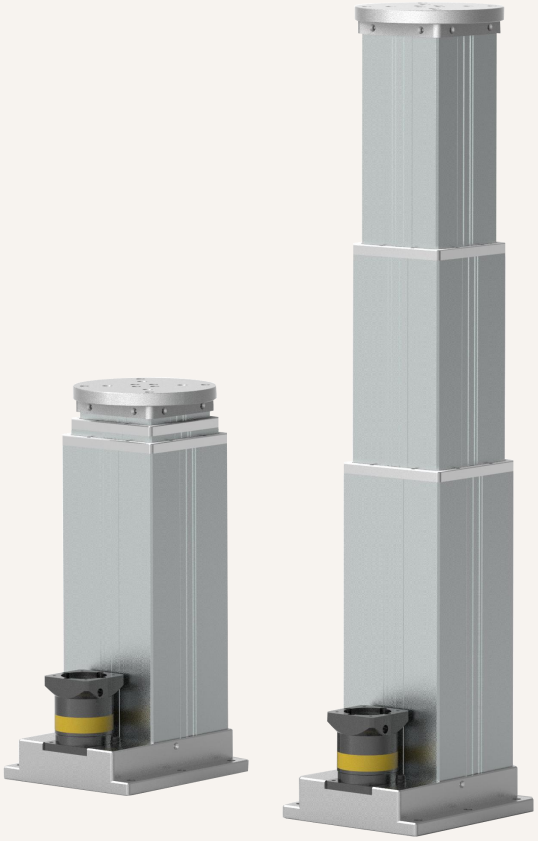
# Features

- The longest possible height travel can extend the robot's operating range by up to 10 times.
- Rugged design, high strength, suitable for industrial use
- Quiet and smooth operation
- Extends the robot's working range, cost-effective
- Effectively improves the working environment
- Easy to integrate into existing production lines

GeMinG
Linear Drive

# TB3- 18W

## Series model
Actuator



## ProductCategories

1、Industrial Applications

2、Automotive Applications

3、Warehousing Applications

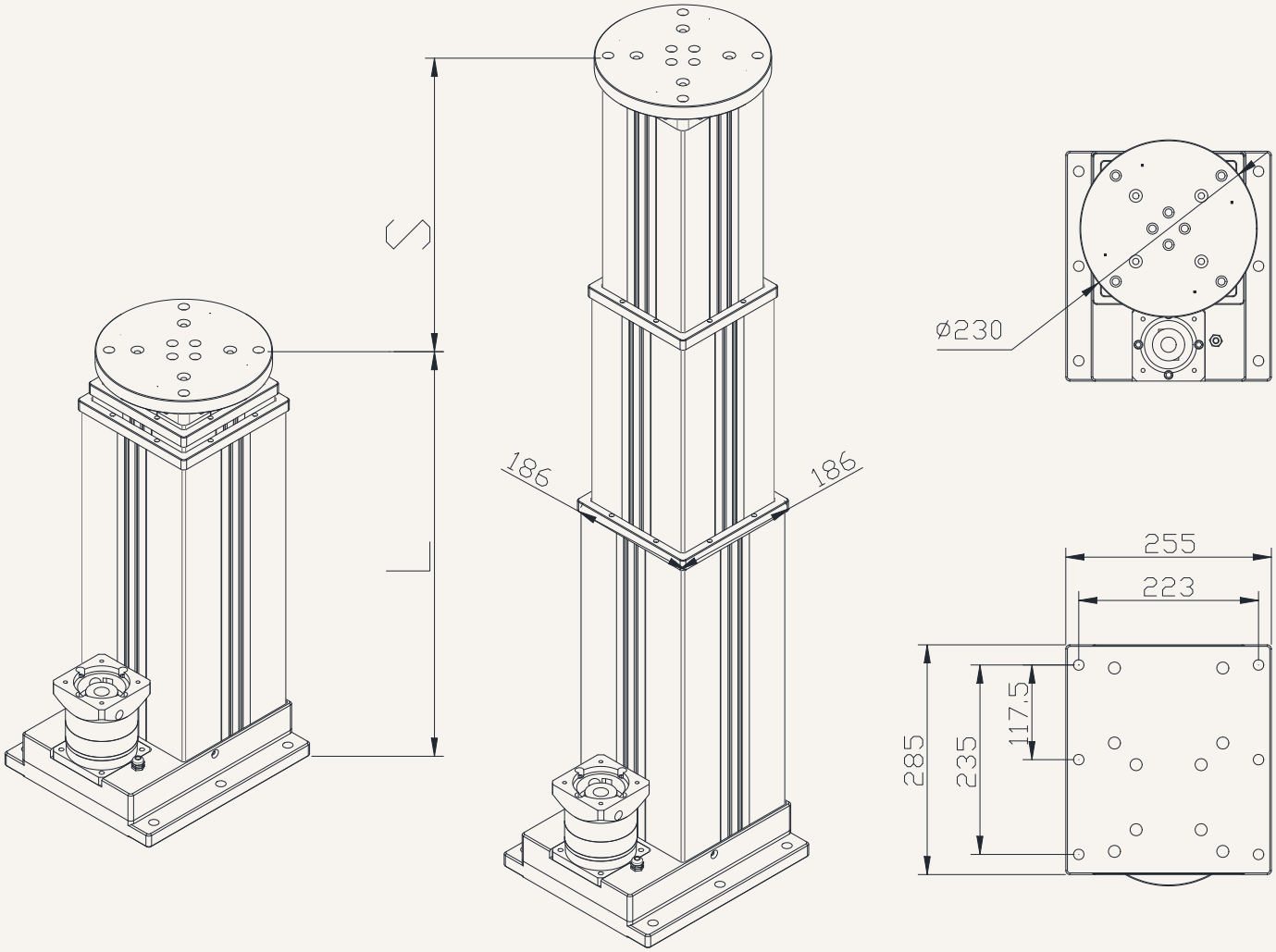
Extended working range, collaborative robot vertical lift up to 3000 mm, compact retraction height, sturdy column design for industrial use, vibration-free movement and virtually maintenance-free plug-and-play solution, hardware interface compatible with any robot, Controlling CAN via TCP/IP, saving costs and increasing productivity, the collaborative robot combined with the GeMinG lifting system provides a cost-effective solution to upgrade existing assembly workshops from manual operations to fully automated production lines。

Functional Overview

| | |
|---|---|
| Voltage range: | 48V DC or 220V or 380V AC |
| Maximum push force (maximum pull force): | 3000N (maximum pulling force 500N) |
| Speed at full load: | 0-200mm / s (load 3000N-500N) |
| Travel range: | 500 - 3000 MM |
| Retract to initial height: | Stroke /2+ 300MM |
| Dynamic lateral moment: | 250 Nm |
| Static lateral moment: | 3500 Nm |
| Positioning repeatability: | ±0.2~1 MM |
| Robot compatibility: | Any robot |
| Body weight: | 0 stroke 25KG, @500MM stroke weight +2.5KG |
| Security certification: | Comply with ISO9001-2008, |
| Operating temperature range: | -35 ° C ~ + 75 ° C |
| Full performance temperature range: | +5 ° C ~ + 45 ° C |
| Protection level: | IP54 |
| Screw selection: | Default trapezoidal screw, optional ball screw |
| Other options: | Feedback - position and status - barrier-free position |
| Control options: | Soft start and stop - for smooth operation |
| Communication protocol: | EtherCAN/modbus rtu, (customized) |

# HTD3 Built-in motor-engineering drawing

Standard size(MM)

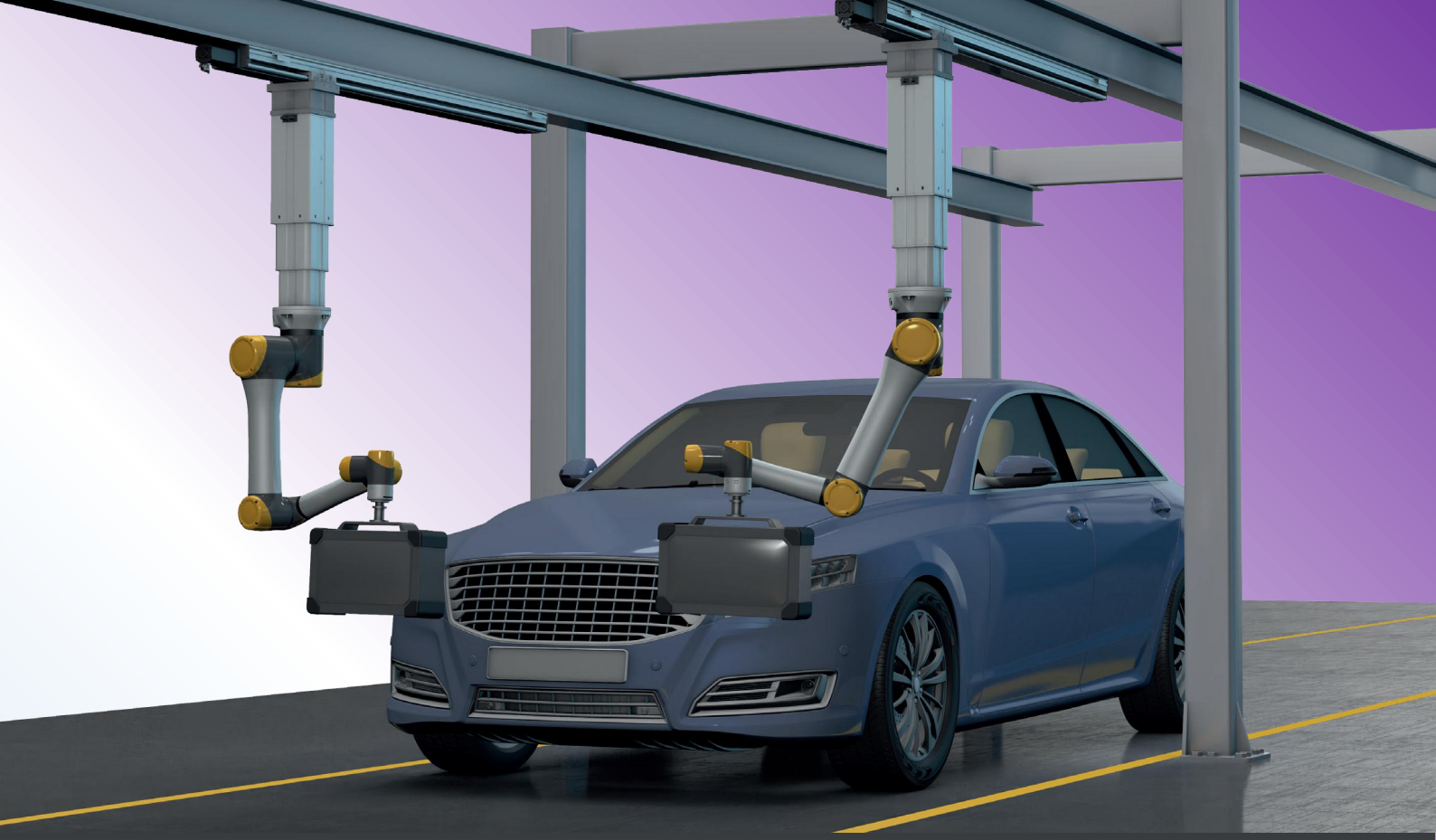



S: Stroke

L: Minimum heightRetracted length

L=stroke Stroke +350 MM

For a stroke greater than 900 mm, the installation dimension L = stroke + 400 mm.



height adjustment

Positioning adjustment

More compact design,

making it easier to install in small spaces,

Very suitable for designing different types of automation equipment,

unmanned trucks and lifting equipment,

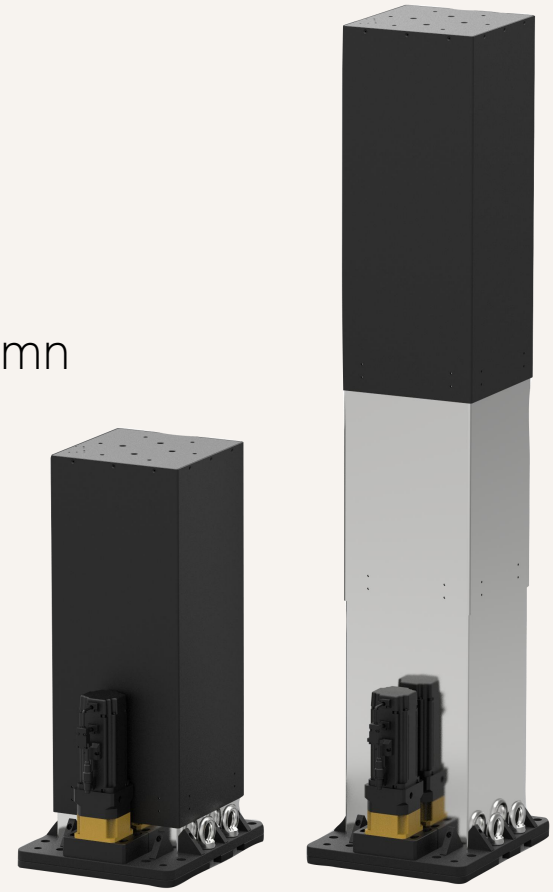
All while retaining many of the benefits that make it so popular!

GeMinG
Linear Drive

# HTB3-G

## Series model

Industrial machine lifting column



## ProductCategories

1、Industrial Applications

2、Automotive Applications

3、Warehousing Applications

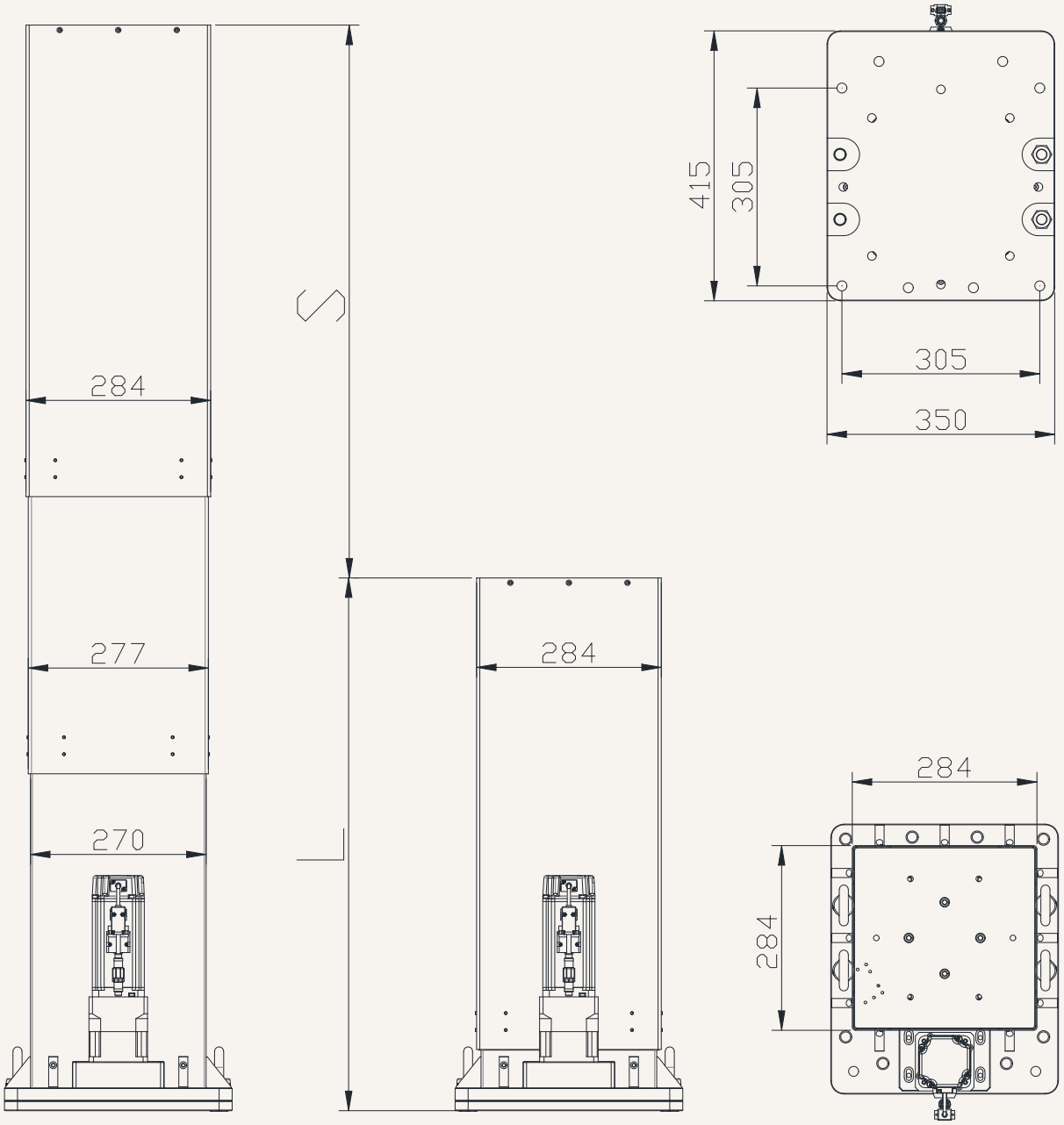
The HTG3 series is designed specifically for industrial robotic arms, offering vertical lifting up to 3000 mm and a compact retracted height. Its robust column design, vibration-free movement, and near-maintenance-free plug-and-play functionality make it suitable for industrial applications. With a hardware interface compatible with any robot and CAN control via TCP/IP, it saves costs and increases productivity. Combined with the GeMinG lifting system, this collaborative robot provides a cost-effective solution for upgrading existing assembly lines, transitioning from manual operation to fully automated production lines.

Function Overview

| | |
|---|---|
| Voltage Range: | 48V DC or 220V or 380V AC |
| Maximum Load: | 15KN |
| Speed at Full Load: | 0-200mm / s (load 15KN-5KN) |
| Stroke Range: | 600 - 3000 MM |
| Initial Retraction Height: | Stroke /2 + 350MM (stroke >2000 MM + 400MM) |
| Dynamic Lateral Torque: | 5500 Nm |
| Static Lateral Torque: | 8000 Nm |
| Positioning Repeatability: | ±0.2~1 MM |
| Robot Compatibility: | Suitable for any robot |
| Body Weight: | 0 stroke 460KG, @100MM stroke weight + 25KG |
| Leader Selection: | High precision ball screw |
| Leader Lead: | 20MM or 40MM |
| Limit Function: | Upper and lower origin mechanical self-locking limit switches |
| Control Options: | Soft start and stop - for smooth operation |
| Communication Protocol: | EtherCAN/Modbus RTU, (customizable) |

# HTG3-Built-in motor-engineering drawing

Standard size(MM)



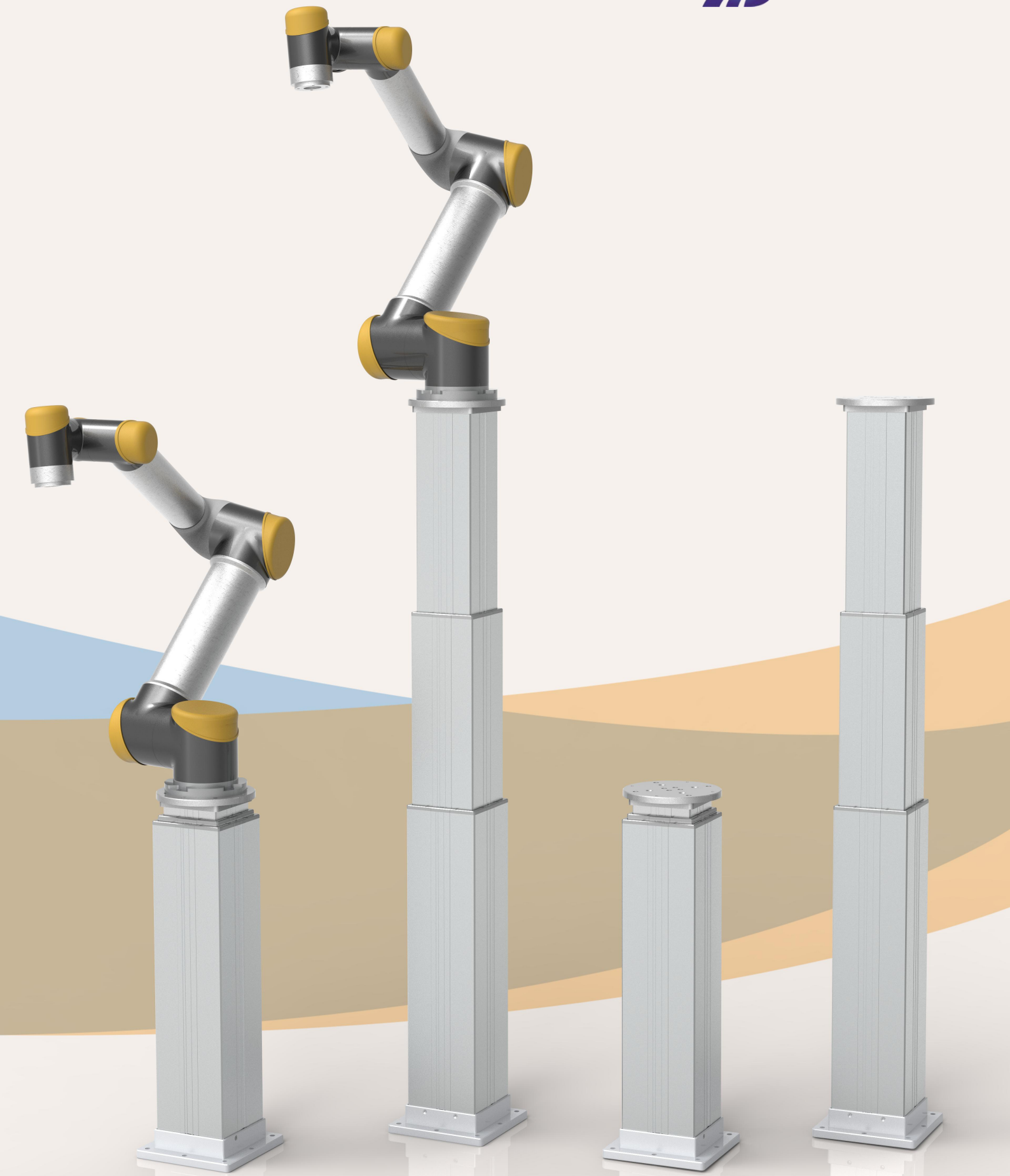

S: Stroke

L: Retracted length

L=Stroke +350 MM

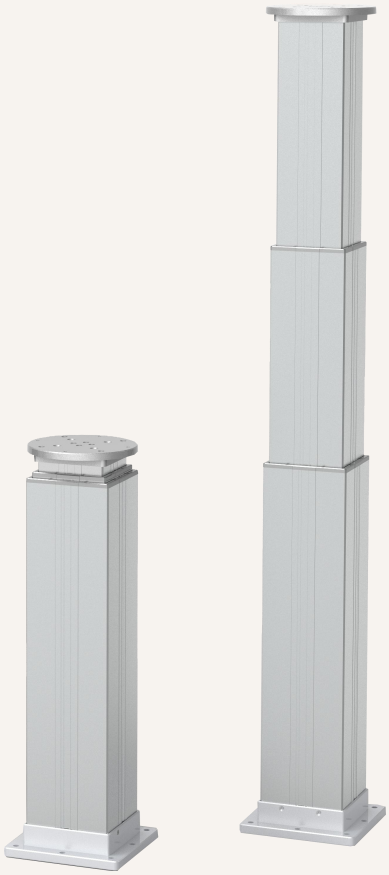
For a stroke greater than 900 mm, the installation dimension L = stroke + 400 mm.

GeMinG
Linear Drive



# TB3- 18N

## Series model
Actuator



## ProductCategories

1、Industrial Applications

2、Automotive Applications

3、Warehousing Applications

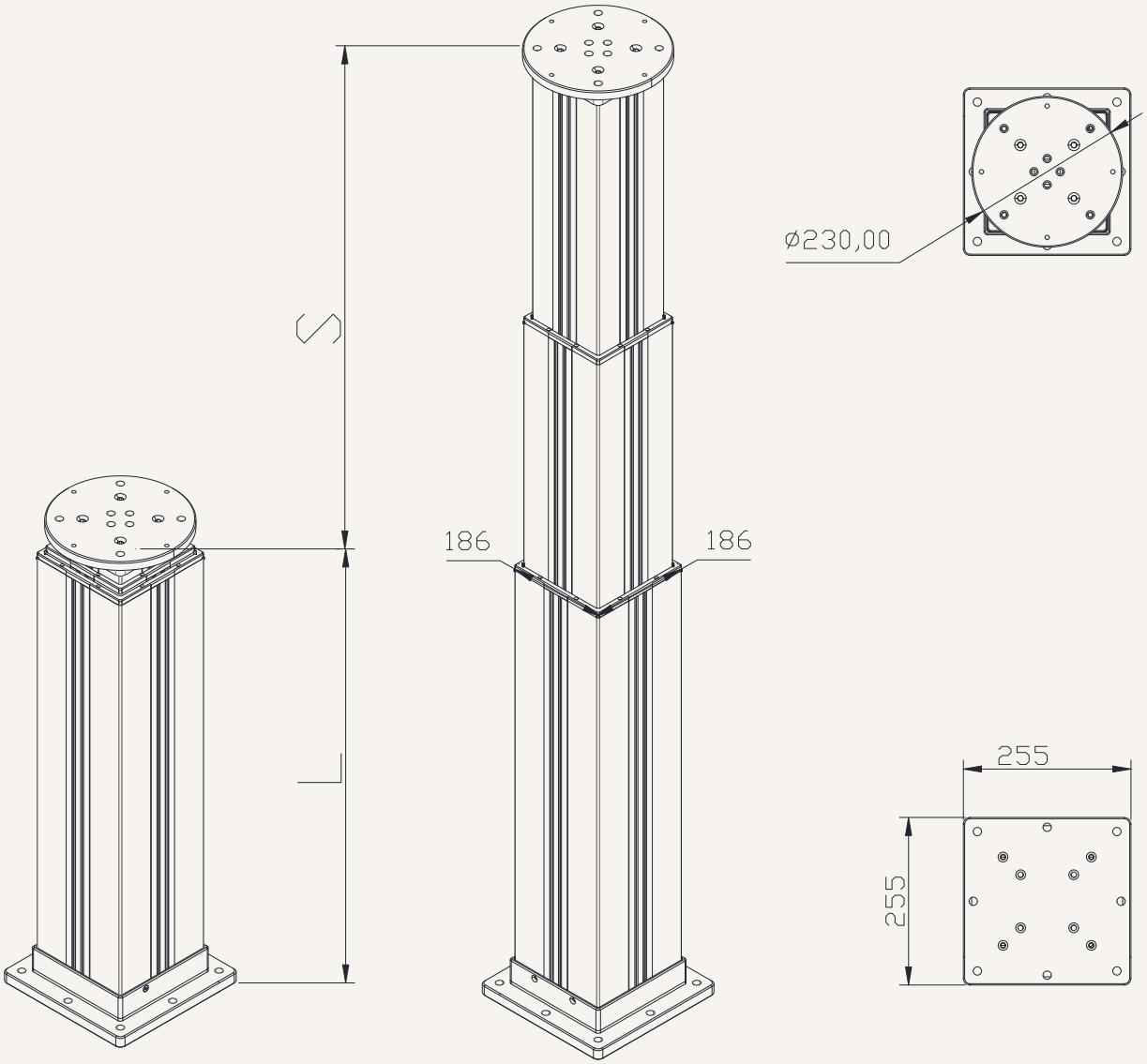
Extended working range, collaborative robot vertical lift up to 3000 mm, compact retraction height, sturdy column design for industrial use, vibration-free movement and virtually maintenance-free plug-and-play solution, hardware interface compatible with any robot, Controlling CAN via TCP/IP, saving costs and increasing productivity, the collaborative robot combined with the GeMinG lifting system provides a cost-effective solution to upgrade existing assembly workshops from manual operations to fully automated production lines。

Functional Overview

| | |
|---|---|
| Voltage range: | 48V DC or 220V or 380V AC |
| Maximum push force (maximum pull force): | 3000N (maximum pulling force 500N) |
| Speed at full load: | 0-200mm / s (load 3000N-500N) |
| Travel range: | 500 - 3000 MM |
| Retract to initial height: | Stroke /2+ 300MM |
| Dynamic lateral moment: | 250 Nm |
| Static lateral moment: | 3500 Nm |
| Positioning repeatability: | ±0.2~1 MM |
| Robot compatibility: | Any robot |
| Body weight: | 0 stroke 25KG, @500MM stroke weight +2.5KG |
| Security certification: | Comply with ISO9001-2008, |
| Operating temperature range: | -35 ° C ~ + 75 ° C |
| Full performance temperature range: | +5 ° C ~ + 45 ° C |
| Protection level: | IP54 |
| Screw selection: | Default trapezoidal screw, optional ball screw |
| Other options: | Feedback - position and status - barrier-free position |
| Control options: | Soft start and stop - for smooth operation |
| Communication protocol: | EtherCAN/modbus rtu, (customized) |

# HTD3 Built-in motor-engineering drawing

Standard size(MM)




S: Stroke

L: Minimum heightRetracted length

L=stroke Stroke / 2 +300 MM

>2000MM stroke, installation size L=Stroke / s +350 MM

# TBModel Description Selection Code Table

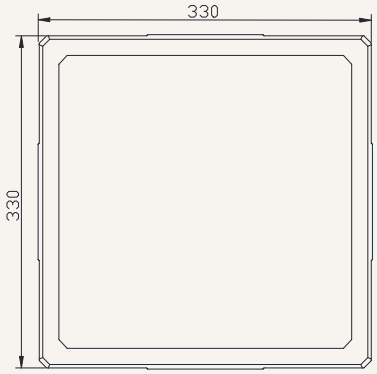
| TB | - | 3 | 18 | S10 | W | 22 | - | A | - | 800 | - | 1200 | - | 01 | - | 01 | - | 1 | - | 0 | - | T | - | N | D | 30 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| ① | | ① | ② | ③ | ④ | ⑤ | | ⑥ | | ⑦ | | ⑧ | | ⑨ | | ⑩ | | ⑪ | | ⑫ | | ⑬ | | ⑭ | ⑮ | ⑯ |

| | | | | | |
|---|---|---|---|---|---|
| ① | Model Preface | 2= Two-stage | 3= Three-stage | 4= Four-stage | |
| | | 5= Five-stage | 6= Six-stage | 7= Seven-stage | |
| ② | Pipe diameter | 10= 106X106 tube | 12= 125X125 tube | 14= 144X144 tube | |
| | | 16= 163X163 tube | 18= 182X182 tube | 25= 252X252 tube | |
| | | 27= 270X270 tube | | | |
| ③ | Motor Type | S04= 40100W Servo Motor | S06= 60400W Servo Motor | S08= 80750 Servo Motor | |
| | | S10= 101000WServo Motor | S12= 121800W Servo Motor | S13= 132500WServo Motor | |
| | | 0F = 60F Motor | A3= A3Motor | SK= Provided by the customer | |
| ④ | Motor placement | W = External motor | N = Built-in motor | | |
| ⑤ | Voltage | 12= 12V DC | 24= 24V DC | 36= 36V DC | |
| | | 48= 48V DC | 22= 220V AC | 38= 380V AC | |
| ⑥ | Loading(n)@speed(m m/s) | | | | |
| ⑦ | stroke(mm) | | | | |
| ⑧ | Installation dimensions(mm) | NOTE: Please refer to the valid parameter sheet before selecting a size! See page 05 | | | |
| ⑨ | upper type | O1 = Conventional pipe type, installation screw M8 sinking 30MM | O2 = Conventional pipe type, mounting screw M8 sinking 30MM, internal wiring | | |
| | | K = Customization | | | |
| ⑩ | lower type | O1 = Conventional pipe type, installation screw M8 sinking 30MM | O2 = Conventional pipe type, mounting screw M8 sinking 30MM, internal wiring | | |
| | | K = Customization | | | |
| ⑪ | Outgoing method | 0 = Side, top outlet | 1 = Side, bottom outlet (default) | | |
| ⑫ | Outlet type | 1 =bare wire | 2 = 01Straight plug | | |
| | | 4 =Four-pin straight plug | 6 = Six-pin straight plug | | |
| | | 7 =Waterproof plug | K = Customization | 0=Servo conventional drive cable | |
| ⑬ | Lead screw options | T = Trapezoidal screw | G=Ball screw (default preferred) | | |
| ⑭ | Control method | N= No Control | NC = CAN bus | K= Customization | |
| ⑮ | Signal output options | N = 0 | D = Limit switch | | |
| ⑯ | Line length | 07 = 700mm<br>30 = 300mm | 10 = 1000mm<br>40 = 4000mm | 15 = 1500mm<br>70 = 7000mm | 20= 2000mm<br>00 =Customization |

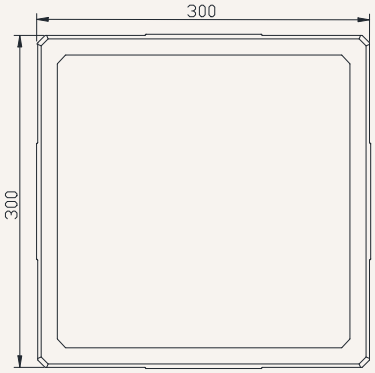
# TD Outer tube size selection code table

## Maximum pipe diameter table:

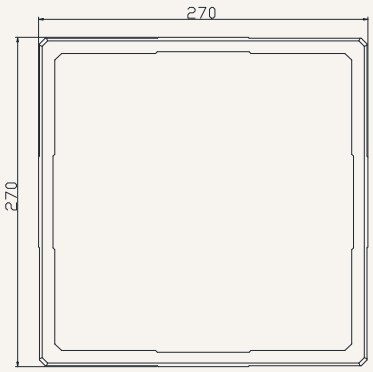
33 = 330X330MM



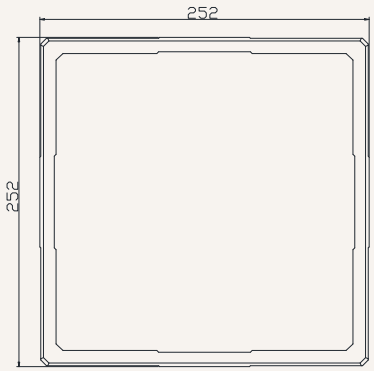

30 = 300X300MM



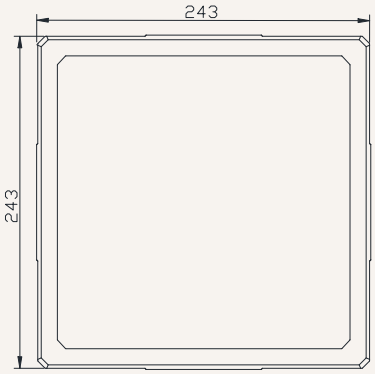

27 = 270X270MM



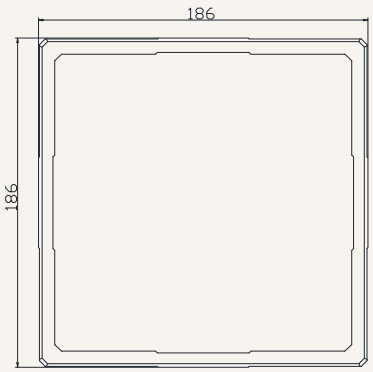

25 = 252X252MM



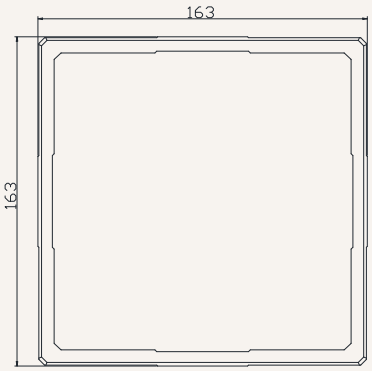

23 = 234X234MM



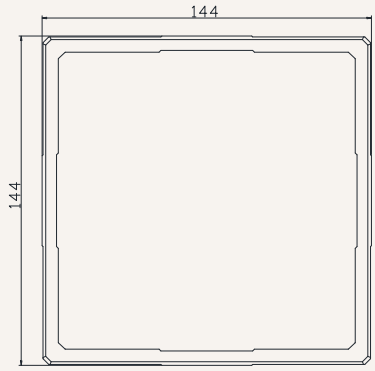

18 = 186X186MM



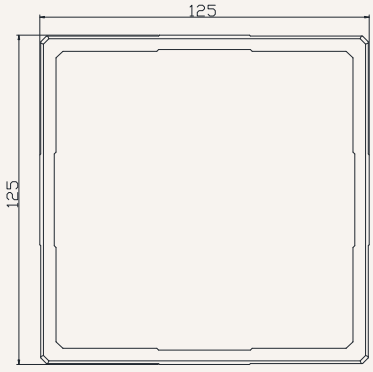

16 = 163X163MM



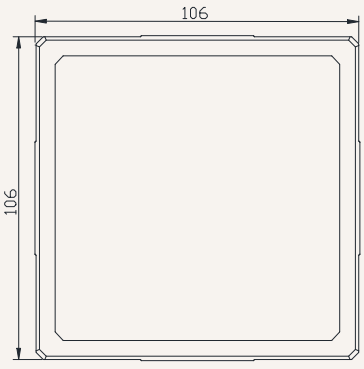

14 = 144X144MM




12 = 125X125MM



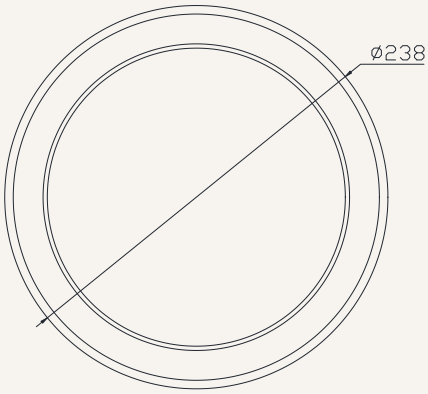

10 = 106X106MM



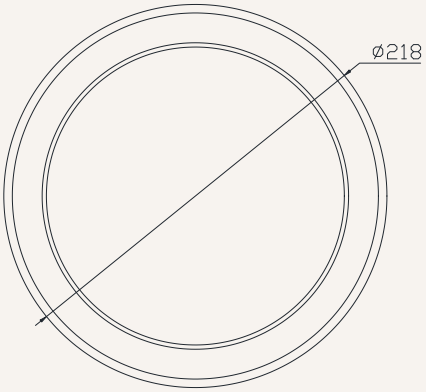
# TL Outer tube size selection code table

## Maximum pipe diameter table:

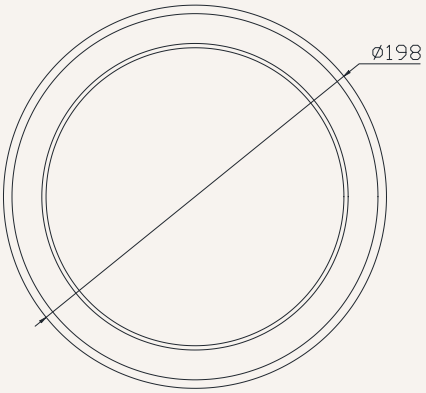
23 = 238MM



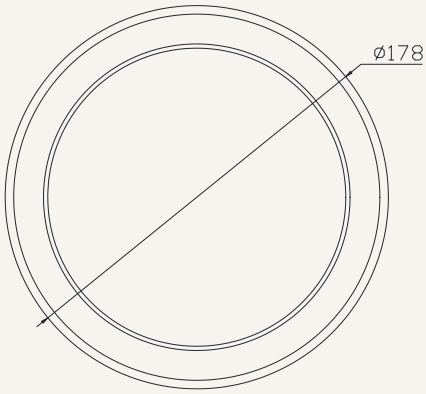

21 = 218MM



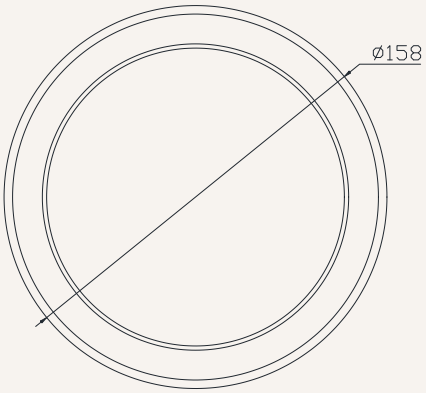

19 = 198MM



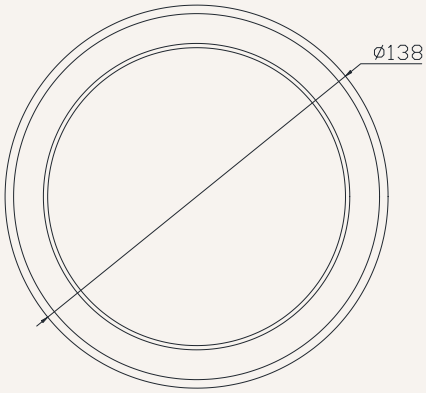

17 = 178MM



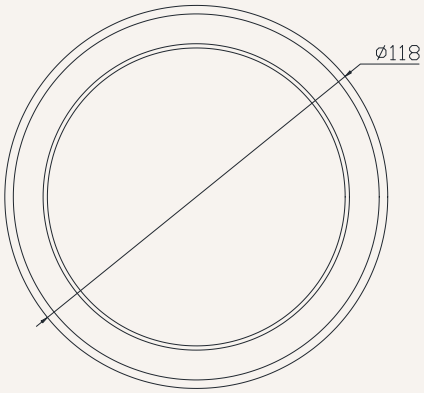

15 = 158MM



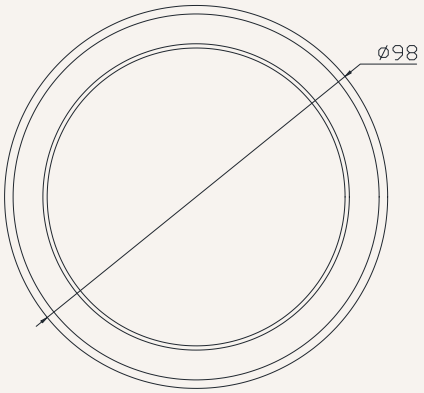

13 = 138MM



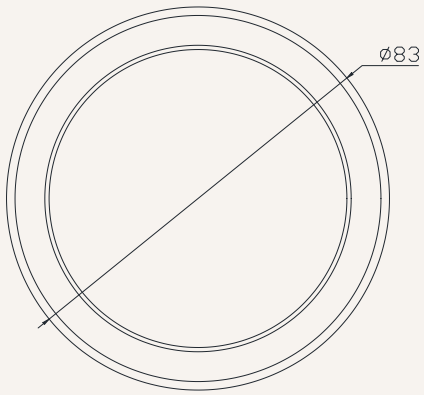

11 = 118MM




98 = 98MM




83 = 83MM




68 = 68MM